Indicators of sustainable development for Hungary, 2018

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Hungarian Central Statistical Office, 2020

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Introduction

Background

Environmental movements emerging in the 1950s recognised the conflicts between economic production and the state of the environment. Following the publication of several high-impact books (*Silent Spring*[1] in 1962, *Tragedy of the Commons*[2] in 1968 and *Limits to Growth*[3] in 1972), the concept of sustainable development adopted today was outlined in a report entitled *'Our Common Future'*[4] (1987). In 1992, the United Nations Conference on *Environment and Development* was held in Rio de Janeiro, as a result of which the concept of sustainable development has now been integrated into national and global policies. In addition to the UN, countries and groups of countries (e.g. the European Union) have also developed strategies, indicators and sets of indicators to measure the achievement of sustainable development goals. After two and a half decades, both favourable and unfavourable processes have been found to coexist: with the success of some positive environmental measures (e.g. reducing emissions of ozone depleting compounds), our resources are under increasing pressure (e.g. rising consumption of a growing population).

The next Rio conference (*Rio+20, 2012*) was already preceded by moderate expectations. This summit focused on the development of a green economy and institutional system, but the final document (*The future we want*) did not make any significant progress towards more effectively representing sustainability. The lack of strong political will, ambitious goals and legal commitment to fulfil them have been criticised. One of the greatest achievements of the Second Rio Conference was the Convention Establishing Global Sustainable Development Goals, as with the expiry of the *Millennium Development Goals* (MDGs) of 2000, a new agenda for the post-2015 period was needed. As a result of a multi-year preparation process, on 25 September 2015, world leaders adopted a new Sustainable Development Framework (*The 2030 Agenda for Sustainable Development*) at the 70th UN General Assembly.

At the core of the global agenda are the *Sustainable Development Goals* (SDGs), with 17 goals and 169 targets (underlying targets) for more effective economic, social and environmental development and developmental cooperation. Monitoring and reviews are supported even more than before by a global indicator framework, which currently defines 232 global indicators.[5] However, the 2030 Agenda allows adaptation at regional and national levels, so in addition to the global list, groups of countries and nation states are expected to have their own sets of indicators in the near future. Hungary has been actively involved in the development of the framework from the outset, also taking the first steps necessary for its implementation. The Hungarian Central Statistical Office (HCSO) has undertaken the coordination of the domestic data collection required for the global list of indicators; data are currently being compiled, additional data needs are being mapped, and gaps and potential data sources are being identified.

The Hungarian strategy

The National Sustainable Development Council (NFFT), established in 2007, elaborated a new Hungarian National Sustainable Development Strategy[6], which was adopted by the Hungarian Parliament on 25 March 2013.[7] The aim of the Hungarian Framework Strategy is to provide a nation-wide, long-term direction for individual and community actions. Compared to the European Union strategy or SDGs, it interprets the concept of sustainability in a much narrower way and regards sustainable development policy primarily as a long-term resource management activity.[8] The framework strategy distinguishes four resources: **human, social, natural and economic resources.**

1 Rachel Carson: Silent Spring, Houghton Mifflin, 1962. *World Commission on Environment and Development: Our Common Future.* Oxford University Press, 1987.
2 Garrett Hardin: *The Tragedy of the Commons*, Science. Vol 162, Issue 3859, 13 December 1968.
3 Donella H. Meadows, Dennis L. Meadows, Jørgen Randers, and William W. Behrens III: *The Limits to Growth.* Potomac Associates, 1972.
4 World Commission on Environment and Development: *Our Common Future.* Oxford University Press, 1987
5 Inter-Agency and Expert Group on Sustainable Development Goal Indicators: *Tier Classification for Global SDG Indicators.* https://unstats.un.org/sdgs/iaeg-sdgs-tier-classification/ (11/12/2018)
6 The first Hungarian strategy was adopted by the government in 2007, the two strategies differ considerably in their interpretation.
7 See further: Parliamentary Resolution 18/2013 (III.28) on the National Sustainable Development Framework Strategy.
8 Bartus, Gábor (2013): A fenntartható fejlődés fogalom értelmezésének hatása az indikátorok kiválasztására. (Impact of interpretation of sustainable development concept on choice of indicators.) [Statisztikai Szemle], Vol. 91, No. 8–9, pp. 842–869.

Monitoring of the strategy and related processes is supported by a biennial progress report and a set of underlying indicators. The first report, which identifies 16 key indicators and uses a number of explanatory/contextual indicators, was adopted by the NFFT on 3 December 2015.[9] Key indicators were adopted after a long process of consultation, relying on experts' studies. The authors have taken twelve key indicators (represented by key pictograms 🔑) from a former volume of this publication, two more are derived from data produced by HCSO, and two rely on other data sources. A significant part of the context indicators also comes from HCSO publications. The domestic framework strategy was adopted earlier than the SDGs, so its interpretation system and its stated objectives could not be taken into account. Nonetheless, the two programmes overlap in many places, and a link is to be established over the next few years; however, as the NFFT states, 'the adaptation of SDGs is not an automatic process, a way of interpreting national implementation is needed, seeking consistency with national frameworks for interpreting sustainability'.[10] The Second Progress Report on the Framework Strategy (2015–2016) provides an assessment of the 17 global goals set by the UN in relation to Hungary.

About the current publication

The Hungarian Central Statistical Office has published sustainable development indicators every two years since 2007. The first three volumes took over Eurostat's indicator system, aiming at adaptation in line with domestic conditions. Our publications in 2013 and 2015 disaggregated the indicators thematically along three main dimensions (environment, society, economy) as a first step towards strengthening the resource approach. The 2017 publication explored the key relationships of the topic in the context of the Framework Strategy Interpretation System, and this publication retains this structure with some minor modifications. Indicators are organized according to four (human, social, natural and economic) resources containing both evaluated and non-evaluated so-called background (contextual) indicators.

This publication provides 103 indices on the state of resources, of which 26 focus on human, 13 on social, 41 on environmental and 23 on economic resources. Of these, 82 are considered to be real **indicators,**[11] that is, comparable over time, capable of presenting positive and negative changes.[12] Some of the other 21 **background indicators** (contextual indicators) provide structural information (e.g. *consumption structure, deaths by major cause of death*), others are approximations whose exact role and assessment, although related to sustainable development, are unclear (e.g. atypical employment, animal density) and in some cases time series estimation is not possible (e.g. *areas exposed to drought, digital skills*). By presenting the above indicators we wished to provide a deeper understanding of the topic.

Indicators generally cover the period after 1995, but there are also indicators covering different time intervals. An **index** also helps the search function. The Europe 2020 strategy of the European Union has set specific targets for some indicators, with country-specific recommendations for each Member State alongside EU targets. These values are included in the charts as well as in the relevance sections. National data mainly come from the Hungarian Central Statistical Office and EU data from Eurostat; only the remaining sources are indicated in the figures. In many cases, indicators of human and social resources are based on the Household Budget and Living Conditions Survey (HBLS). *EU Statistics on Harmonized Income and Living Conditions* (EU-SILC) are also based on this annual survey. Due to consecutive data processing, reference years are usually one year later for HBLS than for EU-SILC. Occasionally, the processing methodology also differs for HBLS and EU-SILC.

Our publication explains indicators in a uniform and structured way. Chapter-starting **definitions** help to ensure clarity in all cases. ʹ**Relevance**ʹ sections illustrate indicator-sustainability relationships, with related NSDS (National Sustainable Development Strategy) findings.[13] ʹ**Analysis**ʹ sections begin with domestic trends (figure 1 data in each case) and continue with additional indicator dimensions also covering other related indicators. ʹ**International outlook**ʹ sections provide information on EU

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9 See *National Sustainable Development Strategy, First Progress Report, 2013–2014*, December 2015.

10 *Comparing domestic and international sustainable development goals. First Progress Report of the National Sustainable Development Strategy (2013–2014), Annex 2.*

11 For their evaluation, see in subchapter *'Evaluation of Indicators'*.

12 Concerning the indicator concept see: Éva Havasi (2007): *Characteristics and statistical requirements of indicators, indicator systems*. [Statistical Review], Volume 85, number 8, pp. 678–689.

13 We refer to the National Sustainable Development Strategy adopted by the resolution of the Hungarian Parliament as ʹNFFKʹ and ʹframework strategyʹ.

processes. So-called ʹthermometersʹ on the side edges illustrate the situation of the Member States and our country through comparative data. The text next to $!$ below the   figures summarizes the most important messages.

For the purpose of interpreting territorial breakdowns, it is important to note that as of 1 January 2018 the territorial classification of Hungary has changed. The number of planning-statistical regions at NUTS-2 level increased from the previous 7 to 8 by dividing Central Hungary into the planning regions of Budapest region and Pest region.

Users can obtain more information in the HCSO's **Stadat tables** (www.ksh.hu/engstadat), which are available directly from the electronic version of this publication.

Evaluation of indicators

The ultimate goal of the indicators for measuring sustainable development is to evaluate processes. Understanding trends enables decision-makers to formulate strategies, promote intervention, and provide feedback on tasks already accomplished. Assessment is made difficult by the fact that most indicators cover only one sustainability dimension, so what is a positive change for the economy can be detrimental to the environment and vice versa. For example, increasing sales of pesticides are not in line with environmental objectives, but it is difficult to increase agricultural yields without them. However, the expansion of the agricultural economy is a socio-economic interest that contributes among others to employment, food security, rural population retention and trade opportunities. Carbon dioxide emissions are often reduced due to the closure of heavy industrial plants. However, with decreasing soil and air pollution, these processes may be accompanied by rising unemployment, impoverishment and lasting social problems.

Evaluation covers only the indicators in the first figure of each chapter. Basically, one short-term and one long-term assessment were made based on the available years, with the exact time intervals indicated for each indicator.

Three types of indicators[14] can be distinguished, influencing the methodology of evaluation:

Type 1: indicator with a defined target value to be achieved in a given year.

Type 2: indicator with a defined target value, but without a target date.

Type 3: indicator without a target value, but with an optionally determined desirable direction of change.

Appendix 1 lists the indicators by type.

Type 1[15]

In this case, the value of the indicator must reach a certain level in a given year. An example of this is R&D expenditures as a percentage of GDP. Hungary has committed to bring its R&D expenditures to 1.8% of GDP by 2020. Evaluation is based on comparing the observed path and the desired up / down path, which is described by the following equation:

$$\text{Ratio of observed track to desired track} = \frac{\dfrac{\text{last available value} - \text{base value}}{\text{last available year} - \text{base year}}}{\dfrac{\text{target value} - \text{base value}}{\text{target year} - \text{base year}}}$$

There are two thresholds (0.9 and 0), so three rating categories are created:

• A rating is positive if the ratio is 0.9 or higher, which means that the indicator moves in the desired direction and the last available value approximates at least 90% of the desired track value in a given year ....

• The rating is neutral if the ratio is between 0 and 0.9. The indicator changes in the desired direction and the last available value approximates the desired path value by less than 90%. ....

14 In this publication only the 82 real indicators were evaluated, other 21 background indicators were not.
15 For a detailed methodological description, see Eurostat (2014): *Getting messages across using indicators*. Publication Office of the European Union, Luxembourg, pp. 21–22.

- A rating is negative if the ratio is less than 0, i.e. the trajectory of the indicator is opposite to the desired direction . . . .

Type 2[16]

There are accepted targets for these indicators, but it is not specified in which year they should be achieved. An example is the consolidated gross debt of the government sector.

An evaluation can be done by simply comparing the last available value and the target value using two possible categories:

- A positive evaluation is made if the desired track is ascending and the last available value is higher than the target value, or if the desired track is descending and the last available value is lower than the target value . . . .
- A negative rating is obtained if the desired track is descending and the last available value is higher than the target value, or if the desired track is increasing and the last available value is lower than the target value . . . .

Type 3[17]

Most HCSO indicator sets belong to this type, which compares the actual path of the indicator to the desired path in case of indicators without an accepted target value but with a determinable favourable direction. Only the value of the base year and the last available year were taken into account, so the method used ignores the actual path of the intermediate years. Percent changes were used to calculate the observed path using the following formula:

$$\text{Percentage change} = \frac{\text{last available value} - \text{base value}}{\text{base value}} * 100$$

Based on two thresholds (3% in the desired direction and 3% in the opposite direction relative to the base value), the following 3 categories are formed:

- A positive assessment is made if the change is in the desired direction and is at least 3% in absolute terms . . . .
- The valuation is neutral if the change remains below 3% in absolute terms. . . . .
- A negative assessment is made if the change is in the opposite direction and at least 3% in absolute terms. . . . .

In some cases, a different evaluation was applied. In the case of annual mean surface temperature, the amount of precipitation and the number of heat days and freezing days the complete time series was evaluated, dependency ratio was evaluated based on the 2000–2016 period as well as on the projection for between 2017 and 2060, while old-age dependency ratio based on the 2000–2016 period and on the projection for between 2017 and 2061, according to the criterion under type 3.

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16 For a detailed methodological description, see Eurostat (2014): *Getting messages across using indicators.* Publication Office of the European Union, Luxembourg, pp. 27–28.
17 For a detailed methodological description, see Eurostat (2014): *Getting messages across using indicators.* Publication Office of the European Union, Luxembourg, pp. 33–34.

Budapest, 2020

HUNGARIAN CENTRAL STATISTICAL OFFICE

1 Human resources

2 Social resources

3 Natural resources

4 Economic resources

Human resources

In a snapshot

Demography
- Projections forecast a continuous and significant increase in the dependency ratio in the future. The proportion of persons aged 14 years and under to the persons of active age is expected to decrease, and the dependency ratio of persons aged 65 years and over will increase to a larger extent. The value of the dependency ratio is expected to reach its peak in 2062, when there might be 790 persons of inactive age per thousand persons of active age.

- The value of the fertility rate was 1.49 in 2017 – and so it was in 2018, according to the preliminary data –, which lagged behind the level of social reproduction by 29%. Significant differences were measured between the fertility rates of the various regions in Hungary. Northern Hungary and Northern Great Plain had values much above the national average, while the lowest values of the indicator were registered in Budapest and Western Transdanubia.

Living conditions
- The at-risk-of-poverty rate has become stagnant in the past 3 years. This indicator was the highest among the youngest and the lowest among the oldest people; nevertheless, the situation of the two groups with extreme figures has converged over the past 2 years. In 2016 a total of 14.5% of the population lived below the relative at-risk-of-poverty line, which was lower than the EU average. In 2017 this proportion continued to decrease (13.4%).

- After the earlier fast deterioration, the proportion of severely materially deprived people has considerably fallen since 2014; these persons comprised 14.5% of the population in 2017.

Health
- In 2016 life expectancy at birth reached its peak – with 72.4 years for men and 79.2 years for women; however, it was followed by a slight fall in 2017. The difference between the two sexes, which as significant in European terms, showed a downward tendency; the disadvantage of men fell from 8.5 years in 2000 to 6.6 years in 2017.

- The most frequent diseases are those of the circulatory system, with hypertension in the first place. Other significant diseases among the adult population include ischaemic heart diseases, diabetes and asthma.

Education
- In 1992, nearly half of 15–74 year olds had lower secondary education, while in the mid-200s approximately one-third did, and in 2018, a total of 21.2% of the same age group had at most lower secondary education.

- According to the PISA survey, the proportion of students with low reading literacy increased nearly 8 percentage points between 2012 and 2015, reaching 27%. On the whole, 32% of boys and 23% of girls are functional illiterate.

- Education expenditures totalled 5,1% of the GDP in 2017. This figure shows an increase compared to the 5,0% proportion measured in the preceding two years and it exceeded the average of the EU28.

Chapter	Number	Indicator	Page	Evaluation of changes compared to past status	
				Long term	Short term
Demography	1.1	Dependency ratio	16	rain cloud	rain cloud
	1.2	Total fertility rate	19	rain cloud	sun behind cloud
	1.3	Internal migration	21		
	1.4	International migration	24		
Living conditions	1.5	At-risk-of-poverty rate	26	rain cloud	sun
	1.6	Severe material deprivation	29	sun	sun
	1.7	People living in jobless households	31	sun	sun
	1.8	Equipment of dwellings	33	sun	sun
	1.9	Satisfaction with living environment	35	sun	sun
Health	1.10	Life expectancy	37	sun	sun behind cloud
	1.11	Self-perceived health	40	sun	sun behind cloud
	1.12	Hypertension – chronic diseases	42	rain cloud	sun behind cloud
	1.13	Physician-patient consultations	45	sun	sun
	1.14	Smoking	47	sun	sun
	1.15	Alcohol consumption	49		rain cloud
	1.16	Suicide	51	sun	sun
	1.17	Death rate by major causes of death	53	sun behind cloud	rain cloud
	1.18	Standardised mortality ratio	55	rain cloud	rain cloud
Education	1.19	Educational attainment	57	sun	sun
	1.20	School competences	59	rain cloud	rain cloud
	1.21	Leaving education	60	rain cloud	sun behind cloud
	1.22	Disadvantaged (D) and multiply disadvantaged (MD) children	62	rain cloud	sun behind cloud
	1.23	Digital skills	65	sun behind cloud	sun behind cloud
	1.24	Foreign language skills	68	sun	sun
	1.25	Lifelong learning	70	sun	sun behind cloud
	1.26	Education expenditures of governmnet as a proportion of GDP	72	rain cloud	sun

Dependency ratio

Since 2000

Since 2017

Figure 1.1.1 **Dependency ratio*** (proportion of population aged 14 and younger and 65 and older compared to the 15–64-year-old age group)
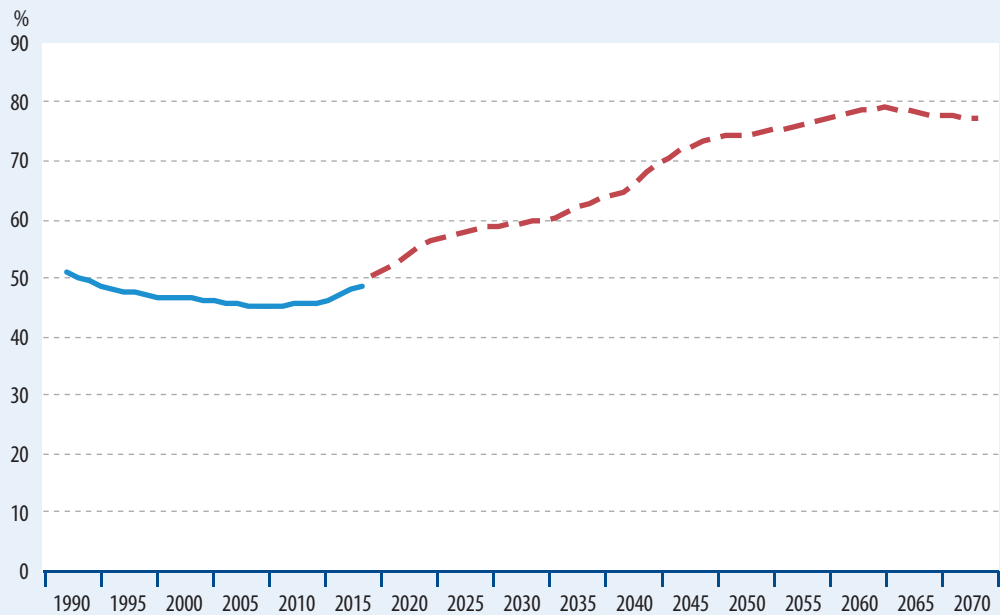
* The dashed line indicates the projected data.

Source: 1990–2016 HCSO, from 2017 HCSO Demographic Research Institute, according to the basic version of the projection (projection database).

! *Between 1990 and 2007 the value of the dependency ratio decreased but has been slowly increasing since then. The basic version of the projection suggests that this increase will continue unbroken until 2062 and then it will start to decrease.*

Definitions The dependency ratio determines the dependency obligation per person of working age: child (0–14-year-old) and old (65-year-old and older) population as a percentage of the population aged 15–64. The dependency ratio of the child population: child population (0–14-year-olds) as a percentage of the population aged 15–64. Old-age dependency ratio: the old population (aged 65 years and over) as a percentage of the population aged 15–64. Ageing index: the old population (65 years and over) as a percentage of the child population (0–14-year-olds).

Relevance The dependency ratios are the most important indicators to illustrate the changes in the age distribution of the population. The value of this indicator is influenced in the long run by fertility, mortality and migration. The general trend in the historic change of the dependency

Dependency ratio of the population aged 14 years and under and 65 years and over in the European Union, 2018, %

ratio is a decrease from an initial high level due to the decline in the number of births, followed by a rise from a low level because of the extension of life expectancy. Nowadays this latter trend is developing especially strongly in developed countries and sets extraordinarily serious long-term challenges for societies. The value of the dependency ratio is basically influenced by the definition of working age. The present trend is the rise of the lower and upper limits of working age, the former because of longer time spent in education, while the latter due to improving life span. Keeping the internal ratios of life path is necessary for ensuring the sustainability of population development. According to the National Framework Strategy on Sustainable Development, primarily measures which support families and having children may serve to mitigate the population decline. These include a stable and predictable family support system and the work-related legal protection of those raising children.

Figure 1.1.2 Child-age and old-age dependency ratios*
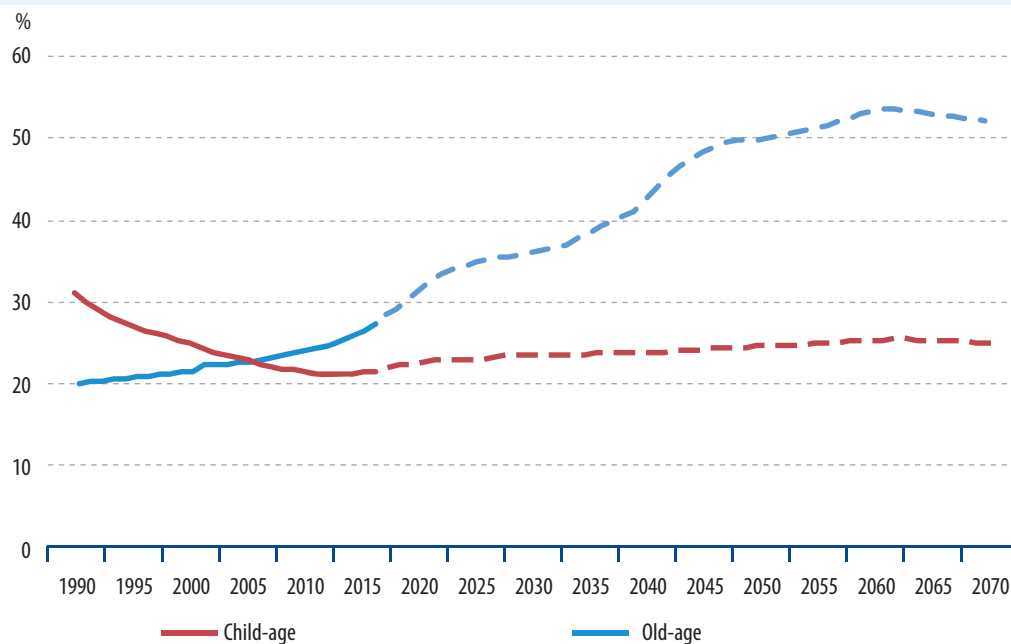
* The dashed line indicates the projected data.

Source: 1990–2016 HCSO, from 2017 HCSO Demographic Research Institute, according to the basic version of the projection (projection database).

> **!** *The proportion of children aged 14 years and under to people of working age was continuously decreasing; the base version of the projection expects a slight rise of the rate. The dependency ratio of people aged 65 years and over is increasing to a higher level.*

Analysis In the early 1990s the dependency ratio was 51% in Hungary, i.e. there were 510 persons out of working age (aged 14 years and under and 65 years and over) per thousand persons of working age (aged 15–64). Measured in 2007, the lowest rate (45.2%) was also the low point of a longer-term trend; the projections expect a continuous and considerable increase in the future. The value of the dependency ratio may reach its maximum in 2062, with a value of 79% according to the current base version of the population projection, which means that there may be 790 dependants (aged 14 years and under and 65 years and over) per 1,000 working-age people (15–64-year-olds). After 2062 this ratio is expected to decrease slowly and be 77% by 2070.

