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Managing Editor: Orsolya Dobokay-Szabó
Editor: Cosette Kondora
Technical Editors: Ágnes Simon-Káli

Editorial Office: H-1024 Budapest II., Keleti Károly u. 5–7.
Mailing address: H-1525 Budapest, P.O. Box 51. Phone: +36-(1)345-6546,
Internet: www.ksh.hu/statszemle E-mail: statszemle@ksh.hu
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To the Readers of the thematic census issue

The 15th population census of Hungary is behind us. In October 2011, nearly 40 thousand enumerators visited more than 4 million dwellings in order to collect data on the demographic, educational and employment characteristics, ethnic and religious affiliation, health status of the population in Hungary as well as on the housing conditions. The census was completed successfully, the processing of data was finished and the results have been continuously published.

A census is always a demanding but wonderful task. There are no two identical censuses; the world is changing so much in ten years that each occasion is a new challenge. The social environment is changing, a new focus is given to data needs, and the attitude of the population towards data collections is also changing, as we well know, not in a direction favourable for surveys. Meanwhile, the technical environment is also changing, the development allows for applying new methods but requires at the same time to adapt to the modern technologies well established in everyday life.

The 2011 census has brought especially many novelties. This was our first census which we conducted as a member state of the European Union in accordance with mandatory regulations. Several methodological innovations were applied specifically adapted to the domestic conditions. The most important of them was the possibility for completing the questionnaires via internet, which was applied in many countries, similarly to Hungary, for the first time in the history of censuses. We worked for the first time with geocoded address data which allowed for the automation of creating the enumeration districts. The monitoring of the progress in the multi-channel data collection and the registration of the participants were helped by an electronic monitoring system. We already had experiences in data processing on the basis of optical character recognition from ten years ago, but the technical development opened new ways in the automation of processes.

The participation of non-governmental organisations and the research community in our work was more pronounced than ever before. We received important support from them in the development of questionnaires, the campaigns promoting the census and in the publication of most useful data as well.

This thematic issue certainly cannot undertake to describe in details the methodological background of the census and to give extensive information about all important social changes reflected in the data. However, it tries to give a comprehensive picture about the 2011 census as far as possible: it presents the methodological foundations and the international environment, as well as the most important results and, in some key topics, it analyses the data in details. However, this is only the tip of the iceberg. We would like to call the attention of those

interested to the publication series about census data and to the constantly expanding range of information published on our website. Through the census data sets accessible in the Dissemination database of HCSO and the ten percent microdata file which will soon be available in the Research room of HCSO, the use of the data according to individual needs is possible from 2014. We would like to ensure the widest possible access to the results since the real success of our work is if the statistical data collected during the census are used by many people in many ways.

Gabriella Vukovich
President of the Hungarian Central
Statistical Office

Social Changes of the Past Decade Revealed by the 2011 Census Results

Irén Waffenschmidt

Head of Census Department
Hungarian Central Statistical Office

E-mail:
Janosne.Waffenschmidt@ksh.hu

The first part of the article provides an overview of how the first results of the 2011 census were received. The following chapters present information on major social changes already published in the regional and thematic data compilations of the Hungarian Central Statistical Office.

Improvement in the educational attainment level of the population is shown by a decrease in less skilled people and increase in those with a secondary school-leaving exam certificate or, in particular, having obtained a university or college degree. In addition to these changes presented by age group and sex, the study also introduces changes in vocations.

The examination of the growing stratum of the elderly reveals that people over 60 form a population group that is certainly not homogeneous and in many aspects quite heterogeneous.

One striking feature of the changes in family relationships and living conditions is the large and increasing group of persons living alone; their characteristics form the fourth subject of the study.

KEYWORDS:
Educational level.
Elderly people.
People living alone.

An initial publication of the 2011 census results has already been issued, and major data on the population and family relations as well as changes in the housing stock are already known. These partly confirm what we had learnt from continuous statistical surveys, shaded by many features only available from censuses, and partly reveal numerous phenomena and relationships which are less in the forefront of interest. The task of the next few years is to take advantage of this exceptionally valuable data asset and explore and present as many relationships and processes as possible in order to understand and describe in detail the society in which we are living in the first decade of the third millennium.

The evaluation and analysis of data have only just begun in the Hungarian Central Statistical Office (HCSO) and – on the basis of the thousands of tables published and the dissemination database – in the various research institutes and academic workshops. International comparisons have also become feasible since March 2014 that being the deadline for European member states to compile and submit a rather detailed data set with uniform concepts and structure in line with the census regulation of Eurostat. On this basis, researchers and those who are interested are able to carry out international comparisons and analyses.

The study presents the public reception of the 2011 census results, changes in ways the data can be used and the first users' opinions. Furthermore, it shows the major correlations based on regional and thematic data compilations that have been already published. Among the most important social changes, it provides more detailed information on the improving educational attainment level of the population as well as on the increasing number and characteristics of the elderly and people living (not in a family but) alone, their household type being denominated as a one-person household.

1. Publication and reception of the 2011 census results; first feedback from users

The census results were eagerly awaited by the public and the academic research community. Following the public data collection phase, the processing of data was characterized, as had also been the case with the former censuses, by a race with time. While it is hard to communicate validated results of processing and checking of the coherence of data, users wish to access the most recent data as soon as possible.

In order to meet this demand, a preliminary publication was prepared in March 2012 using the information of the survey organization and containing some of the most important data of the population and housing stock. Since the bulk data entry (that is, the electronization of data on the paper-based questionnaires with optimal character recognition (OCR) technique) could be started only later than the optimal for reasons beyond the control of the HCSO, samples were drawn from data, and another publication (analysis and data compilation) containing major structural relationships and presenting only national data was brought out in September 2012.

The publication of final data started in March 2013, continuing in 2014.[1] With regard to the fact that the interest of decision-makers and the public was mainly focused on regional data, first the regional publication series containing county and settlement data was compiled and issued. Later, compilations of tables processing different census topics formed the backbone of publishing census results.

Excel tables, which are static but suitable for further calculations, are an essential form of publication, but most basic data are still brought out in paper volumes as well. Statistics on downloads from the census website and press releases that are the main information sources for the use of published data indicate that their utilization is frequent and diverse, thereby making census communications easily accessible and interpretable data sources.

The growing number of data requests for areas smaller than settlements represents a new and strong user demand. Census data are traditionally published in groups by prevailing administrative territorial units, the smallest of which is a settlement. However, local governments of settlements, tender writers and researchers are increasingly calling for data broken down by other territorial units (parts of towns, enumeration districts, blocks) to prepare analyses. Such areas of study are the identification of the so-called segregated areas within a settlement, the definition of the target areas of settlement development, or the establishment of public utilities development plans, etc. However, the publication of the grouped data of people living in areas with very small populations is often constrained by privacy concerns. Using census data in this way also brings forth another question: is the statistical purpose specified by the census act met? That is, does a very small population have statistically valid characteristics or changes by chance? In this respect, we reached a boundary in the use of self-reported data collected for statistical purposes.

After the 2011 census, two new forms of publication expanded the channels of access to data. The thematic parts of the HCSO dissemination database have been supplemented by census data. Additionally, anonymized micro-databases have been made available in various forms. By publishing the data content and record descrip-

[1] These thematic volumes published are as follows: Demography, Household–Family, Dwelling Stock, Data of Electoral Districts, Educational Attainment, Employment, Nationality, Religion, and Disability.

tions, the test files make it possible for researchers to write their own queries and programs which can be run on the 10 percent sample accessible free of charge in the Research Room of the HCSO or on special files produced for a fee. For data protection reasons, the test file contains no real data. In addition, we plan to produce and publish micro-data files with real data for education and research purposes.

As far as the results are concerned, comments and criticism were formulated in two topics, both being related to "sensitive" questions. These questions were answered on a voluntary basis. In general, the number and proportion of non-respondents were high and increased considerably compared with the previous census. Establishing the reasons for the phenomenon – analysis of what typifies the non-respondents, a task yet to be addressed – goes beyond the scope of statistics; it is also necessary to take into account and examine the influencing factors of the social environment and their impact.

With regard to ethnicity, the 2011 census results showed that the number of Roma population was 315 thousand, some one and a half times as many as ten years earlier. Researchers argue that this number may be significantly lower than the actual one, as little as half of an estimated 600-700 thousand persons. In the preparation and data collection phases, the HCSO devoted great energy to promoting the declaration of ethnic identity, took a number of measures, concluded cooperation agreements and made the topic the focus of communication. Similarly to the 2001 census, the questionnaire examined the issue of belonging to ethnic minorities with four questions. The best pilot questions in sociological research were chosen by the HCSO to encourage the production of answers.[2] Among the 13 nationalities accepted in Hungary, users believe that significant under-counting occurred only in the case of the Roma community. Experience has shown that the statistical tools are only able to moderate in the current social environment. Even so, the census does provide valid responses to the demographic features, educational attainment and family relationships of the Roma, essential for understanding the real situation.

Another criticism was expressed by churches, especially by the Catholic Church, in connection with the number of people belonging to religious communities, denominations and with the decreasing trend shown by the relevant data. According to the results, fewer and fewer people have considered themselves to be members of each of the great historic churches since 2001, while the number of people belonging to some smaller churches and that of non-respondents has considerably grown. Those who expressed criticism believe that the discrepancy lies in the difference between the 2011 census question regarding religion and that of 2001. (In 2001: "Religion,

[2] See KERTESI, G. – KÉZDI, G. [2009]: *Beszámoló az Educatio-Tárki Életpálya-felvétel tapasztalatairól a Központi Statisztikai Hivatal részére.* (Report to the Hungarian Central Statistical Office on the Hungarian Life Course Survey Conducted by Educatio–Tárki.) Work document.

denomination?" and in 2011: "Which religious community or denomination do you feel you belong to?") However, the intention of the HCSO was to ensure that the questions for both census years had the same content, the change being merely that it was formulated as a grammatical question. For the large number of those who intended to self-complete the questionnaire without the help of enumerators, the relevant question was asked in the form of an interrogative sentence – with the prior agreement with the users' representatives – as was also the case with the other questions in the questionnaire.

More user experience as regards both the results and their interpretation will be acquired in the next few years. Their careful collection and realistic assessment will provide significant assistance for statisticians in planning the next census. Data analysis has only just begun. In the next few years a broad group of analysts and researchers will hopefully contribute to making use of the 2011 census data by providing information on as many segments of society as possible.

2. Improvement in the educational level

Due to the higher educational attainment level of young people (younger age groups are always more educated than the older ones), the rates and indicators of qualifications show an increase in each level of schooling, census by census.

In 2011, the proportion of those who had the lowest attainment (who have not even completed primary school)[3] was minimal in most age groups, with the exception of the oldest one (over 85 years of age), which can be attributed to the increase in life expectancy. Ten years ago this figure was more than 10% in the 60–64 age group, and sharply increased for people older than that.

Just as in the previous decade, the share of those who had not obtained post-primary qualifications in formal education continued to decrease considerably. Among people younger than 50, the proportion of those who had completed primary school was 11-16% in each five-year age group, while it was typically over 20% ten years ago. For people over 50 years of age, this ratio begins to increase in proportion with the age of the group.

The proportion of population having completed apprentice or vocational school but having no secondary school-leaving exam certificate has increased only slightly in the past ten years. (It has become common knowledge that young people are expected to obtain this certificate "at least".) This kind of educational attainment is

[3] Traditionally, Hungarian primary schools constitute the first eight grades of compulsory education (from 6 to 14 years of age).

more typical among males, nearly 30% of them receiving an "intermediate level" but lacking a matriculation, while it is less than half of this figure for women; and most frequent among people 35 to 50 years.

In 2011, for 31% of the adult population the highest completed level of education was general secondary school. This figure was somewhat higher among women and lower among men. The increase in the proportion of those who had passed the secondary school-leaving exam was really large between 1990 and 2001 and somewhat smaller between 2001 and 2011. The reason for the latter is that the proportion of young people with a college or university degree was higher in the past decade than earlier.

The share of people attaining a tertiary stage in their education grew in each age group, and among the younger ones to a degree higher than ever before.

Table 1

People at the two ends of the scale of educational attainment by age group

Age group (years)	People having completed the 8th grade of primary school at most			People with university, college degree		
	as a percentage of population of same age					
	1990	2001	2011	1990	2001	2011
15–19	65.9	68.8	77.0	–	–	–
20–24	22.1	18.5	14.5	5.2	5.6	9.3
25–29	22.7	20.3	12.3	13.4	14.8	28.0
30–34	27.2	21.0	11.4	13.2	15.3	28.0
35–39	30.5	21.3	13.8	13.2	16.1	23.1
40–44	33.0	25.7	14.9	13.8	14.9	20.0
45–49	50.1	29.3	15.6	12.4	14.4	19.4
50–54	56.5	31.7	18.8	8.8	14.3	17.4
55–59	48.1	46.7	23.4	8.2	13.9	16.2
60–64	33.6	57.4	25.4	7.0	9.5	15.8
65–69	23.7	50.9	36.7	5.3	8.5	16.4
70–74	21.2	40.9	57.8	5.3	7.5	11.8
75–	15.3	26.2	47.2	3.6	5.1	9.5
Total	35.6	33.8	26.8	9.7	11.9	18.2

The number of people younger than 30 years who had completed tertiary education was 171 thousand, 55 thousand more than ten years earlier. The 2011 census recorded 402 thousand university or college graduates in the population aged 30–39 years, which was nearly the double of the figure in 2001. Accordingly, the age struc-

ture of the population with tertiary education has significantly changed: a considerably higher proportion of diplomas is concentrated in the 30–39 age group and a smaller one in the age group of those aged 40 to 49. The fact that 'Ratkó grandchildren' (the large number of people born between 1974 and 1979) belonged to the 30–39 age group at the time of the census certainly played a role in this change.

Table 2

Number and distribution of people with tertiary educational attainment by age group

Age group (years)	People with tertiary educational attainment					
	number			distribution (%)		
	1990	2001	2011	1990	2001	2011
20–24	35 416	45 691	57 218	4.9	4.9	4.0
25–29	83 337	116 199	171 113	11.5	12.4	11.9
30–34	102 404	107 237	214 124	14.2	11.5	14.9
35–39	112 232	97 909	188 356	15.5	10.5	13.1
40–44	98 888	105 714	142 594	13.7	11.3	9.9
45–49	83 842	118 503	116 589	11.6	12.7	8.1
50–54	52 759	100 583	114 372	7.3	10.8	7.9
55–59	49 788	84 752	126 451	6.9	9.1	8.8
60–64	41 147	50 978	103 281	5.7	5.5	7.2
65–69	28 310	41 833	85 819	3.9	4.5	6.0
70–74	14 075	32 945	50 159	1.9	3.5	3.5
75–	20 838	31 692	69 540	2.9	3.4	4.8
Total	*723 036*	*934 036*	*1 439 616*	*100.0*	*100.0*	*100.0*

Note. Here and in the tables hereafter, the deviations from 100.0 result from rounding.

Similarly to the situation ten years ago, there are significant regional differences in the educational attainment of the population on every educational level. The difference is the smallest in the proportion of those who have completed at least primary school; the two extremes are observed in Central Hungary (97%) and Northern Hungary (93%). At the same time, the share of people having at least a secondary school-leaving exam certificate varies considerably by settlement type, region and county. 70% of the population in the capital city and 60% in the county seats belong to this category, while this figure reaches only 33% in villages. The relevant proportion is the highest, nearly 50%, in the counties of Pest and Csongrád, while it does not even reach 40% in Bács-Kiskun, Nógrád, Szabolcs-Szatmár-Bereg and Tolna counties. The percentage of people attaining a university or college degree is out-

standing in the capital city, high in the county seats, and averages a total sum of only ten percent together in smaller settlements. Among counties, the number of people with a college or university diploma is relatively the lowest in the counties of Nógrád and Békés.

In addition to the educational attainment of the total population, one other set of information only available from censuses is the distribution of qualifications. Qualifications that could be acquired in many types of schools in different eras were included in the census questionnaire according to the categories of the National Standard Classification of Education, which is in line with the International Standard Classification of Education (ISCED). The basic principle of this nomenclature is to classify the fields of education and training on the basis of their professional content, irrespective of the form or level of education they were acquired in. Reviewing the data of the earlier censuses, we can state that this classification is more appropriate for qualifications acquired at the tertiary level since it considerably concentrates those attained at secondary level.

Table 3

Distribution of people with secondary educational attainment by qualification
(percentage)

Field of training	People without secondary school-leaving exam certificate			People with secondary school-leaving exam certificate		
	1990	2001	2011	1990	2001	2011
Education	–	–	0.1	2.1	1.3	0.9
Humanities and arts	0.9	1.0	1.1	0.7	0.7	1.1
Social sciences, business and law	10.0	12.7	13.3	17.1	17.6	16.8
Mathematics, computing and other natural sciences	–	0.1	0.2	1.1	1.6	2.2
Engineering, manufacturing and construction	69.1	72.9	69.0	19.7	19.8	19.6
Agriculture and veterinary science	2.5	2.9	3.3	3.9	3.8	2.7
Health and welfare	1.2	1.6	1.8	3.2	3.8	4.2
Services	5.7	7.8	10.2	2.9	4.3	6.2
Other*				45.8	45.1	45.1
Unknown	10.7	1.0	0.9	3.5	2.1	1.1
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*

* Those with secondary school-leaving exam certificate but without specialist qualification.

In Hungary, some 70% of secondary level qualifications separate from a school-leaving exam certificate relate to the technical, industrial and construction occupa-

tional groups, although this predominance seems to have decreased in the past ten years. The occupational groups of machinery manufacturing, precision engineering, metallurgy, construction, the motor vehicle industry as well as the textile and clothing industry are included in this educational field. At the same time, the proportion of business and service professions such as accommodation and catering service, hairdressing and beauty care service as well as transport service professions is on the increase.

55% of people in possession of a secondary school-leaving exam certificate also acquired some kind of vocational qualifications and, similarly to the census ten years earlier, 45% of them had not obtained any vocational training. The percentage of service type professions shows an increasing trend at this educational level.

29% of graduates obtained a college or university diploma in social sciences, business and law, a proportion which is continuously and visibly increasing. The most common occupational groups at this educational level are related to economics, management and administration as well as trade. The percentage of the second most populous group, that of educational science, increased up until 2001 but has been decreasing since then. Qualifications in engineering, manufacturing and construction comprise the third largest group, but their proportion has also fallen in the past ten years.

Table 4

Distribution of graduates by qualification
(percentage)

Field of training	Graduates		
	1990	2001	2011
Education	24.8	30.0	25.3
Humanities and arts	5.3	4.1	4.6
Social sciences, business and law	16.0	21.5	28.6
Mathematics, computing and other natural sciences	2.5	4.7	4.9
Engineering, manufacturing and construction	23.4	19.9	17.4
Agriculture and veterinary science	6.5	5.4	5.5
Health and welfare	7.5	7.9	7.8
Services	4.9	6.1	5.3
Unknown	9.0	0.3	0.7
Total	*100.0*	*100.0*	*100.0*

In addition to professional qualifications, language skills have become an important factor of success in everyday life. Although the number and percentage of

people speaking languages other than their mother tongue have considerably grown over the past ten years, these figures are still low overall. There is a close relationship between language skills and educational attainment: the percentage of persons who haven't received a secondary school-leaving exam certificate but speak foreign languages is only a small part of those who have such a certificate, and there is another quantitative leap in the case of people who have obtained a college or university diploma. Most people speak some English and the second most popular foreign language is German.

Among older age groups German was somewhat more frequently spoken than English, while among young people, English is by far the more commonly used.

There are also great differences according to discipline in the proportion of those with a knowledge of a second language. At each level of educational attainment, English is most spoken by people who have studied mathematics, information technology and other natural sciences, while the highest percentage of individuals speaking German can be found among those working in professions related to human and social sciences as well as in those in the service industries.

Table 5

Proportion of people in the population speaking foreign language by qualification, 2011
(percentage)

Field of training	People without secondary school-leaving exam certificate		People with secondary school-leaving exam certificate		People with college, university degree	
	English	German	English	German	English	German
Education	4.7	3.2	7.3	7.7	28.7	20.8
Humanities and arts	4.5	3.6	29.9	13.2	49.6	30.3
Social sciences, business and law	3.2	4.7	14.3	11.1	48.4	28.3
Mathematics, computing and other natural sciences	10.9	5.7	36.1	11.9	63.3	23.9
Engineering, manufacturing and construction	2.0	4.2	10.5	9.0	38.2	23.6
Agriculture and veterinary science	1.9	3.1	6.2	8.3	33.1	21.9
Health and welfare	3.5	4.0	10.2	8.0	40.4	24.6
Services	6.1	9.6	22.0	18.8	41.4	26.3
Other			24.4	14.9		
Unknown	4.9	4.4	15.0	9.9	34.0	19.5
Total	2.7	4.8	18.8	12.7	40.5	24.7

Qualifications and fields of training completed are in close correspondence with employment opportunities and economic activity status even if, due to the lack of

any specific studies, we have no research results on how qualifications and occupations actually correspond to each other (as before, congruence studies of the 2011 census data are planned again at the HCSO).

The decisive role of educational attainment is unambiguous: it is true for every field of training that where educational attainment is higher the proportion of the employed is higher and that of the unemployed is lower. Among those who have obtained a college or university diploma in mathematics, computing and other natural sciences, services as well as social sciences, business and law, the proportion of the employed is over 70% while that of the unemployed is below 5%. At the same time, for people whose highest qualification is a secondary school-leaving exam certificate, the relevant figures are about 50% and 6% respectively. Primarily due to the low level of employment among those who do not have any form of vocational qualification, at this educational level, the employment rates are the highest in the fields of social care and service activities.

On the whole, higher percentages of people who have completed secondary education without acquiring a secondary school-leaving exam certificate are employed than those who have one; however, their unemployment rate is also higher.

Table 6

Employment rate of people achieving secondary and tertiary educational level by qualification, 2011
(percentage)

Field of training	People without secondary school-leaving exam certificate		People with secondary school-leaving exam certificate		People with college, university degree	
	employed	unemployed	employed	unemployed	employed	unemployed
Education	51.8	17.7	41.1	5.1	66.9	3.4
Humanities and arts	54.1	10.8	57.7	10.7	65.0	6.1
Social sciences, business and law	59.8	10.8	55.2	6.2	72.2	4.7
Mathematics, computing and other natural sciences	56.4	13.9	67.6	8.8	77.2	4.3
Engineering, manufacturing and construction	62.6	9.9	63.0	5.7	66.3	3.2
Agriculture and veterinary science	53.3	10.8	54.5	5.5	65.8	3.9
Health and welfare	66.3	8.4	74.9	5.0	74.9	2.0
Services	60.3	10.9	68.4	7.7	63.6	5.1
Other			45.3	6.2		
Unknown	58.5	9.0	60.9	6.4	64.2	4.1
Total	61.6	10.2	54.2	6.2	69.1	3.9

3. The growing number and composition of the elderly

In the long term, there is a decrease in the mortality rate while life expectancy is continuously on the rise, resulting in a growth in the number and proportion of older people. The number of persons aged 60 years or over has risen in each decade without exception since the first census in 1870. The growth was outstanding, nearly 30 percent, between 1949 and 1970, after which, due to worsening mortality conditions, its rate dropped significantly and later started to rise again from a low level. One of the most striking results of the 2011 census was the two-fold increase in the number of the elderly compared with the previous decade.

In 2011, there were 2 331 thousand persons aged 60 years or older registered in Hungary, which accounted for 23.5% of the population. 105 thousand more elderly men and 143 thousand more elderly women lived in the country than in 2001, while the overall population slightly decreased.

The growth was especially high among individuals aged 80 years or over and between 60 and 64 years. The fact that many people born in the Ratkó era had already reached the age of 60 played a role in the latter figure. The number of people aged 80 years or over was nearly 120 thousand more than in 2001, the majority of the growth occurring among women. One in every ten persons is at least 70 years old. All these indicate the ageing of Hungarian society: the oldest people represent an increasing proportion within the population.

Table 7

Number and proportion of elderly people in the population by five-year age group

Age group (years)	1990		2001		2011		Change in the population (%)	
	thousand persons	proportion (%)	thousand persons	proportion (%)	thousand persons	proportion (%)	2001 data as a percentage of 1990	2011 data as a percentage of 2001
60–64	586	5.6	535	5.2	654	6.6	91.4	122.2
65–69	530	5.1	490	4.8	523	5.3	92.6	106.7
70–74	268	2.6	437	4.3	424	4.3	163.3	96.9
75–79	317	3.1	339	3.3	331	3.3	107.0	97.7
80–84	172	1.7	154	1.5	234	2.4	89.4	151.9
85–	87	0.8	126	1.2	165	1.7	143.6	131.4
Together	*1 960*	18.9	*2 081*	20.4	*2 331*	23.5	106.2	112.0
Population	10 374	100.0	10 198	100.0	9 937	100.0	98.3	97.4

Note. The ratios were calculated from basic numbers without rounding.

In the elderly population women are in the majority, and this predominance increases when moving towards the older age groups. While the number of women per thousand men is 1 229 in the 60–64 age group, this figure rises to 2 790 among those aged more than 85 years (that is, the number of women is nearly three times as high as that of men).

The marital status of elderly men and women provides a completely different aspect. Among men aged 60 to 79 years, the proportion of married men is more than 70%, which is higher than in any age group of those younger than 60 years, while it is more than 64% even among men between 80 and 84 years of age. This figure is less than 50% only in the oldest age group. At the same time, the percentage of married women is more than 50% only in the 60–64 year age group, while it is decreasing in the older ones. The proportion of widows is one third among women 60 to 69; it is more than 50% over 70 years of age and three-fourths over 80. That is, elderly men are characterized by married marital status, while elderly women, especially those over 70, by widowed marital status.

The percentages of single and divorced people are much lower. Cohabiting partnership was not characteristic of the elderly in the 2011 census, reaching only 3.6% despite an increase. Overall, it can be concluded that the vast majority of the elderly in Hungary either are living or used to live in married marital status.

The educational level of most of the elderly is much higher than it was ten years ago. Only among those persons born in the first half of the 1930s or earlier (aged 75 or over) is there a significant proportion, nearly 30%, who have not completed primary education. This percentage is only around 10% for people aged 70 to 74 years and below 5% among 60–69 year-olds (that is, not higher than in the younger age groups). At the other end of the scale, the proportion of college or university graduates is 13% on the whole, it is the lowest in the oldest age group and nearly 16% for people aged 60 to 65.

In respect of the social division of labour, the vast majority of people aged 60 years or over had for decades belonged to the inactive, retired stratum. However, in the past ten years, due to the rising retirement age, an appreciable proportion of men under 65 years of age has been employed (the employment rate of women has also become higher in the age group of 55 to 60 years for the same reason). In 2011 some one fourth of people aged 60 and 61 (born in 1950 and 1951) were economically active. The share of the employed fell in the 62–64 age group (born between 1947 and 1949) and those aged 65 to 69 (born between 1942 and 1946); it was only 3.4% in the 70–74 age group and the remainder (nearly 97%) were inactive. In the older age groups, the percentage of the inactive is getting progressively higher.

The proportion of people of German and Slovakian nationalities is relatively large in the elderly population as a whole. The share of people from different ethnic communities is the highest, nearly 5%, in the age group of 60 to 64 years, while it is 4% in the

other ones. Two percent of people declared themselves as belonging to the German and 0.5% to the Slovakian nationality in every age group of the elderly. The share of the Roma is nearly 0.5%, and – due to their age structure, which shows a young population with a small percentage of the elderly – it is lower in older age groups.

Based on census responses, the health status of the elderly is considerably worse than that of younger people. 40% of them live with chronic illnesses, while this figure was 17% for the total population. Up to 80 years of age, the proportion of those with chronic illnesses grows progressively higher the older they become after sixty years of age. 33% of people aged 60 to 64 years and 47% of those between 75 and 79 have chronic illnesses. It is interesting that the latter percentage does not increase further among people over 80 years of age. The proportion of those who claimed to be suffering chronic illnesses was by some 4 percentage points lower for men than for women.

More than 10% of all elderly people suffer some kind of disability, which is also much higher than the not quite five percent average of the total population. The proportions of men and women who suffer some kind of disability are similar. The largest group is composed of persons with motor disability. In addition, the older the age group, the higher the percentage of people who have visual or hearing impairments.

Religion plays a role in the lives of more elderly people than is the case among the younger people. Based on the 2011 census results, 70% of the elderly declared themselves as belonging to a religious community, while this figure was only 55% for the total population. The older the age group we examine, the higher the proportion of people belonging to a faith and a denomination: 64% in the 60–64 age group and 76% among persons over 80 years of age. The overwhelming majority of elderly believers belong to the three major denominations: 71% are Catholics, 22% are Calvinists and 5% are Lutherans.

At the time of the census, 63 thousand individuals lived in long-term residential institutions (“institutional households”) in Hungary, which accounted for 2.7% of the elderly, while 701 persons were registered as homeless. The percentage of people living in institutions is higher among the older age groups, reaching 10% among those who are over 85 years of age.

The population of the capital city has a traditionally older age structure than the national average due to migration processes and the higher life expectancy in Budapest. The proportion of the elderly is the highest in Békés, Heves, Nógrád and Zala counties. However, the differences are much larger by settlement: there are 471 settlements where the proportion of people aged 60 years or older is higher than 30%. Most of them are villages with fewer than one thousand or with a maximum of 1 000–3 000 inhabitants, but Districts I, II, V and XII of the capital city also belong to this category. At the other end of the scale, there are 112 settlements where not more than 15% of the population are elderly. For the most part they too have at most a few thousand inhabitants.

4. The atomization of households – an increase in the number of people living alone

A decline in multigenerational cohabitation has been observed for decades; the number of households where more than one family or parents, children and grandparents live together is fewer and fewer. Households are getting smaller; in the vast majority of them one nuclear (core) family forms a household. Earlier, households consisting of a single individual were more typical at an older age, after a family break-up, divorce from or the death of one's partner. In the last decade, however, while married marital status was losing ground, both the number and proportion of people living alone were also increasing among younger, unmarried men and women. (Persons living alone are those who lead an independent household, bear the costs of living and live with others in a communal dwelling or – in the vast majority of cases according to the 2011 census data – live in a separate dwelling.)

Many young people in their 20s study at tertiary educational institutions far from their official place of residence and live apart in rented accommodation.

Table 8

Distribution of households by type
(percentage)

Household composition	Year			Number of households, 2011
	1990	2001	2011	
Married couples and cohabitation	58.7	57.0	50.8	2 084 870
One parent with child(ren)	10.6	10.7	12.9	528 162
One-family households	*69.2*	*67.7*	*63.6*	*2 613 032*
Two-family households	2.5	3.0	1.2	47 887
Households comprising three or more families	0.1	0.2	0.0	1 497
Multiple-family households	*2.6*	*3.2*	*1.2*	*49 384*
Family households total	*71.8*	*70.9*	*64.8*	*2 662 416*
One-person households	24.3	26.2	32.1	1 317 138
Households of other composition	3.9	2.9	3.1	126 154
Non-family households total	*28.2*	*29.1*	*35.2*	*1 443 292*
Total	*100.0*	*100.0*	*100.0*	*4 105 708*

The number of people living alone has increased by 30% over the past decade, the 2011 census recording 1 317 thousand such persons. The majority are aged over

50, but more than 130 thousand are 40–49 years old, about 165 thousand are between 30 and 39 years of age, and even the number of those under 30 is more than 100 thousand. Since 2001, there has been an outstanding increase in the number of the 30–39 year-old people living alone, and though among them men are in the majority, the growth for women has also risen.

Table 9

Number of people living alone and its change by age group and sex, 2011

Age group (years)	Men	Women	Total	2011 data as a percentage of 2001		
				Men	Women	Total
–19	3 343	3 785	7 128	74.8	68.0	71.0
20–29	54 902	49 683	104 585	104.0	103.1	103.6
30–39	101 429	63 478	164 907	209.9	258.8	226.4
40–49	85 793	44 928	130 721	130.9	113.6	124.4
50–59	104 370	113 244	217 614	167.5	123.3	141.2
60–69	80 910	184 319	265 229	163.7	112.0	123.9
70–79	47 166	209 246	256 412	103.9	100.2	100.9
80–	30 006	140 536	170 542	152.7	169.3	166.1
Total	*507 919*	*809 219*	*1 317 138*	146.0	121.5	129.9

Under the age of 50, more men live alone than women, but this is not true for any of the older age groups; moreover, among the oldest people, the number of women living alone is several times higher than that of men. Over 70 years of age, nearly 80 thousand men and 350 thousand women were recorded as people living alone during the 2011 population census, while 30 thousand men and 140 thousand women were enumerated among those over 80 years of age.

Most people under 30 and living alone are not married. However, in the 30–39 age group, the proportion of the divorced and those who are married but live apart from their spouse is also appreciable. Among people aged 40 to 49, the percentages of single and divorced individuals are equally high, while most 50–59 year-old individuals living alone are divorced. Above 60 years of age, widow(er)s are in the majority, and above 70 they have a predominant share (88%).

Table 10

Distribution of people living alone by marital status, 2011
(percentage)

Age group (years)	Single	Married	Widowed	Divorced	*Total*
–19	99.6	0.2	0.1	0.2	*100.0*
20–29	95.7	2.8	0.1	1.5	*100.0*
30–39	76.3	8.7	0.3	14.7	*100.0*
40–49	43.1	11.9	2.9	42.1	*100.0*
50–59	21.3	11.4	18.9	48.4	*100.0*
60–69	10.8	8.1	47.3	33.8	*100.0*
70–79	5.5	3.0	76.5	15.0	*100.0*
80–	3.8	1.1	87.9	7.2	*100.0*
Total	29.2	6.7	39.3	24.8	*100.0*

Table 11

Distribution of people living alone by educational attainment, 2011
(percentage)

Age group (years)	People having completed less than 8 grades of primary school	People having completed the 8th grade of primary school	People without secondary school-leaving exam certificate but with a professional certificate	People with secondary school-leaving exam certificate	People with university, college degree	*Total*
–19	5.8	25.1	3.7	65.3		*100.0*
20–24	0.5	7.2	10.1	65.0	17.2	*100.0*
25–29	0.5	5.2	12.2	36.9	45.2	*100.0*
30–34	0.6	5.7	17.7	32.4	43.6	*100.0*
35–39	0.8	9.1	25.4	31.1	33.6	*100.0*
40–44	1.1	12.5	29.8	31.2	25.3	*100.0*
45–49	1.5	14.8	32.2	29.5	22.1	*100.0*
50–54	2.1	18.1	31.2	29.2	19.4	*100.0*
55–59	1.9	22.5	26.5	31.1	18.1	*100.0*
60–64	2.3	25.5	20.8	34.1	17.4	*100.0*
65–69	4.2	37.0	12.8	28.5	17.4	*100.0*
70–74	9.5	56.7		22.5	11.2	*100.0*
75–79	22.2	52.6		16.5	8.8	*100.0*
80–	36.6	43.0		12.5	7.9	*100.0*
Total	9.0	28.8	14.8	27.9	19.5	*100.0*

Those in the younger age groups and living alone are more highly educated, 44% of 25–34 year-olds having graduated and another significant part of them having been awarded a secondary school-leaving exam certificate. The proportion of college or university graduates is also higher among middle-aged people living alone than in the total population; however, those persons who have completed their secondary education in a vocational or apprentice school without passing a secondary school-leaving exam contribute an important share as well. Nevertheless, most people older than 75 and living alone have completed primary school at most.

The vast majority, 88% of people live alone in their own dwelling. At the same time only 62% of young persons under 30 live in their own flat, 27% are tenants. Nevertheless, since 2001, the mode of dwelling has also shifted towards ownership within this category: there are more owners and fewer tenants among them.

Along with the total housing stock, the quality and the level of comfort of dwellings occupied by people living alone has improved a lot over the past decade; the majority of them being fully or partially equipped with all modern conveniences. The share of dwellings without amenities and that of emergency housing is minimal, being only 7% as opposed to nearly 20% in 2001.

17% of the dwellings of people living alone have one living space (excluding kitchen, bathroom), while 47% have two and 36% have three or more living spaces. Overall, their size has increased, including the dwellings of the elderly.

Out of the areas of Hungary, the proportion of people living alone is traditionally high in the capital city; in 2011 41 of every 100 households in Budapest were one-person households. The relevant figures in the counties of the Southern Great Plain are also above the national average. At the same time – partly in consequence of age-distribution – the percentages are lower than the national average in Pest, Szabolcs-Szatmár-Bereg and Vas counties.

In reviewing the major correlations between educational attainment, the elderly and individuals living alone, a social group is outlined which merits special attention due to the situation in life of its members. In the Hungarian society, the generation over 70–75 years of age is large; many of them live alone and their lives are often complicated by illnesses and disabilities. They mainly differ from the next age group (from those in their 60s) in their lower educational level, which, in our accelerated world, may represent another disadvantage for them in their orientation during everyday life.

Methodological Challenges of the Hungarian Mixed-Mode Population Census 2011

András Borbély
Councillor
Hungarian Central Statistical Office
E-mail: Andras.Borbely@ksh.hu

Kornélia Mag
Head of Methodology Department
Hungarian Central Statistical Office
E-mail: Kornelia.Mag@ksh.hu

In the 2011 census, for the first time in the population and housing census history of Hungary, respondents had three options: filling in Internet questionnaires, self-completing paper questionnaires and answering census questions in an interview with an enumerator. The introduction of the online data collection mode was one of the most significant innovations of the Hungarian Statistical Office (HCSO) since prior it had only online data supplying experience in the field of business statistics.

One of the biggest challenges for the HCSO was to ensure the full-coverage of the census. In addition, the optimization of the editing procedure and the harmonization of the quality of online and paper-based data required new methodological procedures.

The article summarizes the benefits and challenges related to innovative solutions, such as online questionnaires, automatic coding, online monitoring system, etc., implemented by the HCSO.

KEYWORDS:
Census.
Multi-channel data collection.
Data processing.

Since the 2001 Population and Housing Census, the expectations and demands of data providers have changed. The need for self-administration has grown, and it has transformed dramatically the enumeration design priorities. To reach high quality census data, the motivation of respondents is necessary, independently of the obligatory nature of the data collection. As it is common in the practice of most countries, during censuses the most up-to-date methodological and IT innovations can be employed. Thus, new enumeration methods have been introduced by the HCSO and the increasing Internet use has allowed for the further reduction of the respondent burden. New technologies and methods have emerged not only in the enumeration methodology but also in the data processing stages. Thanks to the technological developments, significant improvements (e.g. using GIS technologies to create enumeration districts) have been made related to the pre-enumeration tasks and also the steps of data processing.

The article presents the novelties of the 2011 Hungarian Population and Housing Census. At first, it reveals how the data collection method was chosen and presents new solutions that have made the Hungarian enumeration more effective. Finally, it describes data capturing, coding, processing technologies and methods.

1. Choosing the enumeration method

According to the Principles and Recommendations for Population and Housing Censuses adopted by the UN, it is important to find the most effective way of reaching respondents and to reduce respondent burden.

Since the 2001 census, the response willingness of the population has dramatically decreased. The 2005 microcensus and other sample-based surveys have proved that enumerators are getting less and less welcome when they visit people's homes to collect data.

These changed conditions have urged the HCSO to search for new data collection methods that require less patience from respondents. Therefore, in the planning phase, before the final decision on the method to be used, it was important for us to gather as much information as we could. In addition, we carried out three pilot surveys before the census, where multiple data collection methods were used simultaneously. Based on this survey experience, the method was continuously refined.

2. Using the statistical address register

According to the Act CXXXIX of 2009 on the census of 2011: "…during the census, it is not allowed to put one's first and family name on the census questionnaire." In harmony with this law and to ensure the completeness of the census, all of the addresses in scope of the enumeration were provided with a unique address identifier. This identifier provided the link between dwellings, occupied holiday homes, other occupied housing units or institutions used for communal overnight accommodation that were found at the addresses and individuals who lived there. Due to these reasons, the address accuracy was an important issue in the execution of the 2011 census.

In 2006, the HCSO proposed to establish a continuously actualized statistical address register based on the 2001 census address database, to provide a basis for regular residential surveys and to integrate the address datasets used by the office. Its concept and IT background were completed in 2007. The 2001 census address database was first uploaded to the register. Since then, its dataset has been updated from multiple sources (such as municipality reports regarding territorial changes (in parts of settlements, public places)). One of the main objectives of pre-census pilot surveys was to check the condition and quality of this dataset. The sampled settlements were chosen to represent all of the settlement types (villages, holiday territories, towns, towns with county rights, and parts of Budapest), so we could face every address-related problem before the census. Although none of the samples was representative, the surveys have provided an opportunity to reveal the weaknesses of the register and to determine those parts that should be revised or upgraded.

Table 1 presents the accuracy of addresses in the three pilot surveys.

Table 1

Address accuracy by pilot survey

Year of conduct	Number of settlements	Size of the sample (addresses)	Proportion of addresses that				*Total*
			are			do not exist	
			correct	corrected	new		
			(percent)				
2008	6	25 000	89.8	4.9	2.3	3.0	*100.0*
2009	10	30 500	89.1	3.4	2.4	5.1	*100.0*
2010	8	22 000	82.0	10.0	5.0	3.0	*100.0*

In the pilot surveys, 82% to 90% of addresses were correct, while 3% to 10% could be identified but had to be corrected because they were inaccurate or the classi-

fication of the housing unit was incomplete or wrong. The proportion of inaccurate addresses was extremely high in some enumeration districts. Therefore, we reviewed the possible means of improving the quality of the address register. One of them was the frame of the addresses of the nationwide 2010 Agricultural Census where, due to the nature of agricultural activities, mostly village addresses were corrected. Therefore it was necessary to find other sources to improve the quality of the city/town address sets. For this purpose, the administrative data of newly built accommodations were used primarily. Nevertheless, the pilot surveys found that a considerable proportion of inaccurate addresses were located in the capital. To solve this problem, in 2010, all the addresses of Budapest were checked and (if it was required) corrected in the field.

After the evaluation of pilot survey results and the correction of addresses, the quality of the address register was good enough to be used as a frame for the population census. Before the census fieldwork, all the addresses were assigned to an enumeration district. The address list that consisted of address register data and also the map of enumeration districts ensured the full-scope enumeration of dwellings and the population living in them.

After the implementation of the census, the HCSO assessed the quality of the "starting" address dataset based on the address status codes recorded in the Census Monitoring System during the fieldwork. The results showed that 85.7% of the total 5 285 818 addresses were correct. 6.8% of addresses had to be corrected because some of their component(s) (e.g. (topographical) number, building, stairway, floor, and door number) or their function was/were incorrect. 4.0% (211 thousand) of addresses did not exist, or the enumerators could not identify them in the field. The percentage of the new (185 thousand) addresses was 3.5%, however, their spatial distribution was uneven. For example, in Nógrád County, only 1.3% of addresses were not included in the starting address dataset, while in Pest County, 8% of them. On the one hand, these addresses endangered the in-time implementation of enumeration, on the other hand, people living at these addresses could not respond via Internet (the online response option was only possible for addresses that were included in the starting address dataset and had a unique identifier and an identification (login) code generated in advance).

3. Questionnaire-related novelties

When constructing the questionnaires, we had to consider several aspects. The regulations of the European Union defining the obligatory variables were used as a

starting point for forming the data content of questionnaires. To survey user needs, expert forums were held covering most of the topics. In this stage, we clarified which questions should be included in the census questionnaires besides the minimum data content specified by the EU. The feedbacks were different; most of them were too detailed (the level of detail for some sets of questions exceeded that which could be recorded by a census). Therefore, a compromise had to be reached between users' needs and response willingness.

In parallel with finalising the topics, several wordings of the questions were tested. We had to create such questionnaires whose form and content met the expectations both of professional users and respondents. Important questionnaire design issues were as follows:

– Clarity of the questions;
– Thematic grouping;
– Logical structure and order of the questions;
– Emphatic display of the explanations;
– Position of the logical jumps between questions;
– Colour and display of the questionnaires;
– Suitability for self-enumeration;
– Appropriateness for OCR processing.

In order to examine the feasibility of the new methods to be introduced, the questionnaires were tested repeatedly. The HCSO has played an important role in the testing phase but the most important experience derived from focus group studies. In these studies, selected data providers were first asked to fill in the questionnaire on their own, and then interviewers posed the same questions to them. Thereafter, their answers given in the two ways were compared, and the reasons for any difference were clarified with them. At the end of the interview, the interviewers asked them opinion questions about the census.

Through the focus group tests, the reaction of respondents to each of the questions was studied and discussed with them, so we could gather some useful information about their motivations.

Based on experience gained from the pilot studies and focus group surveys, the following respondents needs were specified:

– The questions should be short and easy to understand;
– The questionnaires should include visible and clear instructions, if it is necessary;
– The questions should be easy to read, the type and size of characters are of high importance;

– The questionnaires should not be overloaded;

– Tabular questions should not be used (since they were hard to understand for most data providers);

– All the necessary information should be presented in the questionnaires (because only the most dedicated respondents read the manual);

– For a typical household, the time for filling in the questionnaires should be no more than half an hour.

The final structure of questionnaires was constructed using the results of the focus group surveys. (For example, the household- /family-related questions that had been asked previously in tabular form were converted).

4. Data collection method of the 2011 census

The reference date of the census was 0:00 hour 1st October 2011, that is, respondents had to provide data referring to this date. The enumeration was carried out between 1st and 31st October 2011. After this period, supplementary data collection was conducted from 1st to 8th November 2011 to reach any missing person.

Before the census period, enumerators checked the completeness of addresses in their enumeration districts and delivered the respondent's packages to the addresses. A package contained an information letter, the questionnaires (one dwelling questionnaire and one personal questionnaire) and the instructions for the completion.

Respondents were offered three choices.

– The questionnaires could be filled in online between 1st and 16th October 2011. In this case, all household members had to provide data via Internet.

– Respondents could choose self-completion by filling in the paper questionnaires delivered to their addresses in respondent packages. This response option was provided also between 1st and 16th October 2011.

– Data could be provided participating in face-to-face interviews conducted by enumerators who were to support households in completion during the whole enumeration period (between 1st and 31st October 2011).

35% of respondents chose one of the self-enumeration options. The proportion of online responses was 18.6% among addresses; and from 0.3% of addresses both online and paper questionnaires were received.

5. Innovations in digital support

As it was mentioned previously, data collection was carried out using three different channels in the first sixteen days of the enumeration period that increased and complicated significantly the organizational tasks. Therefore, it was necessary to develop a well-designed monitoring system, in which the data collection process and also the fieldwork progress could be followed. In this monitoring system (called Census Data Collection Support System) – whose development and operation were outsourced by the HCSO – an online data collection interface was also created. During data collection, the following IT tasks had to be completed by the system:

– Forming and managing online response options;
– Forming and managing the monitoring system of the data collection;
– Training the users of the system (forming an e-learning training program within the Moodle's e-learning environment);
– Transferring the stored data.

One of the tasks of the monitoring system was to record and maintain the data of people taking part in data collection. The order and duties of participants were based on the census act and the government regulation on the execution of the census. The census was conducted by a hierarchical organisation. The representatives of the HCSO worked in close contact with notaries and the representatives of other administrative bodies. Based on the formerly described cooperation and hierarchical management, about 40 000 enumerators worked in the field. The monitoring system provided the opportunity to keep track of who was the enumerator or the supervisor of a certain enumeration district and what was their contact information. This feature greatly facilitated the flow of information between participants.

Through the monitoring system, the supervisors could follow the online compilation of questionnaires and could record the arrival of paper questionnaires and also compile some data for the preliminary publications. It also allowed the refinement and correction of addresses.

The hourly updated reports presented data from each workflow for the census management and also for the executors of enumeration. Based on these reports, the regularity of the work of every enumerator and supervisor could be traced back, and thus, the overall progress of enumeration could be followed. It was also possible to detect problems and to make the necessary decisions.

6. Need for implementing the new self-administered method

There were several reasons for introducing the new answering option of self-completing online questionnaires. Reducing the respondent burden by constructing questionnaires and defining response options was an important issue in the planning phase.

During the census period, reduction meant minimizing the number of enumerator visits. However, it was not possible to eliminate all the visits since the distribution of respondent packages that contained the pre-printed questionnaires was one of the duties of enumerators. The delivery was of high importance because each dwelling questionnaire contained an identifier and a log-in code needed for the online completion of questionnaires.

Timing was also critical: the enumerators had to deliver the packages to the addresses before the enumeration began (that is, before 1st October 2011). Delivery did not necessarily mean contacting respondents; according to the instruction of enumerators, respondent packages, in the first case, should be placed in mailboxes, where the address printed on the dwelling questionnaire could be unequivocally identified. It was forbidden to start the enumeration in this period.

Lowering the respondent burden did not only mean reducing contact with respondents but also making it simple to fill in the questionnaires. According to the public expectation, the completion of a questionnaire should be easy, fast and should not require prior preparation. For these reasons, the structure and wording of questionnaires and the way of questioning were simplified.

Nevertheless, the former expectations conflict with the demands of data collectors who want to collect the most detailed and accurate data as possible. Thus, if a self-enumeration mode is introduced, the most important concern is to lower response errors (false responses stem from misunderstanding of questions).

All these have necessitated the introduction of online questionnaires that provide the possibility of reducing item response errors by means of correction rules and help messages built-in the system.

The expansion of the self-administered options was expected to reduce the number of non-responses (which occurred despite the fact that the completion of the cen-

sus was mandatory for all Hungarians). Due the obligatory nature of enumeration, some census-sceptic groups were formed, the members of which refused to respond or provided unreal data.

Besides them, there were also "hard-to-count" people who were rarely found at home or did not want to contact the enumerators (or who were staying abroad temporarily). The online completion mode has offered a good solution for them too to fulfil their obligation.

7. Expectations regarding online questionnaires

The online response option was tested by pilot studies. The most useful information was obtained from that organised in autumn 2010. Meanwhile, respondent identification methods were developed and tested to determine which addresses had sent back the filled-in questionnaires.

During the 2010 pilot study, 82.4% of online respondents fulfilled their reporting obligation with a single entry. This result indicates that often one person filled in the questionaires for the complete household. It took 33 minutes for an average household to complete the questionnaires. On the average, it took six minutes for a person to fill in the dwelling questionnaire and eleven minutes to complete the personal questionnaire.

Examining the logins of online respondents, we found that almost half (44.8%) were made on the weekends, mostly on Sundays. On weekdays people usually logged in in the evening hours, between 18 and 21 pm. This result proves that data providers filled in the online questionnaires primarily at home and not at their place of work.

Online data providers were typically 30–39 year-old, highly educated, employed men. However, in the capital, the rate of respondents aged 60 or over was the highest. Data providers considered quickness as the main advantage of the online completion of questionnaires.