When calculating the dependency ratios, we can highlight three main age groups, and their proportions defined in relation to each other clearly show the ageing of society, the dependency relations of each age group and the projected social and economic effects of the changes. The three key age groups are: the child-aged (0–14-year-olds), the adult- or active-aged (15–64-year-olds) and the old-aged (65-year-olds and older people). The share of the child-aged has been decreasing continuously in recent decades. The pace of this decline accelerated in the 1990s. While 20.5% of the population was child-aged in 1990, the preliminary data show that their ratio was only 14.6% in 2019, although the fertility rate has increased over the past years. Simultaneously, the proportion of old-aged people continuously increased from 13.2% to 19.4%. The ageing process of the population is indicated by the fact that the number of old-aged people has been exceeding the number of child-aged persons since 2006. Meanwhile, the ratio of working-age population increased from 66% to 69% between 1990 and 2007; however, it has been decreasing continuously since then (66.1% on 1 January 2019). The composition of the population is illustrated by the age pyramid, showing the number of males and females by age. The reason for the positive temporary changes in the proportion of active- and inactive-aged people is that the greater number of generations born in the mid-1970s were already of working age, and similarly, the generation born in the mid-1950s was still of working age. In parallel, the decline in the number of births was steeper than the increase in the number of old-aged people. The great number of people in age groups

Figure 1.1.3 Age pyramid of the population, 1 January 2019

Males   Age group, years   Females

Male excess

Female excess

	90–	
	85–89	
	80–84	
	75–79	
	70–74	
	65–69	
	60–64	
	55–59	
	50–54	
	45–49	
	40–44	
	35–39	
	30–34	
	25–29	
	20–24	
	15–19	
	10–14	
	5– 9	
	0– 4	

500 400 300 200 100 0   0 100 200 300 400 500

Thousand inhabitants   Thousand inhabitants
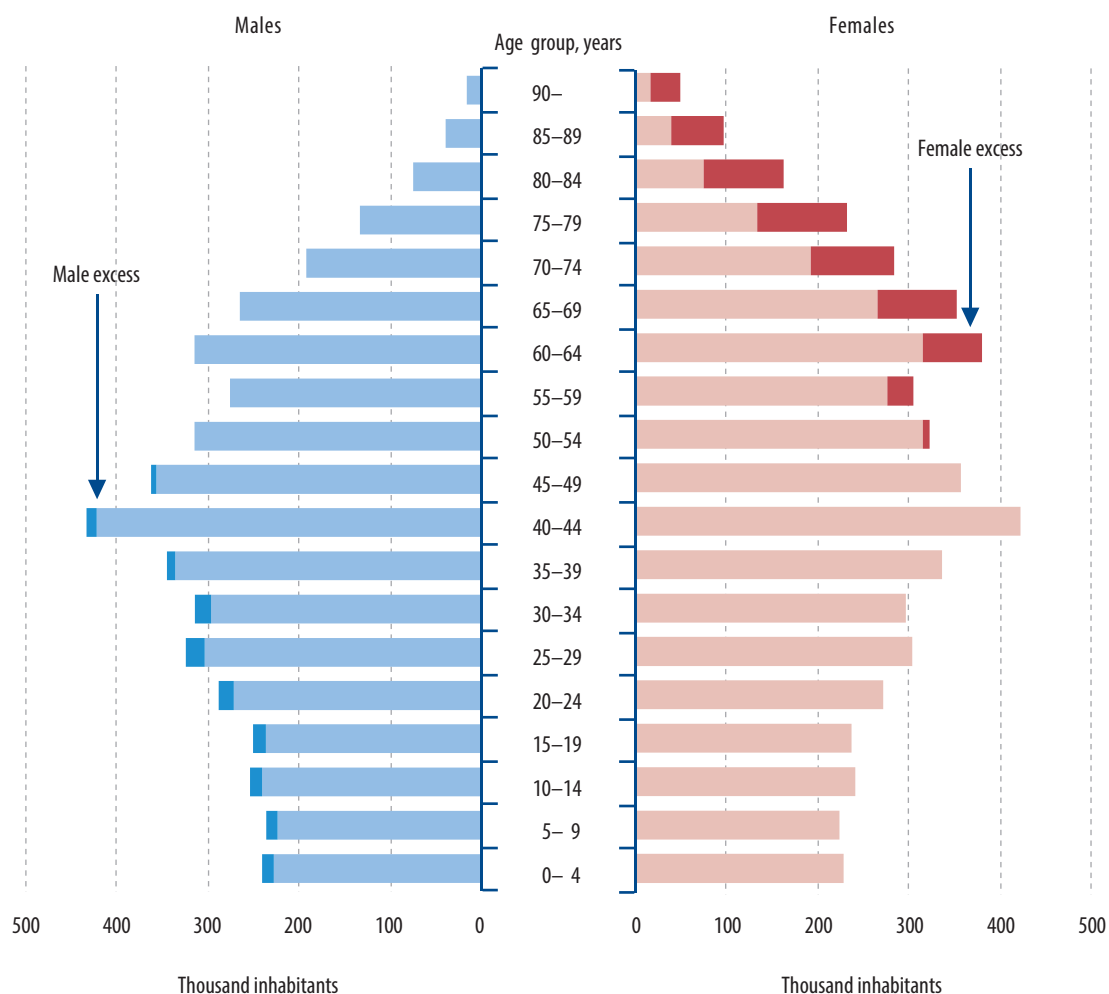
! *The decreasing number of births makes the bottom of the age pyramid narrower; the sex ratio shifts from males to females above the age of 49.*

of individuals born in the mid-1950s will reach the age of 65 in the following years, therefore, the number of old-aged people is going to explode, imposing an increasing burden on the decreasing number of the working-age population.

International outlook In 2018 the dependency ratio of the population aged 14 years and younger and 65 years and older was nearly 55% in the EU. Higher-than-average values were mainly observed in the economically developed countries of France, the United Kingdom and the Scandinavian countries, where fertility is above the EU average and life expectancy is high as well. Also, among the southern countries, the rate is higher than average in Greece and Italy. These two countries have the highest rate of old-aged people in the European Union. With a value of 50%, Hungary belongs to the group of countries with low-level dependency ratio, which is primarily due to the lower life expectancy and fertility in a European context.

Summary tables (STADAT)
1.1 Population, vital events
**6.1.2 Resident population by age group,
    1 January**
6.1.6 Dependency ratio, ageing index, 1 January

Total fertility rate

Since 2000

Since 2017

Figure 1.2.1 Total fertility rate
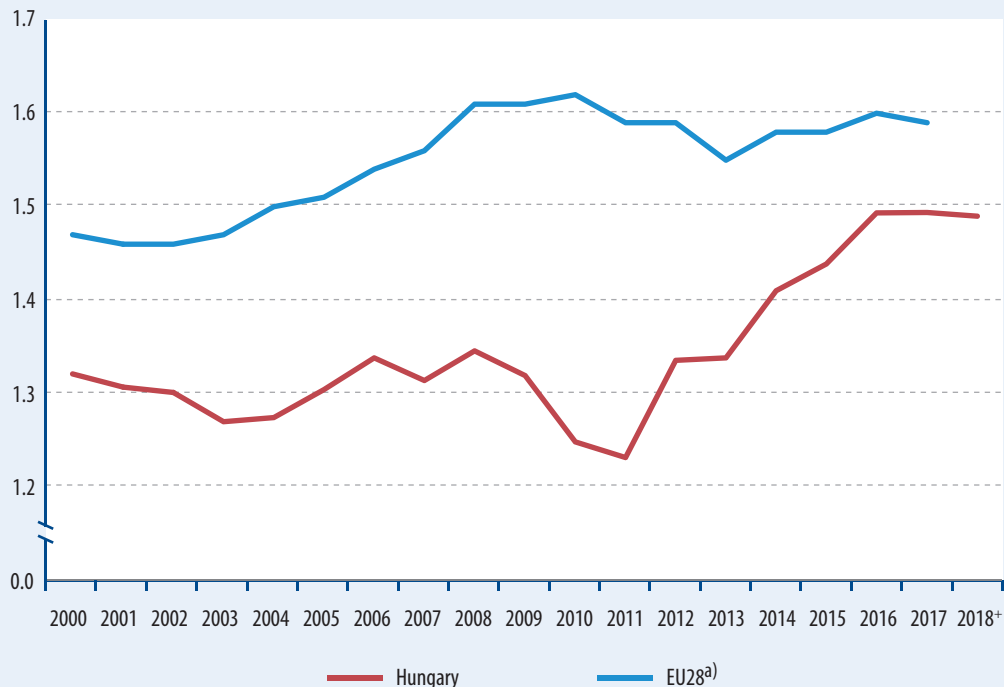
+ Preliminary data.
a) In the year 2000 EU27.

Sources: Eurostat, HCSO.

> **!** *For a long time, fertility rates have remained below the replacement level.*

Definition The total fertility rate indicator expresses the average number of children that would be born alive to a woman during her lifetime if she were to pass through her child-bearing years conforming to the age-specific fertility rates of a given year. It indicates the completed fertility of a hypothetical generation, which is calculated by summing up the female age-specific fertility rates of a given year.

Relevance The population number of a country is considered sustainable if the total fertility rate reaches 2.1. This is called the replacement level. If the fertility rate is permanently below the replacement level, the total population will be decreasing and ageing. A fertility rate near the replacement level for a long time provides a population with a balanced age distribution, which is an essential criterion for the long-term sustainability of the pension and health care system. High fertility rates may lead to

over-population and additional pressures on the liveable environment and resource base. According to the National Framework Strategy on Sustainable Development, it is desirable and attainable in the medium term to increase the number of births and to decrease mortality, which results in the deceleration of the population decrease and, in the long run, the stabilisation of the population number.

Analysis In Hungary fertility strongly decreased in the 1990s and fluctuated at low levels in the 2000s. This rate reached the low point in 2011, and then an increase has been observed since 2012. Between 1990 and 2011 the value of the total fertility rate fell from 1.87 to 1.23, then it increased to 1.49 until 2016, and it showed the same value in 2017 and also in 2018 according

Total fertility rate in the European Union, 2017,
number of children per female

FR	1.90
SE	1.78
IE	1.77
DK	1.75
UK	1.74
RO	1.71
CZ, LV	1.69
BE	1.65
LT	1.63
NL, SI	1.62
EU28,	**1.59**
EE	
DE	1.57
BG	1.56
HU	**1.54**
AT, SK	1.52
FI	1.49
PL	1.48
HR	1.42
LU	1.39
PT	1.38
CY, IT	1.32
ES	1.31
MT	1.26
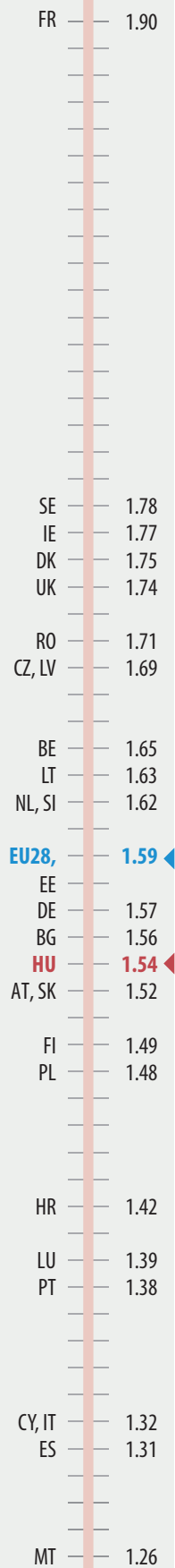
Figure 1.2.2 **Total fertility rate by region, 2017**

> ! *There is a considerable difference between the fertility rates of the western and the eastern halves of Hungary.*

to preleminary data. While in 1990 fertility lagged behind the level of reproduction by about 11%, by 2018 this value had grown to 29%. The low fertility level can be explained by the postponement of child-bearing to older ages and giving birth to fewer children. Later child-bearing does not necessarily imply the drop of completed fertility of females, since they can make up for their postponed child-bearing in their lifetime. Nevertheless, there is a greater chance that greater chance that against their will they will bear fewer children. A fertility pattern evolved in the society influences the child-bearing behaviour of the younger growing-up generations as well.

In 2017 the two regions with the highest fertility rate exceeded the level of the region with the lowest value in 1990. In 1990 the lowest fertility rate was measured in Central Hungary (1.60) and the highest in Northern Great Plain, reaching the reproduction level (2.10). In 2017 Northern Hungary had the highest rate (1.76)

and Budapest the lowest (1.15). The differences among the regional units of the country have not changed considerably over the past decade. The region with the lowest fertility is 45%, while the top fertility region is 16% below the simple replacement level.

International outlook In the EU28 countries the total fertility rate increased considerably between 2002 and 2010, from 1.46 to 1.62. This period was followed by stagnation and fluctuations; in 2017 the value of this indicator was 1.59, and the fertility level lagged behind the reproduction level by 24%. In 2017 the fertility was the lowest in Malta (1.26) and Spain (1.31). In the ranking of the Member States, Hungary (1.54) is in the middle-rank, below the EU average. The highest fertility rates were measured for France (1.90) and Sweden (1.78). The differences among each country are also affected among others by labour market features, cultural factors and the different social care systems.

Summary tables (STADAT)
1.1 Population, vital events

Internal migration

Figure 1.3.1   Internal migration per thousand population by type of migration

‰

■ Permanent migration   ■ Temporary migration
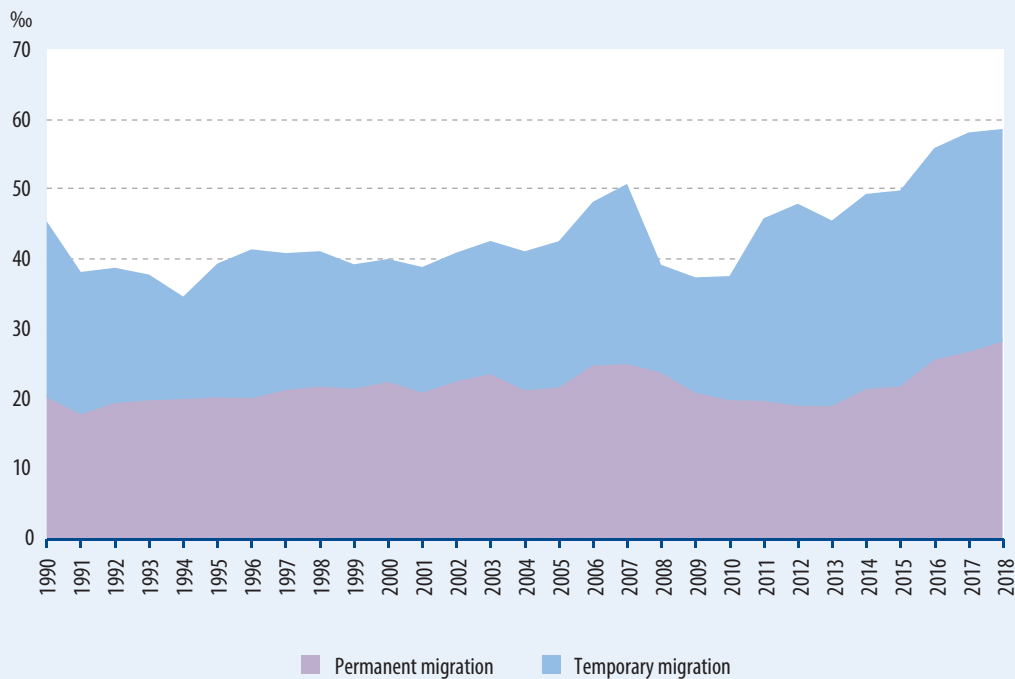
! *After a slight decline in 2013, the volume of internal migration started to increase again.*

Definitions Internal migration follows the spatial, geographical movement of the population within the country, based on the registration system of home addresses. The two types of this term are permanent and temporary migration. Permanent migration: any change in the place of residence when a migrant leaving his/her place of residence indicates a dwelling in another settlement as another place of residence. Temporary migration: any change in the place of dwelling crossing municipal boundaries when a migrant maintaining the place of residence changes a dwelling and indicates a new dwelling as a place of stay as well as when he/she moves from one place of stay to another place of stay. Difference in internal migration: the difference between the number of persons registered with a permanent or temporary character and temporary re-migrants to a given administrative unit and the number of persons registered with a permanent or temporary character and temporary re-migrants to another administrative unit from the given administrative unit.

Relevance Socio-economic changes influence the level and the direction of internal migration. The internal migration balance – which can be positive or negative resulting from the level of participation in migration of a region and the direction of the internal migration – shows whether the particular region is a destination area or a place of origin. Internal migration has a considerable effect on the age structure and human capital of a region since a young and highly qualified labour force tends to move to economically more developed regions. For the purpose of long-term sustainability, it would be essential that regions develop in a well-balanced way.

Analysis Due to the two-year decline following the peak in 2007, the level of internal migration dropped almost to the level of the 1994 low point. In 2011, a dynamic increase occurred, primarily due to the legal provision set forth in Act CLXXVIII of 2005, stating that the residence of persons failing to renew it shall be terminated after five years in lieu of the earlier period of two

Per mille

⬛	−(−3.1)
⬛	−3.0–(−1.5)
⬜	−1.4–(−0.1)
🟧	0.0– 1.4
🟥	1.5–
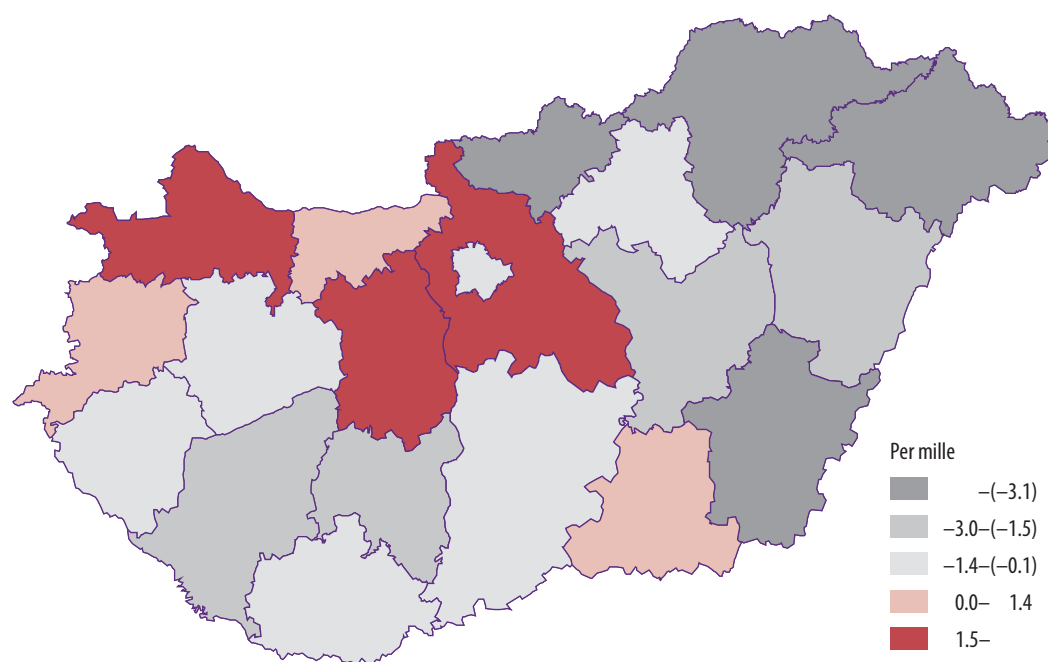
! *Over the past 28 years the internal migration balance of Pest County has been towering over all other counties, while the vast majority of counties can be considered areas of origin.*

years. The effect of the legal change could be seen first in 2008 as residences established in 2006 were not terminated following lack of renewal. The influence of automatic termination after a period of five years was first detectable in the temporary migration data of 2011. However, it had no impact from 2012. In 2013 the rate of permanent migration per thousand population remained unchanged, while, concerning changes of temporary residence, a slight decrease occurred compared to the previous year. This process was only restricted to a single year, and then both indicators started to increase to a small extent.

Contrary to the frequently varying trend of temporary migration, the number of permanent changes of dwellings has been more constant in the last two decades. Until the early 1990s the number of temporary migrants was higher, while later the number of permanent migrants started to exceed that of temporary migrants. However, in 2011 this trend was reversed, i.e. in recent years more persons have changed their temporary place of stay than their place of residence.

The steadily ascending trend of permanent migrations came to a halt in 2007. With the slow decrease taking place later, the level of 192 thousand in 2013 was the lowest value after the nadir in 1991. The decline of 63 thousand in

the number of registrations of place of residence between 2007 and 2013 was without precedent considering the last 35 years. The last decrease of similar extent (44 thousand) occurred between 1988 and 1991. However, this trend was reversed in 2014, and then the volume of permanent migration increased by about 23 thousand (to 215 thousand), which figure is nearly equal to the value in 1990. This growth was followed by a slower increase (3,591 persons) in 2015 and a larger increase (36,828 persons) in the following year, and this trend has been continuing since then. In 2017 the number of permanent migrants was 10,257 higher than in the previous year, and then in 2018 an even larger increase of 14 thousand was recorded.

During the analysis of temporary migration, we should take into consideration the changes in the legal environment, which have significantly affected the data of the past decade. As a result, the number of cases firmly declined by more than 100 thousand in 2008, and the number of persons changing their registered place of stay exceeded 260 thousand again in 2011. In the following years the high number of temporary migrants seemed to become stable. Since 2016 another sharp increase has been taking place. That year the number of temporary migrants approximated

Figure 1.3.3 **Balance of total internal migration per thousand population, by settlement type**

Budapest   Towns   Villages
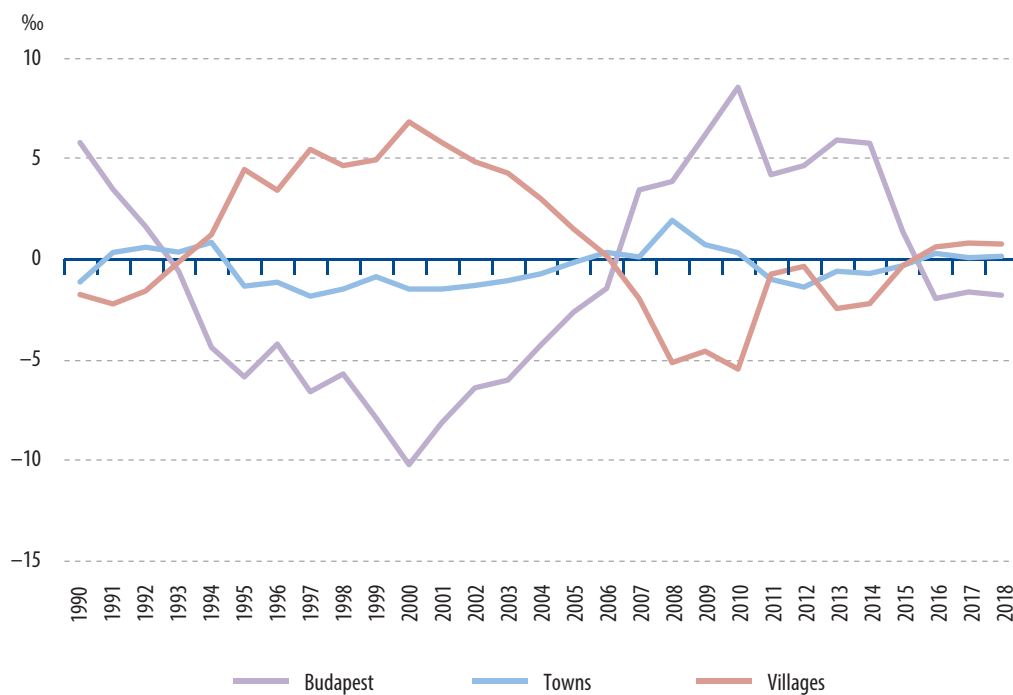
> **!** *The net internal migration for Budapest has been negative again since 2016, while the internal migration balance for villages shows an increasing trend.*

300 thousand. In 2017 this number was exceeded. Following this excessive figure recorded in 2017, 10 thousand persons fewer changed their place of stay in 2018 than a year earlier, so the number of temporary migrations went back to the level measured in 2016.

Over the past 28 years the migration balance of Pest County has been remarkably high compared to other counties. A positive balance has been measured in Győr-Moson-Sopron, Fejér, Komárom-Esztergom, Vas and Csongrád-Csanád Counties, too. The vast majority of counties are characterised by out-migration; population retention is especially low in the eastern, economically less developed counties (Borsod-Abaúj-Zemplén, Szabolcs-Szatmár-Bereg, Nógrád, Békés).

Budapest finds itself in a particular situation. The balance of total internal migration for Budapest was positive between 1990 and 1992, while the following period until the year 2006 was characterised by out-migration, primarily due to suburbanisation. From 2007 the situation of Budapest changed and its migration balance was strongly positive until 2014. By 2015 this dynamism came to a halt, the migration balance of the capital drastically fell to turn into negative in 2016. This process continued in 2017 and 2018, too, when the migration balance of Budapest became negative again with 2,820 and 3,117 persons, respectively.

Summary tables (STADAT)
1.6 Internal migration
6.1.4 Vital events
6.1.5 Main rates in vital statistics
6.1.8 Permanent internal migration
6.1.9 Temporary internal migration

1.4

International migration

Figure 1.4.1   Rate of foreign-born population to total population, 1 January
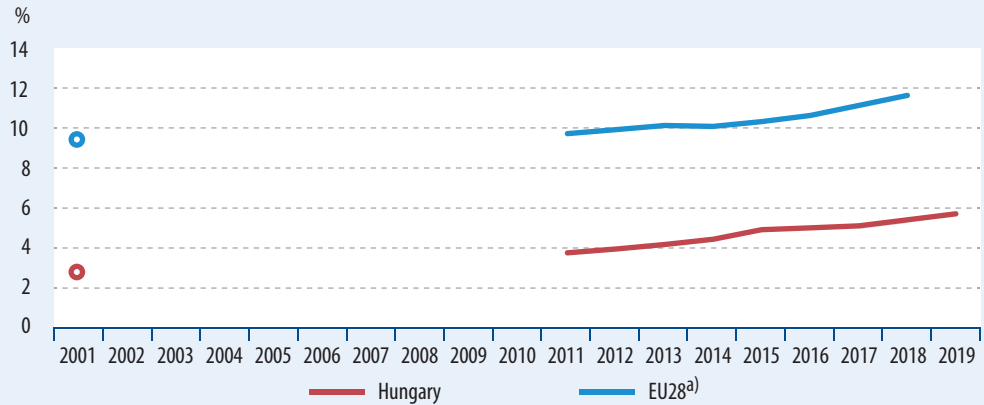
a) In 2001 and 2011 excluding the data on Germany, Malta, Cyprus and Croatia.

LU	46.5
CY	21.0
AT	19.2
SE	18.5
MT	17.5
BE, IE	16.8
DE	16.6
EE	14.9
UK	14.4
ES	13.3
NL, HR	12.9
LV	12.7
FR	12.2
SI	12.1
DK, EL	11.9
EU28	**11.7**
IT	10.2
PT	8.8
FI	6.6
HU	**5.5**
LT	4.7
CZ	4.4
SK	3.5
RO	2.6
BG	2.2
PL	1.8

Proportion of foreign-born population to the total population, 2018, %

! *The share of foreign–born population is growing in Hungary, but it is still much below the EU average.*

Definition The proportion of foreign-born population to the total population shows the percentage of the total population born outside the borders of Hungary. This rate is an appropriate indicator to examine the long-term influence of immigration, since in addition to foreign citizens living in the country, it includes the immigrants who have been granted Hungarian citizenship in the meantime and who have moved to Hungary after receiving the Hungarian citizenship as persons living abroad.

Relevance The National Framework Strategy on Sustainable Development (NFSSD) sets the aim of drawing up an immigration policy that investigates whether it is necessary to replace the ageing population and handles the potential integration issue of immigrants.

Analysis On 1 January 2019, 5.8% of the Hungarian population was born abroad, which rate was 5.5% a year earlier and 3.9% in 2011. The vast majority were born in a neighbouring country (61% in Romania, Ukraine, Serbia and Slovakia altogether), most of them in Romania (37%). In terms of more distant countries, Germany has an important role, where 6.1% of the population under study comes from.