Based on this set of information, we defined the requirements to be met by the final version of online questionnaires. One of them was that the Internet questionnaires had to follow the structure of paper questionnaires (both in their content and form). According to another requirement, guidelines for completing the questionnaires and explanations had to help the respondents to understand the questions.

To simplify answering, continuously running editing rules and jumps between questions have made the completion of questionnaires interactive. Thus, based on the previous answers given by a respondent, some fields were automatically filled in or

skipped, and then the program jumped to the next relevant question. Online help, that could be recalled any time, has also assisted the completion.

The online interface had to be made available for everyone, independently of the performance of the users' computers. It was also important criteria to make the application reachable from every browser and to avoid building any access burden into the application. In addition, the application was not to require any prior preparation by the users.

The protection of respondents' data was a significant issue in the whole census process. The data protection statement made by the enumerators and every other actor has guaranteed the protection of information provided on paper questionnaires, while that of data given electronically was ensured by the computer application. The households' unique identifier and identification (login) code have reduced the chance of any misuse. Besides, the application has provided an opportunity for the respondents to protect information themselves by giving a special security code.

8. Characteristics of the online census software

The online computer application has had multiple channels, which differed primarily in the authentication of various target groups. The reason for developing these channels was, inter alia, that data had to be also obtained about people who are part of the Hungarian population but did not reside temporarily in Hungary, so they did not have an access code because of the lack of an Hungarian address or had a pre-generated login code but could not get at it.

The following target groups were defined:

– Hungarian citizens living in the area of the country: they had both an address identifier and a login code; after filling in the questionnaires in Hungarian, their data were transferred instantly to the database and appeared in the monitoring system (their address got a "flag");

– Foreign citizens residing in Hungary who do not speak Hungarian: they were not able to use the Hungarian census software; for them, an English version was developed that differed only in its language from the Hungarian one;

– Employees of the Ministry of Foreign Affairs who are members of a foreign mission and have diplomatic status: they got a pre-defined technical identifier and a login code to complete online the question-

naires. The data provided by them was handled separately and was only added to the census database later, during the processing period;

– Hungarian citizens staying temporarily abroad for a period of less than 12 months: they did not have an address identifier, so they got a technical identifier and a login code after registration. Just like in the former case, their data were handled separately and were only transferred to the census database in the processing period.

The displays of the four channels did not differ from one another; changing between online pages was the same as turning pages of paper questionnaires. The possible answers also followed the logic of paper questionnaires; there were free-text, check-box type fields, as well as answers in pop-up lists.

The introduction of Internet questionnaires improved data quality as a result of the built-in (more than three hundred) correction rules of the software. The validity of answers and the coherence of data given to different questions were checked according to these rules. When a questionnaire package was finalized, all the rules (including those checking the logical connections between the questionnaires) were run.

Errors found during this process were displayed in tabular form: the application listed the number of the questions to which incorrect answers were given and displayed the detailed description of the errors. By clicking on an item of the list, the incorrect answer appeared what has made the correction easier for the respondents.

The checking rules had two types. To finish and submit the questionnaires, the correction of certain errors was compulsory, while that of warning-type errors was not indispensable.

After completion, when no compulsory errors were found, questionnaires were forwarded to the central database. Then respondents received a message with a confirmation number and the date of response, verifying their participation in the census. The message could be saved or printed.

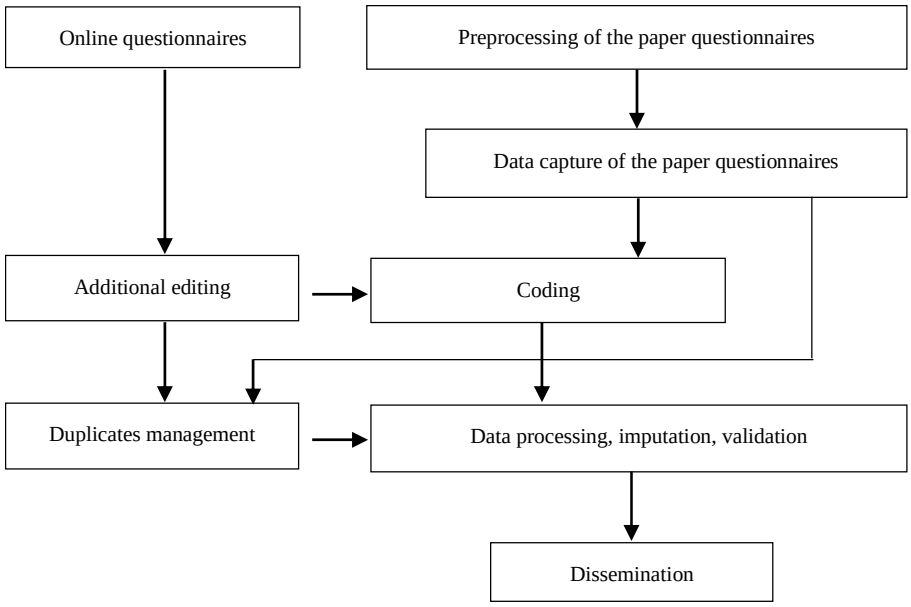
9. Data processing

Some new data-processing methods have been introduced in the 2011 census. Due to the mixed-mode data collection, the quality of data coming from different channels was often different. As it was mentioned earlier, more than three hundred editing rules provided quality assurance in online data collection. In the case of traditional paper questionnaires, enumerators and supervisors checked the completeness

and quality of answers during fieldwork. As a result of the differing quality of data on paper and online questionnaires, HCSO has faced challenges related to completeness, coverage and quality in processing data.

Both the entire data processing procedure and its stages were based on the pilot survey/testing results. The following figure shows the main steps of the process.

Main steps of processing



Concerning respondent burden, the mixed-mode data collection improves the quality of census data but data processing and management require more fine-tuned solutions. To solve the problems associated with the differences in the levels of the quality and processing of paper questionnaires, it was necessary to introduce preparatory phases before data capture (pre-processing). While online questionnaires contained some questions with lists of predefined answers, during the pre-processing of paper questionnaires, textual information had to be coded. Those answers (e.g. place of birth, previous place of residence, spoken language, religion) could have been coded on paper that were easy to identify and needed no special expertise for coding. The basic logical checks, editing rules and formal technical corrections were also a part of the preparatory work.

Capturing the more than 11.5 million paper questionnaires was one of the most difficult challenges of the census. New technologies play a significant role in changing the data captures methodology from manual data entry to more advanced methods.

There is a wide range of modern data capture methods including optical capture (optical mark recognition (OMR), optical character recognition (OCR), intelligent character recognition (ICR)), personal digital assistant (PDA) and Internet. Over the last decade, significant improvements have been made in optical capture technology, reducing the cost and duration of data processing. When preparing for the census, various capturing methods were tested, and the final decision in favour of the OCR and ICR was made on the basis of costs, as well as data confidentiality and quality aspects.

All the ticked responses in the questionnaires were scanned electronically using ICR technology, while the written answers were entered manually. ICR has provided the ability to recognize texts handwritten by data suppliers or enumerators.

In the 2011 Population Census, capturing was sourced out and followed the general procedure used in the 2001 census. After pre-processing, the paper questionnaires were delivered to the Data Capture Centre and were prepared for scanning. The smallest item of capturing was the enumeration area. The questionnaires were scanned from enumeration area to enumeration area, and the recognized data were loaded into the system for further quality checks.

The HCSO has had predefined quality requirements of capturing by data types. The following accuracy levels were expected:

- Identifiers – 99%;
- Ticks – 99.9%;
- Numbers
  - most important numerical information – 98%;
  - other cases – 94%;
- Textual information – 92%.

To improve the accuracy of data capture, logical checks and double entry were used. The quality control was performed by sampling. Each of the items was visually checked whether the captured data were the same as the set of information on the images of scanned questionnaires. It was a very time-consuming task so the sample size was limited to 200 questionnaires per day. The average number of questionnaires captured daily was 100-150 thousand. Systematic errors in the captured data could be identified based on the results of the sample.

Once the data were collected in electronic format and were accepted by quality checks, more than 800 manual as well as automatic logical and consistence editing rules were run to correct errors.

The automated and computer-assisted manual editing procedures were organized in the following thematic groups: completeness, demographic categories, dwelling and household-family, education, economic activity and sensitive topics. Most errors were identified in the education-related answers.

The capturing and editing procedures needed more than five months. During this period, two shifts of the capturing staff were employed for seven days a week and two shifts of the editing experts for five days a week.

10. Coverage

Accurate coverage, as one of the most important quality requirements of the population census, had to be ensured. The first challenge was the so-called duplicate management. Even though the data collection procedures were planned to avoid duplication at address level, it was found in 0.3% of both the online and paper dwelling questionnaires. This over-coverage has rooted in the misunderstanding of the completion of questionnaires (e.g. online questionnaires were not completed for each member of the household). To solve this problem, the following data processing solutions were found.

– If the address identifiers and the addresses (the name and character of the public place, the house number, etc.), as well as the identity of persons were the same in online and paper questionnaires, the online questionnaires were kept.

– If the address identifiers and the addresses were identical but the persons were different, both online and paper questionnaires were accepted.

– If the address identifiers were the same but the addresses were different, the records could be matched only manually.

The identity of respondents was checked by their main demographic data, such as date of birth, sex and marital status.

In addition to these cases, dwelling over-coverage – owing to unoccupied but enumerated holiday houses that did not belong to the scope of the census – was eliminated at the start of data processing. The concerned dwelling questionnaires were not processed. Based on personal questionnaire information (place of work, family status, etc.), those persons who were enumerated not only in their place of residence but also in another one were also searched for. The redundant questionnaires were not processed either.

Information on under-coverage was gathered during data collection. If household members refused to answer or their questionnaires were not completed, special non-response codes were used. All these pieces of information related to the implementa-

tion of enumeration (whether a certain address was enumerated/ partly enumerated/ not enumerated) were registered in the monitoring system.

In the case of addresses partly or not enumerated, administrative data and a donor imputation method were used. In order to ensure full-scope enumeration, the most important demographic characteristics of people living at such addresses were taken from the Official Population and Address Register maintained by a central agency of Hungary. For additional variables (e.g. employment, occupation, family status donor), imputation was used; however, sensitive questions, for example, on religion or ethnicity were not imputed.

11. Coding

Some variables, especially those where the answers are provided in free text (e.g. occupation and main activity of employer), were coded. Coding can be done by a coder (working possibly with computer assistance) or by a computer program designed for automatic coding. Computer-assisted and automatic coding techniques may improve coding activities by enhancing the quality of operations, reducing coding errors and speeding up the coding process. However, automation may lead to inaccurate coding which can be costly and time consuming to correct. For computer-assisted and automatic coding to be successful, there is a need to set proper and well tested specifications.

Compared to the former practice of the HCSO, not all the written answers were coded on paper during the pre-processing. One of the main reasons for this was that occupation, the main activity of the employer and the field of the highest completed level of education were collected online using open questions. Due to the diversity of the data collection channels and in order to optimize the costs and quality, automated coding was used for these types of data. An additional benefit of this solution is that the text responses can be used for the revision of classifications.

G-Code, the coding software developed by Statistics Canada, was used to automatically assign predefined codes to responses of open-ended questions in the population census.

Two files were input to the automated coding system, the reference and response files. The reference file contains phrases and their corresponding codes. All phrases in the reference file comprise codes that have been verified to be correct. Some phrases are longer than others, and different phrases may correspond to the same code. One of the most burdensome phases of the preparation was the compilation of the reference files for the different variables. A response file contains a list of response phrases to be coded coming from both the online data collection and the captured paper questionnaires.

The automated coding procedure was carried out in two steps. At the first step, both the input and reference text were parsed by a user-defined parsing strategy, in order to reduce the text to a standard form. Parsing deals with problems such as common spelling variations, abbreviations, etc. The parsing strategy plays a strong role in determining the success rate of the coding process.

The second step was to match the parsed input text to a list of parsed descriptions in a reference file and assign the associated code when a match is successful. Indirect matching was used, which means that a weight was assigned to each matching word in the input phrase and a score for this phrase was computed based on weights and the number of words in common between the input and the reference descriptions. The following three different categories were used to group the results of the automated coding:

– Unique code: the matching procedure stopped because the score (the probability of the exact matching) was higher than the predefined value.

– Possible codes: there were multiplied matches but the scores were lower than the predefined and higher than the second predefined value.

– No matches: there were no matches with higher probability than the second predefined value.

The final scoring and the predefined values were based on the testing results. The efficiency and quality of the automated coding procedure were strongly correlated with the reference files (based on the nomenclatures). The reference files could be improved not only during the testing phase but the results of the automatic and manual coding could be used also for this reason. Table 2 shows how the efficiency of the automated coding has improved during the process.

Table 2

Efficiency of the automated coding

Textual information	Number of the textual information to be coded	Automatic coding rate (at the start) (%)	Automatic coding rate (at the end) (%)
Education	4 921 648	50	72
Occupation	6 253 124	25	35
Main activity of the employer	3 794 685	15	20

The efficiency of the automated coding can never reach 100%. In the cases where no unique code was automatically found, computer-assisted manual coding was used.

To ensure the quality of the manual coding, only HCSO experts were employed for this purpose. All relevant information (possible codes identified by automated coding, demographic data on persons) was available to them. In addition, editing rules were built in the application and the supervisors carried out additional double coding.

Before the tabulation and dissemination of final data, numerous other data processing steps were carried out (automated editing, computer-assisted manual editing, disclosure control, etc.). The detailed description of the methods used will be available in the Population Census Methodological Handbook to be published.

Employment and Unemployment in Hungary based on Census-Type Surveys*

Miklós Lakatos
Senior Advisor
Hungarian Central Statistical Office
E-mail: Miklos.Lakatos@ksh.hu

The study summarises the major changes in the economic activity, inactivity and employment of the population between 2001 and 2011; it also cites earlier census and microcensus data. The changes of the labour market are illustrated by means of key demographic and employment variables. When presenting the special characteristics of employment and unemployment, the author focuses on the 2011 census results.

KEYWORDS:
Employment.
Occupation.
Economy.

* For the compilation of the study, some data was used from the volume series of *Fóti–Lakatos* [2004], [2005], [2006]. Thanks to *Krisztián Bartha* and *Orsolya Eszenyi* for their valuable help in editing the data.

Censuses provide an excellent opportunity to analyse the "world of work" and the developments in the labour market that are strongly connected to socio-economic conditions and responsive to changes. Official enumerations of the population clearly indicate how certain factors have altered over past decades, and which of them have undergone radical social transformations.

Censuses contain information for a reference date. For the 2011 census, it was 1 October 2011. Hence, most data of the present study refer to this date. Significant changes in the labour market may occur in only relatively long periods, but there may be time intervals when some of its segments alter faster. Therefore, the paper also makes reference to shorter periods between censuses. Nevertheless, over the past decades, it has become common practice to conduct census-type microcensuses covering 2% of the population, usually in the middle of the ten-year period. Their data collection programmes and methodological solutions are essentially the same as those of censuses. Thus, in respect of some labour market variables (e.g. economic activity), the 1996 and 2005 microcensus results are also cited.

The study summarises the major changes in the economic activity, inactivity and employment of the population between 2001 and 2011, referring also to the data of earlier censuses and microcensuses. However, when presenting the specific features of employment and unemployment, the emphasis is placed on the 2011 census results.

1. Changes in economic activity

Economic activity and employment can be examined from the perspective of a century.[1]

When evaluating economic activity changes, one must consider that the two world wars took place in the period, and radical socio-economic changes affected the composition of the population.

Economic activity and employment may be considerably influenced by the changes in economic cycles, the labour market regulations of the government, social

[1] Census, microcensus as well as updated population data and continuous labour statistics were used for the analysis. For retrospective compilations, the conceptual differences of the various data collection and processing methods of censuses also have to be taken into account and thus, estimates have to be made in some cases. Data are given for the present territory of the country.

policy as well as the steps taken to improve the chances of disadvantaged groups. Due to the particularly open Hungarian economy, international economic relations also influence the country's labour situation.

In the first decades of the 20th century, the majority of the Hungarian population were dependants having no identifiable regular income; their proportion was 52.8% even in 1949. This ratio had dropped by 1960, and the percentage of employed persons and inactive earners[2] reached nearly 70% by the end of the 1980s. Later, the emergence of open unemployment followed by mass unemployment brought a new economic restructuring.

The proportion of inactive earners grew dynamically throughout the whole period but especially in the decades after 1960. At present, the share of this category within the total population is 27 times larger than it was at the beginning of the century and has increased nearly sevenfold since 1960.

Table 1

Economic activity, 1900–2011
(percentage)

Year	*Population*	Employed *	Unemployed	Inactive earner	Dependant
1900	*100.0*	41.4	..	1.1	57.5
1910	*100.0*	40.1	..	1.2	58.7
1920	*100.0*	44.6	..	1.3	54.1
1930	*100.0*	43.0	..	2.0	55.0
1941	*100.0*	45.1	..	2.2	52.7
1949	*100.0*	44.4	..	2.8	52.8
1960	*100.0*	47.8	..	4.4	47.8
1970	*100.0*	48.3	..	13.5	38.2
1980	*100.0*	47.3	..	20.6	32.1
1990	*100.0*	43.6	1.2	25.6	29.5
1996	*100.0*	34.2	4.7	32.5	28.5
2001	*100.0*	36.2	4.1	32.4	27.3
2005	*100.0*	38.1	4.6	30.5	26.7
2011	*100.0*	39.7	5.7	29.7	24.9

* Employed persons excluding the following: working pensioners between 1900 and 1970; working pensioners and working recipients of childcare provision in 1980 and 1990.

Note. 1996 and 2005 data are microcensus results. Here and in the tables hereafter, the deviations from 100.0 result from rounding.

[2] Inactive earners are economically inactive persons who receive incomes (pension, social provisions, etc.) other than unemployment benefits.

The strong increase in the number and proportion of inactive earners was essentially due to two factors: the extension of pension rights and a shift in the demographic structure towards the elderly. Only a very small proportion of workers had jobs at the beginning of the last century where they could acquire pension rights. The extension of such rights to a wide range of people started only in the 1920s and 1930s. The process later continued, and the vast majority of employees became eligible for a pension in the 1970s. Meanwhile, the age structure also changed: only 2.8% of the population were pensioners in the middle of the 20th century, 13.5% in 1970 and more than a quarter in 2011.

The level of economic activity changed slightly in the decades before and after the turn of the millennium. The percentage of inactive earners in the population increased between 1990 and 1996 and then, after five-year stagnation, decreased from 2001 to 2011. The latter was one of the consequences of the transformed pension system.

In line with European trends, the Hungarian retirement age has been raised, and the eligibility for disability pension has been tightened, reducing the economic inactivity of the age groups over 55 and extending their presence in the labour market. The growth was more significant in the case of women. Although the retirement age was gradually raised (from 55 to 62 for women and from 60 to 62 for men), the process had already completed by the time of the 2011 census. Further to this, the retirement age was increased from 62 to 65 in 2010 with a considerably shorter transition period than earlier, however, this did not substantially affect the economic activity figures of the 2011 census.

The proportion of the employed was 41.4% in 1900 then slightly decreased in the first decade of the 20th century. There was a temporary increase in the periods of the two world wars. Between them, and then in 1949, a decline was experienced. In the 1950s, the employment rate increased by more than an unprecedented three percentage points. The positive trend continued in the 1960s and also the first half of the 1970s; however, the growth (that was in the order of millions) strongly decelerated. The process stopped around the mid-1970s, and then a gradual decline was observed from the end of the decade. The decline can be attributed to two factors: a decrease in the number of working-age population and that a much smaller number of people over retirement age continued to be active earners than earlier. Thus, the fall in the number and proportion of employed people could already be detected in the decade before the economic and social transition. This process considerably accelerated in the 1990s. The employment rate fell by nearly four percentage points between 1980 and 1990, and by more than nine percentage points in the first half of the 1990, in which, besides unemployment, the early retirement schemes (disability pension, early old-age pension and pre-pension) and the exclusion of certain disadvantaged groups from the labour market played a significant role. Some 3.5 million people

were active earners in 1996, which represented a decrease of 1.6 million and more than 1 million compared with the figures 15-20 and 6 years earlier, respectively. Thus, the number of the employed was 600 thousand lower than in 1949 and did not even reach the level of 1930. In the last one and a half decades, there was a slight positive shift, the proportion of employed persons grew by five percentage points: nearly 3.94 million people were active earners in 2011.

The number of inactive earners and dependants per 100 employed people shows the changes in economic activity and offers an opportunity for further findings. (See Table 2.)

Table 2

Indicators of economic activity, 1900–2011

Year	Inactive earners	Dependants	*Inactive earners and dependants*
	per 100 employed people		
1900	3	139	*142*
1910	3	146	*149*
1920	3	121	*124*
1930	5	128	*133*
1941	5	117	*122*
1949	6	119	*125*
1960	9	100	*109*
1970	28	79	*107*
1980	43	68	*111*
1990	59	67	*129**
1996**	95	84	*193**
2001	90	76	*176**
2005**	80	70	*162**
2011	75	63	*152**

* Including unemployed people.
** Data of microcensuses.

The number of inactive earners and dependants per 100 employed people shows that the dependency burden on employed people fluctuated significantly during the 20th century, depending on socio-economic conditions. The figure was between 140 and 150 in the years before the First World War, considerably fell after 1918, and then, in the period of the economic crisis (around 1930) increased again but did not reach the level of 1910. Its 1941 figure already indicated the boom associated with

the beginning of the Second World War, and there was only a minor shift in 1949 compared with this. Its decline (from 125 to 109) also shows a profound change in the 1950s. The indicator reached its minimum in the first half of the 1970s and then started to increase again, reaching 129 in 1990 and 193 in 1996. Both unfavourable values are partly due to unemployment. Finally, as a consequence of the changes taking place between 1996 and 2011, a slightly improving, downward trend could be measured. The number was 152 in 2011, which shows a decrease compared with the figure in 1996, but it is still significantly higher than that in 1990.

1.1. Economic activity according to gender

A hundred years ago, three-quarters of the economically active population were men. This proportion changed little until the middle of the 20th century, although a temporary increase in the percentage of women could be observed during the two world wars. This was not due to the long-lasting needs related to socio-economic development but to the fact that women had to fill the jobs of men who had been called up for military service. The extraordinary conditions of war proved that the female population could be taken into account as a considerable labour force reserve. After the First World War, the proportion of women among employed people decreased by nearly four percentage points. The decline was owing to the higher rate of unemployment of women than that of men during the economic crisis of the interwar period when mostly women were dismissed during layoffs. The percentage of men among employed people was 71% even in 1949 and only 57% in 1980.

Table 3

Economic activity by gender, 1900–2011

Year	Number of			
	men	women	employed persons among	
	among 100 employed persons		100 men	100 women
1900	74.8	25.2	62.2	20.8
1910	77.9	22.1	62.7	17.7
1920	70.2	29.8	64.6	25.8
1930	73.9	26.1	65.0	22.0
1941	72.7	27.3	67.0	24.1
1949	70.8	29.2	65.4	25.0
1960	64.5	35.5	63.9	32.8

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(Continuation.)

Year	Number of			
	men	women	employed persons among	
	among 100 employed persons		100 men	100 women
1970	58.8	41.2	58.6	38.6
1980	56.6	43.4	55.3	39.9
1990	55.5	44.5	50.4	37.4
1996*	55.6	44.4	39.7	29.1
2001	54.3	45.7	41.3	31.6
2005*	54.1	45.9	43.4	33.3
2011	53.3	46.7	44.5	35.3

* Data of microcensuses.

In consequence of the aforementioned processes, the economic activity of men decreased gradually at first, then, in the first half of the 1990s, at a very rapid pace. Its level was much lower in 1996 than at any time since the beginning of the century. The past few years have resulted in only modest improvement.

The economic activity of women also fell significantly in the 1990s; it did not even reach the level of 1960 in the mid-1990s, although it was still considerably higher than that in the first half of the 20th century. Compared with the 1980s, the composition of employed people by gender only changed slightly, the percentage of women increased from 43% in 1980 to 47% in 2011.

1.2. Economic activity by age group

The transition has influenced the various age groups in different ways. The proportion of the youngest (15–19 year-old) people decreased rapidly after 1990 and was hardly detectable in 2011 (0.5%). Two of the main reasons for this drop were the extended study time and the change in the compulsory school age from 14 to 18 years. Another reason was the increasing difficulties of career starters in finding a job after 1990. In contrast, the proportion of the 20–24 year-olds grew in the first half of the 1990s since the birth rate was high in the early years of the 1970s.

The changes in the pension system influenced the employment of people over 50. The rate of employment among them reached its lowest in 1996, and then rose gradually until 2011. The rise was especially outstanding among women.

The employment rate of people aged 15 to 19 years drastically fell due to the reasons already outlined. While the ratio was 33.3% in 1990, it was only 13.6% in 1996 and 3.3% in 2011, as a consequence of the rising compulsory school age.

The rate of employment decreased among people aged 20 to 24 years. It was more than three-quarters in 1980, 72.2% in 1990 and less than 55% in 1996. The negative trend also continued over the past one and a half decades: only about two-fifths (40.8%) of them had a job in 2011. Meanwhile, especially in the post-1990 years, a large proportion of people aged around 20 years were engaged in full-time tertiary education. It is also a common phenomenon that those who had obtained a secondary school-leaving certificate but were not admitted to tertiary education for the first time, or could not immediately continue their studies due to financial, family reasons, return to the "world of study" after one or two years spent in the "world of work". Many young university or college graduates had to face the problem of finding a job in the decade following the turn of the millennium.