The foreign-born population has two main groups: nearly seven-tenths have Hungarian citizenship (mainly those coming from neighbouring countries), while slightly more than 30% only have foreign citizenship. The highest proportion of foreign citizens arrived from Romania, China and Germany. The share of foreign-born population is constantly increasing. On the one hand, this process is due to the positive and increasing migration balance of foreign citizens and, on the other hand, to the decreasing but still intensive immigration of Hungarian citizens naturalized abroad.

The highest proportion of persons coming from foreign countries live in Budapest; 10.5% of Budapest's population had a foreign immigrant background on 1 January 2019. A similarly high proportion could only be observed in Csongrád-Csanád, Szabolcs-Szatmár-Bereg, Pest and Győr-Moson-Sopron Counties, with 7.2%, 6.8%, 6.1% and 6.0% of the population having been born abroad, respectively. The lowest proportion of persons of foreign origin was measured in Northern Hungary, in particular in Borsod-Abaúj-Zemplén and Nógrád Counties (2.3% each), but the proportion is also similarly low in Jász-Nagykun-Szolnok County (2.8%).

The age distribution of the population born abroad is more favourable compared to the total Hungarian population with respect to sustainable development, since slightly more than 69%

Figure 1.4.2 Rate of foreign-born population to the total population by county, 1 January 2019

Per cent

■	−3.5
■	3.6–4.5
■	4.6–5.5
■	5.6–6.5
■	6.6–

> **!** *The highest proportion of persons of foreign origin was measured in Budapest, with nearly 10.5%.*

Figure 1.4.3 Age distribution of the total population and the foreign-born population, 1 January 2019

■ Aged 0–14 years ■ Aged 15–39 years ■ Aged 40–59 years ■ Aged 60 years and over
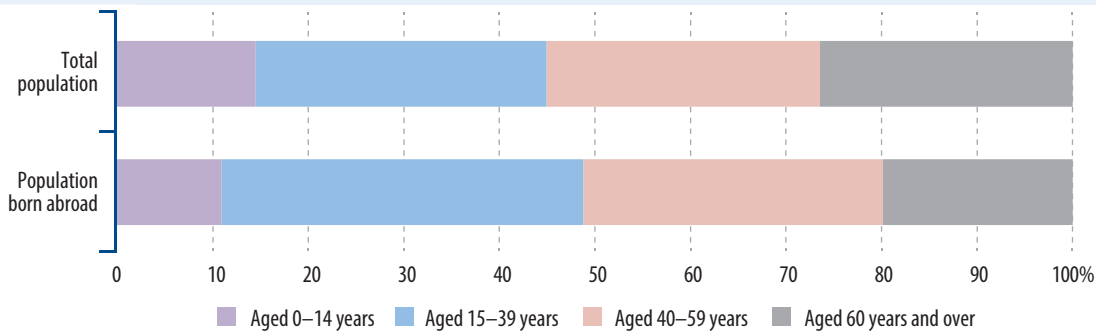
> **!** *The rate of people of active age is higher among the population of foreign origin than in the total population.*

belongs to the economically active 15–59-year-old age group, while this proportion within the total population was only 59% on 1 January 2019.

International outlook The rate of foreign-borns is showing an increasing trend in most of the EU countries; however, its average rate is approximately twice higher than the one in Hungary. On average, 11.7% of the EU population was of foreign origin in 2017. The proportion of persons involved in international migration is extremely high in Luxembourg (46.5%). Besides, the proportion of the foreign-born population living in Cyprus, Austria and Sweden is also considerable and largely exceeds the EU average.

The lowest proportions are observed in our neighbouring countries in Central and Eastern Europe. The share of the foreign-born population is below 4% in Slovakia, Poland, Bulgaria and Romania, compared with merely 4.4% in Czechia.

Summary tables (STADAT)
1.7 Foreign citizens residing in Hungary by continent, country and sex, 1 January
1.10 Number of foreign citizens immigrating by country of citizenship
1.11 Number of foreign citizens emigrating by country of citizenship
6.1.10 Foreign citizens' international migration
6.1.11 Number of foreign citizens residing in Hungary

At-risk-of-poverty rate

Since 2005

Since 2017

Figure 1.5.1 At-risk-of-poverty rate*
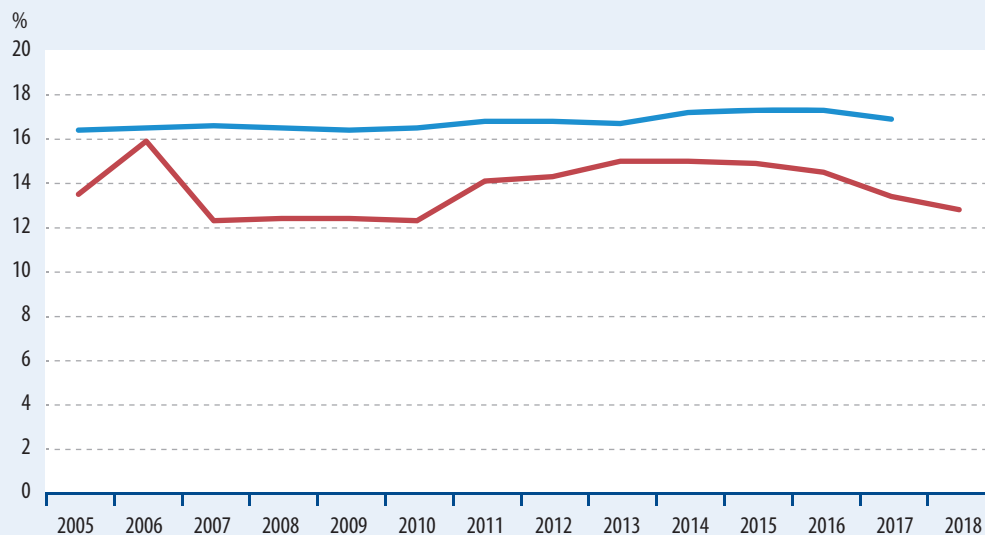
a) EU27 until 2009, EU28 from 2010.

* At-risk-of poverty rate shows the proportion of the population living in households that have an income level below 60% of the median equivalised disposable income.

Source: EU-SILC, Eurostat publishes data on its website based on the year of survey.

! *At–risk–of–poverty rate has decreased over the last three years in Hungary.*

Definition At-risk-of-poverty rate: shows the proportion of the population living in households with income of less than 60% of the median equivalised disposable income. Median income is defined by ranking people based on their income and the median income will be the value separating the higher half from the lower half of this ranking.

Persistent at-risk-of-poverty rate: shows the proportion of people living in households with income of less than 60% of median equivalised income in both the reference year as well as at least two out of the three preceding years.

Relevance The National Sustainable Development Strategy states that the government should prioritise the problems of deprived social groups and regions and the reduction of poverty as these are important not only for the development of human resources but also for social inclusion. The strategy mentions income inequality as an important indicator illustrating the state and

development of the nation. The Europe 2020 strategy also prioritizes fighting against poverty. It is particularly important to draw attention to the income situation of vulnerable social groups (the unemployed, poor, disabled, sick, Roma, etc.) as they are at higher risk of poverty than other social groups. Poverty or ethnically based social exclusion, as stated by the National Sustainable Development Strategy, is one of the most serious obstacles to creating a solid, knowledge-based, healthy society. Government needs to address the problems of deprived social groups and regions and the reduction of poverty, which is important not only for human resource development but also for social inclusion. Therefore, complex programs covering education and training, health care, economic development and housing are needed.

We examine this phenomenon with a relative indicator that represents income poverty and is the oldest common indicator used by EU countries.

At-risk-of-poverty rate in the European Union, 2017, %

RO	23.6
BG	23.4
LT	22.9
LV	22.1
ES	21.6
EE	21.0
IT	20.3
EL	20.2
HR	20.0
LU	18.7
PT	18.3
UK	17.0
EU28	16.9
MT	16.7
DE	16.4
BE	15.9
SE	15.8
CY	15.7
IE	15.6
PL	15.0
AT	14.4
HU	13.4
FR, SI	13.3
NL	13.2
DK, SK	12.4
FI	11.5
CZ	9.1

Figure 1.5.2 At-risk-of-poverty rate by age
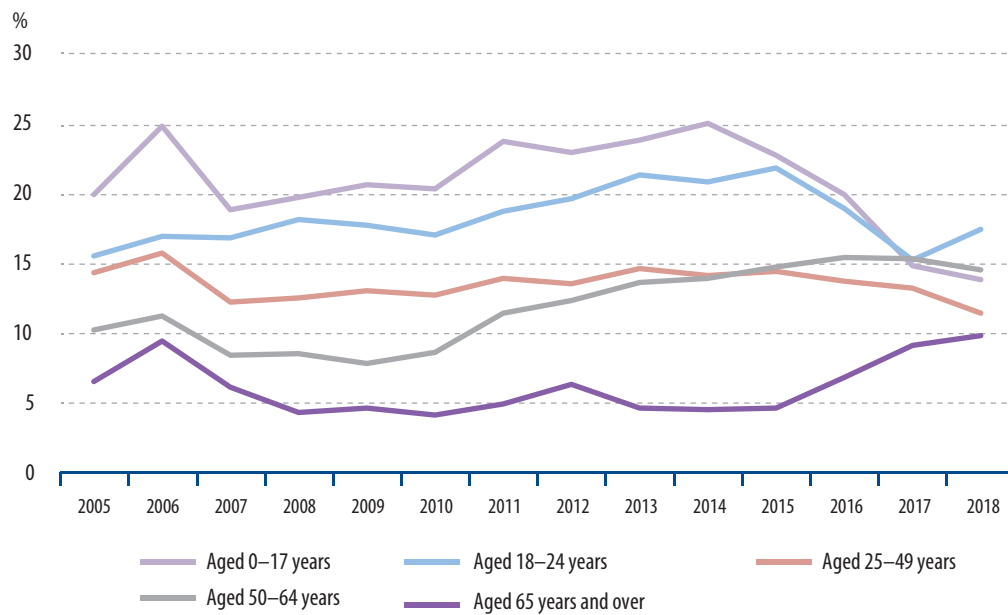
At-risk-of-poverty rate was highest for the 18–24 age group and lowest for the oldest age group. The situation of the youngest age group (0–17 years) has improved, while that of the elderly has deteriorated over the last three years.

Analysis As regards poverty rate, Hungary is in a better position than the EU average and in the narrower region only the Czechia, Slovakia and Slovenia achieved better results in 2017. However, the value of the indicator increased in Hungary after 2010, and then decreased year by year from 2014. The gender gap in Hungary is slightly higher than the average in the Member States and is in the opposite direction: in our country, women were in a better position until 2015, while in most EU Member States that was the case for men; but in 2017 this indicator was more favourable for men in Hungary as well. The proportion of people living in persistent at-risk-of-poverty is also lower in Hungary than the EU average. However, given that the Hungarian average income level is one of the lowest in the member states of the Union, this is not a favourable situation in the absolute sense.

At-risk-of-poverty rate shows marked differences between age groups. Monetary poverty mostly affected young people aged 0-17 and 18-24 and those aged 50-64, according to the latest results. In 2018, at-risk-of-poverty rates in these age groups were 13.8%, 17.4% and 14.5% respectively in Hungary. People aged 65 and over are in the best position, with at-risk-of-poverty rate of 9.8% in their group.

The persistent at-risk-of-poverty rate is naturally lower than the poverty rate for the given year. Its value has been around 6% in the last two years, slightly more favourable than the European Union average, which has exceeded 10% during the same period. At the same time, it also indicates that relatively many people in Hungary live near the long-term poverty line and that they fluctuate between affected and unaffected groups as a result of minor changes in living conditions. Similar to the poverty rate, long-term poverty is more prevalent among men in Hungary, while women are more at risk in the European Union as a whole.

International outlook In 2017, 16.9% of the population in the European Union lived below the relative income poverty line. The poverty rate was fairly stable between 2005 and 2010, at 16.4% and 16.5% respectively, but has increased slightly since 2011. In 2017, Romania, Bulgaria, Spain, the Baltic States, Greece and Italy were among the worst-performing countries in terms of poverty. These countries had poverty rates exceeding 20%. Czechia reported the lowest value (9.1%). Hungary at 13.4% was below the international average.

Figure 1.5.3 Changes in persistent at-risk-of-poverty rate

%

a) EU27 until 2009, EU28 from 2010.
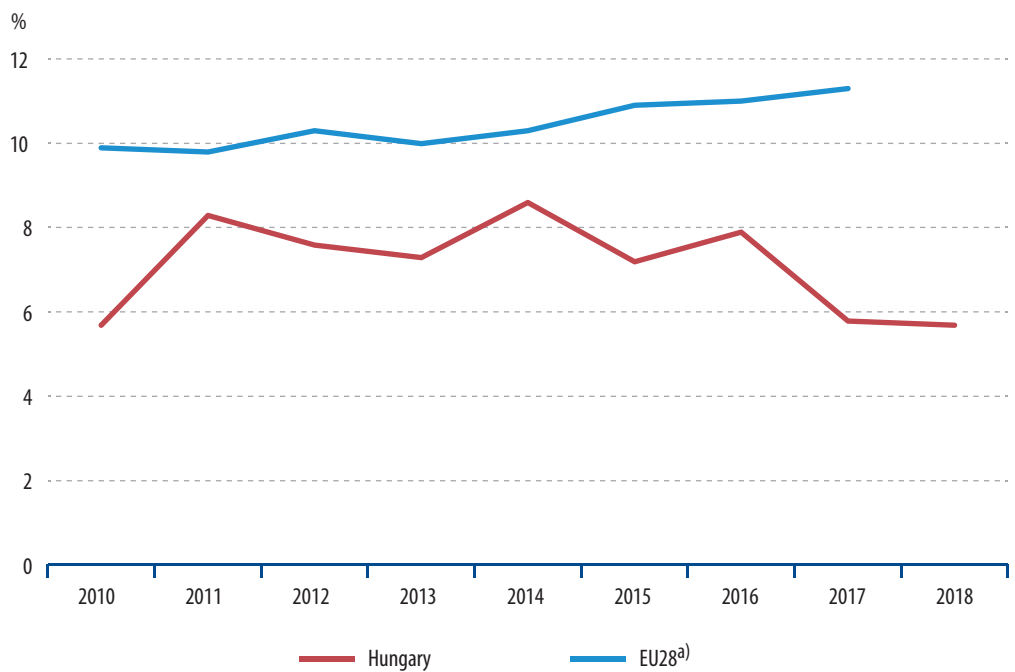
> ! **Persistent at–risk–of–poverty rate is lower in Hungary than in the European Union.**

Summary tables (STADAT)
**2.2.2.1 Indicators of poverty or social
exclusion, reference year (2010–)**

Indicators of sustainable development for Hungary, 2018

Deprivation – Severe material deprivation

Since 2005

Since 2017

Figure 1.6.1 Severe material deprivation rate
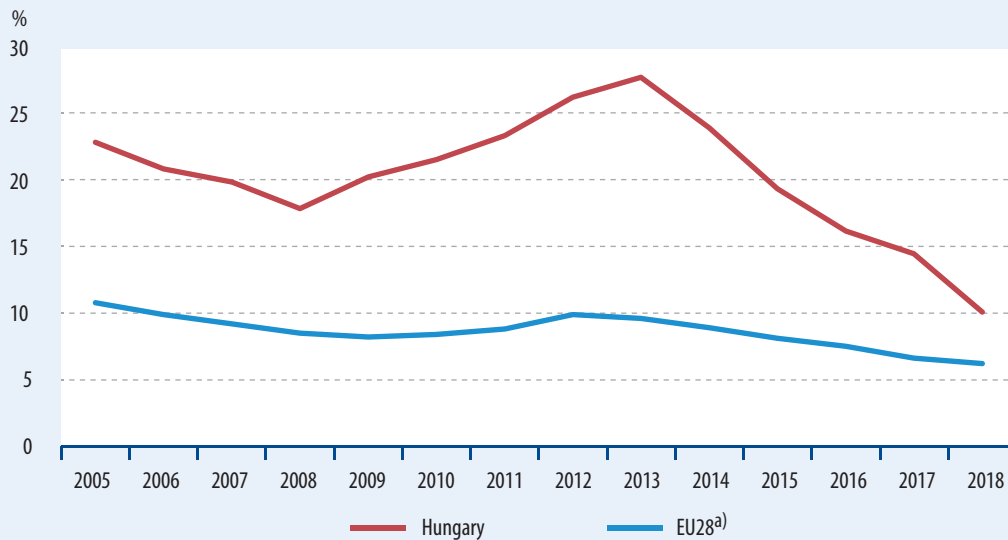
a) EU27 until 2009, EU28 from 2010.

Source: EU-SILC, Eurostat publishes data on its website according to the year of the survey.

! *In the last five years, the proportion of people living in severe material deprivation has decreased in Hungary.*

Definition Severe material deprivation rate refers to the share of the population that is unable to afford at least four out of the following nine items:
1) arrears on mortgage, rent utility bills payments;
2) inability to keep home adequately warm;
3) inability to afford a meal with meat, chicken, fish (or vegetarian equivalent) every second day;
4) inability to afford paying for one week annual holiday away from home;
5) cannot afford a personal car;
6) cannot afford a washing machine;
7) cannot afford a colour TV;
8) cannot afford a telephone;
9) inability to meet unexpected financial expenses.

Relevance An inseparable part of the concept of sustainable development is the requirement that all sections of society have access to the goods and services that are part of an average acceptable standard of living. Sustainability is called into question if the prospect of advancement is only selectively possible and there are social groups that are unable to meet their basic needs. The Europe 2020 strategy also prioritizes fighting against poverty or social exclusion. As one of the most important indicators the proportion of

people affected by severe material deprivation informs us of the state of this struggle.

Analysis Hungary is in a less favourable position than the EU average in terms of the proportion of people affected by severe material deprivation. While the latter has been consistently below 10% in the last ten years, Hungarian results have been above the EU average each year. The indicator changed less markedly at the EU level than in Hungary. The proportion of people experiencing severe material deprivation in the country declined sharply from 2005 to 2008, and then started to increase rapidly from 2008 to close to 28% by 2013. Since 2014, there has been a significant decline, and in 2018, the proportion of people affected by severe material deprivation was 10.1%, along with a 4.1 percentage point decrease.

Severe material deprivation rate varies significantly by age groups. Deprivation is most likely to affect the 0-17 age group and young people aged 18-24. In Hungary, deprived persons

Severe material deprivation rate in the European Union, 2017, %

1.6

BG	30.0
EL	21.1
RO	19.7
▶ HU	14.5 ◀
LT	12.4
CY	11.5
LV	11.3
HR	10.3
IT	10.1
SK	7.0
PT	6.9
▶ EU28	6.6 ◀
PL	5.9
IE	5.2
ES, BE	5.1
SI	4.6
EE, FR, UK	4.1
CZ, AT	3.7
DE	3.4
MT	3.3
DK	3.1
NL	2.6
FI	2.1
LU	1.2
SE	1.1
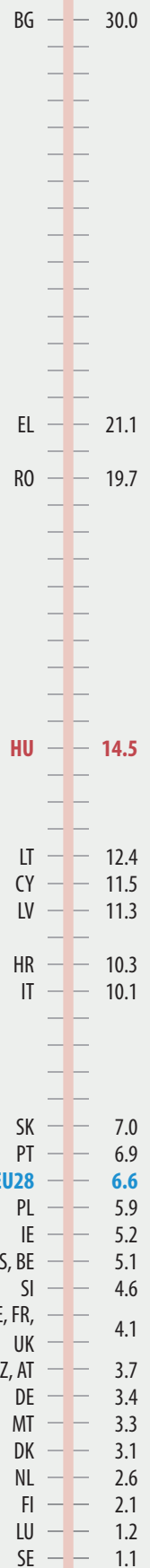
Figure 1.6.2 Severe material deprivation rate by age
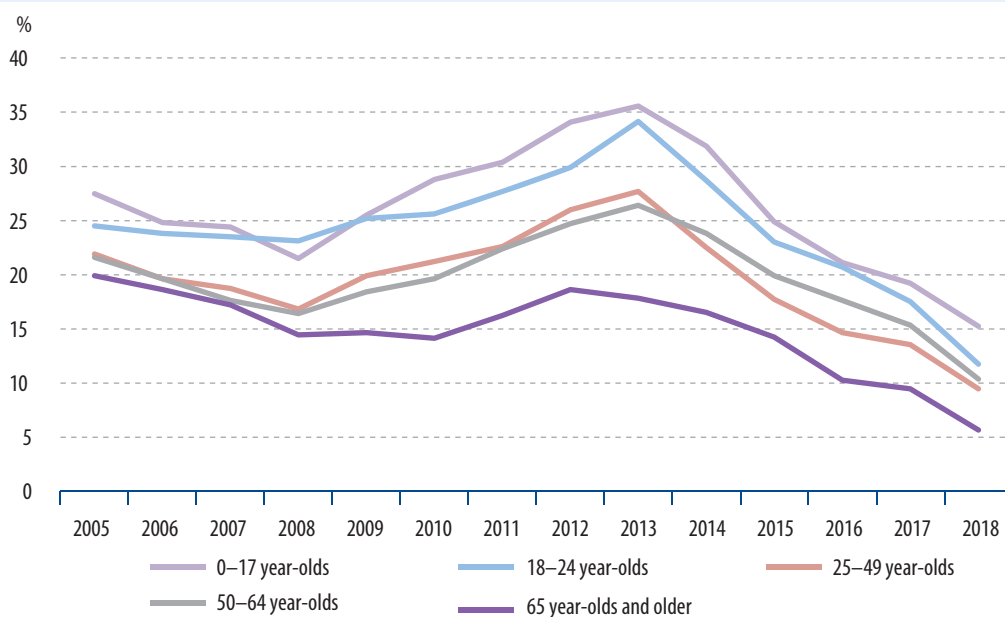
> **!** *The youngest age group has the highest rate, and the oldest has the lowest rate of people affected by severe material deprivation.*

accounted for 15.2% and 11.7%, respectively, of these age groups in 2018. Values measured in other age groups remain around or below the national value. People aged 65 and over are in the best position, with 5.6% severe financial deprivation rate.

International outlook In 2017, 6.6% of the European Union's population lived in households affected by severe financial deprivation. For the

EU as a whole, we are not experiencing such strong processes as in Hungary, but the trends are similar: the proportion of people experiencing severe material deprivation decreased until 2008-2009 and then increased up to 2012.

1.7

People living in jobless households

Since 2003

Since 2017

Figure 1.7.1 Percentage of persons living in jobless households by age group

Hungary, 0–17 year-old
Hungary, 18–59 year-old
EU28, 0–17 year-old
EU28, 18–59 year-old
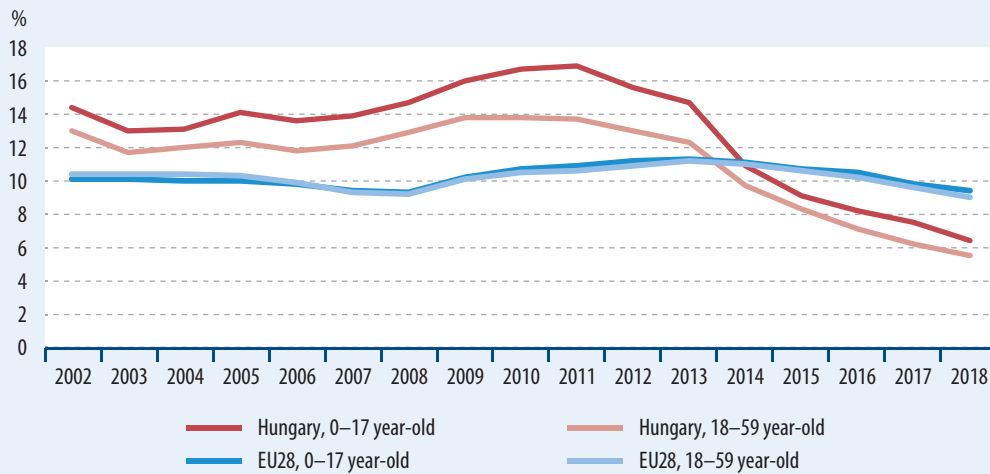
! *The proportion of people living in jobless households in Hungary has fallen below the EU average after 2013.*

Definition The indicator of those living in jobless household shows what proportion of people live in such households where no member is employed (i.e. all members of the household are either economically inactive or unemployed) in the given population group. Calculation of this indicator, in agreement with ILO methodology, ignores households with only students aged 18–24.

Relevance Persons living in jobless households have unfavourable prospects and the risk of exclusion is high. Affected social groups have a greater chance of passing on disadvantages and reproducing poverty, which must be avoided to ensure sustainability.

Analysis In the first half of the 2000s, more than a tenth of the surveyed population lived in jobless households, meaning that the given household did not have any income from work to support its subsistence. This rate inceased significantly as a result of the crisis: reaching its highest level (13.8%) for adults (18–59 years old) in 2009–2010, and peaking for children (0–17 years old) in 2011, at close to 17%. From 2012 onwards, due to positive changes in labour market processes, a continuous improvement has been observed. Initially, public works programs played a key role in improving the indicator, and later changes in the primary

labour market also contributed to the decline. In 2018, 6.4% of children and 5.5% of adults lived in jobless households. This proportion is typically higher for children than for adults. Along with general improvement, the values converged until 2015, but from 2016, the gap has been widening slightly again. Values are higher for women than men, also relating to career interruptions due to child care and the replacement of work income with child care allowance, which increases the value especially for single-parent women. The gap between men and women has narrowed to 0.5 percentage point by 2018, compared with 1–2 percentage points in the 2000s.

There are significant regional differences. In the worst performing area, Northern Hungary, the proportion of people under 18 years of age living in jobless households was close to 30% in the years around the crisis, and even exceeded that in 2012. This rate was halved by 2017, largely due to new public works programs, nevertheless, territorial disparities remained significant. This is not only related to territorial differences in employment but also to different demographic characteristics of households. This rate is well below 10% in regions traditionally performing

Percentage of people living in jobless households in the European Union in the 0–17 age group, 2018, %

BE	11.8
FR	11.5
IE	11.4
UK	11.1
BG	10.8
SE	10.4
EU28, LT	**9.4**
IT	9.2
DE	9.1
ES	8.9
EL	8.7
LU, RO	8.5
HR, LV, PL	8.0
DK	7.5
SK	7.2
EE	6.9
CY, MT, AT	6.6
HU	**6.4**
NL	6.3
FI	5.8
CZ	5.7
PT	5.1
SI	2.5
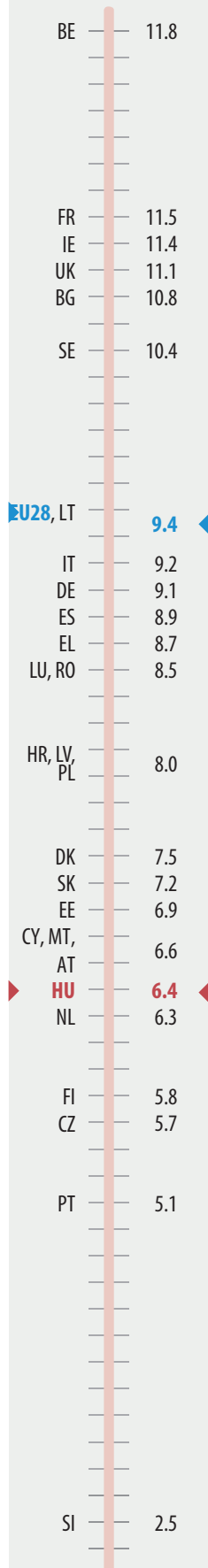
Figure 1.7.2   Percentage of people living in jobless households aged 18–59 by sex

Legend: Hungary, male — Hungary, female — EU28, male — EU28, female
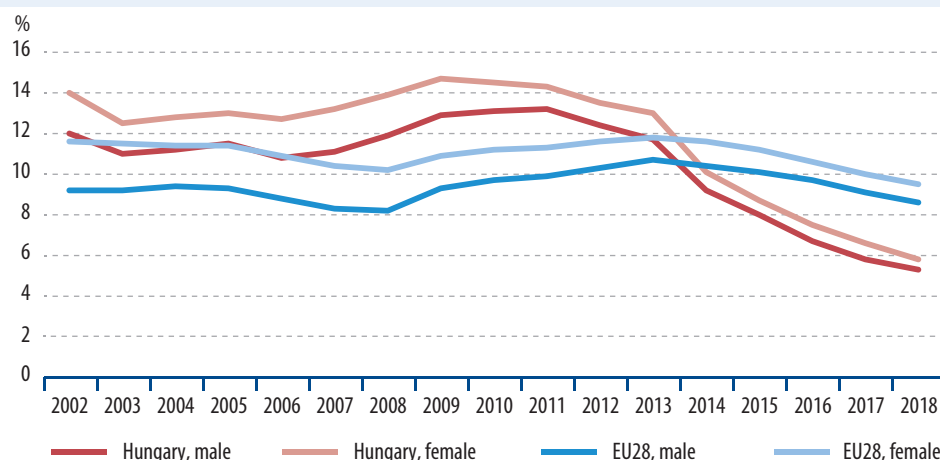
> **!** *In the 18–59 age group, the tendency to diverge from the EU average has decreased for both genders until 2013. In 2014 there was a turnaround, hence the Hungarian data is more favourable.*

Figure 1.7.3   Proportion of people living in jobless households by region and age group, 2018

Legend: 0–17 year-olds   18–59 year-olds
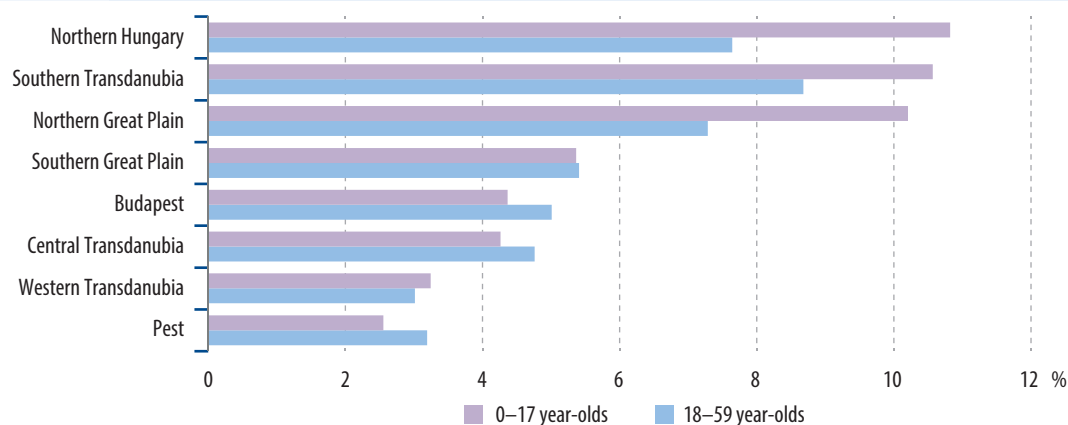
Source: HCSO Labour Force Survey.

> **!** *Compared to more favourable regions, the proportion of children living in jobless households is three to four times higher in disadvantaged areas.*

better in labour market terms, i.e. in Budapest, Pest (only 2.6%!) and Western and Central Transdanubia and several times higher in regions with fewer job opportunities and more children. The worst performing region, Northern Hungary, had a figure of 10.8%.

International outlook Since 2014, the proportion of those living in jobless households in Hungary has been below the European Union average. Following the crisis, employment in Hungary started to recover faster than the EU average. This indicator increased until 2013 in the Union, while in Hungary the improvement begun in 2012 and sharply accelerated after 2014. In 2018, the proportion of people living in jobless households was

lower than the EU28 average by 3.5 percentage points for those aged 18-59 and by 3.0 percentage points for those under 18. We improved our position in case of children, being the fourth worst in Europe in 2012 and 2013, and the sixth best in 2017.

1.8

Equipment of dwellings – Dwellings without bathroom   Since 1999

Since 2015

Figure 1.8.1 Proportion of dwellings without bathroom

RO	27.8
LV	12.2
LT	11.5
BG	10.4
EE	7.0
HU	**3.5**
PL	2.9
EU28	**2.1**
DK	2.0
HR	1.4
PT	1.2
SK	0.9
CY, FR, IT	0.6
EL, FI, LU	0.5
BE	0.4
SI, UK, AT, CZ	0.3
IE	0.2
MT, ES, NL	0.1
SE, DE	0.0
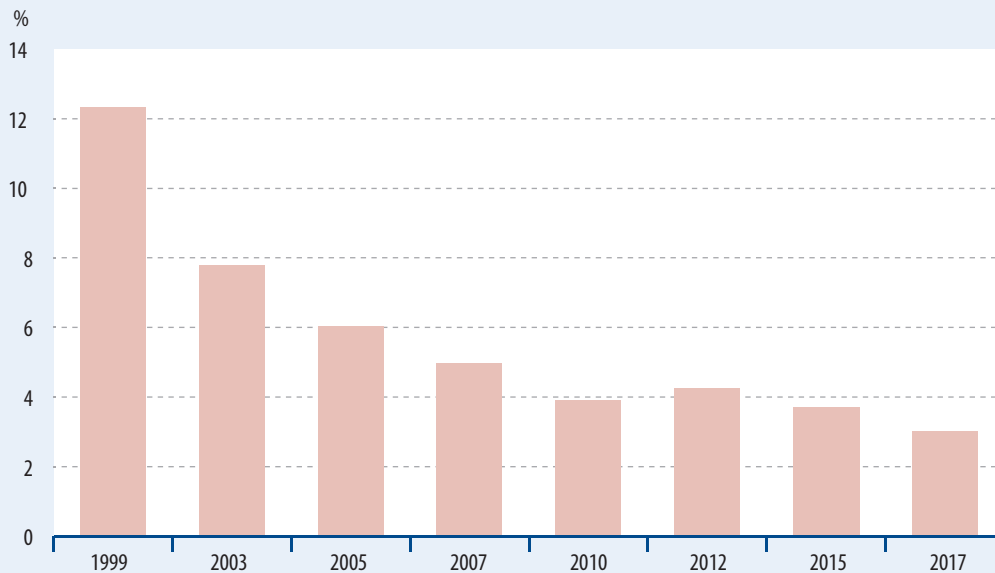
! *The proportion of dwellings without bathrooms is steadily declining, standing at 3.1% in 2017.*

Definition Dwelling with bathroom or at least a washbasin. Individual households are classified into quintals based on the total net income of the household.

Relevance The lack of a bathroom indicates a number of problems with the quality of the dwelling and also reflects the general development of living conditions. Strengthening social cohesion and supporting disadvantaged groups is a priority for sustainability, this is one of its indicator numbers. Examining the indicator according to income fifths is suitable for observing social differences in housing conditions, and data by region highlight regional differences.

Analysis The proportion of dwellings without bathrooms is steadily declining, still exceeding 12% in 1999 and 3.1% in 2017. The indicator shows significant differences in both income quintals and territorial units.

The share of non-bathroom dwellings in the lowest fifth of households was 24.4% in 1999 and 11.8% in 2017. At the regional level, Northern Hungary had the highest (6.6%) and Budapest (0.3%) the lowest value in 2017.

International outlook In 2017, 2.1% of the EU population lived in dwellings without bathroom. Hungary exceeded the EU value by 1.4 percentage points. No dwellings without bathroom are in Germany and Sweden and Romania recorded the worst value (27.8%).
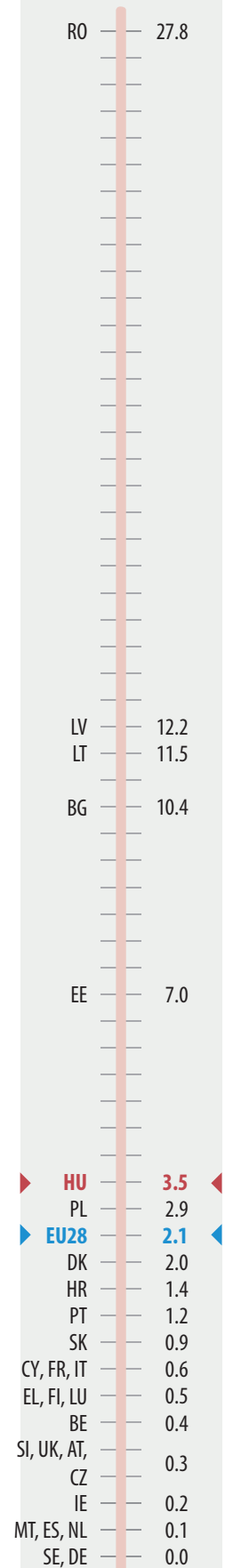
Percentage of the total population in the European Union living in dwellings with no bathroom or shower, 2017, %

Figure 1.8.2   **Proportion of dwellings with no bathroom by household income quintile**

Figure 1.8.3   **Proportion of dwellings without bathroom by region, 2017**
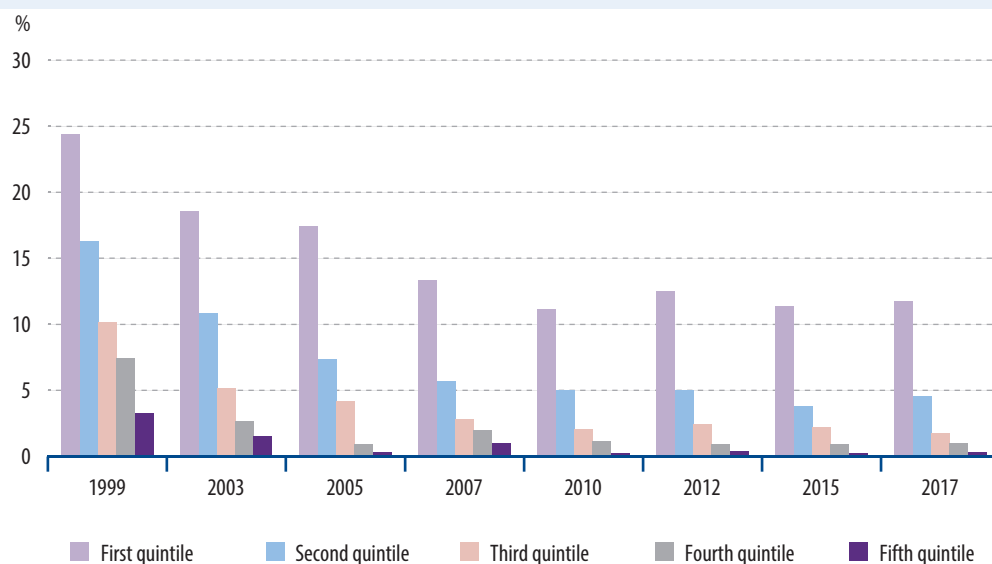
Ownership of private bathrooms is strongly influenced by the income situation of households, and the proportion of homes without bathrooms is higher in lower income households.
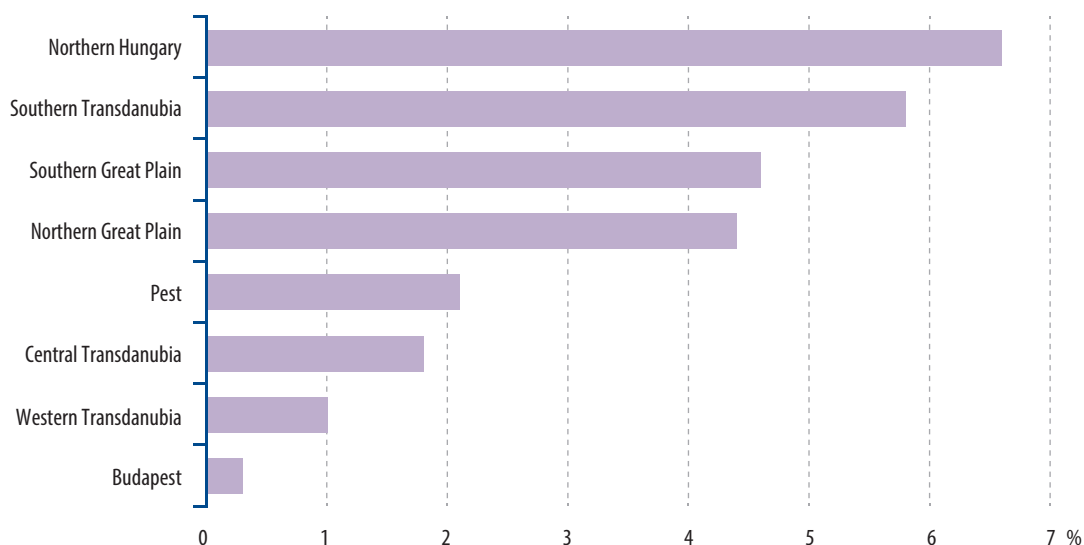
There are significant differences in bathroom ownership, with the exception of Budapest being more than six times the difference between the best and worst performing regions.

Summary tables (STADAT)
2.2.3.2 Data on housing by activity status, deciles, regions and type of settlements

1.9

Satisfaction with living environment **Since 2013**

Since 2015

Figure 1.9.1 Average values of satisfaction with the quality of the living environment on a scale from 0 to 10

AT	8.4
DK	8.2
NL, IE	8.0
UK, FI, LT, LU	7.8
DE, SE, SI	7.7
BE, FR, PL	7.6
CZ	7.5
RO	7.4
▶ EU28 ◀	7.3
LV, ES	7.2
MT	7.1
SK	6.9
EE	6.8
▶ HU ◀	6.5
HR, PT	6.3
EL	6.2
CY, IT	6.0
BG	5.2
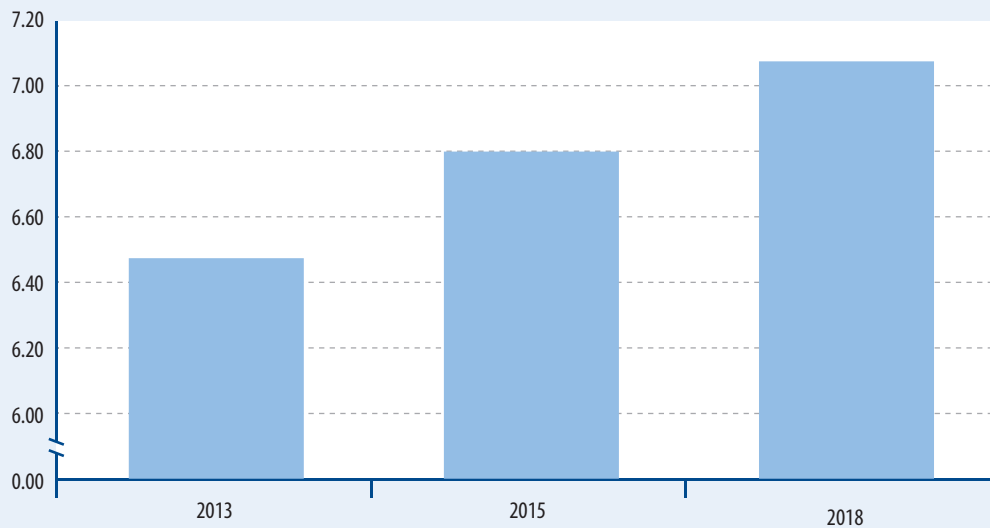
! **From 2013 to 2018, satisfaction with the quality of the living environment continuously improved among the population.**

Definition Satisfaction with living environment is a subjective indicator that uses a scale from 0 to 10 to quantify how satisfied people are with the quality of their living environment.

Relevance One of the main goals of sustainable development is to create a more livable environment and to address the resulting problems (air pollution, waste production, noise, etc.), which also have a huge impact on the quality of life of the individual. This indicator illustrates how people subjectively evaluate their living environment.

Analysis The Hungarian population was surveyed most recently in 2018 on satisfaction with the quality of their living environment. The average score was 7.1 at the time, showing a slight improvement (0.3 points) compared to 2013.

There are large regional differences within Hungary. Compared to other regions, people are most satisfied with the quality of their living environment in Central Transdanubia

and Western Transdanubia (7.6). Southern Transdanubia recorded the lowest value (6.54). By legal status of settlement, county city dwellers were most satisfied with the quality of their environment (7.46), followed by Budapesters (7.29) and non-county city dwellers (7.11). Village dwellers were the least satisfied (6.64). Examining previous years' data, it is striking that earlier villagers were more satisfied with their living environment than Budapesters.

International outlook Internationally comparable data are available for 2013. Our results show that, in the European Union, Austrians (averaging 8.4) were the most and Bulgarians the least satisfied (at 5.2) with the quality of their environment. The average for the EU28 Member States was 7.3. Respondents in Northern Europe (Denmark, Sweden and Finland) are more satisfied, while in Italy, Greece or Slovakia, for example, respondents consider their living environment to be less favourable. Estonia, Croatia and Portugal had average values similar to Hungary.
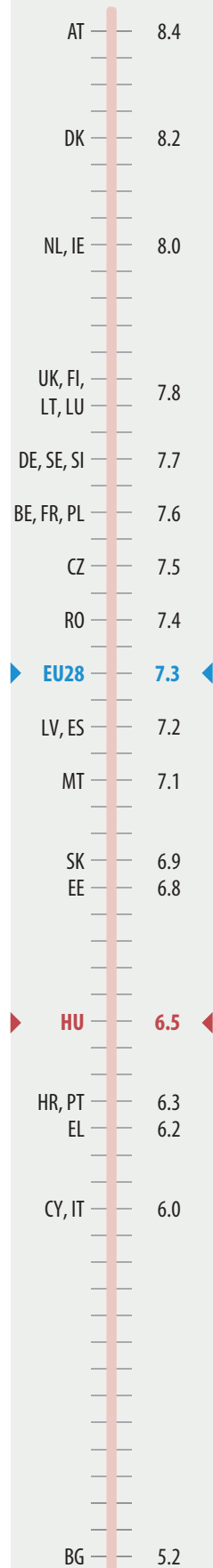
Average value of satisfaction with the living environment in the European Union, 2013, points (0–10)

Figure 1.9.2   **Average value of satisfaction with the living environment by regions, 2018**
(on a scale from 0 to 10)

Average value

- 6.50 – 6.79
- 6.80 – 7.09
- 7.10 – 7.39
- 7.40 –
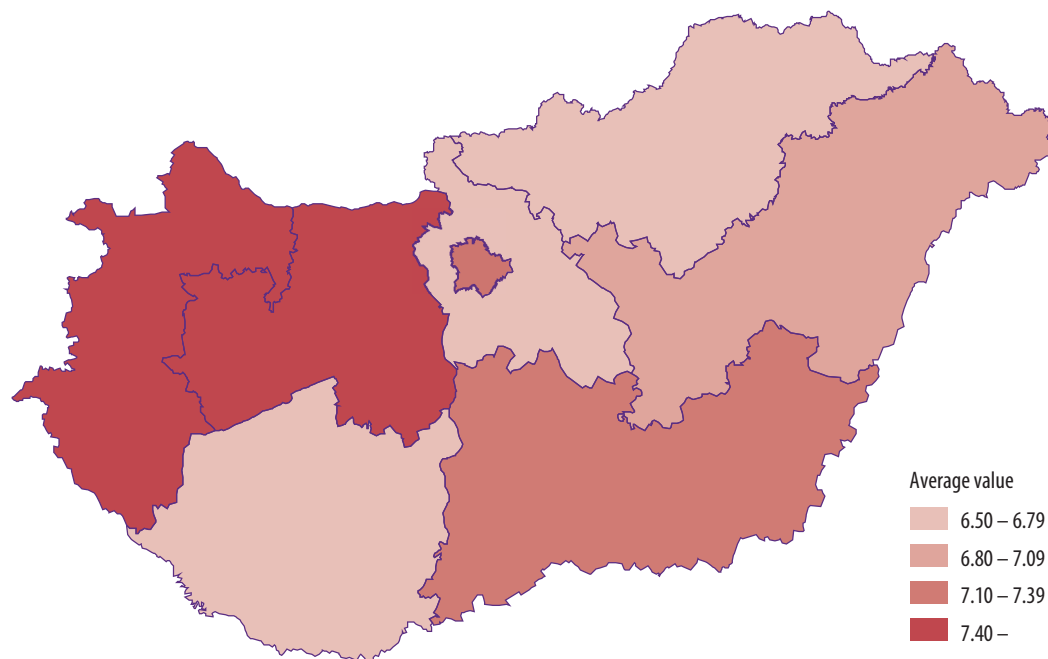
!   *People in the northwestern regions are most satisfied with the quality of their living environment.*

Summary tables (STADAT)
2.2.4 Subjective well-being
2.2.4.1 Satisfaction

Life expectancy

Since 2005

Since 2016

1.10

ES	—	83.4
IT	—	83.1
FR	—	82.7
SE	—	82.5
MT	—	82.4
IE, CY	—	82.2
LU	—	82.1
NL	—	81.8
AT, FI	—	81.7
BE, PT	—	81.6
EL	—	81.4
UK	—	81.3
SI	—	81.2
DE, DK	—	81.1
▸ **EU28**	—	**80.9** ◂
CZ	—	79.1
EE	—	78.4
HR	—	78.0
PL	—	77.8
SK	—	77.3
▸ **HU**	—	**76.0** ◂
LT	—	75.8
RO	—	75.3
LV	—	74.9
BG	—	74.8

Figure 1.10.1 Changes in life expectancy at birth and healthy life expectancy

Life expectancy, male
Life expectancy, female
Health, male
Health, female
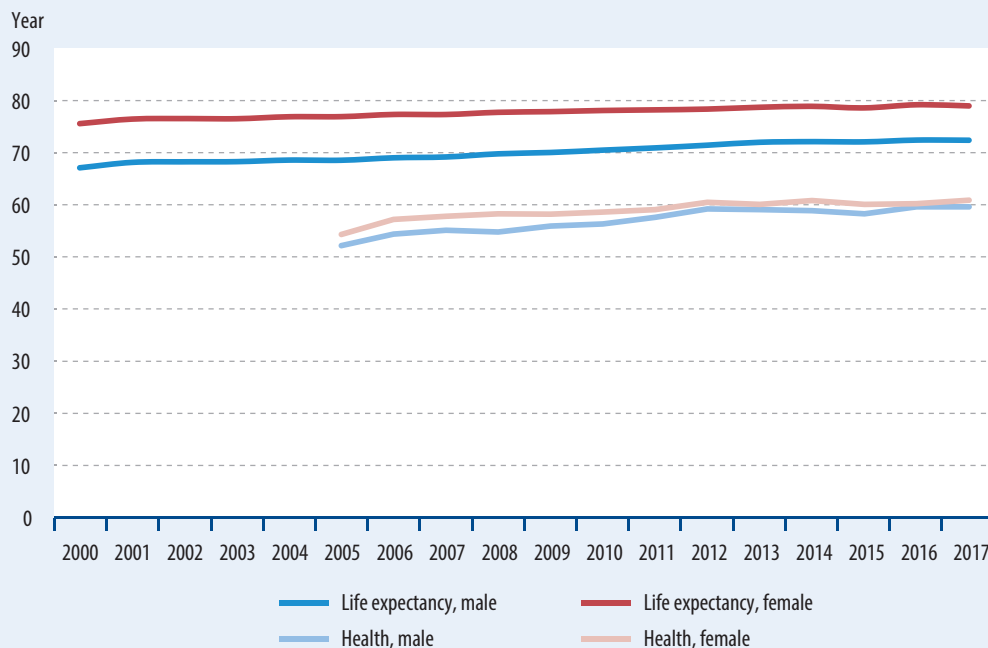
> **!** *In 2017 life expectancy at birth was 72.4 years for men and 79.0 years for women in Hungary.*

Definition The indicator of life expectancy at birth expresses the average number of years a newborn can expect to live under the mortality conditions of the given year. The indicator of healthy life expectancy at birth specifies the number of healthy years a person can expect at birth. The calculation of this complex indicator is based on combining mortality and morbidity data. The indicator of healthy life expectancy (healthy life years) expresses the number of years a person can expect at birth to spend without activity limitation due to health reasons. The values of the indicator are calculated for women and men separately on the basis of the age-specific mortality data and the prevalence of persons who are limited in regular daily activities (due to health reasons) originating from the EU-SILC (Statistics on Income and Living Conditions, in Hungary HKÉF) survey. Healthy life expectancies are independent of the number of population and of its age structure, therefore comparison can be made between different population sub-groups: e.g. sexes, socio-professional categories, as well as between countries within Europe. The indicator of life expectancy at the age of 65 shows how many further years of lifetime a person can expect at the age of 65. The healthy life expectancy (healthy life years) at the age of 65 expresses the number of years a person can expect at the age of 65 to spend without activity limitation due to health reasons.