The level of employment also declined in the 25–29 age group between 1980 and 1996 but later started to increase; nearly 70% of them were economically active in 2011. Due to the efforts to acquire the highest possible educational attainment and the postponement of academic semesters, full-time studies may last even beyond the age of 25. The employment stagnation of the 25–29 year-old group on a level lower than that in 1990 is mainly explained by unemployment. However, it is also affected by the delayed childbearing of women who temporarily leave the labour market and make use of the state support (child home care allowance, childcare benefit, child raising support).

People aged 30–39 and 40–49 years are considered to most active ones. In these two age groups, the employment rate was around 88% in 1990 then dropped to 70–72% in 1996 before increasing to 74-77% by 2011. As far as women are concerned, more than 90% of them in 30–39 age group and 87% in the 40–49 age group were employed in 1980. (For men, these proportions were 98% and 94%, respectively.)

The rate of decline in employment in the 1990s and that of "recovery" were similar for middle-aged men and women. However, the employment rate of men aged 40 to 49 years decreased more than that of women of the same age. In addition to unemployment, it is also related to the fact that mostly men worked in such wound down areas (mining, metallurgy) where many of them took early retirement due to disability.

The decline in the employment rate of 50–54 and 55–59 year-old men and 50–54 year-old women – that started in the 1980s and became notable in the 1990s – is explained by widespread early retirement. Later, after 2001, the rates for the same age groups became higher due to the changes in the pension system (i.e. increase in the retirement age).

Table 4

Employment rate by age group and gender, 1990–2011
(percentage)

Age group	Year				
	1990	1996	2001	2005	2011
	Both male and female				
14	0.1	0.0	–	–	–
15–19	33.3	13.6	8.3	3.8	3.3
20–24	72.2	54.7	51.3	43.3	40.8
25–29	78.3	62.6	65.8	68.7	69.3
30–39	87.7	70.0	70.7	72.7	74.3
40–49	87.6	71.6	71.4	73.9	77.1
50–54	73.7	52.5	61.7	65.6	71.0
55–59	31.0	18.3	30.7	45.1	54.2
60–64	2.7	2.0	6.6	12.6	16.5
65–69	1.1	0.7	2.6	5.0	7.9
70–	0.3	0.2	1.0	1.2	1.8
Total	43.6	34.2	36.2	38.1	39.7
	Male				
14	0.1	0.0	–	–	–
15–19	34.9	12.8	9.7	4.4	3.7
20–24	84.5	61.7	56.5	47.8	44.6
25–29	93.3	76.2	76.1	79.0	76.1
30–39	93.8	77.6	77.9	81.8	83.1
40–49	90.6	73.0	71.9	75.6	78.5
50–54	80.5	61.4	63.4	66.4	70.8
55–59	60.3	34.3	46.3	53.1	59.3
60–64	4.0	3.5	9.7	16.5	20.2
65–69	1.7	1.0	3.9	7.5	10.6
70–	0.6	0.3	1.8	2.2	3.3
Total	50.4	39.7	41.3	43.4	44.5

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(Continuation.)

Age group	Year				
	1990	1996	2001	2005	2011
	Female				
14	0.1	–	–	–	–
15–19	31.5	14.4	6.9	3.2	2.8
20–24	59.3	47.4	45.9	38.6	36.8
25–29	62.9	48.4	55.2	58.0	62.2
30–39	81.5	62.3	63.3	63.4	65.3
40–49	84.6	70.3	70.9	72.2	75.7
50–54	67.8	44.5	60.2	64.9	71.1
55–59	5.9	5.2	17.4	38.3	49.7
60–64	1.7	0.9	4.2	9.6	13.4
65–69	0.7	0.4	1.7	3.3	5.8
70–	0.2	0.1	0.6	0.7	1.0
Total	37.4	29.1	31.6	33.3	35.3

The Hungarian labour market faced significant changes in the 1990s. In the first half of the decade, the employment situation deteriorated and the economy declined; simultaneously, the job opportunities lessened and the real income of broad social strata decreased due to inflation. Although economic activity slightly improved in the periods of 1996–2001 and 2001–2005, the world economic and financial crisis that started in 2008 broke the upward trend. The comparable data of the 2001 census, the 2005 microcensus and the 2011 census cannot detect the labour market movements between 2008 and 2011. Therefore, the study only refers to the fact that the slightly positive shift in economic activity between 2005 and 2011 was not continuous.

The impact of the crisis on the labour market was most intense in 2009, but while the decrease in employment had stopped by the end of 2010 and a slight growth could be observed in 2011, the indicators of unemployment kept deteriorating, and the signs of recovery appeared later. The 2013 labour market trends were favourable: employment increased, and unemployment as well as inactivity declined.

The active labour market policy had an important role in managing the crisis and tempering its impacts. The most direct intervention was the extension of public employment, which was also indicated by the 2011 census data. The number of public workers has gradually increased since 2008 and was more than 200 thousand in 2013.

2. Structural characteristics of employment

At the beginning of the last century, 61.1% of the total (2.8 million) employed population worked in agriculture and forestry. In 1949, within the number of employed people (that increased to 4.1 million in the meantime), still the majority (53.8%) worked in this branch.

Industry and construction had a relatively small role (15-16%) in employment until the 1920s, and accounted for only a fifth of employed people even in 1930. In the next decade, partly because of the war boom in the late 1930s, a nearly two percentage point increase was observed followed by stagnation in the first years after the Second World War.

Between 1920 and 1960, the proportion of people employed in the service-type industries was unchanged (25%).

The extensive industrialisation started in the 1950s and continued in the 1960s, causing structural shifts of an unprecedented extent. The proportion of people working in industry and construction doubled to 43.8% between 1949 and 1970. This growth occurred largely at the expense of agriculture, which was hit meanwhile by the collectivisation. As a result, less than a quarter of employees worked (as a main activity) in agriculture and forestry in 1970.

The proportion of earners in service-type industries fell somewhat after the Second World War and even in 1960 was only slightly higher than the level before the war. Between 1960 and 1970, it increased by four percentage points to 31.6%. In the 1970s, employment increased mainly in these industries, while, besides agriculture and forestry, a slight decline appeared also in industry.

In the period between 1980 and 2001, radical changes occurred in the composition of employed people by industries. The number of people working in agriculture as a main activity decreased by more than a quarter from 1980 to 1990; those employed in industry and construction fell by nearly a fifth (373 thousand people) while employees working in service-type industries (trade, accommodation and catering services, transportation) grew by more than 90 thousand (nearly 5%).

Since the 1990s, changes in the composition by industries have rapidly accelerated, reflecting strong modernisation processes. However, as already mentioned, one cannot ignore that the structural changes occurred in parallel with a very significant fall in the number of employed people. Because of the rapid privatisation, layoffs and the cessation of ineffective corporations, the number of the employed decreased by one million in the 1990s. After the middle of the decade, the decline changed to stagnation and then to a slight increase. Nevertheless, the number of employed people (3.94 million) was 13% less in 2011 than nearly a quarter of a century earlier. There were significant redundancies in the inefficient state companies. The “hidden”

unemployment – that had been present in a latent form in industry and construction earlier – became transparent. In agriculture and forestry, the cessation of secondary activities must also be taken into account when assessing the enormous reduction in the number of employed people.

Table 5

Composition of employment by branches of the national economy, 1900–1930 and 1949–2011
(percentage)

Branch of the national economy	1900	1910	1920	1930	1949	1960	1970	1980	1990	2001	2011
Agriculture, forestry	61.1	55.2	59.7	54.3	53.8	38.4	24.7	18.9	15.5	5.5	4.5
Industry, construction			15.8	20.2	21.6	34.0	43.8	41.9	37.9	33.1	28.3
Other (service) industries	38.9	44.8	24.5	25.5	24.6	27.6	31.6	39.1	46.7	61.4	67.2
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*

In the first decades of the 20th century, the widest stratum consisted of agricultural manual workers. Then, in parallel with the expansion of industry and construction, both the number and proportion of industrial workers started to grow.

In the first decades of the last century, only a negligible part of employed people (3.9% in 1900 and 6.2% in 1920) carried out intellectual work. Although demands for such work slowly increased, just about a tenth of the employees could be classified as non-manual workers in the middle of the century. Their number and proportion gradually grew over recent decades with 30.6% of employed people performing intellectual work in 1980, 33.2% in 1990 and 44.8% in 2011. Not only is the higher general level of education in the background of this trend but also that unemployment affected primarily the manual workers in the 1990s. This implies a positive shift in the economic structure of the country, e.g. the labour market shifted towards economic activities demanding more a qualified labour force.

To sum up, together with the sectorial structure, the composition of the national economy has undergone a profound shift in the last century.

During the last century, the composition of active earners changed fundamentally. Transformation was influenced by historical events: the two world wars, the Treaty of Trianon, the economic crisis, the centrally planned economy lasting for four decades after the Second World War, the loosening of this system and then, finally, the transition. However, this did not change the fact that, although with some contradictions and temporary breaks, modernisation has progressed. Hungary is no longer an “agricultural country”; the tertiary sector has become the main in-

come source of workers. The significance of intellectual work has multiplied, and physical work has also undergone a restructuring: heavy physical activities in agriculture and some branches of heavy industry (metallurgy, mining) have declined in importance, while service occupations have come to the fore. The traditional individual businesses that were neglected during the four decades of the socialist economy after the transition played again an important role in several branches of the national economy.

Table 6

Manual and non-manual employees, 1900–1930 and 1949–2011
(percentage)

Year	Manual employee	Non-manual employee	*Total*
1900	96.1	3.9	*100.0*
1910	95.0	5.0	*100.0*
1920	93.8	6.2	*100.0*
1930	93.2	6.8	*100.0*
1949	90.5	9.5	*100.0*
1960	82.8	17.2	*100.0*
1970	75.5	24.5	*100.0*
1980*	69.4	30.6	*100.0*
1990*	66.8	33.2	*100.0*
2001**	58.5	41.5	*100.0*
2011**	55.2	44.8	*100.0*

*According to HSCO-93.
** According to HSCO-08.
Note. Before 1980, the self-employed and their helping family members are included in the number of those performing manual activities.

The changes in the status of employed people due to the modernisation process have also influenced that of their dependants. Similarly, modernisation affected the career prospects of persons reaching retirement age. In consequence, the wide range of changes in the composition of employed people entails the restructuring of the whole society in the long run.

2.1. Composition of employed people by main occupational group

The basis of the analysis is the Hungarian Standard Classification of Occupations (HSCO-08) in force, the groupings of which were revised for 2001 census data. When

evaluating the processes of long periods, the occupational data categorised according to HSCO-93 or even older classifications of occupations is also referred to.

The occupational composition has been under transformation for a long time. Overall, the percentage of employed people performing intellectual work was 30.6% in 1980, 33.2% in 1990, 41.5% in 2001 and 44.8% in 2011; the proportion of managers, intellectuals and other non-manual workers within this category is gradually increasing.

In addition to the general improvement in educational attainment, the number of employed people declined – primarily because of unemployment – which affected manual occupations. It indicates that the economy keeps shifting towards branches and activities requiring labour that is more skilled. The significant rise in the proportion of people employed in service-type industries and the reduced employment in agriculture and forestry, as well as industry and construction, are reflected in employment data by main occupational group. Between 1980 and 2001, in particular, the figure of those workers dropped, who had elementary occupations not requiring any qualification.

Among the non-manual occupational groups, mainly the combined ratio of managers and professionals (highly qualified experts) expanded between 1990 and 2001, reaching 20.6% within the employed population in 2001. However, their proportion did not alter notably after 2001.

When the changes in these two categories are studied separately, one can find a smaller figure (5.1) of managers in 2011. This is owing to the difficulty of distinguishing between managing and supervising activities (and thus, some of the persons performing the latter are classified in other groups of non-manual and manual occupations).

The percentage of professionals steadily increased after 1990, reaching 15.9% in 2011. Despite the temporary decrease in importance, technical, intellectual occupations have long had a decisive role. Teachers working on different levels and in various fields of education also make up one of the most populous groups of intellectuals.

The proportion of manual workers employed in service-type occupations did not reach even 8% at the beginning of the 1980s, and then grew slightly until 1990 and was 16.1% in 2011. Due to the development in the field, the importance of this occupational group kept increasing since people performing the activities of trade, accommodation and catering services, transport, post and communication, as well as those connected to non-material services, can be classified here.

The percentage employed in physical occupations of agriculture and forestry was very low even in the 1980s and then declined gradually to 4% in 1990. The downward trend continued over the next two decades; the figures were 3.2% and 2.8% in 2001 and 2011, respectively. (These percentages can be slightly increased if simple agricultural workers classified among elementary occupations are taken into account.) However, information on these employees covers only main activity.

In the standard classification of occupations, industrial and construction industry workers, machine operators, assemblers and drivers form a separate group. Among employed people, the total proportion of these skilled and semi-skilled workers was 30.1% in 2001 and 26.1% in 2011. The transformation of the labour market is well characterised by the 15 percentage point decrease in the share of this stratum between 1980 and 2011.

Occupations requiring no qualification include different activities (cleaning, guarding of plants and buildings, material handling, etc.). Yet, persons performing such tasks form essentially a uniform stratum of low prestige. The share of these people that was significant (14.9% of employed people) a quarter of a century ago was 9.7% in 2011. The growing number of public workers and the change in the "content" of elementary occupations might have caused a slight increase in the percentages between 2001 and 2011.[3]

Table 7

Employed people by main occupational group, 1980–2011
(percentage)

Main occupational group (based on HSCO-08)	1980*	1990*	2001	2011
Managers	6.8	7.6	7.6	5.1
Professionals	7.7	8.6	13.0	15.9
Technicians and associate professionals	9.3	10.8	14.5	17.2
Office and management (customer services) occupations	6.8	6.1	6.4	6.6
Commercial and services occupations	7.7	8.6	15.0	16.1
Agricultural and forestry occupations	5.4	4.0	3.2	2.8
Industry and construction industry occupations	28.1	27.1	18.1	14.0
Machine operators, assembly workers, drivers of vehicles	13.3	13.0	12.0	12.1
(Elementary) occupations not requiring qualifications	14.9	11.5	8.4	9.7
Armed forces occupations	..	2.5	1.9	0.5
Total	*100.0*	*100.0*	*100.0*	*100.0*

* Excluding working pensioners and working childcare provision recipients, in compliance with HSCO-93.
Note. The data are based on HCSO-93 in 2001 and 2011.

The demographic composition of people according to gender in the various occupational groups demonstrates different features of these categories.

[3] At present, some expertise is needed to perform simple activities such as operating cleaning machines, occasionally using a computer in doorkeeper jobs, etc.

The proportion of women among managers increased from a quarter in 1980 to a third in 1990 but then remained unchanged.

The majority of university and college graduates were women in the 1980s, and their share was nearly 57% among people having intellectual occupations in 2011.

The main occupational group, technicians and associate professionals, includes occupations that can be also pursued without a diploma and require substantive expertise but less responsibility and independent decision. The proportion of women is high in this group amounting to some two-thirds in 2011.

Earlier, almost exclusively, women made up the main occupational group embracing office and management occupations. However, now we see a clear change: their percentage fell from 86.1% in 2001 to 76.3% in 2011. The figures prove that men are also willing to perform the jobs (customer contact professions) of this group.

It can be concluded that a decisive change in the distribution of non-manual workers by gender took place in the 1980s, although later no significant structural shift was identified.

Service professionals have become an increasingly important group and their composition by gender has changed somewhat. The traditionally high proportion of women characteristic in this field has slightly decreased since 1980, whereby only around two-thirds of people performing service activities are women today. This change may due to two facts: *1*. a part of the male workforce was forced out of the traditional fields of industry and construction, so they replaced their previous occupations by service activities and *2*. the importance of those occupations (e.g. property guard) requiring a mainly male workforce has increased, which were not typical in the earlier decades.

As far as the agricultural and forestry occupations are concerned, the general decrease in the headcounts was accompanied by a stable proportion of women (less than a quarter). The changes in agriculture (the decline in large-scale production and the increasing role of private holdings) primarily require the presence of a male workforce.

In industrial and construction work directly related to material production, men always undertook a crucial part. Their role has even strengthened recently: their proportion grew from 83.5% in 2001 to 89.0% in 2011.

The main occupational group, machine operators, assembly workers, drivers of vehicles, is also made up of jobs occupied primarily by male labour, their proportion has stabilized at around 70.0% in 2011. However, this group is witnessing large differences: one can hardly find any women among drivers, but the proportion of female assembly workers is around 66%.

The percentage of women among people having elementary occupations is traditionally around 51-52% just like today.

2.2. Characteristics of employed people by status in employment

In the period of the planned economy, the overwhelming majority of employed people belonged to the category of state employees, and due to the collectivisation of agriculture, most of the peasantry became members of co-operatives. Although collective membership was different from an employment relationship in legal terms, it made only a little difference in practice.

However, there were significant socio-economic and cultural differences, for example, between persons working in public administration, large-scale industry or agriculture. The number of public and local employees increased owing to the decisive re-stratification processes of Hungarian society a few decades before the transition. This refers to the flow of the agricultural population to industry, the increasing urban population and the rapid increase in the level of education.

Despite the reform package known as "economic mechanism", the proportion of the self-employed among people in employment was less than 4% in 1980. Due to various legal requirements, the small number of independent artisans and traders could work only with a minimum number of employees, whereby this group of "private employees" was not recorded in many cases by contemporary statistics. The self-employed carried out their economic activity usually alone or with the assistance of helping family members or occasional ancillary workers at most. Besides artisans and retailers, this was also true for the small number of self-employed people in agriculture.

The so-called second economy had a significant role in Hungary, where public employees and co-operative members performed income-supplementing activities (particularly small-scale agricultural production), which involved some endeavour to become independent. By means of government measures, various forms of business (small co-operatives, economic work teams within state enterprises) emerged, especially in the 1980s, preparing the explosive expansion of the private sector in the 1990s.

Because of the gradual changes started in the 1980s, the proportion of the self-employed, members of partnerships and their helping family members, which was hardly 4% in 1980, exceeded 5% in 1990, and later (by 2001) almost tripled. While the importance of the co-operative sector was still notable in 1980, it shrank to a small fraction of this within three decades. It now plays only a negligible role.

Nowadays, employees account for the vast majority (84%) of employed people as a characteristic for a developed market economy. This proportion has remained stable over the past two decades. Meanwhile, their position has significantly changed. In contrast to the 1980s, when employees worked for state employers, today it is mainly the private sector that determines the framework of their activities. Joint stock companies and other forms of large (multinational) organizations employ a

large mass of people. Among persons working at small companies, due to the nature of these organisations, the proportion of the self-employed, helping family members and members of partnerships is high. As a consequence of the large number of small and medium corporations, their role is also significant in employment.

Since the 1996 microcensus, census-type surveys have been applying detailed categories for employment status. Sole proprietors are distinguished according to whether they work with or without employees; working members of co-operatives and partnerships are separately recorded. In 2001, 8.1% of employed people were sole proprietors not having any employee. This proportion has fallen to 5.8% by 2011. (There were a few people having liberal professions, they were classified among sole proprietors without employees, while helping family members were classified among employees of sole proprietors.)

Between 2001 and 2011, the number and proportion of sole proprietors declined, and those of the working members of partnerships stagnated. The reasons for the changes are diverse, e.g. a decrease in the number of so-called forced entrepreneurs due to the stricter legal rules of establishing businesses, the persistence of the rates of taxes at a high level and the spread of unemployment.

Table 8

Employed people by status in employment
(percentage)

Main group	1990	2001	2011
Employee	86.2	83.5	84.2
Sole proprietor, self-employed	4.7	10.3	7.8
without employee	..	8.1	5.8
with employee	..	2.2	2.0
Working member of a partnership	..	4.3	4.5
Working member of a co-operative	8.6	0.8	0.2
Casual employee	..	0.7	1.2
Employed in public work	..	0.0	1.8
Helping family member	0.6	0.3	0.3
Total	*100.0*	*100.0*	*100.0*

Note that only those sole proprietors are included in the table that carry out their activities as their main occupation. The percentage of sole proprietors is much higher among men than among women.

The number and proportion of the members of co-operatives have dropped significantly since 1990. In the beginning, this did not mean a decline in the co-operative

sector itself. Only the composition of people by status in employment has changed, since the large number of persons who worked in the ancillary workshops of co-operatives in the 1980s did not increase the number of members but that of persons in employment relationship with the co-operatives. From the late 1980s, parts of these workshops were closed, and other parts, seceded from the co-operatives, continued their activities in a different form of business.

The division of co-operative property due to compensation and the transformation of co-operatives also reduced the land and other assets used by them. The co-operatives – that transformed into private-property-based, voluntary associations and operated on a smaller land area with fewer possessions – provided subsistence for fewer people than earlier, and this affects not only the group of employees but also the members of co-operatives. Accompanying these trends (e.g. ageing of the population), the processes outlined also contributed to the decrease in the number of co-operative members and to the fall in their proportion among employed people from 9% in 1990 to 0.2% in 2011.

3. Unemployment

Since the early 90s, statistics on unemployment are collected regularly. They reveal several characteristics of unemployed people. For earlier periods, data on unemployment derive mainly from indirect sources.

3.1. On the history of unemployment

Unemployment appeared in Hungary in the early stages of capitalist industrialisation, in the last decades of the 19th century. Its extent fluctuated depending on various factors, primarily on economic cycles. At the beginning of the last century, it affected 3% to 5% of industrial workers (some 70–100 thousand people). Due to the international tensions in the years before 1914, substantial development of the military industry, and heavy industry in general, occurred, which had a positive impact on employment.

Unemployment disappeared during the First World War, but later it was a serious problem in the severe economic situation of the country, which had lost two-thirds of its territory. The period of consolidation in the 1920s resulted in a temporary improvement. Then, owing to the “Great Depression”, the number of unemployed people started to grow dramatically, and at the height of the crisis, that of jobless indus-

trial workers was estimated at about 250 000. This was accompanied by large-scale agricultural unemployment, which was increased by those village-born unemployed industrial workers who returned to agriculture.

The new war boom moderated unemployment in the second half of the 1930s and then practically eliminated it in the early 1940s.

One faces difficulties when actual unemployment of the post-war years is examined. The single-party state declared the "full employment", and then regarded it as an axiom. It followed from this standpoint that, irrespective of the actual situation, unemployment could not be subject to statistical observations.

However, some sources of information were available in the decades after 1949 from which the trends of unemployment could be indirectly concluded. These data sources are the censuses (microcensuses), other population surveys and labour force balances.

The 1949 census provides some clues, although the mechanical comparison of its results with the 1990 and subsequent censuses would be erroneous, since the 1949 census was conducted under entirely different historical conditions, and the definitions based on international recommendations did not exist at that time. However, it is worth mentioning that, despite all these, the number of the unemployed and the unemployment rate recorded in 1949 did not fundamentally differ in terms of magnitude from those in 1990. The composition of the unemployed also shows similar features, but with some observable shifts.

In 1949, around 126 thousand people were classified as unemployed, which corresponds to an unemployment rate of about 3%.

The number of unemployed people in 1949 may have decreased in the years of extensive industrialisation. However, it is likely that unemployment did not completely disappear during that period and was present later as well. For example, due to the disproportionate industrial development of the regions, there was a shortage of labour in several areas, while a considerable labour reserve might have remained in others. During the waves of forced collectivisation, unemployment could also be created by the large numbers of people leaving agriculture. In the mid-1960s, the increasing dysfunctions of the centrally planned economy led to initiating a new economic reform. Advocates of the radical version of the reform deemed it possible that an actual labour market would develop and market principles would prevail, and they reckoned with open unemployment as well. However, the reform implemented in 1968 did not essentially amend the economic system. Emphasising the dogmatic approach that considered even the modest measures implemented too excessive, "full employment" was again declared an unassailable basic principle. Thus, the issue of unemployment could not be practically negotiated for a further two decades, irrespective of the fact that the territorial and structural disparities leading to unemployment continued to have an impact.

The phenomenon called “hidden unemployment” in the planned economy should also be mentioned here. The bottom line is that a large number of mostly uneducated and unskilled people worked in industry and some other branches of the national economy, which could not be given work or could be employed only with a very low efficiency. Thus, there was an unproductive “quasi unemployed” group of people whose earnings were low even in relative terms and only slightly exceeded the level which could have been paid as unemployment benefit at that time. The approximate size of this group is not known, it is likely, however, that it may have significantly changed depending on socio-economic and demographic conditions.

Regarding the 15 years after 1970, some conservative conclusions can be drawn about actual unemployment based on indirect information. The 1970 and 1980 censuses collected data only on the number of first-time jobseekers. When processing 1970 census data, however, this category was classified among dependants. In 1980, nearly 10 000 first-time jobseekers (mostly school leavers) were recorded, which indicated that the employment of young people leaving school was not always guaranteed.

The small sample labour force surveys conducted in the framework of the uniform population survey system (UPSS) gave an interesting picture about the situation in the second half of the 1970s and at the beginning of the 1980s.

The results of the 1976 UPSS survey highlighted, for example, that 18% of the nearly 470 thousand dependent, not studying women of working age would have been ready to work. This means that the number of those within the female population who were not working but were ready for employment under proper conditions was some 80-90 thousand. At least one-third of them fully met the criterion system of unemployment. The 1983 UPSS survey showed similar results.

At the time of the transition, one of the typical consequences of the socio-economic transformation was the appearance of open unemployment. From that time, censuses attached great importance to the publication of information on the subject. Although the programme of the 1990 census included the topic, the recommendation of the International Labour Organization (ILO) regarding interpretation, was not yet fully applied. For the concept “job search”, the census ignored the conditions of “availability”, therefore, the range of people qualified as unemployed could be somewhat wider if the ILO definition had been applied. (According to the definition of ILO, those persons can be considered unemployed who did not work during the reference week, did not even complete one working hour, had no job at all, were actively seeking work in the four weeks before the reference week and could have started working within two weeks if a proper job had been found.)

One of the main sources of information on unemployed people has been the labour force survey of HCSO since 1992, which is based on a representative household sample. The figures coming from census-type and labour force surveys are more or less different, but their basic trends are generally the same.

3.2. Demographic and occupational features of unemployed people

In the 1990 census, 126 thousand unemployed people were recorded, which corresponds to an unemployment rate of 2.7%. The number of the unemployed had grown to 484 thousand (12% unemployment rate) by 1996.

Table 9

Unemployment rate, 1996–2011
(percentage)

Combined age group, sex	1996	2001	2005	2011
15–29	17.4	14.4	16.3	18.6
30–49	10.5	9.1	9.8	11.6
50–59	6.3	6.6	7.6	11.3
60–	–	4.5	4.0	5.4
Total	12.0	10.1	10.8	12.6
Of which				
15–59 year-old men	13.7	11.5	11.4	13.0
15–54 year-old women	10.2	8.9	10.9	13.2

Unemployment became a general phenomenon and increased quickly in the beginning of the 1990s in line with the rapid economic and labour market changes. The privatisation of state property had a significant impact on the employment situation that was further aggravated by the collapse of the traditional Eastern market and the several-year-long Balkan crisis.

The country experienced high inflation for several years and impoverishment that strongly reduced the domestic demand. A significant amount of Hungarian products was not competitive on the world market.

After 1950, during the industrialisation, the large corporations or their establishments were placed in the underdeveloped regions of the country, and the large-scale agriculture also created a large number of jobs. The industry established in this period was characterised by the excessive rate of raw material and energy intensive industries compared with the facilities of the country.

In the years around the transition, layoffs, bankruptcy and liquidation proceedings concerned more or less the whole country and most branches of the national economy. In the first period, the dismissal of unskilled people who were involved in ancillary economic activities or had little experience and that of persons in or near retirement age were typical. The withdrawal of old people from the labour market was stimulated by the various forms of early retirement (e.g. early or pre-pension).

Meanwhile, new jobs were created due to foreign direct investments, although their number and regional distribution were not aligned with the supply side of the labour market.

Compared with 1996 data, the 2001 census showed a decrease: 416 thousand unemployed people were recorded (the unemployment rate was 10.1%).[4] The figure was even higher, 467 thousand (with an unemployment rate of 10.8%) in 2005. Between 2005 and 2011, especially due to the economic and financial crisis of 2008, the number of unemployed grew considerably (to 568 thousand), which corresponds an unemployment rate of 12.6%.

In the beginning, unemployment affected men more than women. According to the 1990 census, the proportion of women among the unemployed was 32.8% and reached 46.5% in 2011. The unemployment rates also show that men were overrepresented among unemployed people. In 1996, for example, the unemployment rate of men aged 15 to 59 years was 13.7 percent, while that of women aged 15 to 54 years was only 10.1%. However, an "equalisation process" took place between the two genders, and, in 2011, the unemployment rates were nearly the same (13%) in the mentioned age groups. According to data, unemployment affected not only typical male occupations (e.g. in metallurgy and mining) but also jobs that mostly women had (in the public sector, health care, textile industry, etc.).

During the whole period the unemployment rate was the highest among young people. In the case of people aged 15 to 24 years, it even showed an increasing trend growing from 19.9% in 1996 to 23.2% in 2011. The figure is more favourable (it barely changed during 15 years) if the 25–29 year-old people are merged with the former age group. Despite this, the rate of 18.6% in 2001 was much higher than that of older age groups.

The unemployment rate of the 50–59 year-old group doubled between 2001 and 2011, reaching the level of the middle-aged generation. As previously mentioned, the pension system changes contributed to this situation; raising the retirement age, introducing stricter rules on early retirement and disability pensions made it more difficult to follow the strategy of the 1990s (e.g. employed people could choose some form of retirement instead of becoming unemployed). The same was true, although to a lesser extent, for employed people over 60 years of age.

The 1996 census revealed that the educational level has a very strong impact on the unemployment rate. Among those who completed eight or less grades of primary school, more than a fifth of the economically active population were unemployed. Their unemployment rate was nearly twice as much as the average (12.2%) and 10 times as much as the unemployment rate of people with a university or college de-

[4] Due to the different methodology of the 1990 census regarding the subject, the changes in unemployment rates are only analysed from 1996.

gree (2.1%). The unemployment rate of people with secondary educational level was roughly "in the middle" between these two extremes. The unemployment rate of people who acquired a certificate of apprentice or vocational education without a secondary school-leaving certificate was above average (14.1%), while of people with a secondary school-leaving certificate was below that (8.2%).

It was a warning sign in 2001 that the improvement in the average unemployment rate did not apply to those obtaining a university or college diploma. However, considering the increasing labour supply of university or college graduates at the end of the 1990s, it is also considered favourable that the rate did not substantially change. Besides this, it can be assumed that from the years before the turn of the millennium, more and more people with a university or college degree had no other choice but to have jobs that could also be filled with a lower level of education.

Between 2001 and 2011, the unemployment rate of people completing only eight or less grades in primary school increased considerably (by eight percentage points to 27.2%), whereby the strong differentiation of unemployment by educational attainment persisted. The unemployment rate of people with a certificate of secondary vocational education grew to a smaller extent (from 11.5% to 14.2%), which implies that secondary vocational education may become more valuable. Despite the increase (from 6.7% to 10.3%) in their unemployment rate, those with a secondary school-leaving certificate are still more protected against unemployment than the average.

In the case of university or college graduates, the figure increased from 2.2% to 5.4% between 2001 and 2011, which shows the disadvantageous effects of the expansion of tertiary education. At the same time, it is likely that the qualification certified by a diploma is becoming "less useful" when searching for a job. This is confirmed by the 2011 census results: the unemployment rate of university or college graduates more than doubled in the last decade. However, this rate is much better than that of people completed lower levels of education. Unemployment is the highest among persons who completed only eight or less grades in primary school.

Information about the age, education and living conditions of the jobless clearly indicates that the unemployment rate is affected by various factors, such as the former occupation of the unemployed. Thus, it is worth comparing the actual occupational composition of the employed with that of jobless people prior to unemployment. The 2001 and 2011 census results are suitable for this purpose since they provide information not only on employed people but also on the last occupations of the unemployed by HSCO-08. It should be noted that the former reflects the actual status of employed persons at the time of the census, while the latter shows an earlier status. (For the long-term unemployed, it could mean a difference of even several years.) Moreover, a smaller proportion of jobless people are school leavers who were not active earners earlier.

Table 10

Unemployment rate by educational attainment, 1996–2011
(percentage)

Highest completed level of education	1996	2001	2005	2011
8 or less grades in primary school	21.1	19.1	23.1	27.2
Secondary school				
without secondary school-leaving certificate	14.1	11.5	11.8	14.2
with secondary school-leaving certificate	8.2	6.7	7.9	10.3
University, college, etc.	2.1	2.2	3.0	5.4
Total	12.2	10.1	10.8	12.6

Table 11

Employed and unemployed people by main occupational group

Main occupational group (by HSCO-08)	Employed		Unemployed		Employed		Unemployed	
	2001	2011	2001	2011	2001	2011	2001	2011
	persons				distribution (%)			
Managers	281 788	202 098	6 653	8 465	7.6	5.1	1.6	1.5
Professionals	478 533	625 944	9 405	24 736	13.0	15.9	2.3	4.4
Technicians and associate professionals	533 654	677 608	26 166	50 373	14.5	17.2	6.3	8.9
Office and management (customer services) occupations	237 309	261 585	18 142	31 749	6.4	6.6	4.4	5.6
Commercial and service occupations	552 046	633 116	55 021	93 238	15.0	16.1	13.2	16.4
Agricultural and forestry occupations	116 872	111 409	17 533	15 701	3.2	2.8	4.2	2.8
Industry and construction industry occupations	666 340	550 119	88 327	87 499	18.1	14.0	21.2	15.4
Machine operators, assembly workers, drivers of vehicles	443 846	477 164	51 972	70 462	12.0	12.1	12.5	12.4
(Elementary) occupations not requiring qualifications	310 255	384 371	83 996	133 569	8.4	9.7	20.2	23.5
Armed forces occupations	69 626	19 309	1 055	687	1.9	0.5	0.3	0.1
Never worked	–	–	54 407	52 018	–	–	13.1	9.2
Unknown	–	–	3 533	–	–	–	0.8	–
Total	*3 690 269*	*3 942 723*	*416 210*	*568 497*	*100.0*	*100.0*	*100.0*	*100.0*

Note. For unemployed persons, the last occupation is considered.

It seems obvious that becoming unemployed is less likely among non-manual workers (especially managers and those having jobs requiring higher qualifications) than among manual workers. In 2011, more than 45% of the employed and only a fifth of jobless persons belonged to intellectuals. However, it is unlikely, for example, that manual workers performing service-type activities become unemployed since the developing service sector requires a high number of skilled people. The situation is not so favourable in agriculture, forestry, industry and construction. Owing to the processes that afflicted heavy industry, many people who had worked in the manufacture of iron and metal products became unemployed but it was also the same for construction workers due to the prolonged stagnation of investments. Persons having elementary occupations are undoubtedly in the most disadvantageous situation.

References

EDITORIAL [2004]: Rendszerváltó évek a munka világában. *Munkaügyi Szemle*. Vol. 48. No. 6. pp. 4–6.

FÓTI, J. – LAKATOS, M. [2002]: A foglalkoztatottak nemzetgazdasági ág szerinti összetételének alakulása. *Gazdaság és Statisztika*. Vol. 3.(43.) No. 5. pp. 38–45.

FÓTI, J. – LAKATOS, M. [2004a]: *Foglalkoztatottság és munkanélküliség: a foglalkoztatottak főbb jellemzői*. Országos Foglalkoztatási Alap. Budapest.

FÓTI, J. – LAKATOS, M. [2004b]: *Foglalkoztatottság és munkanélküliség: munka nélkül*. Országos Foglalkoztatási Alap. Budapest.

FÓTI, J. – LAKATOS, M. [2004c]: *Foglalkoztatottság és munkanélküliség: a munkaerőpiac múltja, jelene*. Országos Foglalkoztatási Alap. Budapest.

FÓTI, J. – LAKATOS, M. [2005a]: *Foglalkoztatottság és munkanélküliség: értékelések, következtetések, jövőkép*. Országos Foglalkoztatási Alap. Budapest.

FÓTI, J. – LAKATOS, M. [2005b]: *Foglalkoztatottság és munkanélküliség: területi mobilitás a munka világában*. Országos Foglalkoztatási Alap. Budapest.

FÓTI, J. – LAKATOS, M. [2006a]: *Foglalkoztatottság és munkanélküliség: a foglalkoztatottak strukturális jellemzői*. Országos Foglalkoztatási Alap. Budapest.

FÓTI, J. – LAKATOS, M. [2006b]: *Foglalkoztatottság és munkanélküliség: a munkaerőpiac változásai 2001 és 2005 között*. Országos Foglalkoztatási Alap. Budapest.

FÓTI, J. – LAKATOS, M. [2006c]: Foglalkoztatottság és munkanélküliség a 2005. évi mikrocenzus alapján. *Munkaügyi Szemle*. Vol. 50. No. 3. pp. 4–6.

KSH (KÖZPONTI STATISZTIKAI HIVATAL) – Foglalkoztatási és Szociális Hivatal [2010]: *A válság hatása a munkaerőpiacra*. Budapest. http://www.ksh.hu/docs/hun/xftp/idoszaki/pdf/valsagmunkaeropiacra.pdf

KSH [2011a]: *A fiatalok munkaerő-piaci helyzete a munkaerő-felmérés alap-, illetve a 2010. IV. negyedévi kiegészítő felvétele alapján*. Budapest. http://www.ksh.hu/docs/hun/xftp/idoszaki/pdf/ifjusag_munkaero_piac.pdf

KSH [2011b]: *Munkavégzés és családi kötöttségek, 2010*. Budapest. http://www.ksh.hu/docs/hun/xftp/idoszaki/pdf/munkavegzescsalad.pdf

KSH [2013a]: *2011. évi népszámlálás – 3. Országos adatok*. Budapest. http://www.ksh.hu/docs/hun/xftp/idoszaki/nepsz2011/nepsz_03_00_2011.pdf

KSH [2013b]: *2011. évi népszámlálás – 4. Demográfiai adatok*. Budapest. http://www.ksh.hu/docs/hun/xftp/idoszaki/nepsz2011/nepsz_04_2011.pdf

KSH [2013c]: *Ötven év felettiek a munkaerőpiacon*. Budapest. http://www.ksh.hu/docs/hun/xftp/idoszaki/pdf/otvenevfeletti.pdf

KSH [2014]: *2011. évi népszámlálás – 8. Foglalkoztatás, munkanélküliség, ingázás*. Budapest. http://www.ksh.hu/docs/hun/xftp/idoszaki/nepsz2011/nepsz_08_2011.pdf

LAKATOS, J. [2012]: *Társadalmi helyzetkép, 2010 – Gazdasági aktivitás, munkaerőpiac*. Központi Statisztikai Hivatal. Budapest. http://www.ksh.hu/docs/hun/xftp/idoszaki/thk/thk10_munkaeropiac.pdf

Changing Households and Families

Mónika Vörös
Senior Councillor
Hungarian Central Statistical Office
E-mail: Csabane.Voros@ksh.hu

Marcell Kovács
Head of Census Topics Section
Hungarian Central Statistical Office
E-mail: Marcell.Kovacs@ksh.hu

Significant changes have occurred in the structure of households and the composition of families in recent decades. Due to the increase in the number of persons living alone, the number as well as the share of households without families is on a constant rise. Nonetheless, most households are still based on a family. The great majority consists of one family; it is very rare that more families constitute a household. The decrease in the number of marriages, the high number of people marrying at a later age and the frequent occurrence of divorces have further enhanced the trend of the diversification of family forms. The increase of cohabiting partnerships and one-parent families has intensified.

KEYWORDS:
Census.
Structure of households.
Composition of families.

For the analysis of the structure of households and families, the primary data source is provided by population censuses. Data covering the whole population make possible not only the examination of the diversity of family forms but also the comparability in time due to the consistent concepts of censuses. In the 2011 census, it was an important requirement that the new type of questioning conforming to the self-administered questionnaire ensured the collection of data of the same level of detail as former censuses had. In this way, it is possible to observe the changes that occurred over decades in the structure and main characteristics of the two smallest units of Hungarian society, the primarily economic but in most cases also kinship-based households and the families, the closest group of relatives.

The data of the 2011 census also affirmed the important previous observation of the family as still being the closest unit and the security providing community in society. Theories formulated in recent decades about the crisis of the family are still not validated by actual data. Census data, however, provide information about significant changes in the traditional family structure that will serve as the subject matter of this analysis and certainly of many others in the future.

1. Changes in the main characteristics of households

In 2011, 98% of the population lived in private households; this share has hardly changed over the past decades. Nearly 235 thousand people lived in institutional households (student residences, old people's homes, prisons, etc.) and 5 600 people were enumerated as homeless (roofless).

Compared to 1970, the number of private households increased by 22%. In 2001, their number was more than 4 million, which was again exceeded in 2011. Until 2001, the share of two-person households had been the highest while, in 2011, one-person households became the most prevalent. The proportion of households of more than two members is declining from census to census.

The increasing number of households and the decreasing number of people living in households have resulted in smaller-sized households. In 2011, the number of persons in 100 households was 236, while in 2001, their number was 257.

The majority of households are still based on a family. Family households typically consist of one family and very rarely comprise of more families. In most one-family households, married or cohabiting couples live together with or without chil-

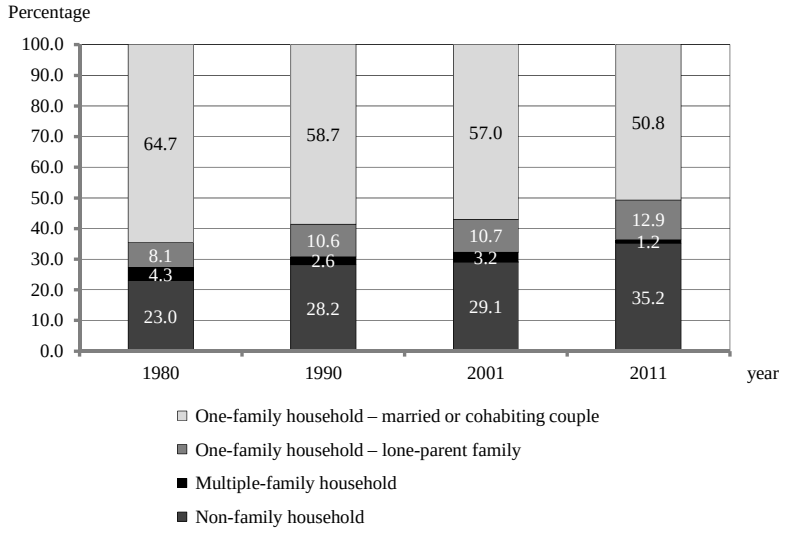
dren. Among them, married couples are still the majority, although, 14% of one-family households are based on a cohabiting partnership. The percentage of households consisting of lone-parent families has also increased significantly. Ten years ago, for every sixth one-family household, there was a single parent with child(ren), while, in 2011, this was the case for every fifth one-family household.

Table 1

Population by household type, 1970–2011
(percentage)

Year	Population living in							*Total*
	family household			non-family household		private household	institutional household and homeless people	
	in family	with family	total	total	of which: one-person household			
1970	84.4	4.9	89.3	7.6	5.7	96.9	3.1	*100.0*
1980	83.1	4.5	87.5	9.4	6.8	96.9	3.1	*100.0*
1990	81.4	3.9	85.4	12.2	9.1	97.6	2.4	*100.0*
2001	82.0	3.3	85.3	12.2	9.9	97.5	2.5	*100.0*
2011	78.3	3.3	81.6	15.9	13.3	97.6	2.4	*100.0*

Figure 1. Household types, 1980–2011



Note. Here and in the figures and tables hereafter, the deviations from 100.0 result from rounding.

Out of 100 non-family households, 91 consist of persons living alone while 9 are other type households of relative or non-relative persons living together. The share of non-family households in 1970 and 2001 was 20% and 29%, respectively; it has increased significantly (to 35%) over the past decade as a result of the high and rising number of persons living alone. Four decades earlier, every sixth household consisted of one person, while in 2011, it was every third household; this equates to 1 317 thousand people. Their number exceeded 1 million in 2001 and in 10 years increased by a further 30%. Some 809 thousand women and 508 thousand men live alone in a household. In recent decades, more than half of the persons that live alone are elderly people.

The age composition of households is also changing. In more than 40% of them, there is at least one elderly person (aged 60 years or over). Since the previous census, the share of households consisting of only people under 30 years has decreased, while the proportion of households with only middle-aged (30–59 year old) and elderly members has increased. In 2011, among 100 households, only four had members from all three age groups. Today in Hungary, the presence of multi-generation households is presumably due to economic constraints rather than the advantages of living together. In the 2011 census, the number of three-generation households, mostly consisting of child, parent and grandparent, was 179 thousand. The share of households with child(ren) living together with grandparent(s) has declined by 30% since the last census. The substantial decrease is the result of the elimination of the so-called quantitative housing shortage, allowing families to move to separate dwellings.

2. Changes in the family

The current concept of the family[1] was first used in the 1970 census. Then, 84% of the population had been enumerated as living in a family, while four decades later the share of family members was 78%. The number of people living in families was 7 783 thousand in 2011, 7% less than 10 years earlier. The decrease is primarily the result of the continuous and in the last decade the particularly outstanding growth in the share of persons living alone.

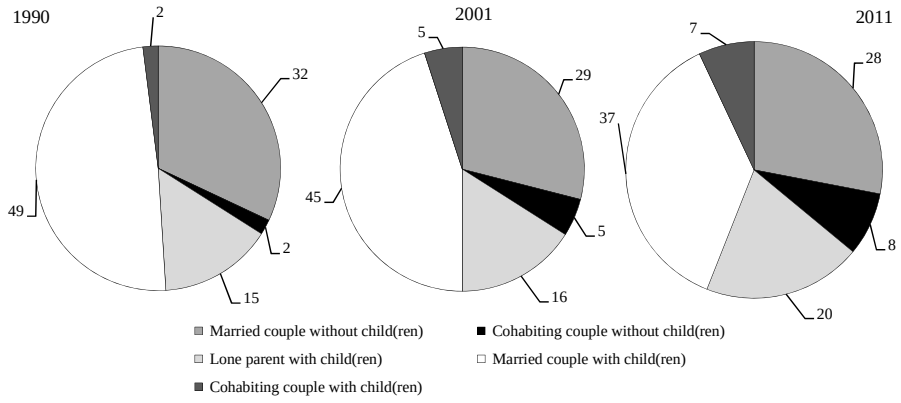
Compared to the downward change in the number of family members, the figure of 330 thousand people living with a family has hardly changed in 10 years. The

[1] In a statistical sense, a family is a married or cohabiting couple with or without never-married children, or a lone parent with never-married children.

trend in the prevalence of core families (families without relative or non-relative persons) has slowed, and despite the significant rise in the number of persons living alone, wider family communities are still important.

In 2011, the number of families was 2 713 thousand, a decrease of 5% over the last 10 years. Changes – diverse in scale and direction – occurred in the number of the various types of families. The most common structure is the married-couple family, which has decreased rather significantly by 17%. Other family types have increased, among them cohabiting couples, which showed the highest rate of growth, expanding some one and a half times. The number of lone-parent families has also grown in the past ten years by 14%. 37% of families are married couples with children, their proportion had been 45% and 49%, 10 and 20 years ago, respectively. The second most common family type is married couples without children (28% of families). Their proportion has hardly changed since the previous census. The absence of children in a family does not necessarily mean that the couple has no children at all, as children that previously lived in the family may have already left to live independently.

Figure 2. Distribution of families, 1990–2011

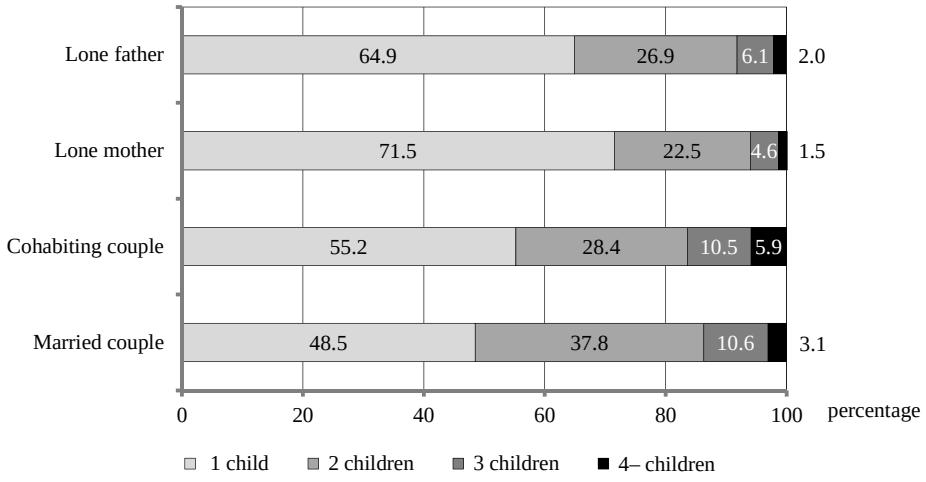


The size of families has been diminishing continuously, at a decreasing rate since 1970. Currently, in 100 families there are only 287 persons, while in 2001, their number was 291. The average family size has changed differently. Families based on partnership (either marriage or cohabitation) have diminished more significantly than one-parent families. In 2011, 100 families based on marriage or cohabitation had 297 members, while 100 lone-parent families had 242 members. The changes can be explained by the decreasing number of children, besides the rearrangement of the family types. The 34-35% share of families without children has hardly changed over recent decades.

In 2011, almost two-thirds of families (1 778 thousand) lived with at least one child. The proportion of families with one child has gradually increased; in 2011, 36 out of 100 families belonged to this category. The share of families with two children has decreased to 22%. Worthy of note is that the share of families with three, four or more children has grown slightly though their total proportion is only 8% among all families. Over the last decade, the number of children in 100 families has decreased from 108 to 107. However, when looking at children younger than 15, the picture becomes gloomier. The share of families living without a child younger than 15 declined by more than 10% in twenty years. In 2011, the proportion of families with children younger than 15 was only one-third.

The structure of various family-types by the number of children can be analysed more profoundly when only families with children are taken into account. Two or more children are more often found in families based on partnerships than in one-parent families. The share of families of cohabiting couples with four or more children is close to 6%, being twice as much as that among married couples. The average number of children is the highest in cohabiting couple families and the lowest in families of lone fathers. The average number of children in 100 families of cohabiting couples, married couples, lone mothers and lone fathers are 171, 170, 146 and 137, respectively.