Relevance Life expectancy is a fundamental indicator of the socio-economic development and the population health status of a country. Life expectancy also describes the mortality conditions of the population; therefore, an increasing lifetime is associated with the improvement of health status and the reduction of mortality. The health status of the population is one of the key factors of available human resources; therefore, its improvement is an important guarantee for sustainable development as well. According to the statement of the framework strategy, the health status of the Hungarian people is poorer than it can be expected at our level of economic

Life expectancy at birth in the European Union, 2017, years
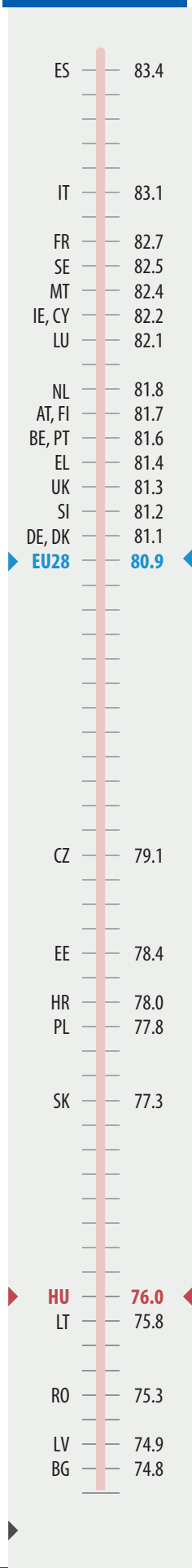
Figure 1.10.2   Life expectancy and healthy life expectancy at the age of 65
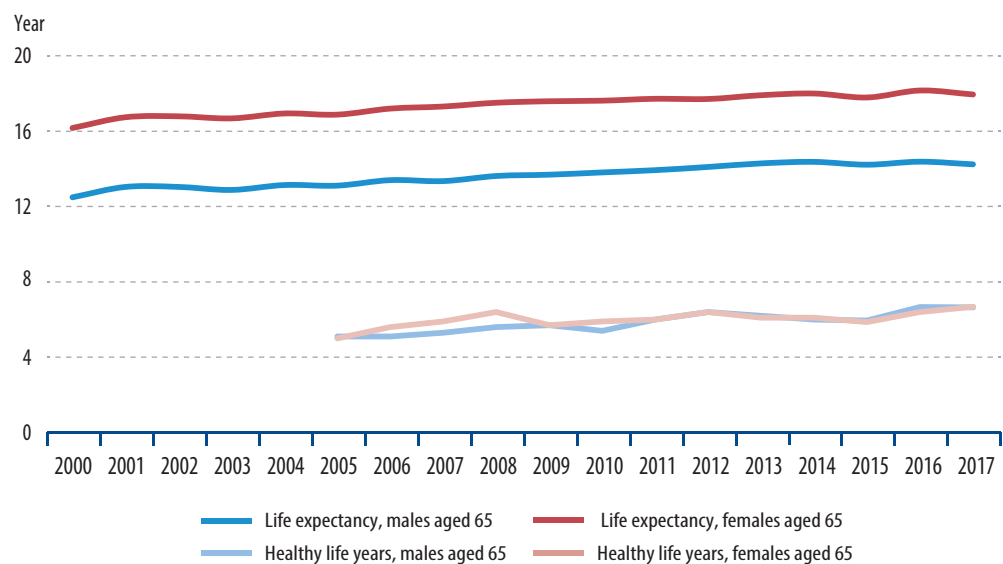
> **!**   *Between 2000 and 2017, life expectancy for both sexes at age 65 increased by 1.8 years, however, in 2015 and 2017, the life prospects of both women and men also declined slightly.*

development and that of the citizens living in the neighbouring countries. As for the reduction of mortality, the aim is to catch up with average of the Central European Region, as well as to decrease the number of chronic, non-infectious diseases that comprise the vast majority of disease burden and largely depend upon lifestyle, and to mitigate environmental risk factors and health-risk behaviour forms.

Analysis According to the data of the Hungarian Central Statistical Office, the value of life expectancy at birth rose by 5.3 years for men and 3.4 years for women between 2000 and 2017. In Hungarian history the highest value of this indicator was recorded in 2016: 72.4 years for men and 79.2 years for women. However, the generally improving trend of mortality has come to a standstill in recent years; therefore, the value of life expectancy at birth slightly decreased for both sexes in 2015 and 2017, compared to the previous year. Due to the greater increase in men's life expectancy between 2000 and 2017, the gap between the two sexes narrowed from 8.5 years to 6.6 years, which is still high in European terms. In the background of equalisation is among others, the decreasing difference between the health-conscious attitudes of the two sexes. The generally increasing trend of life expectancy can be explained with the improvement of living conditions, the quality improvement of medical

science and the expansion of health-conscious attitudes. The life expectancy of females is higher all over the world, which can be explained by genetic and hormonal reasons as well as by different lifestyles. In Hungary healthy life expectancy at birth was 59.6 years for men and 60.9 years for women in 2017. The value of the indicator is lower than the EU average (63.5 for men and 64.2 for women in 2016); however, it is the highest Hungarian value for both men and women that has ever been measured.

Comparing the healthy life expectancy values, we can see that women can expect a longer healthy period. However, the proportion of the healthy period within the entire lifetime is more favourable for men: they spend 82% of their life in health, compared to 77% for women. Therefore, in case of women both the periods spent healthily and in illnesses are longer than in case of men. In 2016 the value of life duration expectable in health at the age of 65 was lower for both men and women than the average of the EU28 (9.8 years for men and 10.1 years for women). Life expectancy at the age of 65 also increased – though only to a slight extent but similarly to the life expectancy at birth - between 2000 and 2017; during the period under study life expectancies for both sexes extended by 1.8 years. In 2017 men and women at the age of 65 could expect 14.2 and 18.0 years on an average, respectively. As a result, the difference between the two sexes

Figure 1.10.3 Life expectancy at birth by sex and region, 2017
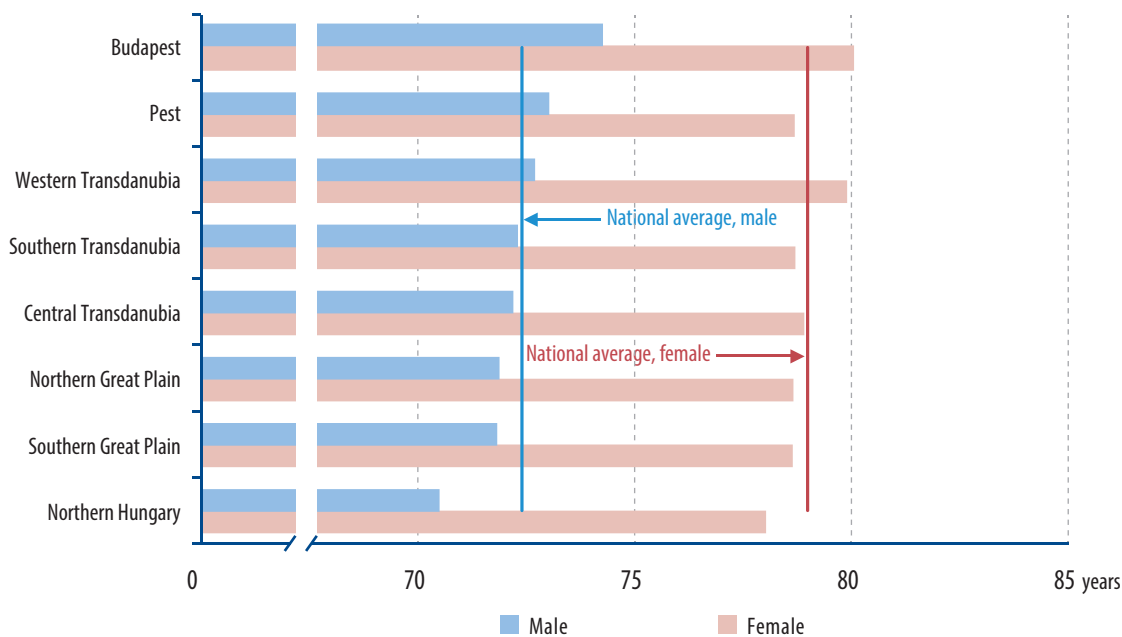
> **!** *The gap between life expectancies of men in Budapest and Northern Hungary was 3.8 years, while that between life expectancies of women was 2.0 years in 2017.*

remained unchanged and was around 3.7 years continuously between 2000 and 2017.

Between 2000 and 2017 life expectancy at birth was increasing in each region. The greatest improvement for men could be observed in Pest county with 6.3 years of increase in life expectancy at birth, while in Northern Hungary this value was only 4.3 years. The most significant increase for women was measured in Budapest, with 4.1 years of increase in life expectancy at birth, while this value was 2.8 years in Northern Hungary. In 2015, one of the years of considerable death surplus, the largest decline for men was measured in Central Transdanubia with a 0.5-year decline in life expectancy at birth, while in case of women a 0.9-year decrease was registered in Pest county compared to 2014. Between 2000 and 2017 even life expectancy at the age of 65 grew in all regions. The largest improvement for men (2.2 years) was measured in Budapest and for women (2.3 years) in Southern Transdanubia. In 2015 the greatest decrease for men was measured in Northern Hungary (0.2 year) and for women in Pest Region (0.7 year).

International outlook In 2017 life expectancy at birth in Hungary was 7.4 years lower than is Spain, which country is at the forefront in the EU28. Average life expectancy at birth in the EU28 Member States was 78.3 years for males

and 83.5 years for females, which totalled 5.8 years more for men and 4.2 years for women than in Hungary. In 2017 life expectancy at the age of 65 in Hungary was 3.2 years lower than the EU28 average: 18.1 years for men and 21.4 years for women. 65-year-old men and women could expect 3.6 years and 3.0 years less respectively, compared to the average of the EU Member States. Unlike life expectancy, healthy life expectancy at birth was higher for men than women in certain European countries, however, it can be explained by the different cultural backgrounds and subjective elements. (During the calculations, the occurrence of limitation arising from health status is measured with an opinion-based question.) In the Central-Eastern European countries, where the indicator values are higher for women than for men, the difference can be as much as 2.2-4.6 years; however, in more developed countries the female 'advantage' is not significant. In European comparison, in Hungary the difference between men and women in 2016 was 0.7 year in line with the EU average.

Summary tables (STADAT)
6.1.7 Average life expectancy at birth, average age

Vertical scale (left side):

IE	83.2
CY	78.0
IT	77.0
SE	76.5
NL	76.1
MT	75.2
UK	74.8
BE	74.4
ES	74.2
EL	74.0
DK	71.2
LU	71.0
RO	70.9
AT	70.3
FI	70.1
▸ EU28 ◂	**69.7**
FR	67.4
SK	67.0
BG	66.5
DE	65.4
SI	65.3
CZ	61.8
HR	60.5
▸ HU ◂	**59.1**
PL	58.8
EE	52.5
PT	48.8
LV	44.2
LT	43.7

Self-perceived health

Since 2005

Since 2017

Figure 1.11.1 **Self-perceived health (aggregate proportion of those placing themselves in the health category very good or good, EU-SILC***

%

Legend: Hungary — EU28[a)]
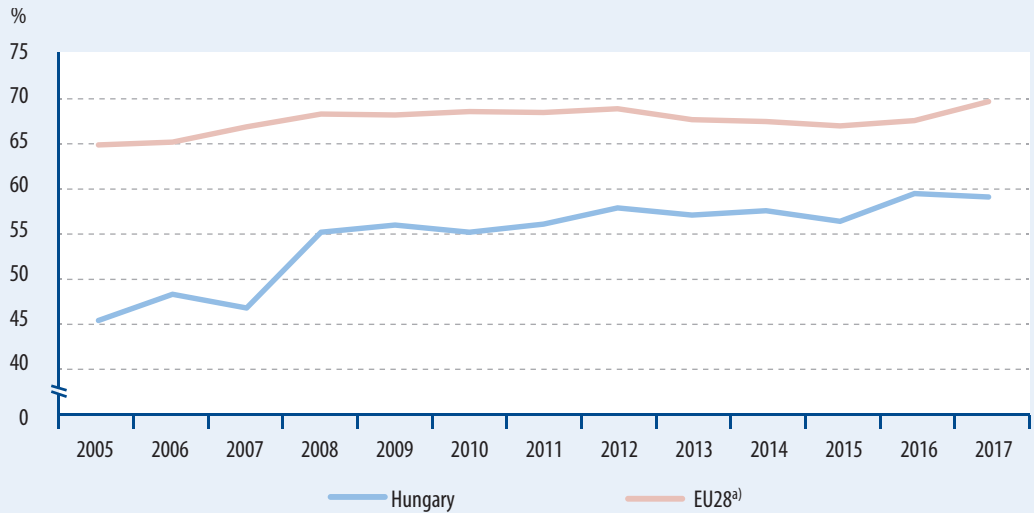
a) Between 2005 and 2009 EU27.
* Based on the survey of European Union Statistics on Income and Living Conditions (EU-SILC).

! *The self-perceived health of the Hungarian population is approaching the EU average compared to 2005, but, even so, the lag was 11 percentage points in 2017.*

Definition The most frequently used indicator in population surveys for characterising health status is the self-assessment of health status (self-perceived health), in which the respondent determines his/her health status on a five-grade scale. The range of answer options is from 'very good' to 'very bad'. When calculating income quintiles, the size and the structure of the household are also taken into account and the per capita income is used for calculation. By arranging the population in an increasing order according to their per capita income and dividing them to five equal parts, we can find that 20% of the total population belongs to each income quintile, the poorest to the first and the richest to the fifth quintile.

The source of the published data is the Household Budget and Living Conditions Survey (HBLS) of the Hungarian Central Statistical Office. The data recorded annually serve as the basis for the statistics of the European Union on harmonised income and living conditions (EU-SILC).

Combined categories of self-perceived health (very good and good together) in the European Union, 2017, %

Relevance Self-perceived health is a subjective indicator to characterize and measure the health status (indirectly the life quality) and is based on the individuals' own opinion of their health. This indicator is in close relation with the actual health status and life standard.

Analysis In 2018 the vast majority of the adult population (88%) was satisfied with their health status or, at least, evaluated it as 'fair'. A total of 61% assessed their health as good or very good. Men have a more positive opinion about their health than women; however, the mortality data and results of health behaviour examinations prove that, in general, women take more care about their health and prevention and follow a less hazardous life style (the prevalence of regular smoking, binge-drinking, excess weight and obesity is considerably higher among men). In 2018 a total of 64% of men and 58% of women considered their health status 'very good' or 'good'.

People in a very good income situation stated their health as 'very good' or 'good' in a higher proportion than those who are living on a lower

Figure 1.11.2 Self-perceived health by income quintile, 2018
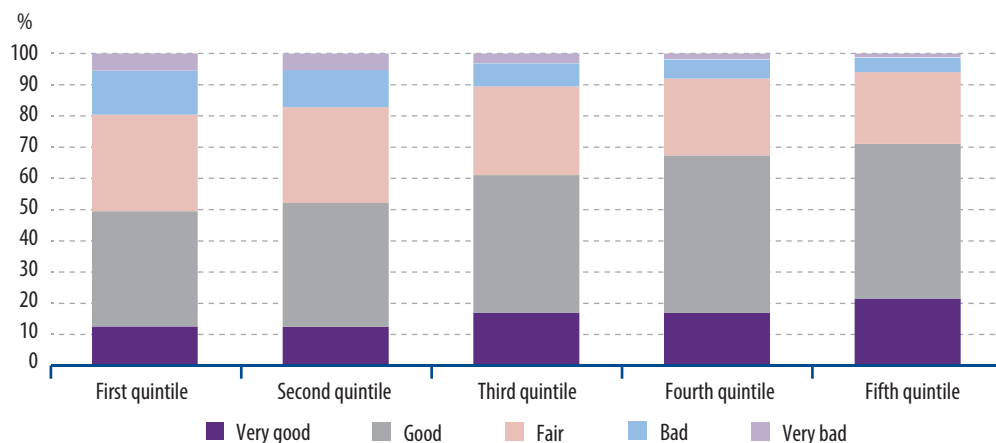
Source: Household Budget and Living Conditions Survey (HBLS).

! *People belonging to higher income quintiles deem their health situation more favourable.*

Figure 1.11.3 Self-perceived health by educational attainment, 2018

Source: Household Budget and Living Conditions Survey (HBLS).

! *People with higher educational attainment deem their health situation more favourable.*

income level. Only 5.8% of the individuals having a high income judged their health 'bad' or 'very bad', while 19.4% of people with low incomes were dissatisfied with their health. The difference between extreme income categories has not improved since 2010. An individual's health preservation and health-conscious attitude are influenced by educational attainment. People with tertiary education consider their health much better than people with primary or secondary education.

International outlook The EU-SILC survey has found out that, compared to the European average, a smaller proportion of the Hungarian population evaluated their health status as 'very good' and 'good' (in 2017 a total of 57%, compared to the 70% average of the EU28). Nevertheless, Hungary decreased its nearly 20 percentage point disadvantage to 11 percentage points by 2017.

Hypertension – chronic diseases

Since 2001

Since 2015

Figure 1.12.1   **Number of hypertensive diseases per ten thousand population aged 19 years and older**

Number of cases
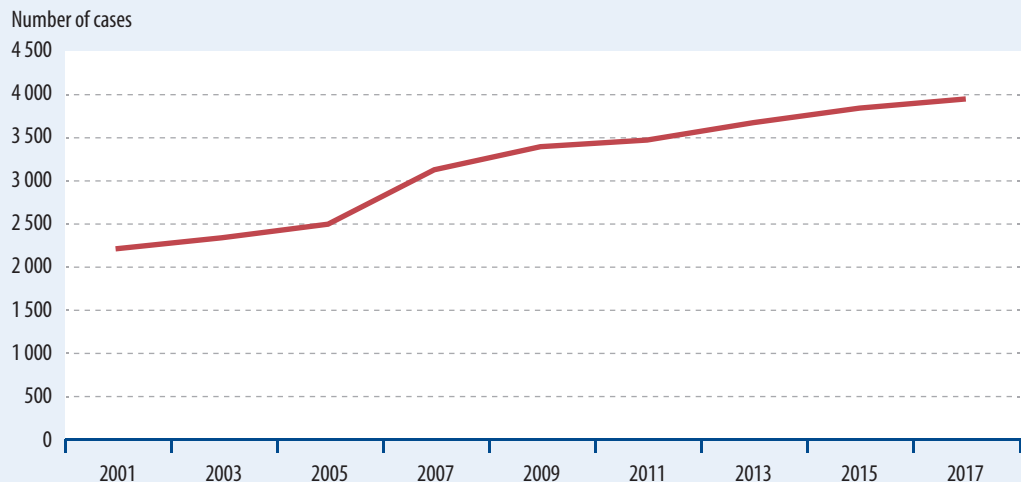
The incidence of hypertension in adult population is increasing.

Definition Classification according to morbidity (the frequency a disease occurs) is based on the 10th Revision of the International Classification of Diseases. Our data on adults are restricted to cases diagnosed by district family doctors.

The indicators of school health screenings show the number of diseases per thousand pupils by sex and age group. Those children suffer from hypertensive disease whose systolic and/or diastolic blood pressure measured at least three times in a period of several weeks is repeatedly higher than 90 percentile of the value normal in their age, irrespective of origin (primary and secondary), and who need medication. Normal weight is in connection with height, age, physique and sex, thus, it is difficult to define it. To define the degree of obesity, the Body Mass Index (BMI) is used, which is the quotient of the weight in kilograms and the square of the height in meters. Based on the values of the body mass index, the following categories are used to determine the nutritional state: severely underweight (BMI<3 percentile (pc), underweight (BMI≥3 pc, but <10 pc), overweight (BMI≥85 pc, but <97), obesity (BMI above 97 pc).

Relevance Since chronic diseases can be traced back to common risk factors, many of these diseases could be avoided through targeted

health programmes. Providing more equally accessible treatments to a wider range of people would considerably improve the health status and the economic situation in the EU Member States. According to the Framework strategy, the goal is to reduce the number of chronic, non-infectious diseases depending largely on lifestyle, which account for the vast majority of the disease burden. At the individual level, healthy nutrition, regular sports or participation in prevention programmes and screenings can contribute to this. The government can contribute to the improvement by the modernisation of the healthcare system, by launching public health and prevention programmes and screenings, as well as by supporting activities aimed at promoting healthy lifestyle.

Analysis The extent and order of diseases registered at GPs per ten thousand inhabitants aged 19 years and older is different by gender, age group and region. Diseases of the circulatory system are the most frequent, among them, hypertension is the first in the ranking, i.e. this is the most widespread disease.

According to the morbidity reports of GPs, the incidence of hypertensive disease per ten thousand people aged 19 years and older

Figure 1.12.2 **Number of major disease cases by ten thousand population aged 19 years and older**

Number of cases

— Diabetes mellitus   — Asthma   — Ischaemic heart disease
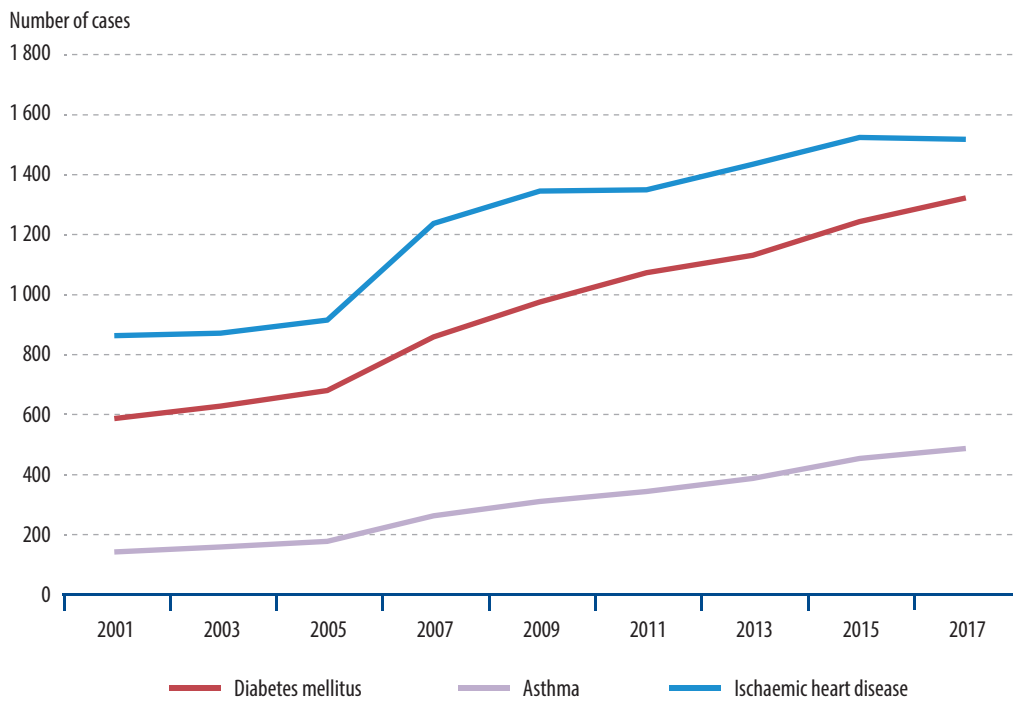
! *In case of the three examined diseases, the incidence rate is growing.*

Figure 1.12.3 **Some major diseases per thousand examined pupils in the 2016/2017 school year**

Number of cases

■ Boys   ■ Girls
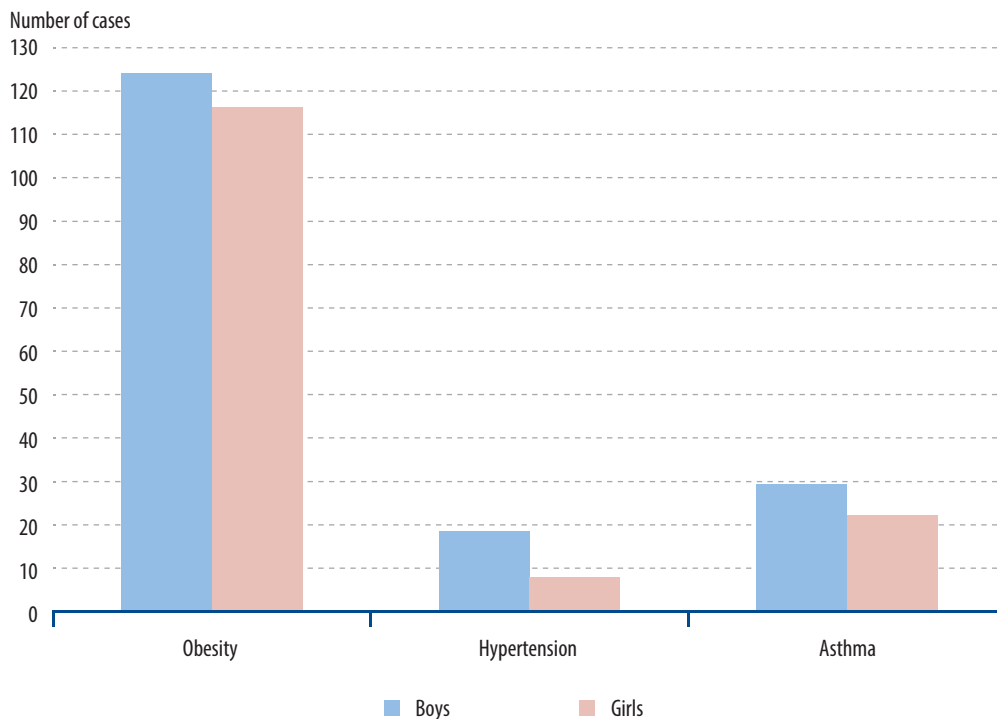
! *In the 2016/2017 school year the proportion of the observed diseases was higher among boys than girls.*

increased by 79% over sixteen years (the number of cases was 2,214 in 2001 and 3,960 in 2017). In 2017 there were 3,695 diseases for men and 4,194 diseases for women per ten thousand population. The frequency of hypertension tends to be higher among the older age group than the younger ones; in 2017 there were 309 diseases among persons aged 19–24 and 9,188 among persons aged 75 years old and older per ten thousand population. The most significant difference could be observed between the age groups of 25–34 and 35–44; in the latter the proportion of persons suffering from hypertension was 2.3 times larger. Concerning the regions, the values measured in Southern Transdanubia and the Southern Great Plain exceed the national average to the highest degree.

Other significant diseases among the adult population include ischaemic heart disease, diabetes and asthma.

The incidence of ischaemic heart disease has also considerably increased (by 76%) since 2001: while in 2001 the incidence rate calculated for ten thousand people of corresponding age was 863, it amounted to 1,517 in 2015. Over the past two years this indicator has declined slightly, by 0.4%, which is primarily due to decrease among women. In 2017 the value calculated per ten thousand population amounted to 1,390 for men and 1,630 for women. Towards the older age groups, the most considerable, 3.6-time increase was measured among the age groups of 35–44 and 45–54 years in 2017. The values of the Northern Great Plain Region exceed the national average to the largest degree regarding the ischaemic heart disease.

The incidence rate of diabetes mellitus has more than doubled over the past fifteen years in the adult population (the incidence rate calculated for ten thousand people was 585 in 2001 and 1,321 in 2017). Such increase can be observed for both men and women. The indicator calculated per ten thousand population of corresponding age is 1,310 for men and 1,332 for women. As for the age groups, the disease proportions of the elderly people are higher; the most significant difference is 2.5 times between the 35–44 year-old and the 45–54 year-old age groups. Concerning the regions, the incidence rates of the diabetes mellitus were the highest in the Southern Great Plain and Northern Great Plain Regions.

The ratio of asthmatic diseases has increased 3.4 times since 2001; in 2017 there were 485

individuals suffering from this disease per ten thousand population: 565 for women and 395 for men. Regarding the age groups, the incidence rates of elderly people were higher; the largest, 1.5-fold difference could be observed between the 45–54 and the 55–64 year-old age groups. Considering the incidence rates of asthma, the values of the Northern Great Plain and the Southern Great Plain Regions exceeded the national average to the largest extent.

According to the school screening tests carried out in the 2016/2017 school year, splay-foot was one of the leading diseases among pupils (8–18 year-olds). This rate was 299 per mille for boys and 270 per mille for girls with respect to the children examined. Refractive errors (186 per mille for boys and 247 per mille for girls), obesity (186 per mille for boys and 247 per mille for girls) and carriage disorders (124 per mille for boys and 116 per mille for girls) were also leading issues. Splay-foot were the most frequent among 4th-grade boys (320 per mille), refractive errors among 12-th grade girls (330 per mille), obesity among 12th-grade boys (135 per mille) and carriage disorders among 10-th grade boys (154 per mille). During the school year under study, the proportion of overweight pupils was higher among boys than girls in all grades. Considering obesity, the 10–12th grades were the most critical for boys (134 and 135 per mille) and the 4th and 12th grades for girls (120 per mille each).

The proportion of children suffering from asthma (29 per mille for boys and 22 per mille for girls) and hypertension (18 per mille for boys and 8 per mille for girls) was also very high among the children examined in the 2016/2017 school year. The asthmatic disease is one of the health consequences of environmental factors. It used to be the disease of young children; however, nowadays more and more adolescents have asthma as well. The proportion of asthmatic diseases was the highest among 4th-grade boys (34 per mille). The prevalence of hypertension was increasing considerably with progress in age. While in the 2nd grade 3-3 boys and girls out of a thousand pupils examined belonged to this group, their number was 39 and 12 in the 12th grade, respectively. The prevalence of diabetes mellitus was increasing by age as well: in the 2nd grade its proportion was 1 boy and 2 girls per thousand pupils examined, while in the 12th grade 3 boys and 5 girls.

1.13

Physician-patient consultations – Failed medical consultations due to financial reasons	**Since 2005** ☀
	Since 2017 ☀

Figure 1.13.1 **Change in the proportion of failed physician-patient consultations due to financial reasons**
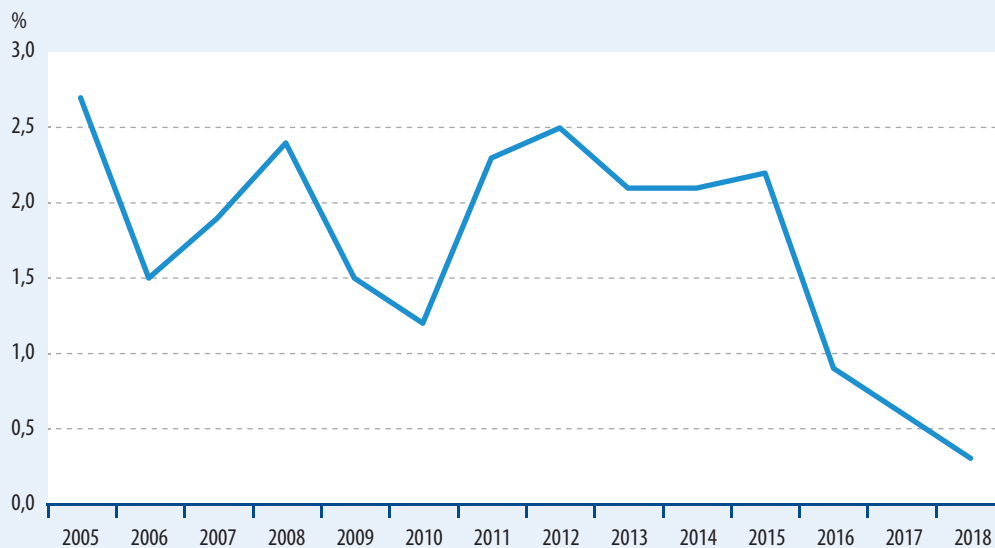
* In the population aged 16 years and older.

> **!** *The indicator fluctuates from year to year; in 2018 a total of 0.3% of the population aged 16 years and older had to forgo medical care for financial reasons.*

Definition The proportion of failed medical consultations by income quintile shows the ratio of persons who cannot afford a medical examination by income quintile. Income quintiles are determined on the basis of net income per consumption unit. With the help of the indicator we can see how far the access to medical examination depends on income among the population aged 16 years and older.

Relevance A major sustainability goal is to provide access to collectively financed health services, to reduce territorial inequalities and inequalities resulting from social and cultural backgrounds in the standards of the accessible health services.

Analysis The proportion of medical examinations failed for financial reasons is strongly connected to the income situation of the members of the society. People in the lower income quintile, especially the poorest ones, report much more often that that they had no opportunity to use some kind of medical care due to lack of money. According to the results, the difference between the people in various income situations was the lowest in 2017. In 2018, some 0.3% of the Hungarian population used no medical care for financial reasons, according to their own account. In 2012 this proportion was 2.5%.

International outlook In all countries of the European Union, income differences are connected to the proportion of failed medical examinations for financial reasons to varying degrees. With regard to the lowest income quintile, there were significant differences between countries. In 2017 extremely bad values were measured in Greece, where 16.4% of the poorest reported that they had to forgo some kind of medical care for financial reasons, but the indicator was around 10% in Latvia and Italy. The most favourable value was measured in the Netherlands, Sweden, Spain, Czech and Finland, where 0.1% or even fewer persons were affected by this problem in the lower quintile.

Failed medical examinations due to financial reasons in the lowest income quintile in the European Union, 2017, %

EL	16.4
LV	9.9
BE	6.7
RO	6.5
BG	4.7
PT	4.6
IT	4.1
LU	4.0
CY	3.9
HR	2.7
EU28	**2.3**
PL, EE, FR	1.8
SK	1.7
IE	1.5
LT	1.3
HU	**1.0**
DE	0.6
AT, SI, UK	0.3
MT, DK	0.2
CZ, ES, FI	0.1
SE, NL	0.0
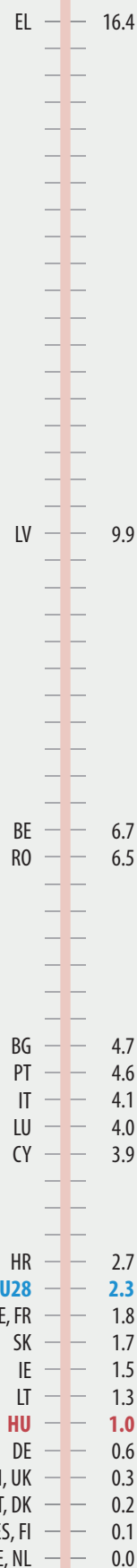
Figure 1.13.2 Failed medical consultations for financial reasons by income quintile
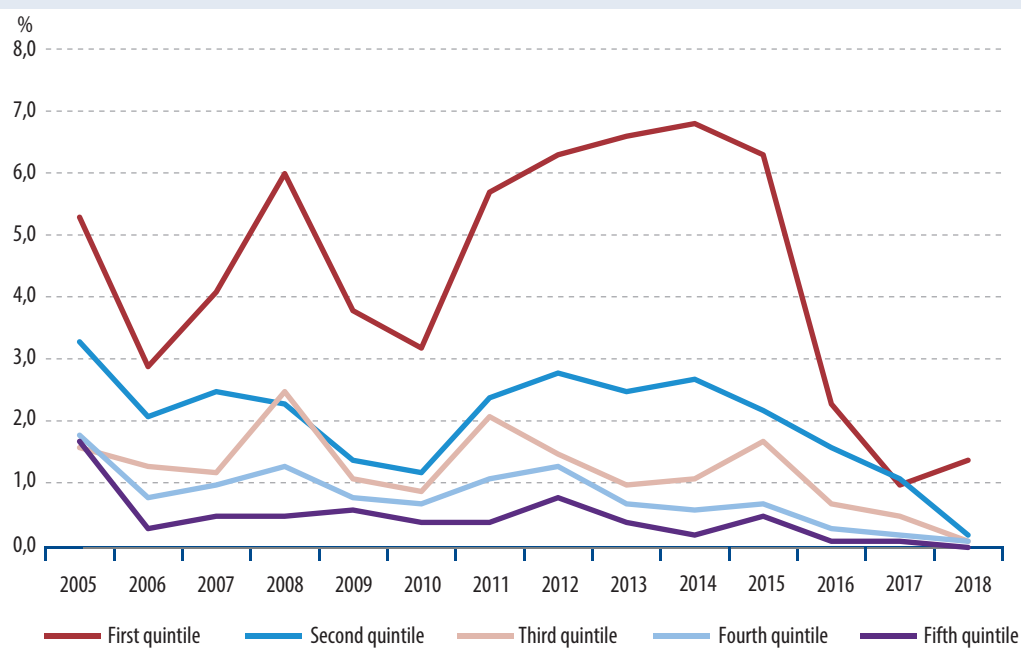
Source: From 2000 to 2003 Household Budgetary Recording, where the year of recording and the reference year are the same. From 2005 (whose reference year is 2004) EU-SILC (VÉKA) since the year of recording is Eurostat.

! *The proportion of failed physician–patient consultations for financial reasons is primarily high in the lower quintile.*

Smoking – Regular smokers

Since 2000

Since 2009

1.14

Figure 1.14.1 Rate of regular smokers
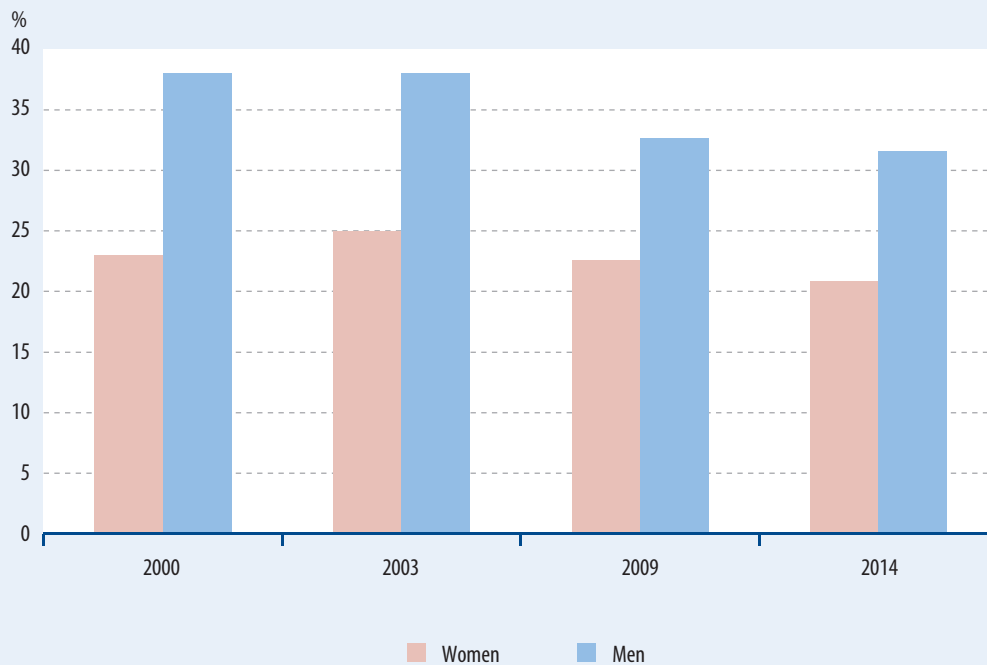
! *Among the Hungarian adult population, over one-fifth of women and nearly one-third of men smoke tobacco on a daily basis.*

Definition A regular smoker is a person who smokes tobacco daily.

Relevance It is proven that there is a causal relationship between smoking and the development of numerous neoplasms and diseases of the circulatory and respiratory systems. In addition to this, maternal smoking may lead to numerous complications connected with getting pregnant, with pregnancy and childbirth, as well as increased possibilities of Sudden Infant Death Syndrome (SIDS). Smoking may play a role also in case of some infectious diseases: because of their weak immune system, HIV-infected persons are especially exposed to diseases caused by smoking. The high TB mortality rate is partly due to smoking. Health status worsened because of smoking may result not only in individual problems but also in the more frequent use of health services and the rise in the number of lost working days, which considerably increase social costs as well. The National Framework Strategy for Sustainable Development sets the aim of decreasing the proportion of health-risk behaviour forms. Health-conscious behaviour is the primary responsibility of an individual; at the same time, providing information about harmful products, prohibition and taxation can serve as tools for the government to improve the health status of the population, because in this way the price competition benefits of these products can be decreased and the drawbacks can be increased.

Analysis According to the data of the health survey conducted about the European population in 2014, in Hungary more than 2.1 million adults were smoking, most of them on a daily basis. There was a significant difference between the two sexes: 21% of women and 32% of men smoked every day. On the whole, the proportion of regular smokers has decreased among men and stagnated among women since 2000.

Smoking-related death rate in the European Union, 2014, per hundred thousand population

LV	425.1
LT	405.8
HU	**387.3**
RO	359.0
SK	322.8
CZ	269.7
EE	234.3
PL	192.0
MT	185.1
EU28	**171.7**
FI	177.6
AT	168.5
DE	160.4
SE	140.0
LU	125.1
ES	119.5
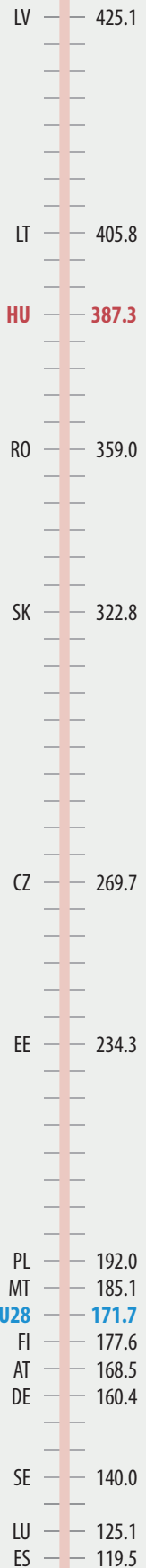
Smoking is a form of health-damaging behaviour among a considerable proportion of the population because nearly one-third of the adults smokes occasionally or even every day. The differences are significant between the two sexes: the proportion of smoking women is considerably lower than that of smoking men. Since smoking is decreasing among men but it has not changed significantly among women over the past decade, the gap between the two sexes seems to get narrower. In case of both sexes, older people smoke in the smallest proportion, while among men young people (aged 18-34) are considered the heaviest smokers (as for women, the difference between young and middle-aged people is ignorable). Considering regions in Hungary, the highest proportion of daily smokers was measured in Northern Hungary: 42% of men and 30% of women, while the lowest proportion can be observed in Western Transdanubia (23 and 17%).

International outlook According to the data of the health interview surveys of Eurostat, among the countries under study, Hungarian men were at the bottom of the first third of the ranking, while Hungarian women tied for the third place with Croatia after Austria and Greece in 2014 regarding the proportion of regular smokers. According to the calculations of the World Health Organization (WHO), the smoking-related standardised death rate (SDR) per hundred thousand inhabitants was more than twice as high (387.3) in Hungary in 2014 than the average of the EU Member States (171.7). The situation was only worse in two Baltic states, Lithuania and Latvia in this field. At the same time, the value of the indicator has definitely been decreasing over the past decades: the standardised death rate per hundred thousand inhabitants was 566.2 in 1980, then 536.8 in 1990, and 489.5 in 2000 in Hungary.

Alcohol consumption

Since 2009

1.15

Figure 1.15.1 Alcohol drinking habits, 2014

Legend: Heavy drinkers · Moderate drinkers · Occasional drinkers · Abstainers
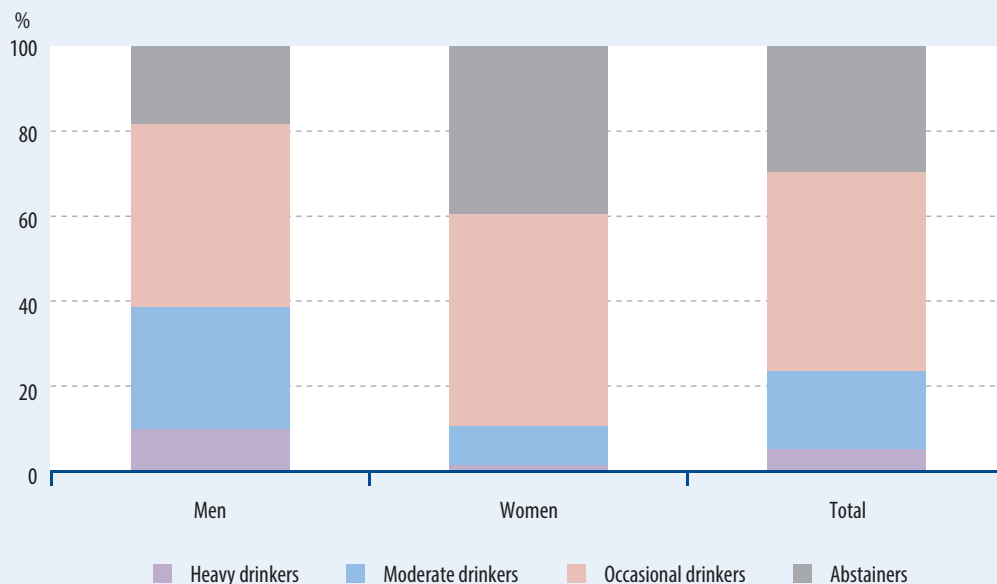
! *A total of 5.4% of the adult population considered themselves heavy drinkers.*

Definition Heavy drinkers are women and men who had consumed more than 7 and 14 units of alcohol, respectively, over the week preceding the survey (in case of women a lower limit is set due to their different physiological features). One drink/unit of alcohol is equivalent to one pint of beer, 2 dl of wine or 5 cl of spirit. Due to the phenomenon called 'binge drinking' in technical literature (consumption of a large quantity of alcohol on one occasion), heavy drinkers also include persons who consume 6 or more drinks per one occasion. A moderate drinker is an individual who consumes alcohol at least once a week but is not defined as a heavy drinker. An occasional drinker is a person who consumes alcohol less frequently than once a week.

Relevance Excessive alcohol consumption may play a role in the development of almost 40 different types of disease. Heavy drinking significantly increases, among others, the frequency of malignant neoplasms of the oral cavity, the oesophagus and the breast, hypertension, cardiovascular diseases, stroke, liver cirrhosis, mental and behavioural disorders,

gastrointestinal diseases, disorders of the immune mechanism, diseases of the musculoskeletal system, disorders of the reproductive organs, as well as congenital anomalies and early foetal deaths. The National Framework Strategy for Sustainable Development sets the aim of decreasing the proportion of health-risk behavioural forms. Health-conscious behaviour is the primary responsibility of an individual; at the same time, providing information about harmful products, prohibition and taxation can serve as tools for the government to improve the health status of the population, because in this way the price competition benefits of these products can be decreased and the drawbacks can be increased.

Analysis According to self-reported data, 5.4% of the Hungarian adult population could be classified as heavy drinkers, 18% were moderate drinkers, 46% occasional drinkers and 30% were abstainers in 2014.

Death rate connected to alcohol consumption in the European Union, 2014, per hundred thousand population

LV	133.6
LT	110.9
EE	94.0
HU	83.8
SK	83.2
RO	81.9
FI	73.0
PL	71.1
CZ	64.9
AT	55.6
LU	53.2
EU28	52.8
DE	49.3
SE	46.5
ES	35.1
MT	28.6
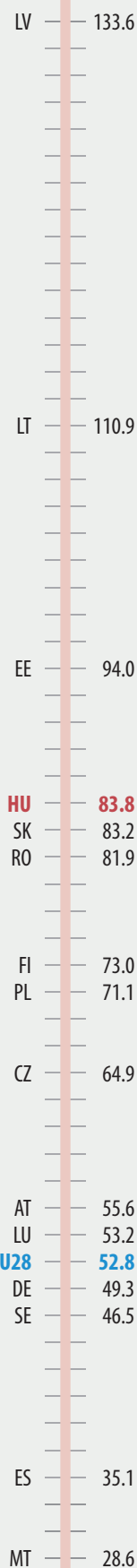
According to the data of the interview survey enabling a strongly conservative estimate, one in every twenty adults (9.9% of men and 1.4% of women) belonged to the group of heavy drinkers; their number amounted to about 440 thousand at the level of society. The proportion of heavy drinkers was the highest among men aged 65 years and older; among them, one in every seven drank too much, and the proportion of middle-aged men was not much lower either, with a 10% share of heavy drinkers. As for women, the difference between age groups was considerable in the proportion of abstainers rather than heavy drinkers: while 34% of 18-34 year-old women consumed no alcohol at all, this proportion was 56% among women aged 65 years and older.

International outlook   In Hungary, death rate connected to alcohol consumption shows a downward tendency; however, it was still 1.5 times higher than the EU average in 2014: while in Hungary standardised death rate was 84 per a hundred thousand population, the same value was 53 in the EU.

Suicide – suicide death rate

Since 2000

Since 2016

1.16

LT	30.3
SI	20.7
LV	19.3
HU	**19.0**
HR	17.3
BE	16.9
EE	15.9
AT	14.5
PL	14.2
FR	14.1
LU	13.9
FI	13.5
CZ	13.2
SE	12.3
DE	11.7
RO	11.4
NL	11.3
EU28	**10.9**
PT	10.4
DK	10.2
IE	9.6
BG	9.3
SK	9.2
MT	7.6
ES	7.5
UK	7.4
IT	6.1
EL	4.7
CY	4.5

Figure 1.16.1 Number of fatal suicides per hundred thousand inhabitants
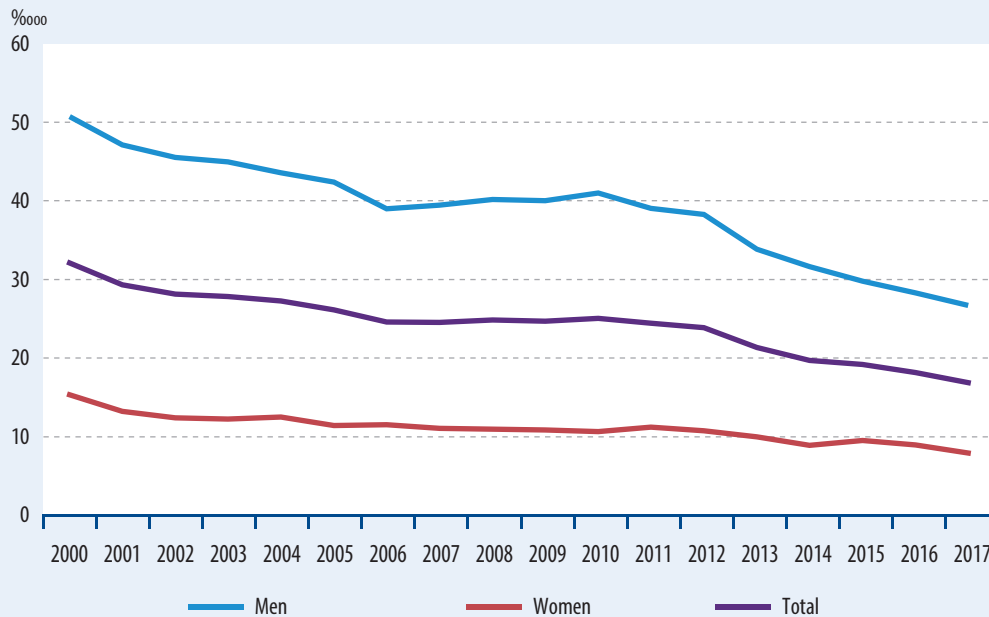
! *Between 2000 and 2017 the rate of the suicide deaths decreased by nearly 50%.*

Definition Suicide is an act by which an individual intentionally causes his/her own death.

Relevance Suicide is not an illness but an action, the most common cause being some form of mental disorder in most cases. Therefore, the suicide death rate is one of the most important indicators of mental health. Improving the health status in Hungary is one of the most essential sustainability purposes, given its strong impact on all other economic and social processes as well.

Analysis Suicide death rates decreased by nearly 50% between 2000 and 2017. In 2000, the number of fatal suicides was 51 per hundred thousand men and 15 per hundred thousand women; by 2017, this number had decreased to 27 for men and 8 for women. The gap between men and women slightly increased during the period under study. In 2017, the suicide rate for males was three and a half times higher than for females.