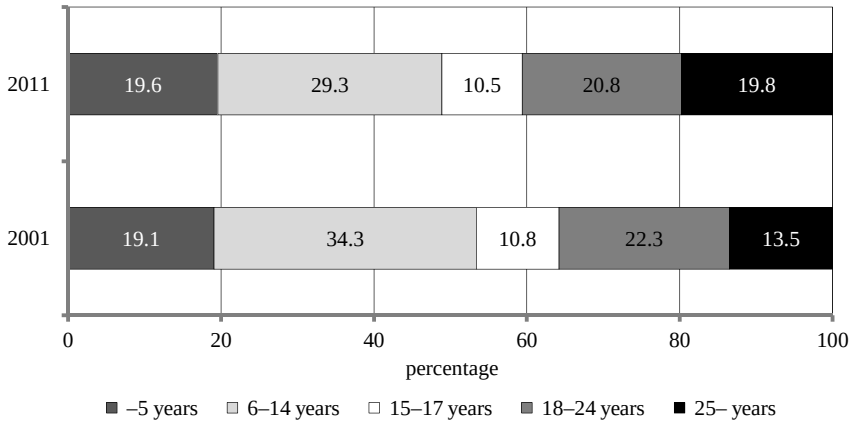
Figure 3. Families by the number of children, 2011



Every fifth child in a family is 25 years or older. In 2001, only every seventh child belonged to this age group. The growth in the number of young adults of 25 years or older living as children differs according to gender. The number of men increased twofold while that of women grew three times. In 2011, 391 thousand men

and 182 thousand women live as children in the parental home. Most children aged 25 years or older have the capability to live independently, 93% of them have finished their studies, and 71% are employed.

Figure 4. Children living in families by age



In summary, for 2011, the number and size of families declined, and the families live with fewer and older children. The decreasing number of marriages, people getting married at an older age and more frequent divorces, all support the diversification of families. Cohabiting partnerships and lone-parent families are becoming more common; however, married-couple families are still the dominant form of living together, almost two-thirds of families are based on marriage.

3. Characteristics of the traditional (married-couple) family

Until the 1970s, as a consequence of the social norms that countered the idea of couples living together without marriage or to get divorced, family conditions had been characterised almost solely by married-couple families. In the 1970 census, almost 90% of families belonged to this category and their share still approached three-quarters in 2001. Due to the changes leading towards the diversification of family forms, the couple family type that was dominant in the past has changed significantly. These changes include both the decrease in its proportion, and also in its structural characteristics. Despite the decrease in the average family size, married-couple families are still the most populous. Nonetheless, there are only 299 persons living in 100 such families in contrast with 304 observed ten years earlier. The de-

cline in fertility has resulted in fewer children in families; this trend affected married-couple families particularly adversely. More than 42% of such families live without children. The share of married couples with one child is still on the rise but the percentage of those with two children has declined significantly; the proportion of families with more children has hardly changed. Focusing on children younger than 15, the trends are even more noticeable. The share of married couples with child(ren) has dropped below one-third, and in every category regarding the number of children, a decrease is evident even among families with one child. For children younger than 15, 50 live in 100 married-couple families; the indicator has decreased by eight in ten years. The reducing number of children can only be explained to a small degree by the older age composition of married couples. The average age of married people is 56.6 years, which has increased by six months in twenty years.

4. Spreading family forms – Cohabiting partnerships and one-parent families

Cohabiting partnerships were enumerated in Hungary for the first time in the 1970 census. The 62 thousand partnerships then counted increased six and a half times by 2011. Nowadays, 15% of the families are based on a cohabiting partnership, while their share did not reach 10% in 2001. Previously, cohabitation had been common primarily among the widowed and the divorced, later it became more frequent for the never married as a test marriage before the actual one. Today, it has become a more widely approved and popular form of living together, which is getting increasingly closer to married couples in its characteristics. The age of cohabiting partners, similarly to that of spouses, has increased in the past ten years. The proportion of young people under 30 has decreased to one-quarter while that of the middle-aged (30–59 year olds) has significantly grown. Two-thirds of cohabiting partners are in their middle-age years, which approximately equals the share of middle-aged spouses. The percentage of old-aged cohabiting partners has also increased to a small degree but still falls behind the growth among spouses. The composition of cohabiting partners by marital status has changed significantly. The proportion of widowed and divorced partners continued to decrease. The minuscule share of the married is explained by frequent divorces. The percentage of never-married cohabiting partners has increased significantly to 64%. In the context of the age composition, this draws attention to the changing function of cohabitation. For many, it is still the entrance to marriage, although the number of those who go on without making their partnership official despite getting older or having children is increasingly high.

While the share of families without children is increasing among married couples, cohabiting partners with children are becoming more frequent. A comparison of the two types of partnerships with regard to the number of children is possible from 1990 onwards. The number of families without children was 40% and 50% among married and cohabiting couples, respectively. The share of childless cohabiting couples is still higher than that of the married, but the difference has decreased since to half. In 100 cohabiting couple families there are 91 children, six more than 10 years earlier. Among married couples, this indicator declined from 104 to 99. The difference is equalising, even reversing when only children younger than 15 are taken into account. In 2011, 50 and 67 young children lived in 100 families of married couples and cohabiting partners, respectively. This is a significant decrease in the case of the married and a considerable growth for the cohabiting partners in the past ten years.

Table 2

Married- and cohabiting couple families, 1970–2011

Year	Total	Couple-type	From this cohabitation	Number of cohabiting couple families		Cohabiting couple families in the percentage of	
	family			previous census = 100	1970 census = 100	all	couple-type
	number (thousand)					families	
1970	2 891	2 597	62	–	100.0	2.1	2.4
1980	3 028	2 686	..	..	..	..	..
1990	2 896	2 446	125	..	202.6	4.3	5.1
2001	2 869	2 397	272	216.6	438.9	9.5	11.3
2011	2 713	2 177	405	149.0	654.1	14.9	18.6

In 2011, in 537 thousand families, children were raised by one parent. The number of such families has increased by 14% since the last census. The burden of nurturing children without a partner falls mostly on mothers. Their share among all one-parent families approaches 87%, being more than 464 thousand. Only every eighth one-parent families have a father living with his child(ren). Since the last census, the number of lone-father families has increased by 23% and that of lone-mother families has grown by 12%.

Since 1970, the share of families based on partnership has been decreasing while that of one-parent families has been increasing from census to census. Due to the rapid growth in the number of divorces, the proportion of one-parent families increased, first at a moderate then accelerating pace, supported mainly by a significant increase in the mortality of middle-aged men and a drop in the number and propor-

tion of re-marriages. At the beginning of the period, every tenth family consisted of one parent and never married children, while in 2011 their share was already one-fifth. Among lone parents, the move towards an older age composition is equally evident in the case of fathers and mothers. The age structure of fathers is significantly older than that of mothers. The total share of lone parents younger than 30 has decreased below 4%. Although a considerable increase can be noticed in the proportion of elderly lone parents living together with adult children. As a result, in 2011, in every fourth lone-parent family, elderly parents lived together with adult children.

Table 3

Lone-parent families, 1970–2011

Year	Number of families			Proportion of single-parent families in the percentage of all families (%)	Proportion of families		
	Total	consisting of a			*Total*	consisting of a	
		lone father	lone mother			lone father	lone mother
		with child(ren)				with child(ren)	
	(thousand)				(%)		
1970	*293*	37	256	10.2	*100.0*	12.7	87.3
1980	*341*	56	285	11.3	*100.0*	16.4	83.6
1990	*450*	89	361	15.5	*100.0*	19.8	80.2
2001	*472*	58	413	16.5	*100.0*	12.4	87.6
2011	*537*	72	465	19.8	*100.0*	13.4	86.6

Less and less married persons are among lone parents. Due to the decreasing intent to marry and at the same time cohabiting partnerships becoming more common, furthermore, with the long-term increase in the number and proportion of divorces, after the significant decline in the 1990s, the share of married lone parents continued to decrease to 11%. The proportion of widows is below 30% among lone parents. Never married and divorced lone parents in turn are increasingly common. Of lone parents, 44% are divorced.

The number of children in 100 lone-parent families is 145, 5, more than in 2001. Compared to couples with children, the number of children living in lone-parent families is still significantly lower. The time spent in marriage – irrespective of the continuous and recently rapid increase in the number of children born outside marriages – certainly affects the number of children living in the family. Therefore, lone-parent families have considerably fewer children than couples do. In 2011, the share of families with one child was 48% and 52% among married and cohabiting couples, respectively, while 66% of lone parents nurtured one child. In the case of families

with more children, irrespective of the number of children, couples always have more children.

The number of children younger than 30 is also decreasing in lone-parent families. Due to the increasing proportion of young, childless families and the continuous decline of fertility, the share of families with one or two – or more in the case of children younger than 15 – has massively dropped since 1990. In 2011, in 100 lone-parent families there were only 49 children under 15.

Housing Conditions – Dwellings and Their Occupants

Éva Simor
Chief Senior Councillor
Hungarian Central Statistical Office
E-mail: Eva.Simor@ksh.hu

The study presents some features of the housing stock, occupied dwellings as well as their occupants.

In addition to 2011 census data, 2001 census statistics are also presented to provide an overview of the housing conditions changes. With respect to occupied dwellings, the author examines ownership, purpose of occupation, number of rooms, floor area, year of construction, walls, level of comfort, facilities, settlement type and character of residential area. She explores the demographic characteristics, educational attainment and economic activity of occupants, too.

KEYWORDS:
Housing stock.
Housing conditions.
Occupants.

During the 2011 census, more than 4 million 395 thousand housing units were enumerated. Within this, the number of dwellings was around 4 million 390 thousand, 326 thousand more than in 2001.

The number of occupied dwellings was 6% higher than ten years ago.

Since the last census, the number of unoccupied dwellings has increased by over a hundred thousand and their proportion has grown by nearly 30% (from 9.2% in 2001 to 10.9% in 2011) in the housing stock.

Table 1

Residential units by purpose and type of settlement

Type of settlement	Dwelling		Occupied holiday home	*Dwelling and occupied holiday home together*	Occupied other housing unit	*Total*
	occupied	unoccupied				
	2001					
Capital city	736 407	84 189	381	*820 977*	473	*821 450*
County seat, town with county rights	762 881	61 719	1 029	*825 629*	1 091	*826 720*
Other town	1 117 250	98 293	2 295	*1 217 838*	1 663	*1 219 501*
Village, large village	1 068 356	129 679	2 174	*1 200 209*	1 940	*1 202 149*
Total	*3 684 894*	*373 880*	*5 879*	*4 064 653*	*5 167*	*4 069 820*
	2011					
Capital city	787 057	118 071	277	*905 405*	327	*905 732*
County seat, town with county rights	828 237	82 701	1 176	*912 114*	1 071	*913 185*
Other town	1 191 679	122 977	3 641	*1 318 297*	1 981	*1 320 278*
Village, large village	1 097 130	154 124	3 232	*1 254 486*	1 792	*1 256 278*
Total	*3 904 103*	*477 873*	*8 326*	*4 390 302*	*5 171*	*4 395 473*

Though the number of holiday homes used for habitual housing and their share in the housing stock are not significant, the trend that emerged over the past decade, i.e. the use of holiday homes as an apartment can be read from census data.[1] While in

[1] Dwellings and occupied holiday homes together form the housing stock.

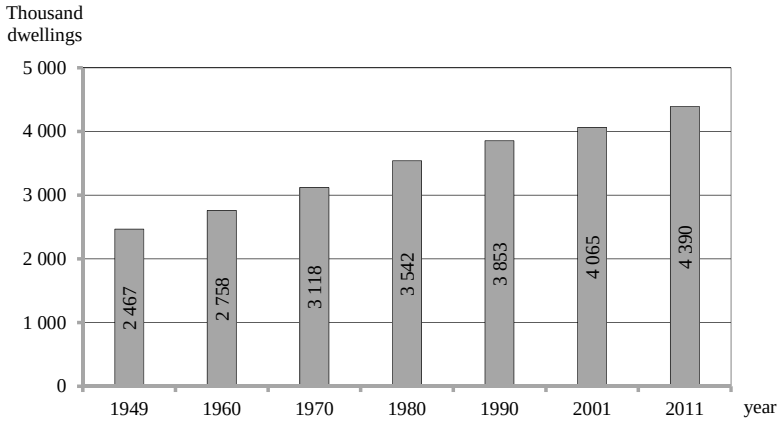
2001, fewer than six thousand occupied holiday homes were recorded, in 2011 more than eight thousand.

The number of occupied other housing units[2] has not changed since the 2001 census, that of people living in them, however, has fallen by a quarter.

1. Characteristics of the housing stock

The housing stock – the total number of dwellings and occupied holiday homes – rose by 8% between the 2001 and 2011 censuses. Though the growth exceeded the extremely low, 5.5% pace of increase during the previous decade, it remained below the more than 10% housing stock gains typical from the 1960s until the end of the 1980s. In the 1990s, during the years of transition to market economy, the rate of housing construction declined. From 2001, due to government-sponsored loan programs, housing construction moved from the low point and started to grow. The number of newly built dwellings increased year by year and reached a peak in 2004. Then, foreign currency lending that greatly facilitated access to housing could partially offset the scaling back of home construction subsidies, but the "homebuilder mood" soured. The number of newly built dwellings slowly began to decline, this drop was intensified by the economic crisis that started in 2008 and by the end of the decade it fell back to a rate not seen since World War II.

Number of housing stock, 1949–2011



[2] This category includes occupied business facilities, occupied premises of temporary, mobile or other establishments as well as facilities that do not comply with the definition of "dwelling".

Over the past ten years, the growth rate has differed in the housing stock in the various parts of the country. It was most dynamic (more than 10%) in the capital city, the county seats and the towns with county rights. In other towns, in accordance with the national average, the number of dwellings has become greater by 8%; however, in villages, the growth has not reached 5%.

Table 2

Changes in the housing stock by type of settlement, 2011

Type of settlement	Dwelling			Occupied holiday home	Dwelling and occupied holiday home together
	occupied	unoccupied	together		
	2001 = 100				
Capital city	106.9	140.2	110.3	72.7	110.3
County seat, town with county rights	108.6	134.0	110.5	114.3	110.5
Other town	106.7	125.1	108.2	158.6	108.2
Village, large village	102.7	118.9	104.4	148.7	104.5
Total	105.9	127.8	108.0	141.6	108.0

The rise in the number of unoccupied dwellings and their proportion in the housing stock is an exceptional characteristic of each settlement type.

This phenomenon is influenced by several factors, showing regional characteristics. Population decline, population ageing in small communities, moving away from disadvantaged, unemployment-stricken regions, operation of offices and business enterprises in metropolitan apartments and the growth in the number of homes used only seasonally, for example, for holiday purposes, result in an increase in the number of unoccupied homes.

1.1. Ownership, characteristics of the use of housing

The composition of occupied homes by ownership has not changed substantially in the last ten years. Natural persons own 96% of dwellings. The small number of dwellings owned by local governments, their proportion is lower than 3%, is the consequence of the option of en masse preferential home buying ensured for the tenants in the early nineties. Essentially, there are no government-owned homes in small settlements; their proportion is less than 1% in villages.

The ownership structure of dwellings also determines their tenure status. Due to the scarcity of rental housing as well as the undeveloped practice of letting private dwellings, only 7% of homes are used by tenants, while the proportion of owner-occupied dwellings is 92%. The remainder has other tenure status.

The percentage of owner-occupied homes is the lowest and that of tenancy is the highest in Budapest, the county seats and towns with county rights. In other towns and villages, the percentage of owner-occupied homes is higher, while that of tenancy is lower than the national average.

1.2. Size of dwellings: number of rooms, floor space

Over the last ten years – because of the construction of new dwellings with more number of rooms – the composition of homes has shifted towards residential premises with multiple rooms. The proportion of one- and two-room dwellings has decreased by 6 percentage points, the share of three-room apartments has remained essentially unchanged, and that of four- and more room dwellings has increased by around 5 percentage points.

Table 3

Occupied dwellings by number of rooms and type of settlement
(percentage)

Type of settlement	Number of rooms						*Total*
	1	2	3	4	5	6–	
				2001			
Capital city	20.2	39.7	27.6	8.5	2.4	1.5	*100.0*
County seat, town with county rights	10.6	47.0	28.2	9.6	3.1	1.5	*100.0*
Other town	9.2	41.0	32.9	11.5	3.7	1.7	*100.0*
Village, large village	8.2	37.6	36.5	12.4	3.7	1.5	*100.0*
Total	11.4	41.0	31.9	10.8	3.3	1.6	*100.0*
				2011			
Capital city	17.1	38.9	28.1	10.5	3.3	2.1	*100.0*
County seat, town with county rights	9.3	43.5	28.7	11.8	4.4	2.3	*100.0*
Other town	7.0	36.7	33.7	14.5	5.3	2.8	*100.0*
Village, large village	5.7	32.2	37.6	15.8	5.9	2.9	*100.0*
Total	9.1	37.3	32.6	13.5	4.9	2.6	*100.0*

Note. Here and in the tables hereafter, the deviations from 100.0 result from rounding.

The figure for multi-room apartments is higher in small towns and villages than in county seats and towns with county rights.

The proportion of one-room dwellings (17.1%) is still the highest in Budapest, 8 percentage points higher than the national average; in county seats and towns with county rights it is close to the national average, in other towns and villages it is only 7.0% and 5.7%, respectively. The percentage of two-room residential premises was above the national average in Budapest, the county seats and towns with county rights, while that of three- or more room homes was above average in smaller settlements. Over the last ten years, the proportion of four-room dwellings has increased the most in all types of settlements.

In 2011, an occupied dwelling had an average floor area of 78 sq m, 3 sq m more than a decade earlier. The effects of newly built, larger homes can be seen both in the change of the floor area of dwellings and in the rise in the number of rooms. Nearly half of the smallest, less than 30 sq m homes were built before the war and only 6% in the past decade. A quarter of the dwellings with a floor area of more than 100 sq m are new buildings, they were built in the last 20 years. The increase in the proportion of the largest dwellings with a floor area of more than 100 sq m is particularly noticeable, nowadays every fourth home is in this category.

Table 4

Occupied dwellings by floor area and type of settlement
(percentage)

Type of settlement	Floor area							*Total*
	–29 sq m	30–39 sq m	40–49 sq m	50–59 sq m	60–79 sq m	80–99 sq m	100– sq m	
	2001							
Capital city	6.0	13.5	14.4	23.1	22.2	10.0	10.8	*100.0*
County seat, town with county rights	2.3	7.6	12.5	29.5	21.7	11.8	14.6	*100.0*
Other town	1.2	3.9	7.0	17.7	23.5	22.7	24.0	*100.0*
Village, large village	0.8	2.2	5.0	8.7	23.6	28.8	30.8	*100.0*
Total	2.3	6.1	9.0	18.6	22.9	19.7	21.4	*100.0*
	2011							
Capital city	4.9	12.7	15.2	22.5	22.5	10.6	11.6	*100.0*
County seat, town with county rights	2.0	7.4	12.2	27.9	21.8	12.7	16.1	*100.0*
Other town	0.9	3.4	6.3	16.3	22.6	23.6	27.1	*100.0*
Village, large village	0.5	1.5	3.4	6.9	21.6	29.8	36.4	*100.0*
Total	1.8	5.6	8.5	17.4	22.1	20.4	24.2	*100.0*

Concerning the composition of dwellings by floor area, the difference between settlement types has increased.

The proportion of small floor-space dwellings continues to be the biggest in Budapest. The percentage of homes with less than 40 sq m is 2.4 times more than the national average, while that of dwellings with a floor area exceeding 80 sq m is less than half of it. Within all occupied dwellings, the share of those with small and large floor area in county seats and towns with county rights is similar to that in the capital city with a smaller deviation from the average.

In other towns and villages, however, the proportion of larger dwellings is typically higher.

It is noteworthy that more than 60% of dwellings in villages are of more than 80 sq m and more than half of these belong to the category of over 100 sq m.

1.3. Year of construction and walls of dwellings

Half of occupied dwellings were built between 1961 and 1990, as a result of intensive housing construction. In county seats and towns with county rights, 65% of homes were built in this period. Since the 1990s, the rate of housing construction has increasingly declined; only 15.9% of the homes were built in the last twenty years.

Table 5

Occupied dwellings by year of construction and type of settlement, 2011
(percentage)

Type of settlement	Year of construction								*Total*
	before 1946	1946–1960	1961–1970	1971–1980	1981–1990	1991–2000	2001–2005	2006–2011	
Capital city	31.8	7.7	11.8	19.8	13.8	4.4	5.7	4.9	*100.0*
County seat, town with county rights	9.8	8.7	17.2	28.8	18.9	6.6	6.2	3.8	*100.0*
Other town	14.6	11.1	15.5	24.4	17.9	7.1	5.3	4.1	*100.0*
Village, large village	20.4	17.5	15.4	17.2	14.4	7.5	4.5	3.1	*100.0*
Total	18.7	11.7	15.1	22.4	16.3	6.6	5.4	3.9	*100.0*

Nearly two-thirds of occupied dwellings were built of brick, the majority before 1960. More than 13% of residential premises were made of prefabricated panels between 1960 and 1990. In the capital city, county seats and towns with county

rights a quarter of flats are prefabricated. In other towns, this figure is 8%; essentially, there are no prefabricated houses in villages. In addition to brick dwellings, the proportion of adobe masonry dwellings is outstanding in villages, 28% of which (90 thousand homes) are in adobe buildings without foundation, which represent the lowest quality.

Table 6

Occupied dwellings by walls of dwelling and type of settlement, 2011
(percentage)

Type of settlement	Walls of dwelling						*Total*
	Brick, stone, manual masonry unit	Medium or large block, poured concrete	Panel	Wood	Adobe, mud, etc.	Other	
Capital city	68.1	7.0	24.0	0.1	0.4	0.4	*100.0*
County seat, town with county rights	56.0	10.8	28.0	0.4	4.0	0.8	*100.0*
Other town	64.7	6.6	7.9	0.5	18.6	1.6	*100.0*
Village, large village	64.5	3.1	0.4	0.8	29.5	1.7	*100.0*
Total	63.5	6.6	13.3	0.5	14.9	1.2	*100.0*

1.4. The comfort level and equipment of dwellings

The classification of dwellings by comfort level is determined by their equipment as well as the mode of heating.[3]

Due to the modern equipment of newly constructed dwellings as well as the home refurbishments implemented in the last ten years, the comfort level of the housing stock has improved significantly compared to that measured during the 2001 census.

[3] A dwelling has all modern conveniences if it has at least a greater than 12 sq m living room, a kitchen and a bathroom, a toilet, central (remote, central, circulation) heating, furthermore, its electricity, water and hot water supply as well as sewerage are ensured. Dwellings with modern conveniences are different from those with all modern conveniences in the mode of heating: they have no central heating, but each room is separately heated. In dwellings with some modern conveniences either the bathroom or the toilet is missing, of the utilities only the electricity and water supply are ensured. A dwelling with no modern conveniences has at least one living room and a cooking room of the formerly mentioned convenience items, and it can be only heated in a separate way. Those dwellings that cannot be classified in the previous comfort levels are either emergency or other dwellings.

Currently, 61.4% of dwellings have all modern conveniences, 31% have modern conveniences, 2.7% have some modern conveniences and only 4.9% belongs to the categories of homes without modern conveniences as well as other or emergency homes.

The proportion of dwellings listed in the two highest comfort categories has increased by 10 percentage points over the last ten years, while 8% fewer homes are in the two lowest categories.

Table 7

Occupied dwellings by level of comfort and type of settlement
(percentage)

Type of settlement	Level of comfort					*Total*
	All modern conveniences	Modern conveniences	Some modern conveniences	Without modern conveniences	Other and emergency home	
	2001					
Capital city	61.9	29.1	3.5	2.5	3.0	*100.0*
County seat, town with county rights	65.1	26.3	2.5	3.4	2.7	*100.0*
Other town	49.5	31.6	5.4	9.5	4.0	*100.0*
Village, large village	37.4	32.3	7.3	18.4	4.5	*100.0*
Total	51.7	30.2	5.0	9.4	3.7	*100.0*
	2011					
Capital city	71.8	24.9	1.6	1.1	0.7	*100.0*
County seat, town with county rights	72.4	24.1	1.4	1.7	0.4	*100.0*
Other town	59.2	33.2	2.8	4.3	0.4	*100.0*
Village, large village	48.2	38.2	4.1	9.0	0.4	*100.0*
Total	61.4	31.0	2.7	4.4	0.5	*100.0*

The coverage of public utilities has remarkably increased over recent decades. The proportion of homes having running water amounted to 97.7% in 2011, 94.6% of homes had warm running water, too.

Of the equipment indicators, the connection of homes to the public sewerage system has improved the most in the past ten years. From an environmental point of view, the fact that the proportion of occupied dwellings connected to the public sewerage system increased to 77.2% is of a very great importance. This represents a 21 percentage point improvement compared to the 56.2% coverage level recorded in 2001. Simultaneously, the proportion of homes equipped with domestic sewerage has fallen, though it is still

quite high. According to the 2011 census data, one in every five homes still uses less advanced ways for sewage disposal because of the lack of public sewerage network.

Due to the already existing relatively high level of coverage, the improvement was less impressive in the capital city, county seats and towns with county rights. However, the growth in the proportion of fully plumbed homes is significant in smaller towns and especially in villages. The number of homes connected to the sewage system has tripled in villages; their proportion grew from 16.7% in 2001 to 49.3% in 2011. The expansion of public sewerage has increased the percentage of homes having flush toilet by 8 percentage points over the past decade.