In the period between 2000 and 2017, the suicide death rate declined to different extents in the various age-groups: while the suicide rates

of the persons aged 25–54 and 65 years and over declined higher than the average (48-67%), the ratio of the 15–24 and 55–64 age-groups reduced only by 39%. Considering suicide mortality, in 2017 the 55–64 and the 65 years and older age-groups were the most vulnerable in case of both sexes.

Despite having slightly decreased, regional differences are still significant: in 2017, the number of deaths due to suicide per hundred thousand inhabitants was 24 in the Southern Great Plain and 13 in Western Transdanubia, while the national average was 17. Territorial differences are more significant when examining the suicide death rate in a breakdown by sex. While in the Southern Great Plain 38 men and 10 women per hundred thousand inhabitants deceased due to suicide in 2017, in Western Transdanubia these figures were 20 and 6, respectively.

Number of fatal suicides in the European Union, 2015, per hundred thousand population
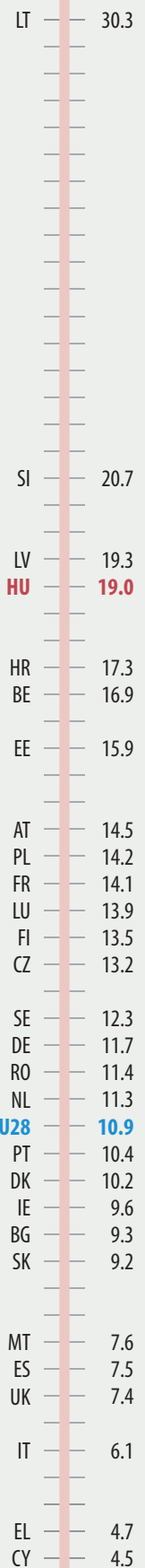
Figure 1.16.2 Number of fatal suicides per hundred thousand population by age group

‰₀₀₀

Legend: 2000 · 2005 · 2010 · 2017
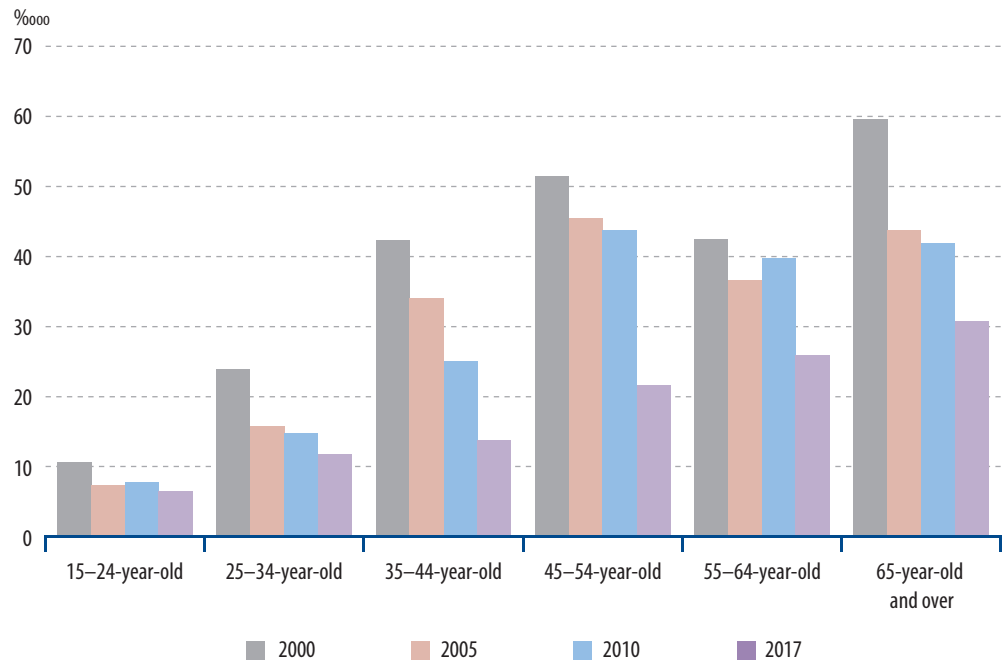
> **!** *Between 2000 and 2017 the suicide death rate of persons aged 35-44 decreased to one-third.*

In 2017 the way of committing suicide was hanging in 59% of the cases. However, there are significant differences in the way of committing suicide between men and women. While 65% of men having died due to suicide chose hanging, this ratio was 37% in case of women; at the same time, the proportion of poisoning was higher among females (35%).

International outlook Between 2000 and 2015, the suicide death rate decreased in most countries of the EU. The most considerable decrease could be observed in Lithuania, followed by Hungary; nevertheless, the Hungarian figures are still extremely high despite the decline. In 2015

the suicide mortality was the fourth highest in Hungary among the EU Member States, with 15 more deaths per hundred thousand population than the lowest value, which was measured in Cyprus. Only the values registered in Lithuania, Slovenia and Latvia were more unfavourable than the value of 19 in Hungary. The lowest figures were measured in the Mediterranean countries (Cyprus, Greece, Italy). In our country, the suicide death rate was nearly twice as high as the EU28 average. Compared to the lowest suicide death rate measured in Cyprus, 26 more males and 7 more females died per thousand inhabitants in Hungary in 2015.

Summary tables (STADAT)
1.5 Deaths by frequent causes of death

Death rate by major causes of death

Since 2000

Since 2016

Figure 1.17.1 Distribution of deaths by major causes of death, 2017

Men

7.8%
0.5%
5.7%
6.9%
6.8%
28.2%
45.1%

Women

9.8%
0.6%
3.9%
2.9%
5.6%
22.9%
54.3%

- Circulatory system
- Neoplasms
- Respiratory system
- External causes
- Digestive system
- Infectious diseases
- Other causes of death

! *Among major causes of death, the proportion of the circulatory system is the highest; they account for about half, while neoplasms for one-fourth of all deaths on average.*

Definition Causes of death are classified according to the 10th Revision of the International Classification of Diseases. The standardised death rate is a crude indicator weighted by the age distribution of the Eurostat's European standard population. Standard population means such default population broken down by the age group based on general consensus whose weighting makes the mortality ratios comparable, eliminating any distortion problems arising from the varying age distribution of populations.

Relevance Examining the causes of death provides important information about diseases, which cause the mortality of the population. The diminution of the most frequent causes of death improves the health status of the population, reduces mortality 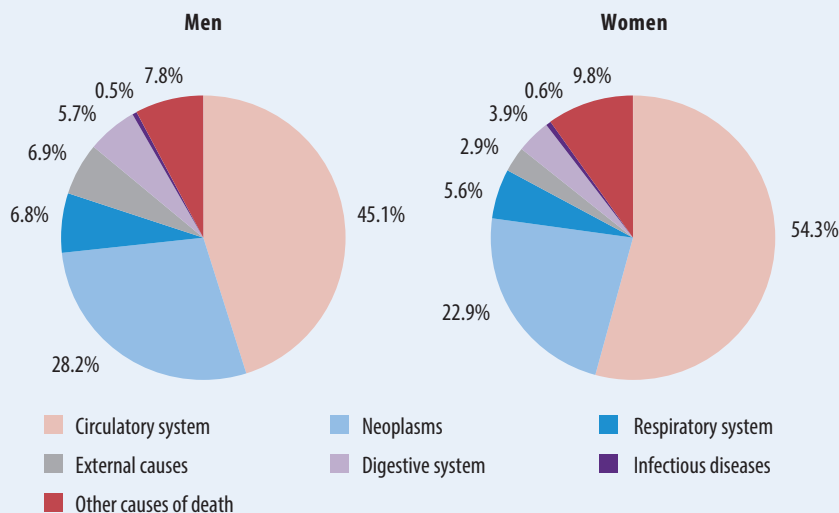and increases life expectancy. According to the National Framework Strategy on Sustainable Development, the aim is to catch up with the Central European regional average of mortality including the reduction of the number of chronic, non-infectious diseases largely depending on lifestyle, which account for the overwhelming part of the disease burden, as well as the proportion of health-risk behaviours and environmental risk factors. At individual level, a health-conscious lifestyle can facilitate this. The

government can contribute to the improvement by modernising the healthcare system, launching public health and prevention programmes and screenings, and supporting activities aimed to promote a healthy lifestyle.

Analysis In 2017 most people died of diseases of the circulatory system, which were followed by neoplasms in the frequency of causes of death in Hungary. These two groups of causes of death account for three-quarters of the total number of deaths. Diseases of the digestive system and the respiratory system as well as the external causes account for almost 15% of total deaths, while the remaining causes are responsible for only 9% of all deaths on an annual basis. In terms of changes in the structure of causes of death between 2000 and 2017, the most significant improvement occurred in the external causes of death and in the diseases of the digestive system. The number of deaths due to circulatory, minor infectious and other diseases decreased as well, but there was a slight growth in deaths due to neoplasms.

Standardised death rate in the European Union, 2015, per hundred thousand population

BG	1 660.1
RO	1 529.6
HU	**1 500.2**
LT	1 490.0
LV	1 489.4
HR	1 429.9
SK	1 390.3
CZ	1 280.1
PL	1 273.6
EE	1 236.6
DE	1 057.2
CY	1 047.5
SI	1 041.1
EU28	**1 036.0**
DK	1 032.5
PT	1 005.3
EL	1 003.4
UK	1 002.4
BE	1 001.9
NL	991.8
AT	989.7
IE	988.8
FI	968.8
MT	953.6
LU	929.9
SE	926.6
IT	901.2
ES	872.7
FR	858.8
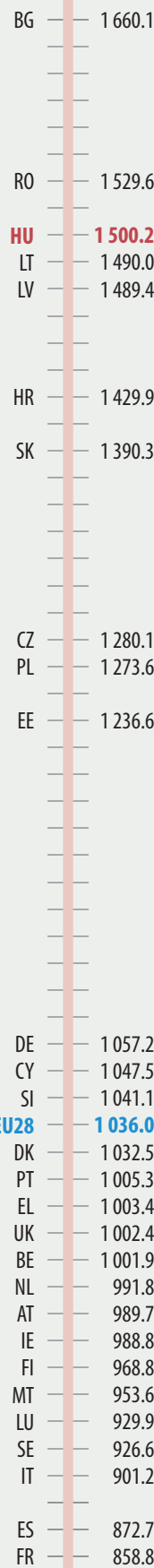
Figure 1.17.2 Deaths per hundred thousand inhabitants by major cause of death

%ₒₒₒ

Legend:
- Circulatory system
- Neoplasms
- Respiratory system
- External causes
- Digestive system
- Infectious diseases
- Other causes of death
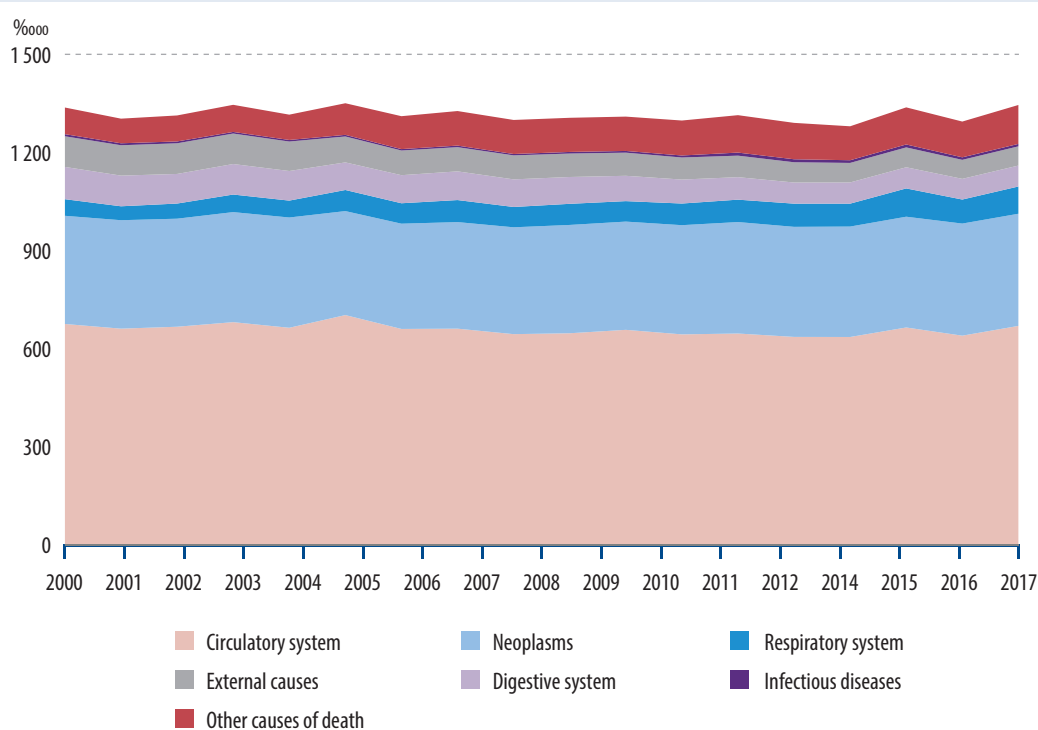
! *Diseases of the circulatory system and neoplasms account for three-quarters of deaths.*

Between 2000 and 2017 the standardised mortality ratio per hundred thousand population decreased for men to a greater and for women to a smaller extent. The structure of causes of death is very similar for the two sexes, and there is a difference in the percentages of the major causes. In 2017 the proportions of deceases due to diseases of the respiratory system, digestive system and external causes were higher among men, while diseases of the circulatory system led to deaths much more frequently in case of women. The differences between regions have increased. Since 2000 the standardised death rate per hundred thousand inhabitants has significantly decreased in all regions; the largest decline was measured in Southern Transdanubia (27%) and the smallest one in Northern Hungary and Central Transdanubia (20%). The structure of causes of death is very similar in the different regions, and there are only minor differences in the proportions of the groups of causes of death.

International outlook In international comparisons, we use the standardised mortality ratio of Eurostat elaborated for the European population. In Hungary the structure of causes of death is similar to that in the countries with developed health culture. The reason for higher mortality rates compared to developed countries is that more people die earlier due to the leading causes of deaths than elsewhere. In 2015 Hungary's standardized mortality ratio was ranked third among the EU Member States. In Hungary the number of deaths per hundred thousand persons was by 642 more than in the best-ranked France. In all the main groups of causes of death, the standardized figures of Hungarian men are higher than the EU average. In 2015 the rate of men deceased due to the diseases of the respiratory system was more than twice as high as the EU average and the rate of neoplastic diseases was nearly 1.5 times more than the EU average, while the similar indicators of chronic causes of death for Hungarian women slightly exceeded the given reference values. The proportion of persons having died of respiratory diseases and due to neoplasms show that differences between Hungary and the EU average have decreased for men and increased for women since 2011.

Summary tables (STADAT)
1.5 Deaths by frequent causes of death

Standardised mortality ratio

Since 2000

Since 2016

Figure 1.18.1 1 Standardised mortality ratio by region   (national=100.0)
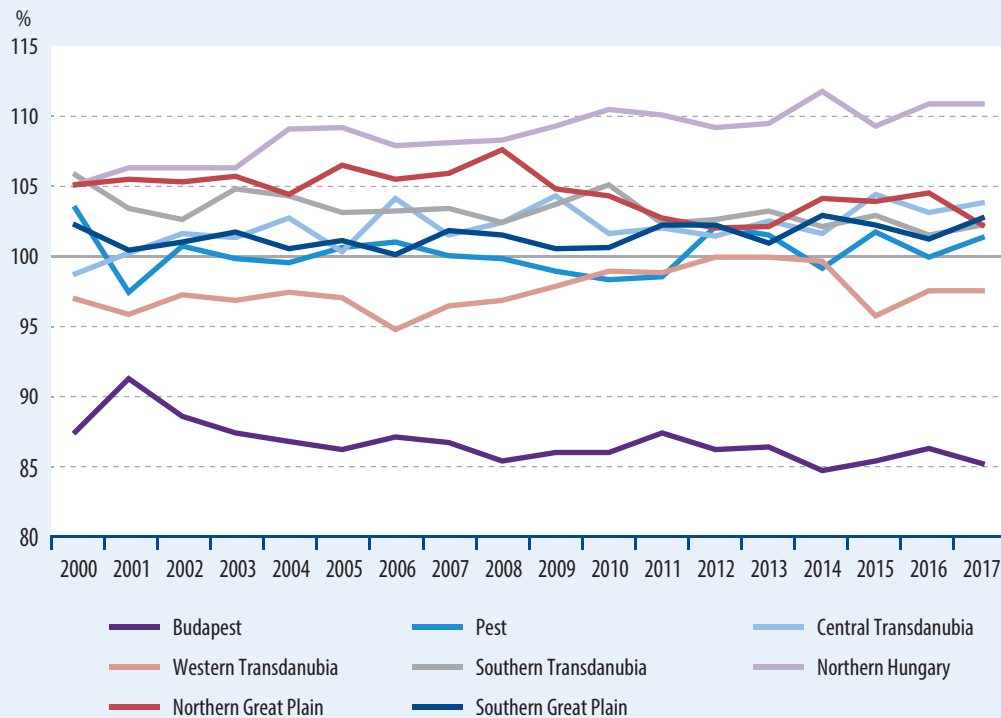
! *Between 2000 and 2017 the gap between the regions with the highest and the lowest mortality increased by 7.4 percentage points.*

Definition The standardised mortality ratio (SMR) is the ratio of the actually observed number of deaths in the given region and the expected number of deaths calculated by the country's age-specific mortality rates as standard weights. It expresses in percentage the mortality difference between the population of the given region and the population of the country. If the mortality of the given region is higher than that of the country, the value of the standardised mortality ratio is higher than 100%.

Relevance The aim of exploring mortality inequalities within the country is to highlight the existing regional differences in mortality hazards. The state of the economic development of the given region, the difference in the availability of the health care system and the social status may be in the background of the regional differences of mortality.

Analysis In 2017 the value of SMR was above the national average in Pest Region, Central Transdanubia, Southern Transdanubia, Northern Hungary and in the Northern and Southern Great Plain, while it was below the average in Budapest Region and Western Transdanubia. The region with the worst standardised mortality ratio was Northern Hungary in 2017, while Budapest was in the best situation. Since 2000 the mortality of Budapest Region has improved, while that of Northern Hungary has worsened compared to the national average. The SMR was 111% in Northern Hungary and 85% in Budapest Region in 2017. The difference between the two extreme values was 26 percentage points, which was 7.4 percentage points higher than in 2000.

During the period between 2000 and 2017 the regional differences in the SMR increased both for males and females. In 2017 the SMR of

Figure 1.18.2   **Standardised mortality ratio for men by region**
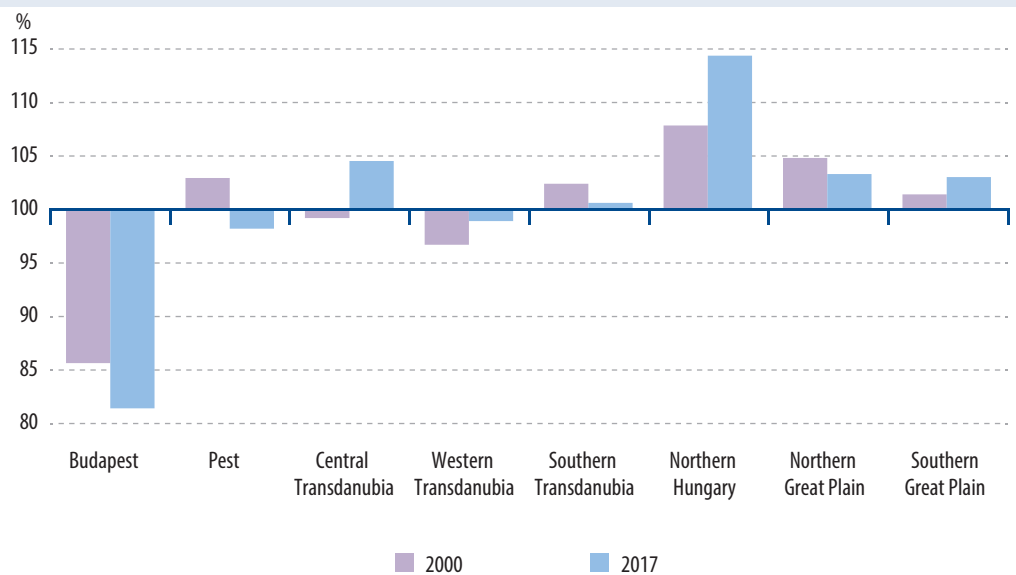
! *Considering men, the difference between the SMR in Northern Hungary and Central Hungary has increased by 11 percentage points since 2000.*

Figure 1.18.3   **Standardized mortality ratio for women by region**
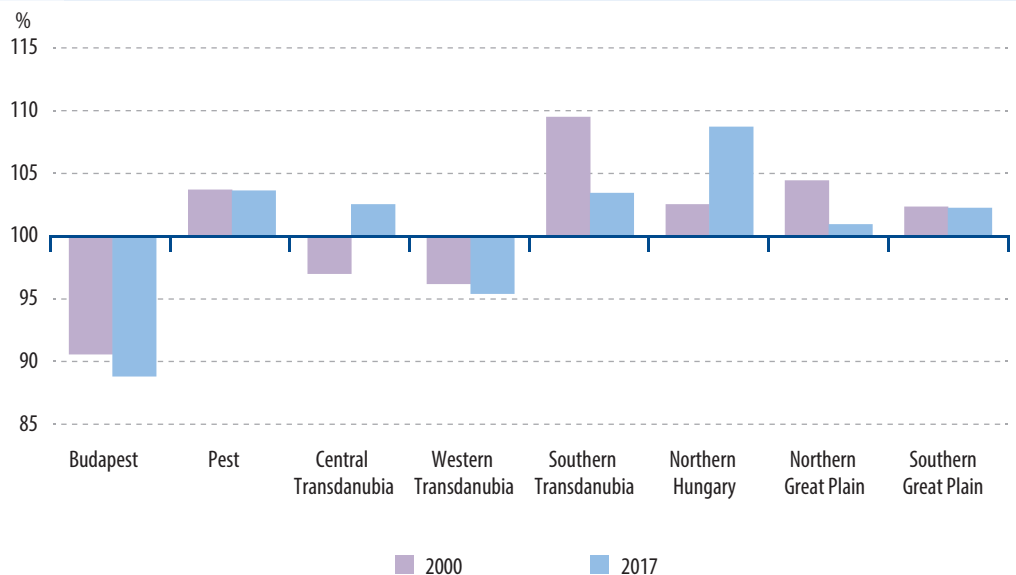
! *Considering women, the difference between the regions with the highest and the lowest SMR has increased by 1 percentage point over the past 17 years.*

men was 114% in Northern Hungary and 82% in Budapest Region. The difference between the two extreme values was 32 percentage points, 11 percentage points higher than in 2000. As for the SMR values of women, Budapest Region was in the best situation in the regional ranking at both dates. However, there was a change in the region with the most unfavourable indicator: while in 2000 the indicator was the highest in Southern Transdanubia, in 2017 Northern Hungary took the first place in the ranking in case of women as well. The gap between the two extreme values had become wider by 1 percentage point because the 19 percentage-points difference in 2000 had increased to 20 percentage points by 2017.

*Educational attainment –
Persons with low educational attainment*

Since 2000

Since 2017

1.19

Figure 1.19.1 Number of persons with low educational attainment by age group

Thousand

| 15–24 year-olds | 25–34 year-olds | 35–44 year-olds | 45–54 year-olds | 55–64 year-olds | 65–75 year-olds |

> *!* *The number of persons with low educational attainment continued to fall, with 21% in 2018.*

Definition Persons with low educational attainment are those who completed 8 grades of primary school at most within the population aged 15–74.

Relevance One of the key factors of a disadvantageous situation is low educational attainment, whose level is closely related to the employment chances because those with higher educational attainment have much better opportunities than those of the uneducated. However, this can also be a disadvantage in other areas of life, not just in case of employment. The risk of poverty is mostly higher among the low-skilled, and this affects the next generation as well because the disadvantaged situation is inherited in most cases. In addition, the children of such parents are generally at a disadvantage relative to their peers as early as in the first grade of education, which affects their later school performance. Increasing the level of educational attainment facilitates the building of social cohesion and the
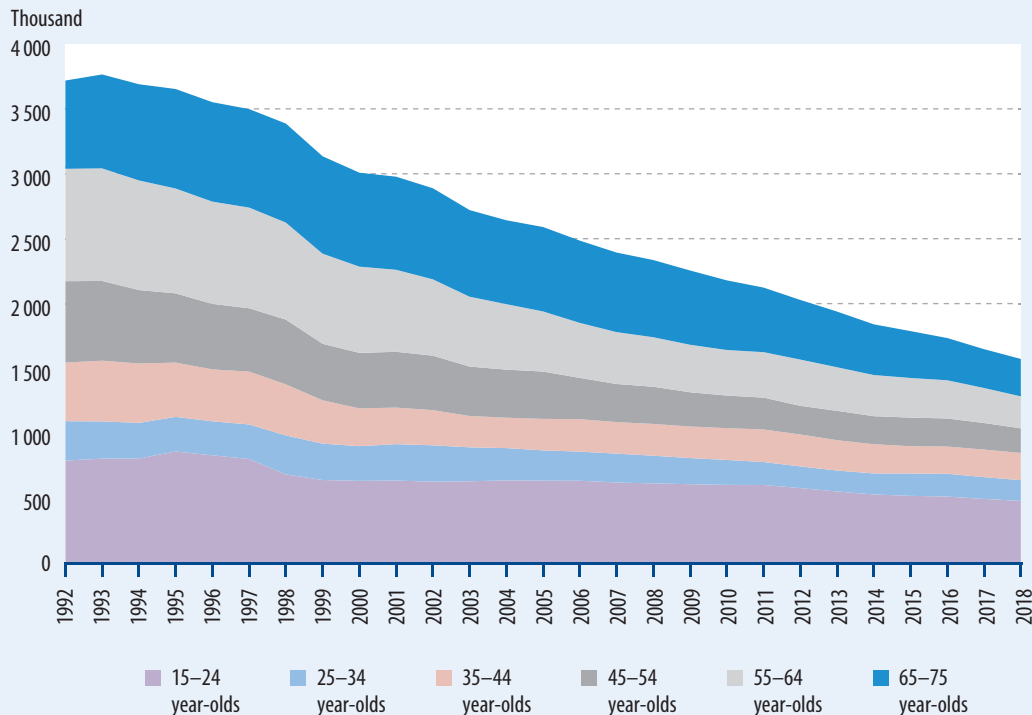
improvement in the life expectancy; therefore, the chance-balancing role of education should be enhanced and the highly selective character of our educational system should be mitigated. The National Framework Strategy on Sustainable Development also sets the target of increasing the time spent in education and decreasing the selectivity of the educational system.