The modernization of the mode of heating was manifested in a continuous rise in the proportion of dwellings with central heating (remote-central, circulating heating) instead of the individual heating systems of housing premises. In the capital city as well as in county seats and towns with county rights, the percentage of dwellings with central heating exceeded 70% in 2011.

Table 8

Occupied dwellings by facility and type of settlement
(percentage)

Type of settlement	Occupied dwelling having						
	access to a/an		hot water supply	flush toilet	access to a/an		central heating
	public	individual			public	individual	
	pipeline				sewer		
	2001						
Capital city	99.4	0.1	97.6	96.3	91.2	8.5	64.6
County seat, town with county rights	96.3	1.1	95.9	95.1	83.3	14.3	67.5
Other town	89.5	2.2	89.6	86.1	52.5	39.7	53.1
Village, large village	80.2	3.7	80.4	74.7	16.7	67.7	40.7
Total	90.2	2.0	89.8	86.7	56.2	36.3	54.8
	2011						
Capital city	99.8	0.1	99.1	98.6	95.9	4.1	72.8
County seat, town with county rights	98.0	1.4	97.8	97.9	91.7	7.6	73.1
Other town	95.2	2.6	94.4	94.3	80.5	17.3	60.1
Village, large village	90.9	3.8	89.0	88.8	49.3	45.4	49.0
Total	95.5	2.2	94.6	94.4	77.2	20.5	62.3

2. The character of residential areas around dwellings

According to the 2011 census data, more than half of dwellings are located in a detached housing, village-like environment. The proportion of homes in urban (traditional) environments as well as in housing estates was about one-fifth each. Over 2% of housing premises were in villa neighbourhoods and residential parks, which ensure the greatest comfort, but the percentage of dwellings located in outlying areas with a low level of infrastructure was similar.

Due to the growth of the housing stock in cities much higher than in villages, the proportion of dwellings in detached housing and village-like environments has decreased while it has risen in urban (traditional) residential areas.

Table 9

Occupied dwellings by residential area character and type of settlement
(percentage)

Type of settlement	Occupied dwelling in a(n)								*Total*
	urban (traditional)	housing estate	residential park	villa neighbourhood	detached housing, village-like	holiday, enclosed garden	outlying	other	
	residential area								
					2001				
Capital city	35.2	35.0	..	6.7	22.4	0.1	0.1	0.4	*100.0*
County seat, town with county rights	20.1	42.4	..	2.2	32.5	0.3	1.7	0.7	*100.0*
Other town	11.6	15.3	..	0.7	68.5	0.7	2.7	0.4	*100.0*
Village, large village	0.1	1.1	..	0.1	94.7	0.6	3.1	0.3	*100.0*
Total	14.8	20.8	..	2.0	59.4	0.5	2.1	0.4	*100.0*
					2011				
Capital city	42.3	31.2	3.8	2.3	19.8	0.2	0.1	0.2	*100.0*
County seat, town with county rights	23.3	39.4	2.2	0.6	30.8	0.9	2.1	0.7	*100.0*
Other town	15.4	15.5	1.4	0.2	63.0	1.4	2.5	0.6	*100.0*
Village, large village	0.1	0.9	0.4	0.0	93.3	1.1	3.6	0.5	*100.0*
Total	18.2	19.6	1.8	0.7	56.0	1.0	2.3	0.5	*100.0*

In 2011, the location of unoccupied dwellings by residential area differed from that of occupied dwellings. The proportion of unoccupied dwellings in urban (tradi-

tional) residential and outlying areas is higher, while in housing estates as well as in detached housing, village-like zones it is lower than that of occupied dwellings.

The residential area character of occupied dwellings is significantly influenced by which settlement type they belong to. Since 2001, the proportion of homes in housing estate and detached residential areas has decreased, and there has been a rise in the percentage of those in urban (traditional) residential areas. In 2011, the vast majority of occupied dwellings in Budapest were in urban (traditional) environment and housing estates, but the proportion of homes in villa neighbourhoods and residential parks was also the highest in the capital city. The 2011 census includes the "residential park" as a new residential area type, which category was not yet included in the 2001 census.

In the 1970s and 1980s, large housing construction projects were mainly typical of the capital city and towns with county rights. The construction projects of housing estates were supposed to remedy the housing shortage, which resulted from the rural to urban migration. Consequently, nearly two-fifths of occupied dwellings in towns with county rights can be found in housing estates.

Nearly all dwellings built in villages, according to the nature of this settlement type, are in a detached housing, rural environment, and here, the proportion of dwellings in outlying areas is the highest, too.

3. Occupants of dwellings

In 2011, 9 687 682 persons lived in dwellings and holiday homes, 2.5% fewer than in 2001.

The number of occupants per one hundred occupied dwellings was 248. Owing to the population decline and the growth in the housing stock, the housing density has continued to decrease in the last ten years. In 2001, the number of occupants per hundred occupied dwellings was 269, i.e. 21 people more than in 2011.

The indicator of housing density was the lowest in Budapest where 213 persons lived in one hundred dwellings. The number of occupants per one hundred dwellings was 235 in county seats and towns with county rights, 257 in other towns and 272 in villages.

A decrease in the number of apartment dwellers and a rise in the floor area of dwellings have resulted in more floor space and an increase in the floor-area-per-occupant figure. According to the 2011 census data, on average, the per-occupant-figure was 32 sq m, 4 sq m more than in 2001. With this number, we are in the middle range among the countries of the European Union.

The floor-area-per-occupant figure was 20–30 sq m or 40–60 sq m in almost half (47.3%) of the homes.

Table 10

Occupied dwellings by floor area per occupant in the EU countries, 2011
(percentage)

Country	Floor area per occupant					Not stated	*Total*
	less than 20 sq m	20–30 sq m	30–40 sq m	40–60 sq m	over 60 sq m		
Belgium	..	..	..	..	..	..	..
Bulgaria	..	..	..	..	..	..	..
Czech Republic	..	..	..	..	..	..	..
Denmark	1.6	8.9	14.1	27.1	47.4	0.8	*100.0*
Germany	4.8	14.9	19.6	30.0	30.7	–	*100.0*
Estonia	22.0	24.5	19.3	20.4	13.7	0.1	*100.0*
Ireland	..	..	..	..	..	..	..
Greece	11.9	24.0	19.4	23.3	21.3	–	*100.0*
Spain	9.9	22.4	19.3	21.9	26.4	–	*100.0*
France	..	..	..	..	..	..	..
Croatia	..	..	..	..	..	..	..
Italy	8.5	19.2	17.8	24.2	30.2	–	*100.0*
Cyprus	..	..	..	..	..	..	..
Latvia	34.1	23.4	14.1	16.1	11.0	1.4	*100.0*
Lithuania	..	..	..	..	..	..	..
Luxembourg	3.7	9.1	11.8	20.6	35.8	19.1	*100.0*
Hungary	17.2	24.0	17.7	23.3	17.8	–	*100.0*
Malta	..	..	..	..	..	..	..
Netherlands	2.9	11.9	15.6	27.2	41.1	1.2	*100.0*
Austria	8.0	16.0	18.5	26.3	31.2	–	*100.0*
Poland	34.9	24.3	15.6	15.7	9.4	0.0	*100.0*
Portugal	11.9	15.2	19.8	27.4	25.7	–	*100.0*
Romania	54.1	19.7	11.3	9.9	5.0	–	*100.0*
Slovenia	27.1	26.6	17.1	16.6	12.6	–	*100.0*
Slovakia	..	..	..	..	..	..	..
Finland	..	..	..	..	..	..	..
Sweden	5.9	15.7	18.7	27.6	32.2	–	*100.0*
United Kingdom	..	..	..	..	..	..	..
EU average	13.0	18.4	17.9	24.2	26.3	0.1	*100.0*

Note. EU data are preliminary; data are not available in some countries. The EU average was calculated without the data of these countries.

The floor-area-per-occupant figure is smaller in most countries of Central and Eastern Europe: it was smaller than 20 sq m in more than 50% of dwellings in Romania and in more than 30% of homes in Latvia and Poland. In Denmark and the Netherlands the floor-area-per-occupant was over 60 sq m in more than 40 % of residential premises.

Most of the occupants live in three-room dwellings, fewer of them in two-room ones. In 2001, more people lived in two-room homes than in three-room residential premises. Today, nearly two percent fewer people live in one-room abodes, and nearly two percent more persons in five-room dwellings than ten years ago. The proportion of those living in six- or more room residential premises grew from 2.4% in 2001 to 4% in 2011.

In the capital city, the proportion of those living in one-room dwellings is double the national average at more than 12 percent, while a below-average share of occupants live in bigger, three- or more room homes. However, in villages, typically two-thirds of occupants reside in large dwellings with three or more rooms, and the number of those living in one-room housing premises continued to decline in the last decade; in 2011, their share was only four percent.

Table 11

Occupants by age group and dwelling characteristic, 2011
(percentage)

Dwelling characteristic	Occupant					
	–14	15–29	30–59	60–69	70–	total
	years old					
Level of comfort						
all modern conveniences	64.9	65.5	67.1	63.8	51.3	64.3
modern conveniences	26.4	27.1	26.5	30.2	39.7	28.6
some modern conveniences	3.1	2.7	2.3	2.3	3.4	2.6
without modern conveniences	5.1	4.3	3.7	3.4	5.1	4.2
emergency and other dwelling	0.4	0.4	0.4	0.4	0.4	0.4
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*
Number of rooms						
1	4.7	6.3	6.3	6.2	8.0	6.2
2	27.6	29.2	30.5	34.1	43.1	31.7
3	34.5	34.0	34.5	36.9	33.0	34.5
4–	33.2	30.5	28.7	22.8	15.9	27.5
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*

The percentage of those residing in large, three- or more room dwellings is the highest among people aged 14 or under and the smallest among those aged 70 or over.

As regards the level of comfort, a similar relationship can be observed. Older people occupy lower quality dwellings, a smaller part of them live in homes with all modern conveniences than that of younger people, and a relatively high percentage of them live in dwellings with fewer modern conveniences, which provide less comfort.

The proportion of those completed only eight or less grades in primary school is the highest among persons living in one-room dwellings and also exceeds the national average among people residing in two-room dwellings. More than 47 percent of them occupy homes with all modern conveniences but a greater part live in abodes with a lower level of comfort than those with higher educational attainment.

The housing conditions of occupants with completed secondary education but without secondary school-leaving exam are the closest to the national average if we examine both the number of rooms and the degree of comfort in their dwellings.

Those in possession of a secondary school-leaving exam certificate or a university/ college diploma live in better housing conditions than the average. More than 70 percent of them occupy dwellings with all modern conveniences, and only an insignificant part live in homes with some or no modern conveniences.

Table 12

Occupants aged 15 or over by educational attainment and dwelling characteristic, 2011
(percentage)

Dwelling characteristic	Educational attainment				Total
	8th grade of primary school at most	Vocational school with secondary vocational certificate	General secondary school with secondary school-leaving exam	University, college degree	
Level of comfort					
all modern conveniences	47.6	62.8	73.2	79.8	64.2
modern conveniences	37.8	30.8	24.2	18.9	28.9
some modern conveniences	5.0	2.5	1.1	0.6	2.5
without modern conveniences	9.1	3.5	1.1	0.4	4.0
emergency and other dwelling	0.5	0.4	0.3	0.3	0.4
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*
Number of rooms					
1	8.9	6.3	5.3	4.7	6.5
2	39.0	33.8	29.5	24.1	32.4
3	34.0	36.9	35.0	31.9	34.5
4–	18.2	23.0	30.3	39.3	26.5
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*

There are significant differences in the housing conditions and the size of dwellings of the economically active and non-active – mostly retired – population. The housing conditions of the economically active population are the best, more than two-thirds of them live in flats with all modern conveniences, and the proportion of those residing in four- or more room flats is close to 30 percent. Compared with them, the inactive population lives in more modest circumstances, a smaller part occupies flats with all modern conveniences, and a higher percentage live in one- and two-room flats. However, housing conditions of pensioners are slightly better than the category average: a higher share of them reside in flats with all modern conveniences and in two- or three-room dwellings, and a lower percentage live in one-room homes.

Table 13

Occupants by economic activity and dwelling characteristic, 2011
(percentage)

Dwelling characteristic	Economically active occupant	Economically inactive occupant			Total
		Inactive earner		Dependant	
		Total	Of which pensioner, annuity recipient		
Level of comfort					
all modern conveniences	69.0	56.1	57.3	65.1	64.3
modern conveniences	25.8	34.7	35.3	26.4	28.6
some modern conveniences	1.9	3.3	2.8	3.1	2.6
without modern conveniences	2.9	5.5	4.2	5.0	4.2
emergency and other dwelling	0.4	0.4	0.3	0.4	0.4
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*
Number of rooms					
1	6.3	7.4	7.0	4.8	6.2
2	30.1	38.0	39.0	27.2	31.7
3	34.3	35.1	35.2	34.4	34.5
4–	29.4	19.5	18.8	33.6	27.5
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*

Table 14

Occupants by household composition and dwelling characteristic, 2011
(percentage)

Dwelling characteristic	Household composition						Total
	One-family household		Two-family household	Three- or more family household	One-person household	Other	
	Married couple and cohabitation	Lone parent with child(ren)					
Level of comfort							
all modern conveniences	68.4	59.3	65.7	48.4	51.7	52.3	64.3
modern conveniences	25.9	31.8	25.6	30.6	37.3	37.1	28.6
some modern conveniences	2.2	3.2	3.5	7.3	3.6	3.6	2.6
without modern conveniences	3.3	5.3	4.9	13.0	6.7	6.5	4.2
emergency and other dwelling	0.3	0.4	0.3	0.7	0.7	0.6	0.4
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*
Number of rooms							
1	4.0	6.9	1.7	2.1	16.6	10.3	6.2
2	27.6	36.7	16.5	12.7	47.2	43.8	31.7
3	36.1	35.3	37.2	36.1	26.0	31.4	34.5
4–	32.2	21.2	44.5	49.1	10.3	14.5	27.5
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*

Housing conditions differ by types of households. Married-couple type one-family households and two-family households have the best housing conditions. Two-thirds of them live in dwellings with all modern conveniences as well as in homes with three or more rooms. Smaller shares of one-person households and families consisting of a lone parent with child(ren) live in dwellings with all modern conveniences, while the proportions of those occupying homes with modern conveniences are above the national average. The highest percentages of these households live in two-room dwellings. In the capital city, the proportion of one-person households that live in one-room dwellings is highly above the national average.

National and Ethnic Minorities in Hungary in the Period 2001–2011 – Ethno-Demographic Trends as Reflected in the Census Data

Ágnes Tóth
Senior Research Fellow
HAS Centre for Social Sciences, Institute for Minority Studies
E-mail: toth.agnes@tk.mta.hu

János Vékás
Organiser
HAS Centre for Social Sciences, Institute for Minority Studies
E-mail: vekas.janos@tk.mta.hu

The 2011 census data indicate that the number of people identifying ties with one or more of the thirteen minorities listed in the Minorities Act increased by one and a half times (146%) compared with 2001. Overall, the increase was greatest (177%) for the question concerning ethnicity and was a little less notable (138%) with regard to the language used in the family and among friends. There was even a slight growth in the number of native speakers of minority languages (109%).

In the study the authors examine the changes that have occurred in the basic demographics of Hungary's minorities over the past ten years.

KEYWORDS:
Minority.
Identity.
Population census.

A frequent criticism of censuses is that they fail to give a "real" picture of the ethnic composition of the population. To expect this from a census or from any other scientific method is unrealistic if by the real picture we mean some kind of primordial, objective and static concept. Identity – like its ethnic components – is a subjective and dynamic category, and so it is always necessary to look at the connections between identification (for example, where individuals self-identify as belonging to a given community), categorisation (where individuals are considered by the people around them to belong to a given community) and latency (where individuals are reluctant to self-identify as belonging to a given community even though this can be inferred from other factors). A census can only be real in the sense that the collection and processing of the data reflect, as faithfully as possible, respondents' voluntary statements. In other words, census data amount to the momentary expression of value choices.

Evidently, censuses conducted at different times and using various methodologies produce data of limited comparability. Even at the time of comparing censuses carried out with the same methodology, when identifying trends, we must take into account possible changes in respondents' understanding of certain terms in the questionnaires, as well as changes in the political attitudes of the state and in the social milieu. The trends thus identified may be useful for diagnosis, but they will not explain cause-and-effect relationships.

For this reason, it is important, in our view, to compare the responses to questions included in the 2001 and 2011 censuses.

Despite all these factors, we still regard the use of census data in social structure analysis as vital. First, the data tell us a lot about the dynamics of social trends, and so we can use them to check our forecasts based on other research methods. Second, in the case of ethnic minorities, a census constitutes the only occasion when data are collected, and responses concerning ethnic identity can be linked with other features – gender, age, education and activity. Census data constitute, therefore, important social statistics expressing the value choices of people. Today, at this time of the economic crisis that influences the social conditions, we see rather clearly the extent to which a stable identity, in conjunction with its ethnic components, is an important factor in the transformation of the social structure.

1. Census methodology

The methodology for the ethnic questions posed in the 2011 census (with the reference date: 1 October 2011) differed slightly from the methodology used in the

2001 census. The dissimilarity, however, was less significant than were the differences between previous censuses. Formerly, they had merely asked for a respondent's ethnic identity and native language; the 1970 census and those in the period before 1941 had asked for the native language alone.

The 2001 census questionnaire (with the reference date: 1 February 2001) included four questions pertaining to ethnic identity:

– Question 23.1 Which nationalities do you feel you belong to?
– Question 23.2 Which of these nationalities' cultural values and traditions do you feel affinity with?
– Question 23.3 What is your mother tongue?
– Question 23.4 In which languages do you speak with family members or friends?

The 2001 census questionnaire listed the various minorities mentioned in Act LXXVII of 1993 on the rights of the national and ethnic minorities (the Minorities Act), and there was a spare field for the indication of any other ethnic ties.[1] For each of the questions concerning ethnic identity, there were three possible responses, or a respondent could refuse to answer.

The 2011 census questionnaire contained the following questions pertaining to ethnic identity:

– Question 34. Which nationality do you feel you belong to?[2]
– Question 35. Do you think you belong to another nationality in addition to what you marked above?[3]

[1] Article 1(2) of the Minorities Act states that "for the purposes of the present Act a national or ethnic minority (hereinafter 'minority') is an ethnic group which has been living on the territory of the Republic of Hungary for at least one century, which represents a numerical minority among the citizens of the state, the members of which are Hungarian citizens, and are distinguished from the rest of the citizens by their own language, culture and traditions, and at the same time demonstrate a sense of belonging together, which is aimed at the preservation of all these, and at the expression and the protection of the interests of their historical communities." Article 61(13) of the Act lists the minorities as the following: Bulgarian, Roma, Greek, Croatian, Polish, German, Armenian, Romanian, Rusyn, Serbian, Slovak, Slovenian, and Ukrainian.

[2] According to the enumerators' guide, "The person should indicate – irrespective of his citizenship, his native language or his language knowledge – the national minority or ethnic group to which he feels himself to belong and with which he self-identifies. In response to this question, only one national minority or ethnic group can be indicated and recorded! If the person identifies with two national minorities, then the second one should be indicated and recorded under Question 35."

[3] The enumerators' guide noted that "If a person belongs to a single national minority or ethnic group, then the response indicated must be 'does not belong to another national minority'. If the person belongs to more than one national minority or ethnic group, then one of them should be recorded under Question 34 and the other should be recorded under this question."

– Question 36. What is your mother tongue?[4] (At most two responses could be given.)

– Question 37. In which languages do you usually speak with family members or friends? (At most two responses could be given.)

As regards national and ethnic identity, it might be worth analysing the responses given to questions pertaining to language knowledge and citizenship, but we do not address this analytical aspect in our study.

Thus, as far as the questions relating to ethnic identity are concerned, the 2001 and 2011 census questionnaires differed only to the following extent: in 2001 each of the four questions had three possible answers; in 2011 the question relating to cultural affiliation was removed, and there were two possible answers to each of the other questions. Besides, the possible responses concerning ethnic identity could be given to two separate questions.

The 2011 census questionnaire – like the one in 2001 – specifically informed respondents that there was no obligation to respond to questions concerning ethnic identity, native language, religious affiliation and health status, as such issues are so-called special data under Act LXIII of 1992 on the protection of personal data and the publication of data of public interest.

In the enumerators' guide, the census enumerators were instructed to indicate "no response" where a respondent chose not to respond to such a question (Questions 34–42).

2. Major features of the ethnic communities

If the aim is to report briefly on the status of a minority and the conditions for its healthy reproduction, the following indicators are the most important: *1*. nominal and *2*. percentage figures; *3*. age composition; *4*. economic activity; 5. education.

2.1. Nominal figures

We consider individuals to have ties with (or belong to) a given minority if they indicated this in their responses to one of the census questions on ethnic identity.

[4] As the native language, enumerators were to indicate the living language that the person learnt as a child (usually as the first language) and which he normally speaks with family members and identifies as his native language.

Since three different responses were possible for each question in 2001 and two different responses for each question in 2011, we find that the number of individuals belonging to the various minorities is greater than the total number of people with ethnic ties. The difference, however, is not statistically relevant, as Hungarian is one of the pair for a great majority of those expressing a dual identity. It means, for example, that in 2001 about 420 thousand persons gave 442 739 identity declarations since some individuals had ties with more than one minority.

Table 1

The number of people with ethnic ties, by the category of identity[5]

National minority	Total			Ethnicity			Native language			Language in family		
	2001	2011	2001= =100%	2001	2011	2001= =100%	2001	2011	2001= =100%	2001	2011	2001= =100%
Bulgarian	2 316	6 272	270.81	1 358	3 556	261.86	1 299	2 899	223.17	1 118	2 756	246.51
Roma	205 720	315 583	153.40	189 984	308 957	162.62	48 438	54 339	112.18	53 075	61 143	115.20
Greek	6 619	4 642	70.13	2 509	3 916	156.08	1 921	1 872	97.45	1 974	2 346	118.84
Croatian	25 730	26 774	104.06	15 597	23 561	151.06	14 326	13 716	95.74	14 779	16 053	108.62
Polish	5 144	7 001	136.10	2 962	5 730	193.45	2 580	3 049	118.18	2,659	3 815	143.47
German	120 344	185 696	154.30	62 105	131 951	212.46	33 774	38 248	113.25	52 912	95 661	180.79
Armenian	1 165	3 571	306.52	620	3 293	531.13	294	444	151.02	300	496	165.33
Romanian	14 781	35 641	241.13	7 995	26 345	329.52	8 482	13 886	163.71	8 215	17 983	218.90
Rusyn	2 079	3 882	186.72	1 098	3 323	302.64	1 113	999	89.76	1 068	1 131	105.90
Serbian	7 350	10 038	136.57	3 816	7 210	188.94	3 388	3 708	109.45	4 186	5 713	136.48
Slovak	39 266	35 208	89.67	17 693	29 647	167.56	11 817	9 888	83.68	18 057	16 266	90.08
Slovene	4 832	2 820	58.36	3 025	2 385	78.84	3 180	1 723	54.18	3 108	1 745	56.15
Ukrainian	7 393	7 396	100.04	5 070	5 633	111.10	4 885	3 384	69.27	4 519	3 245	71.81
Total	*442 739*	*644 524*	145.58	*313 832*	*555 507*	177.01	*135 497*	*148 155*	109.34	*165 970*	*228 353*	137.59

[5] As already noted, the 2001 census included a question concerning cultural ties. This means that individuals responding positively to this question were placed among those respondents with ties to a given minority. Based on the responses, we find that the percentage of individuals for a given minority who belong in this category varies widely (from 3% among Roma people to 55.6% among ethnic Greeks). Of course, we do not know whether, in the absence of the question on cultural ties, how many (what percentage) of these people would have responded positively to a question concerning other ties. This factor must be considered when examining the comparative table.

For more details on the declared identities of the various minorities in the 2001 census, see TÓTH, Á. – VÉKÁS, J. [2005]: Lojalitas és szolidaritás. Államhatalmi homogenizálás vagy a keresztkötődések erősödése? (Loyalty and Solidarity. Homogenisation Caused by State Power or a Strengthening of Cross-ties). In: *Kovács, N. – Osvát, A. – Szarka, L.* (eds.): *Etnikai identitás, politikai lojalitás. Nemzeti és állampolgári kötődések* (Ethnic Identity and Political Loyalty. National and Civic Ties). Budapest. Balassi Kiadó. pp. 123–149.

The number of people identifying ties with one or more of the 13 indicated minorities increased by one and a half times in the period between the two censuses (from 443 thousand to 645 thousand, by 146%). The rate and direction of change, however, differed greatly among the various minorities. The largest growth was recorded among the Armenian and Bulgarian minorities. However, in view of their small numbers, these increases had little impact on the rise in the total number of people with ties to the ethnic minorities in Hungary. Of greater influence was the 2.5 times growth in the number of ethnic Romanians as well as increases in the country's two largest ethnic groups, the Roma (153%) and the Germans (154%). A decrease in the size of the minority was reported for three minorities (Slovak 90%, Greek 70%, Slovene 58%).

In terms of the various identity categories, the increase in the number of people expressing an *ethnic identity* was the greatest (177%). In 2011, the number of ethnic Armenians was more than five times higher than in 2001, while the number of Romanians and Rusyns had grown by more than three times and that of Bulgarians and Germans had more than doubled. As far as ethnic identity was concerned, the only downward change was recorded among the Slovenes (79% of the 2001 figure). They were the only ethnic community to see decreases in both the native language and ethnic identity figures compared with 2001, thus becoming the smallest ethnic minority in Hungary.

In terms of ethnic identity, the Roma community remains Hungary's largest ethnic minority; they are followed by the German and Slovak communities.

As far as the gender distribution is concerned, the increase in the number of males was greatest among the Rusyn, Polish and Serb minorities, while the number of females showed the highest rise in the Romanian and Armenian minorities.

In terms of *native language*, the number of people with a minority identity increased by only a small amount (to 109% of the figure in 2001), but this average figure conceals significant differences between the various groups. The number of people identifying one of the Roma community's languages as their native language grew by six thousand. Further, there was an increase of about five and a half thousand in the number of native Romanian speakers and of almost four and a half thousand in the number of German native speakers. The other (smaller) minority communities had no significant impact on the average, although decreases in the number of native speakers were recorded among the Croatian, Greek, Rusyn, Slovak, Slovene and Ukrainian minorities.

Based on the number of native speakers, the Roma and German communities remain the two largest minorities. The Romanian minority, however, has overtaken the Croatian and Slovak minorities. This change reflects a decrease in the number of native Croatian and Slovak speakers and a significant increase in the number of native Romanian speakers.

The extent to which males and females contributed to the changes of the number of native speakers in a given minority community, deserves special attention. Statistically, the greatest variance in this respect was recorded among the Rusyns, in 2011 the number of male native Rusyn speakers was 134.5% higher than in 2001. At the same time, the number of female native Rusyn speakers had fallen to 71.1% of the figure in 2001. It should be noted, however, that no more than 999 individuals identified Rusyn as their native language in 2011, and that even in 2001 the figure had been just 1,113.

It would be worth conducting statistical analysis on the contribution of males to the increase in native German speakers (16% higher than that of females) and in native Roma speakers (5.5% higher than that of females). Overall, between 2001 and 2011, the size of the non-Hungarian native-language speaking community grew by 12-13%.

However, a reduction was observed in the number of Slovene, Ukrainian, Slovak, Greek and Croatian native speakers. In all of these groups, the impact of women was to prevent an even greater decrease.

Regarding the *language spoken in the family and among friends*, the number of people with a minority identity increased by around a third, compared with 2001. The growth was greatest among the ethnic Bulgarians (247%) and the ethnic Romanians (219%). Meanwhile a decrease could be observed among the Slovaks, Ukrainians and Slovenes.

2.2. Ratios for the various identity categories

With respect to ethnicity, minorities differed greatly in terms of the extent to which they fell into the various identity categories. Based on ethnic groups, 97.9% of Roma people expressed ties with the community, while the ratio for the Armenians was 92.2%. At the same time, however, only 17.2% of Roma identified the Romani language as one of their languages, and in the case of Armenian it was only 12.4%. The percentages were similarly low in the case of the language spoken in the family (19.4% and 13.9%).

In contrast, only 56.7% of those with a Bulgarian ethnic identity self-identified as ethnic Bulgarians, and the percentages of those identifying Bulgarian as their native language or the language spoken in the family were not high either (46.2% and 43.9%). Thus, the compactness of identity is low, and the core of the community must be small.

From Table 2 it can be concluded that a significant proportion of those Greeks who identified only a cultural affiliation in 2001, self-identified as ethnic Greeks in 2011. Even so, by 2011, the compactness of the Greek minority had also increased in terms of the linguistic identity categories. Among the other minorities, there were significant falls in the percentages of those identifying the language of the given minority as their

native language. However, these were not nominal decreases, as the number of people identifying ties with one or more of the minorities grew at a far greater rate.

Table 2

Various identity categories among those identifying ties with a given minority
(percentage)

National minority	Ethnicity		Native language		Language in family	
	2001	2011	2001	2011	2001	2011
Bulgarian	58.6	56.7	56.1	46.2	48.3	43.9
Roma	92.4	97.9	23.5	17.2	25.8	19.4
Greek	37.9	84.4	29.0	40.3	29.8	50.5
Croatian	60.6	88.0	55.7	51.2	57.4	60.0
Polish	57.6	81.8	50.2	43.6	51.7	54.5
German	51.6	71.1	28.1	20.6	44.0	51.5
Armenian	53.2	92.2	25.2	12.4	25.8	13.9
Romanian	54.1	73.9	57.4	39.0	55.6	50.5
Rusyn	52.8	85.6	53.5	25.7	51.4	29.1
Serbian	51.9	71.8	46.1	36.9	57.0	56.9
Slovak	45.1	84.2	30.1	28.1	46.0	46.2
Slovene	62.6	84.6	65.8	61.1	64.3	61.9
Ukrainian	68.6	76.2	66.1	45.8	61.1	43.9

Note. See footnote 5.

2.3. Age composition

In terms of age composition, notable differences between the 12 national minorities and the Roma ethnic minority could be observed in both 2001 and 2011. Although the extent of the dissimilarities declined slightly between the two censuses, they were still significant in each of the four age groups (children aged 0–14, young economically active people aged 15–39, old economically active people aged 40–59, people aged over 60).

The percentage of children (aged 0–14) in the total population was 16.6% in 2001 and 14.6% in 2011. The population aged during the decade. For the minorities, it is unfortunate that none of them – with the exception of the Roma – reached even this percentage. The largest decline was recorded among the Slovenes (the proportion of children fell from 8.1% to 6.4%), and the Slovaks did little better (9.1%, 7.3%).

Table 3

Age distribution of people identifying ties with ethnic groups

National minority	Age group (years)															
	0–14				15–39				40–59				60–			
	2001		2011		2001		2011		2001		2011		2001		2011	
	number of persons	%	number of persons	%	number of persons	%	number of persons	%	number of persons	%	number of persons	%	number of persons	%	number of persons	%
Bulgarian	216	9.3	640	10.2	789	34.1	2 061	32.9	809	34.9	1 992	31.8	502	21.7	1 579	25.2
Roma	71 005	34.5	102 324	32.4	89 348	43.4	134 566	42.6	35 697	17.4	64 120	20.3	9 670	4.7	14 573	4.6
Greek	500	7.6	539	11.6	3 047	46.0	1 928	41.5	1 987	30.0	1 321	28.5	1 085	16.4	854	18.4
Croatian	2 358	9.2	2 198	8.2	7 508	29.2	7 334	27.4	8 567	33.3	8 809	32.9	7 297	28.4	8 433	31.5
Polish	488	9.5	618	8.8	1 688	32.8	2 500	35.7	2 235	43.4	2 375	33.9	733	14.2	1 508	21.5
German	10 275	8.5	18 807	10.1	36 048	30.0	62 438	33.6	39 533	32.8	53 895	29.0	34 488	28.7	50 556	27.2
Armenian	97	8.3	284	8.0	455	39.1	1 253	35.1	381	32.7	1 096	30.7	232	19.9	938	26.3
Romanian	1 187	8.0	2 682	7.5	6 436	43.5	14 677	41.2	4 117	27.9	12 033	33.8	3 041	20.6	6 249	17.5
Rusyn	173	8.3	299	7.7	784	37.7	1 231	31.7	716	34.4	1 286	33.1	406	19.5	1 066	27.5
Serbian	636	8.7	874	8.7	2 930	39.9	3 980	39.6	2 159	29.4	3 236	32.2	1 625	22.1	1 948	19.4
Slovak	3 584	9.1	2 570	7.3	9 615	24.5	8 678	24.6	12 440	31.7	10 813	30.7	13 627	34.7	13 147	37.3
Slovene	390	8.1	181	6.4	1 376	28.5	691	24.5	1 648	34.1	983	34.9	1 418	29.3	965	34.2
Ukrainian	749	10.1	613	8.3	3 164	42.8	3 286	44.4	2 270	30.7	2 294	31.0	1 210	16.4	1 203	16.3
Population	1 694 936	16.6	1 447 659	14.6	3 574 493	35.0	3 403 983	34.3	2 847 327	27.9	2 754 875	27.7	2 081 559	20.4	2 331 111	23.5

At the same time, however, the percentage of children among the Roma population was more than twice the national average, but even in this community a gradual decline could be observed (from 34.5% to 32.4%).

The proportion of the Roma of active working age grew slightly (from 60.8% to 63%), but the share of old economically active people remained very low. Meanwhile, the unmatched low percentage of people aged over 60 fell even further (from 4.7% to 4.6%).

Regarding the German ethnic group, the percentage of children increased from 8.5% to 10.1% and that of people aged over 60 decreased from 28.7% to 27.2%. The proportion of people of active working age has remained roughly the same, but there was a slight shift towards young economically active people (from 30% to 33.6%).

Among the Serbians, the proportion of young economically active people has continued to be stable, while that of old economically active people grew, and this was offset by a decrease in the percentage of people aged 60 and over.

Compared with the total population, there was a higher percentage of old economically active people among each of the minorities apart from the Roma. Between 2001 and 2011, the greatest decreases in the share of this age group were observed among the Bulgarians, Germans and the Poles, whereas it grew among the Romanians.

Between 2001 and 2011 the percentage of people aged over 60 increased in the total population by 3,1%, but the rise was even greater among the Slovene, Rusyn, Bulgarian, Armenian and Polish minorities. The proportions of the Slovaks and Slovenes minorities had been significantly higher and that of the Poles lower than the national average in 2001, whereas among the Rusyns it had been about the same as the national figure. Between 2001 and 2011, the percentage of people aged 60 and over fell somewhat among the Serbian and German communities.

2.4. Economic activity

Between the two censuses, the proportion of economically active people in the total population raised from 40.3% to 45.4%. Meanwhile percentage increases were recorded for both employed people (from 36.2% to 39.7%) and unemployed people (from 4.1% to 5.7%) compared to total population. The economically inactive total population is almost equally divided between inactive earners (32.4% and 29.7%) and dependants (27.3% and 24.9%).

The same trends were also manifest among the minorities. The percentage of employed people increased the most among the Romanians: from 40.5% to 51.5%. In their case, the figure was already higher than the national average in 2001, and now the difference is even greater than before. Among those with a Romanian ethnic identity, the percentage of people born abroad was already 49% in 2001. Based on

the geographical distribution, we may assume that the high immigration rate of people of active working age will get even higher.

Among the Serbians too, the (6.4 percentage point) growth in the proportion of employed people is higher than the national average.

As far as the Slovaks are concerned, the share of employed people was significantly lower than the national average in 2001 (34.2% compared with 36.2%). Between 2001 and 2011, the Slovak minority experienced a positive change in this regard. The increase (from 34.2% to 39.6%) meant that the Slovaks almost caught up with the national average (39.6% compared with 39.7%); the discrepancy is now just 0.1 percentage points.

Special attention should be given to changes observed among Roma people. In 2001, only 10.8% of people of Roma ethnicity were employed – a drastically lower figure than the national average of 36.2% (itself a low rate in international comparison). In 2011, 16.4% of people of Roma ethnicity said they were employed. This increase of 5.6 percentage points is significantly greater than the growth in the national figure (3.5 percentage points), but it is still worryingly small in terms of the successful integration of Roma people.

Only among the Greeks was there a fall in the proportion of employed people (4.4 percentage points from 47% to 42.6%). In their case, a 6.2 percentage point rise in the figure for dependants compensated for the difference.

The slight (1.6 percentage point) increase in the national unemployment rate (from 4.1% to 5.7%) is similar for all the minorities. The only community to diverge from the national average is the small Ukrainian minority; the 320 jobless ethnic Ukrainians in 2001 constituted 4.3% of the community, while the 606 unemployed people in 2011 amounted to 8.2% of the community. In 2011, the unemployment rate was the highest – after the Roma community – among the Ukrainian minority.

The rise in the unemployment rate among Roma people was less than the national average (it increased from 11.8% to 13%, that is, by 1.2 percentage points compared with the 1.6 percentage point growth in the national figure).

Among the Germans, Hungary's second-largest minority, the unemployment rate in 2001 was already more favourable than the national average, and this was still the case in 2011. The employment rate grew by 4.1 percentage points (from 40.2% to 44.3%), compared with an increase in the national average of 3.5 percentage points. Meanwhile the rise in the unemployment rate was exactly the same as the national average (1.6 percentage points).

Table 4

People identifying ties with ethnic groups by economic activity

National minority	Employed				Unemployed				40–59				60–			
	2001		2011		2001		2011		2001		2011		2001		2011	
	number of persons	%	number of persons	%	number of persons	%	number of persons	%	number of persons	%	number of persons	%	number of persons	%	number of persons	%
Bulgarian	1 009	43.6	2 897	46.2	78	3.4	352	5.6	684	29.5	1 780	28.4	545	23.5	1 243	19.8
Roma	22 179	10.8	51 608	16.4	24 236	11.8	41 049	13.0	58 572	28.5	72 444	23.0	100 733	49.0	150 482	47.7
Greek	3 112	47.0	1 979	42.6	282	4.3	300	6.5	1 766	26.7	1 052	22.7	1 459	22.0	1 311	28.2
Croatian	9 872	38.4	11 144	41.6	779	3.0	1 208	4.5	10 355	40.2	9 860	36.8	4 724	18.4	4 562	17.0
Polish	2 478	48.2	3 489	49.8	189	3.7	407	5.8	1 200	23.3	1 652	23.6	1 277	24.8	1 453	20.8
German	48 337	40.2	82 232	44.3	3 107	2.6	7 779	4.2	45 940	38.2	57 350	30.9	22 960	19.1	38 335	20.6
Armenian	546	46.9	1 706	47.8	40	3.4	219	6.1	327	28.1	954	26.7	252	21.6	692	19.4
Romanian	5 982	40.5	18 365	51.5	697	4.7	2 675	7.5	4 976	33.7	8 577	24.1	3 126	21.1	6 024	16.9
Rusyn	903	43.4	1 739	44.8	102	4.9	225	5.8	628	30.2	1 233	31.8	446	21.5	685	17.6
Serbian	3 023	41.1	4 773	47.5	263	3.6	587	5.8	2 227	30.3	2 304	23.0	1 837	25.0	2 374	23.7
Slovak	13 423	34.2	13 930	39.6	1 089	2.8	1 425	4.0	18 245	46.5	14 831	42.1	6 509	16.6	5 022	14.3
Slovene	1 884	39.0	1 174	41.6	149	3.1	91	3.2	2 019	41.8	1 141	40.5	780	16.1	414	14.7
Ukrainian	3 226	43.6	3 319	44.9	320	4.3	606	8.2	2 053	27.8	1 694	22.9	1 794	24.3	1 777	24.0
Hungary	3 690 269	36.2	3 942 723	39.7	416 210	4.1	568 497	5.7	3 305 541	32.4	2 949 727	29.7	2 786 295	27.3	2 476 681	24.9

2.5. Education

Changes in the percentages for highest educational qualification among the various minorities cannot yet be analysed with reliability, because the 2011 census data that have been published to date contain distributions for all persons declaring an ethnic identity but not for appropriate age groups, and so the picture is distorted by the different percentages of children among the various groups. In other words, owing to this factor alone, the figure for the Roma minority is less favourable than the reality, while the data for the minorities with aged populations show relatively a more positive picture than that for the total population when a comparison is made.

Subject to this proviso, one can state that 52.16% of people with ethnic Roma ties had less than eight grades of education in 2001, whereas the corresponding percentage for the total population was 20%. At the time of the 2011 census, these rates had decreased to 47.5% among people with ethnic Roma ties and 18.3% among the population. This was due to the shrinking shares of people in the young age group and of those dropping out of school. The exact impact of the two factors will only be calculable when the age group percentages become known. Even so, we can already see that the percentage point decrease in the share of people with less than eight grades of education was greater among the Roma minority (the rate fell by 3 percentage points from 32.2% in 2001 to 29.2% in 2011) than among the total population.

In 2001, for 37.7% of Roma, the highest educational qualification was eight grades of education in primary school, while the corresponding figure among the total population was 26.3%. In 2011, the relevant rates were 39.4% and 23.3%.

Along with the low base figures and the minimal changes in the shares of Roma with completed primary education or incomplete secondary education (for example those who failed to obtain a secondary school-leaving exam) (both increased by just 5%), in the ten-year period the percentage of Roma people with a secondary school leaving exam (completed secondary education) increased by almost two and a half times (246%) and the number of those having higher educational qualifications more than doubled (from 1139 to 2607, that is, an increase of 229%). On the one hand, this implies a need to rethink education policy. On the other hand, our analysis shows that it is only worth examining this issue in conjunction with the other factors of integration, such as economic integration. At the level of social structural analysis, the powerful impact of economic integration can be shown. Indeed, economic integration is capable of compensating for the inadequacies of education, whereas the reverse is not true.

The other 12 minorities do not show the same critical symptoms. In 2001, the percentage of people completed less than eight grades in primary education was higher than the national average among the Slovaks and the Croatians – both with aged populations – but by 2011 the two groups had caught up. Among all 12 national

minorities, the proportion of people with higher educational qualifications is greater than the national average (14.5% in 2011). In 2011, the relevant figure of the Germans was 25% (compared with 18% in 2001), and among those minorities with a high proportion of immigrants, the rates were even higher (38% of Poles, 36% of Armenians, 31% of Ukrainians, and 30% of Rusyns). The Romanians represent an exception, as their percentage (14.85%) is only slightly higher than the national average in Hungary. The greatest increases were observed among the Croatians (150%) and the Slovenes (143%). This requires a separate investigation, because the number of Slovenes fell over the decade by a half (to 58.4% of the previous figure), while the Croatian minority stood still (104%).

3. Causes (sources) of the changes

A change in the population of a given territory has two causes (or sources): natural increase (the difference between the number of births and deaths) and migration (the difference between the number of immigrants and emigrants).

The reduction in Hungary's population by more than 260 thousand people between 2001 and 2011 was due primarily to a natural decrease of more than 387 thousand, which was mitigated somewhat by a positive migration balance of 126 thousand people.

How did the same factors impact on Hungary's minorities in such a manner as to result in an increase of more than 200 thousand in their number?

In terms of natural increase, the minorities did not differ substantially from the national average: live births among women with ethnic ties and aged 15 years and over exceeded two only in the case of the Roma. But in their case, one also has to consider a relatively low life expectancy.

We know that among people with a minority identity the number of people born outside Hungary rose from 35 thousand in 2001 to 70 thousand in 2011 (with ethnic Romanians accounting for more than half of it), but even this growth is only a fraction of the total change in the minority population.

It would seem, therefore, that in the case of a national or ethnic community we must also consider the presence of a third cause (source) of a population increase: the difference between assimilation and dissimilation. Identity – and its national and ethnic components – is a dynamic category. Alongside personal factors, many social circumstances also determine an individual's feelings in respect of his national and ethnic identity, and they also influence how an individual describes himself (his self-identification) in the census.

The question, therefore, is this: how can we delimit and define the group of individuals who, at some time between the two censuses, changed their self-identification, whereby, for instance, although in the 2001 census they stated that they were Hungarians in response to each of the questions on national and ethnic identity, in 2011 they declared themselves to be Germans in response to one or more of the census questions?

For the purposes of our analysis, we placed the members of a given national and ethnic community in three categories based on their migration features: those born outside Hungary, domestic migrants, and those who have lived in the same place since birth. When examining the individuals in the third category, we can exclude the effects of migration and then, by carrying out a ten-year shift in the cohort data of the two censuses, determine the minimum number of dissimilating individuals.

We present the methodology using the example of people with German ethnic ties.

The number of people with German ethnic ties grew between the two censuses from 120 344 to 185 696 (154.3%). As part of this, the number of individuals born outside Hungary increased from 9 756 to 17 500 (179.4%), and so the percentage of such people among the Germans in Hungary changed from 8.1% in 2001 to 9.4% in 2011. The extra number of those born outside Hungary, amounting to 7 744, thus contributed to the 11.8% increase in the ethnic Germans population.

At the same time, however, the number of people with ethnic German ties who, at the time of the census, had lived in the same place since birth, increased from 19 351 in 2001 to 33 108 in 2011 (171.2%). Accordingly, their proportion of the total number of people with German ethnic ties increased from 16.1% to 17.8%.

By dividing the people with ethnic German ties who have always resided in their birthplace into five-year age groups, we can examine how the number of people in an age group in 2001 relates to the number of people in an age group that is ten years older at the time of the 2011 census.

We need, therefore, to examine how, for instance, the number of persons aged 0–4 in the 2001 census relates to the number of persons aged 10–14 in the 2011 census, and so forth. By excluding persons that have migrated to the area, the size of the age groups in the 2011 census cannot be greater (ought not to be greater) than the size of the ten-year-younger age groups in the 2001 census. The data, however, indicated different results, as shown in the following table.

Table 5 shows that at the time of the 2001 census there were 901 persons aged 0–4 years (who then fell into the 10–14 age group in 2011). However, in the 2011 census, 3 093 persons with ethnic German ties were recorded in this age group. This is a disparity of 2 192. We see that among the older age groups, the increase declines continuously, but it is only among the age groups aged over 70 that dissimilation is unable to compensate for the impact of outward migration and death.

Aggregating the positive values of the final column in Table 5, we may conclude that at least 7 756 persons with ethnic German ties and residing in the same place

since birth have dissimilated, and that this group of people accounts for at least 56.4% of the nominal increase in the ethnic category between the two censuses.

Table 5

People with ethnic German ties who have resided in the same place since birth

Age group	2001	2011	2001=100%	Difference
	censuses (number of persons)			
0–4		3 962		
5–9		3 756		
10–14	901	3 093	343.3	**2 192**
15–19	1 727	3 642	210.9	**1 915**
20–24	2 363	3 743	158.4	**1 380**
25–29	2 280	3 064	134.4	**784**
30–34	2 060	1 978	96.0	–82
35–39	1 445	1 606	111.1	**161**
40–44	839	1 189	141.7	**350**
45–49	687	1 010	147.0	**323**
50–54	777	1 103	142.0	**326**
55–59	940	1 168	124.3	**228**
60–64	855	922	107.8	**67**
65–69	688	718	104.4	**30**
70–74	774	693	89.5	–81
75–79	768	614	79.9	–154
80–84	857	514	60.0	–343
85 and over	1 390	333	24.0	–1 057
Total	*19 351*	*33 108*		*7 756*

Table 6

The minimum extent of dissimilation among people with ethnic German ties who have resided in the same place since birth

Persons self-identifying as ethnic Germans	Number
Total number of persons in 2001	19 351
Total number of persons in 2011	33 108
Difference	13 757
Minimum nominal difference stemming from dissimilation	7 756
Minimum percentage difference stemming from dissimilation	56.4

In reality the nominal and percentage figures can only be greater, because dissimilation is the only factor that can compensate for the ethnic Germans who have died, emigrated or been assimilated in the ten-year period.

There is another possibility for refining the methods; in particular, one could group the data according to year of birth rather than age-group. This would eliminate the distortion that arises from the notional date of the 2011 census. Even so, the available figures suffice to demonstrate the logic of the analysis.

The methodology is of limited applicability.

Where ethnic ties have declined among the (Greek, Slovak and Slovene) minorities, a decrease was also observed between the two censuses in the number of those who had always resided in the same place since birth. In the case of these minorities, our methods are clearly unable to determine the minimum amount of the increase stemming from dissimilation – because there was no demographic increase among those residing in the same place since birth.

Aforementioned also applies to the Croatian and Ukrainian minorities for which the number of people with ethnic ties has stagnated, but the number of those residing in the same place since birth has declined.

Turning now to the Roma minority, we see that the unusual age composition (low average age, high birth rate, early death) renders our methods inapplicable, even though the rate of increase for this minority cannot be explained by immigration (as the immigration rate was extremely low) or even by the relatively high fertility rate.

In consequence, for the purposes of our analysis, we are left with the following seven minorities and indicators.

Table 7

The minimum dissimilation-caused increase in the number of people with ethnic ties who have resided in the same place since birth, 2001–2011

National minority	Percentage of people with ethnic ties residing in the same place since birth (for 2011)	Minimum dissimilation-caused increase	
		(number of persons)	%
Bulgarian	14.5	414	59.6
Polish	11.8	124	34.4
German	17.8	7 756	56.4
Armenian	13.7	287	71.9
Romanian	5.8	45	6.9
Rusyn	15.1	336	72.9
Serbian	10.2	76	23.6

Although people residing in the same place since birth make up no more than 5.8%–17.8% of a given minority population, and their characteristic features evidently differ in many ways from those of immigrants or domestic migrants, it is noteworthy that the potential minimum for increases stemming from dissimilation is high.

4. Non-respondents

Finally, we should note that compared with the 2001 census, in the 2011 census there was a significantly higher number of people who chose not to respond the questions relating to national and ethnic identity.

As we have already mentioned, under the provisions of Act LXIII of 1992 on the protection of personal data and the publicity of data of public interest, data relating to ethnic background, native language, and the language used in the family are so-called special data, whereby people are not obligated to respond to questions concerning these categories. We may conclude that the number of people who made use of this possibility was higher in 2011 than in 2001 – despite the fact that even then it was quite high in an international comparison.

Table 8

The number of non-respondents by identity category

Identity category	2001		2011	
	number of persons	%	number of persons	%
Ethnic identity	570 537	5.6	1 455 883	14.7
Native language	541 106	5.3	1 443 840	14.5
Language in family	558 246	5.5	1 486 218	15.0
Culture	628 328	6.2	–	–
Population	10 198 315	100.0	9 937 628	100.0

While analysing the 2001 census data, we concluded that the high level of latency cannot be the primary reason for the high percentage of non-respondents among the minority populations. The true causes should be sought in the deeper social processes that are associated with understanding and interpreting the nature of national and ethnic identity.