Analysis Due to the educational expansion and the generation change, the number of persons with low educational attainment has decreased faster than that of the population aged 15–74 over the past 20-30 years, which resulted in heavy decline of the proportion of people finishing maximum eight grades within the population. In 1992 nearly half of the population aged 15–74 were persons with low educational attainment, in the mid-2000s one-third of them, while in 2018

Proportion of persons with low educational attainment within the population aged 15–64 in the European Union, 2018, %

PT	54.9
MT	49.7
ES	44.3
IT	43.9
EL	33.6
RO	29.8
BE	28.7
NL	28.4
LU	27.5
EU28	**27.1**
FR	26.8
DK	26.0
CY	25.4
IE	23.9
BG	22.7
SE	22.2
HR	21.4
HU	**21.2**
AT, FI	20.0
DE	19.2
UK	19.1
SI	17.7
EE	17.3
LV	15.3
PL, SK	14.8
CZ	12.4
LT	11.9
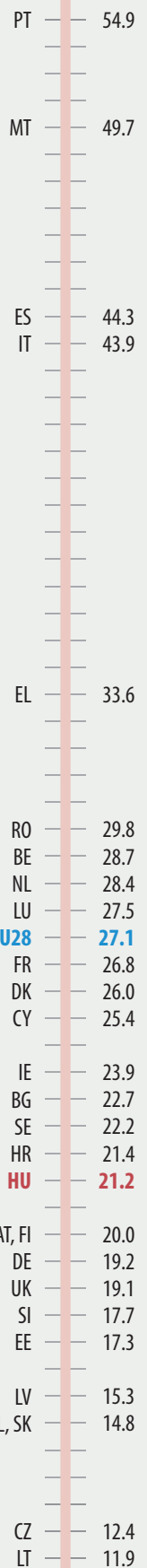
less than one-fourth (21.2%) of the age group under study has at most elementary education.

The educational level of the young and middle age group gradually increased as a result of the demographical change and the higher educational expansion; therefore, the number of persons with elementary education primarily decreased among the middle aged and the older age groups. As for the persons aged 65-74, today the share of persons with low educational attainment totals 27.2% as a result of a more than 50 percentage point decrease. The best indicator – less than 15% – can be observed among the persons aged 25–34 and 35-44. Concerning the 15–24-year-olds, the high figures can primarily be explained with the delaying of school starting age and the changes in the age limits of compulsory education. The persons completing at most 8 grades are mostly women; in 2018 women made up 56%. The reason for this is that in the elderly age groups the proportion of women is considerably higher among the persons with low educational attainment, and the male majority of the young age groups (under 35) could not counterbalance this either. The share of persons with low educational attainment is significantly smaller in Budapest (11.3%) than in the other regions, owing to the concentration of the educational institutions and persons continuing higher-level studies, as well as the employed working in occupations requiring higher education. The poorest results were measured in the Northern Great Plain (27%). The proportion of persons with low educational attainment was similarly high in Northern Hungary (25%) and Southern Transdanubia (26%), too.

International outlook Hungary shows a more favourable picture than the EU average in terms of the proportion of people with low educational attainment, and the proportion of persons with such education had been decreasing continuously by a greater extent than the EU average over the past years. In 2018 the ranking of countries with the best indicators – results below 20% – included 7 such Member States in the lead that had joined the European Union together with Hungary in 2004 (Czechia, Lithuania, Slovakia, Poland, Latvia, Estonia and Slovenia). The least favourable situation was in Portugal and Malta, where 54.9% and 49.7% of the 15–74 years old population had low educational attainment.

Summary tables (STADAT)
2.1.5 Number of population aged 15–74
  by highest educational qualification and sex

1.20

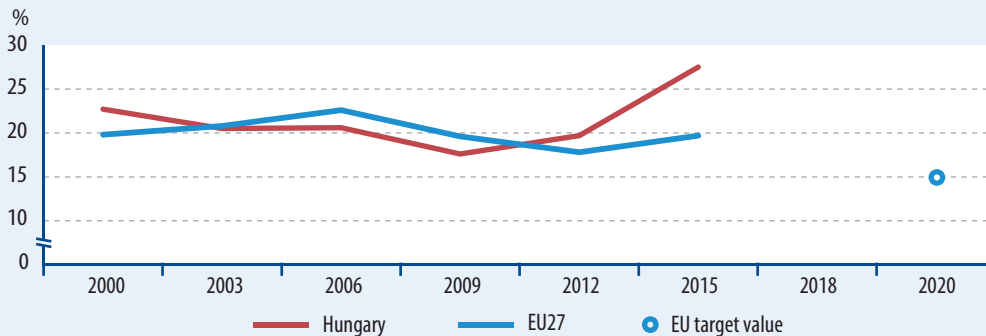## School competences – Students with low reading literacy performance

Since 2000

Since 2012

Figure 1.20.1 The share of students with low reading literacy

Legend: —— Hungary —— EU27 ⊙ EU target value

! *In Hungary the share of students with low reading literacy has increased in recent years, exceeding the EU average.*

Definition The indicator of the share of students with low reading literacy determines the share of students who are at level 1 or below at the combined reading test of the Programme for International Student Assessment (PISA). According to the definition used in PISA, reading literacy measures the ability of 15-year-old students to use written information. The PISA describes the performance of students with six proficiency levels. Achieving the second level is considered a watershed in respect of the future of students, since this is the minimum skill level necessary for effective participation in the modern society.

Relevance To improve the standard of general culture and cultural socialisation, we should provide better access to the values of Hungarian and universal culture. There is a need to enhance the availability of basic cultural services by developing the community spaces and cultural infrastructure; furthermore, the role of culture and community activities in education and training need to be strengthened. One of the essential preconditions for all these goals is the proper level of reading literacy. The EU aims to decrease the proportion of 15-year-old students with poor reading literacy below 15% by 2020.
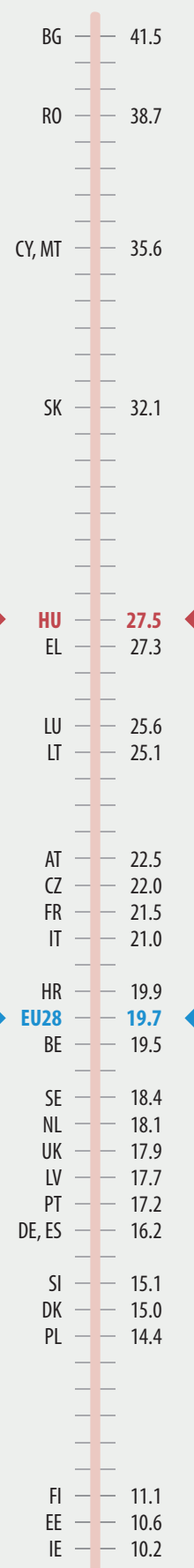
Analysis In Hungary the share of students with low reading literacy had decreased gradually from the turn of the millennium until 2009 (from 23 to 18%); however, since then the PISA (Programme for International Student Assessment) survey has shown that the situation has significantly been worsening. From 2009 to 2012 the proportion of students with low reading literacy increased by 2 percentage points, and from 2012 to 2015 by nearly 8 percentage points, so the proportion of students with low reading literacy increased to 27%. One of the reasons for this growth may be the modification of the survey methodology: while in earlier years students (partly) completed printed tests, in 2015 students were entirely assessed electronically.

Hungarian girls are less successful in digital reading comprehension: the proportion of boys with low reading literacy did not change significantly; however, the share of girls performing below the basic level grew by 10 percentage points. The difference between the sexes has decreased due to the declining results of the girls' reading comprehension; however, it is still remarkable: 32% of boys and 23% of girls failed to reach Level 2. Practically, these young people are functionally illiterate.

International outlook In 2015 only 4 EU Member States (Ireland, Estonia, Finland and Poland) managed to reach the 2020 target. The most favourable situation can be observed in Estonia and Ireland (with a rate below 11%). At the other end of the scale, the proportion of low achievers is 42% for Bulgaria and 39% for Romania. Among the EU Member States, Hungary is ranked in the 23th place on the basis of the share of low-performing students in reading, which means that our country is only better than 5 Member States in this respect.

Share of students with low reading literacy in the European Union, 2015, %

BG	41.5
RO	38.7
CY, MT	35.6
SK	32.1
HU	**27.5**
EL	27.3
LU	25.6
LT	25.1
AT	22.5
CZ	22.0
FR	21.5
IT	21.0
HR	19.9
EU28	**19.7**
BE	19.5
SE	18.4
NL	18.1
UK	17.9
LV	17.7
PT	17.2
DE, ES	16.2
SI	15.1
DK	15.0
PL	14.4
FI	11.1
EE	10.6
IE	10.2

ES	17.9
MT	17.5
RO	16.4
IT	14.5
BG	12.7
HU	**12.5**
PT	11.8
EE	11.3
UK	10.7
EU28	**10.6**
DE	10.3
DK	10.2
SE	9.3
FR	8.9
BE, SK	8.6
LV, FI	8.3
CY	7.8
NL, AT	7.3
LU	6.3
CZ	6.2
IE	5.0
PL	4.8
EL	4.7
LT	4.6
SI	4.2
HR	3.3

Rate of early school leavers in the European Union, 2018, %

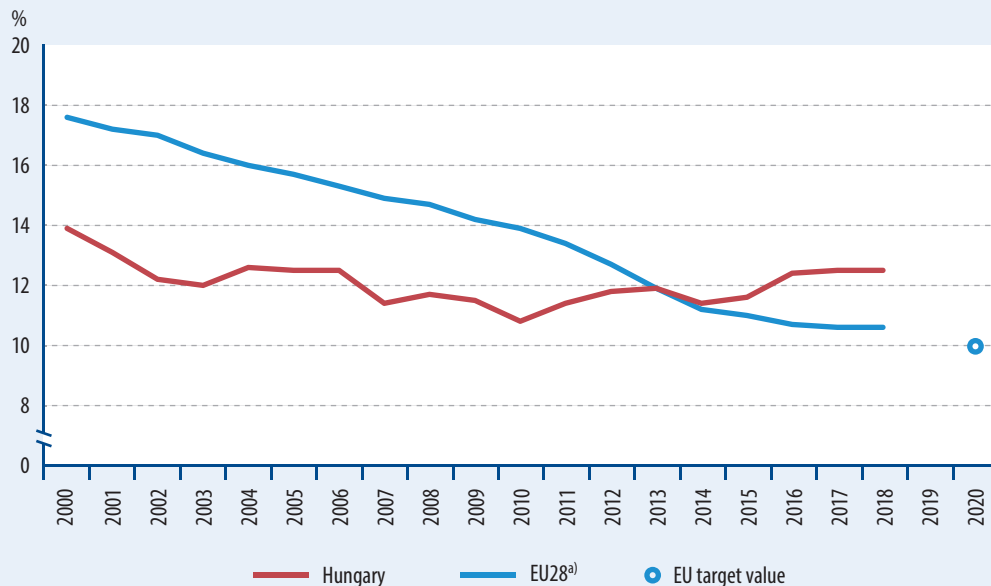## Leaving education – Early school leavers

Since 2000

Since 2017

Figure 1.21.1 Rate of early school leavers

a) Until 2001 EU27, from 2002 EU28.

! *After a decrease until 2010, the rate of early school leavers has been increasing with slight fluctuation.*

Definition An early school leaver is a 18–24 year-old person with at most primary education who attended no education or training (whether formal or non-formal) during the four weeks prior to the interview. This indicator shows the ratio of early school leavers within the population of the given age group (18–24).

Relevance Reducing the rate of early school leavers below 10% is among the most important objectives of the Europe 2020. The trainability and employability of early school leavers is a great challenge. Therefore, this is one of the key indicators in the National Sustainable Development Strategy, too.

Analysis According to the Hungarian figures, the ratio of the 18–24 year-old young people completing at most primary education and not receiving any education or training, i.e. the early school leavers declined by 1.4 percentage points between 2000 and 2018. Until 2010 the rate of early school leavers was decreasing with

slight fluctuations: the value of the indicator was improving from 13.9% to 10.8% between 2000 and 2010. Following this, contrary to the EU processes, this trend has been reserved: the rate of early school leavers increased to 12.5% by 2018, deteriorating further away from the EU target value.

The rate of early school leavers is basically influenced by two factors: the rate of school leavers with low educational attainment and the participation rate in adult education. Since 2010 both factors have been unfavourable; therefore, the rate of early school leavers has increased in Hungary. These processes can be associated with the measure of changing the age for fulfilment of compulsory education from 18 years of age to 16 years of age. Facilitating the integration into employment through public employment programmes also strengthened the outflow of young people from education without qualifications.

Until 2016 the rate of early school leavers was continuously lower among women than among men. After 2014 this rate rather stagnated among men and started to increase among women, as a result of which the value of the indicator for women reached its peak at 13.0% and exceeded the value for men in 2017. In 2018 the indicators

Figure 1.21.2 Share of early school leavers by sex

Legend:
- Hungary, men
- Hungary, women
- EU28, men
- EU28, women
- EU target value

> **!** *While the indicator is continuously improving for both sexes in the European Union, it is declining in Hungary, which is primarily caused by the stronger dropout of women.*

of men and women were nearly equal. The territorial differences were extremely large, and the gap has becoming wider and wider over the past few years. In 2017 the lowest proportion of early school leavers was measured in Budapest (4.3%), which was 5.7 percentage points lower than the 10% target value expected by the European Union. Apart from Budapest, the value of the indicator was also lower than the national average in Western Transdanubia, Pest county and the Southern Great Plain. With a significant disadvantage compared to the other regions, the highest proportion of early school leavers was registered in Northern Hungary, where over one-fifth of young people failed to complete their secondary studies (22.5%), which is five times as much as the value measured in Budapest.

Internation outlook In 2018 the lowest rate of early school leavers was measured in Greece, Lithuania, Slovenia and Croatia with rates below 5%. Over the past ten years the most dynamic decrease could be observed in the Mediterranean countries, where the rate of early school leavers fell by 10-14 percentage points in Spain, Malta and Greece, and by 23 percentage points in Portugal. Nevertheless, at the end of this ranking was Spain with 17.9%, and similarly high values above 16% were measured in Romania and Malta. In 2018 Hungary was in the 23rd place among 28 countries, with a rate nearly 2 percentage points higher than the EU average. In 2010 the situation was just reversed: the rate of young people leaving education with at most primary education was 2 percentage points lower than the EU average.

Disadvantaged (D) and multiply disadvantaged (MD) children

Since 2013

Since 2016

Figure 1.22.1 **Number of registered children and young people of disadvantaged and multiply disadvantaged status, as specified by notary**

Thousand

■ Disadvantaged   ■ Multiply disadvantaged (including persons receiving professional child care provision)
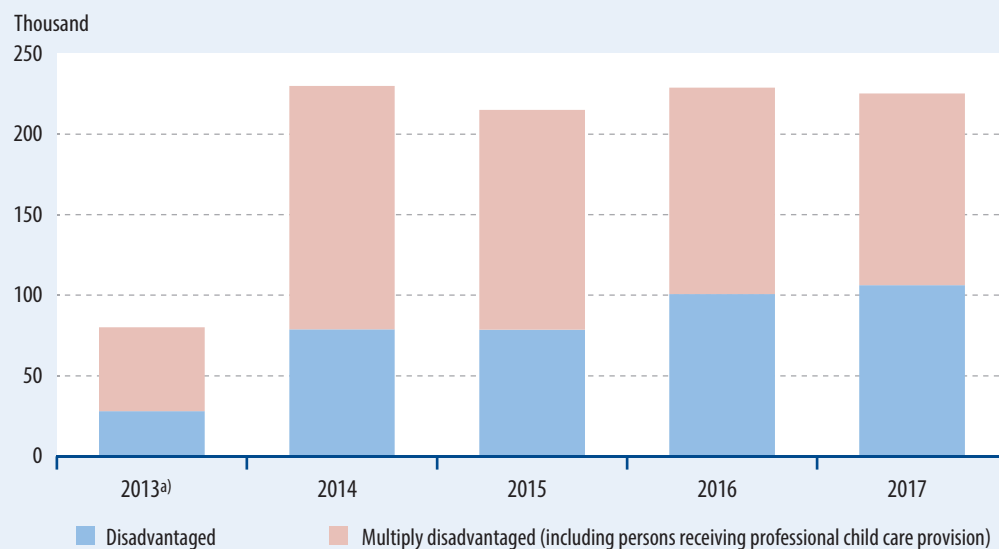
a) The data of 2013 includes qualifications performed in the period from 1 September to 31 December.

! *The number of persons of disadvantaged status increased by 7%, while the number of persons of multiply disadvantaged status decreased by 5% regarding the period 2016–2017.*

Definition A person of disadvantaged status (D) can be defined as a child or young person entitled to a regular child protection allowance with at least one of the following circumstances: his or her parent or guardian taking child into family has low educational attainment, low employment, or the child or young person lives 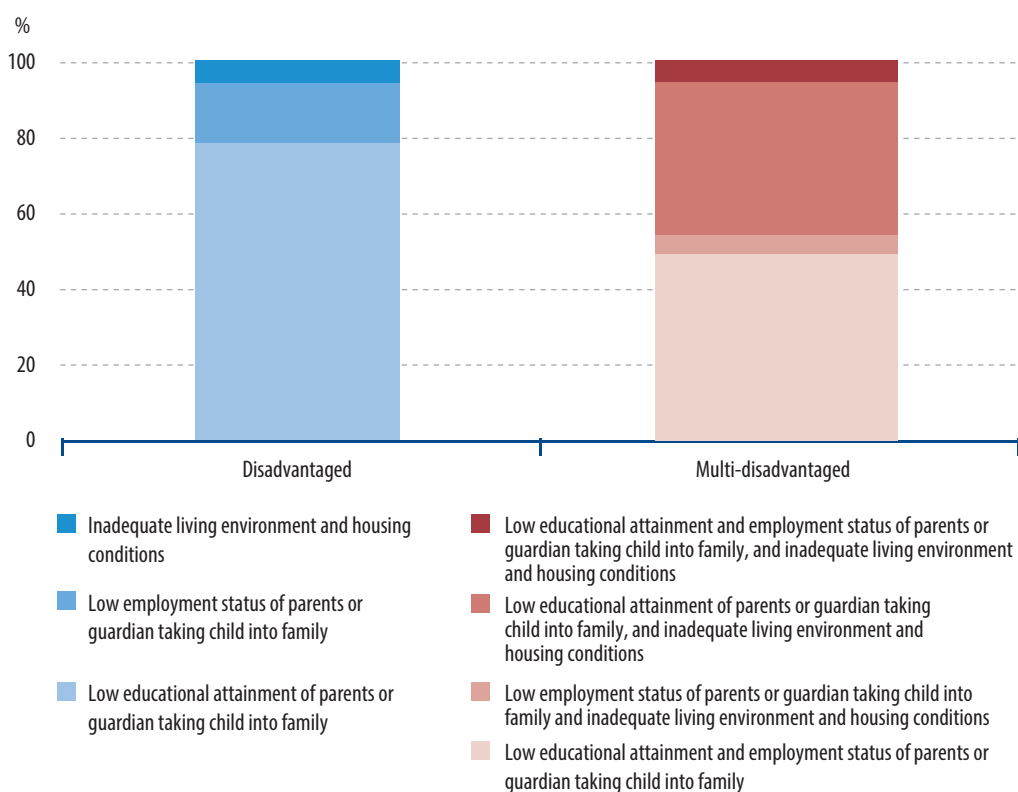under inadequate living or housing environment. A person of multiply disadvantaged status (MD) can be defined as a person for whom at least two of the circumstances specified for the disadvantaged status (D) prevail, as well as any child taken into care and any young adult receiving after-care and having a pupil or student status. As of 1 September 2013 the terms of disadvantaged and multiply disadvantaged status have become regulated by the Child Protection Law thus highlighting a broader child protection-focused aspect of these, more general than in the context of public education. According to the new legislation, the disadvantaged or multiply disadvantaged status can be compensated more widely, e.g. regarding age (0-24 year-olds), but it can still be requested

from the municipal notaries for reason of entitlement to regular child protection allowance, simultaneously with such application, in a separate procedure. The available statistical information shows that one in every twelve children is qualified as of disadvantaged or multiply disadvantaged status, which corresponds to two-thirds of the beneficiaries of regular child protection allowance. This is affected by the following 3 factors: the low educational attainment or low employment status of the parent or guardian taking child into family, and the inadequate living or housing environment. Besides the entitlement to regular child protection allowance, the existence of one of these conditions results in a disadvantaged status, while the existence of two or more in a multiply disadvantaged status. In the case of persons removed from their family, institutionalised in professional care, taken into care or receiving after-care and having a pupil or student status, it is the competent district guardianship office that registers ex officio the existence of the multiply disadvantaged status.

Figure 1.22.2 **The distribution of children and young adults of disadvantaged and multiply disadvantaged status by reason of qualification, 2017**

Legend:

- Inadequate living environment and housing conditions
- Low employment status of parents or guardian taking child into family
- Low educational attainment of parents or guardian taking child into family
- Low educational attainment and employment status of parents or guardian taking child into family, and inadequate living environment and housing conditions
- Low educational attainment of parents or guardian taking child into family, and inadequate living environment and housing conditions
- Low employment status of parents or guardian taking child into family and inadequate living environment and housing conditions
- Low educational attainment and employment status of parents or guardian taking child into family

! *For most children and young adults, the low educational attainment of their parents was the key factor in qualifying as of disadvantaged status.*

Relevance Social cohesion requires the creation of circumstances in which all individuals have the basic prerequisites for socio-economic participation in the long run. It is essential to reveal and overcome the disadvantages of childhood as soon as possible for future success. In order to compensate the disadvantages of children in distress, enhance their chances and promote their social integration the soonest possible, the complex system of child welfare and child protection services offers varied opportunities for intervention.

Analysis In 2013 the number of the 80 thousand persons receiving D or MD status since September was largely determined by the fact that the relevant legal provision became effective in the third quarter of the year. In 2014 already three times as many, i.e. 230 thousand persons under 25 were qualified as D or MD. By 2015 the number of the 79 thousand persons with D status had not changed compared to the previous year, while the number of the persons qualified a MD fell by 10% to 137 thousand. Since then this

tendency has modified: although the number of all persons qualified as D or MD has slightly increased, the number and proportion of persons qualified as MD has continued to decrease within this. The reason for this process can be that, thanks to the participation of parents in public works schemes, one of the criteria for the eligibility of multiply disadvantaged status, i.e. the low employment status of parents ceased to exist. In parallel, many persons were not entitled to the regular child protection allowance any longer. Year by year fewer and fewer persons receive this benefit; by the end of 2017 the number of persons receiving it had been 13% less than a year earlier.

From all the children and young adults entitled to regular child protection allowance and subsequently registered as of disadvantaged status at the end of 2017, for 78% the low educational attainment of the parents or guarding taking child into family, for 16% the low employment status thereof, and for 5.9% the inadequate housing conditions served as the reason to receive the D qualification.

Figure 1.22.3 **Proportion of children and young adults of disadvantaged (D) and multiply disadvantaged (MD) status per thousand citizens of corresponding age, by county, 2017**

Per thousand

	− 45.0
	45.1− 95.0
	95.1−195.0
	195.1−295.0
	295.1−
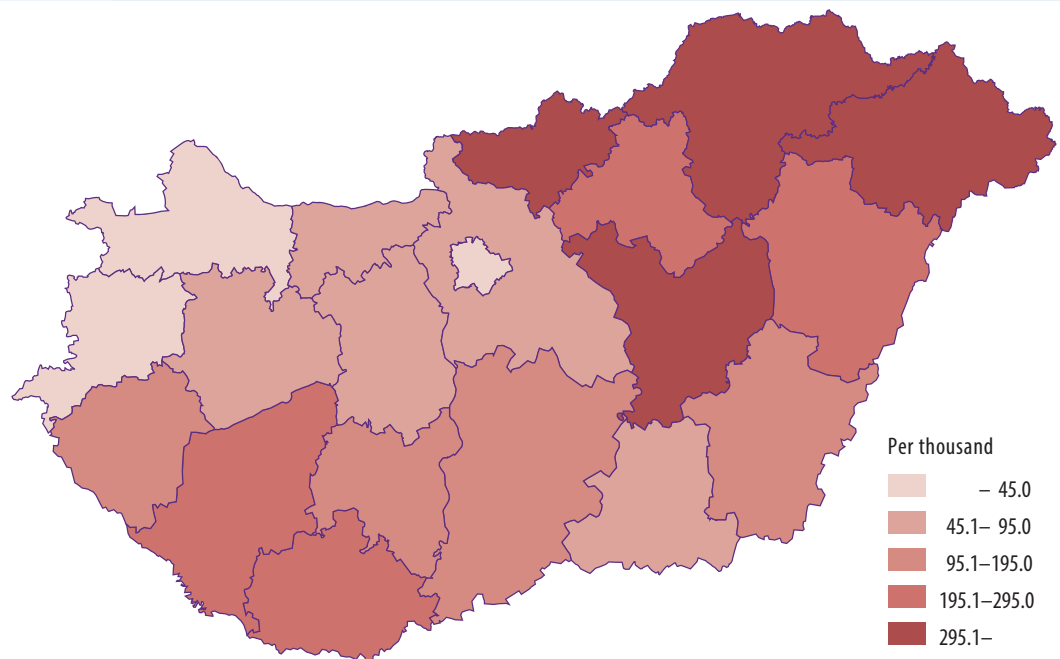
!   *There is a 24-fold difference between the regions with the best and worst situations in the proportion of persons of disadvantaged or multiply disadvantaged status.*

As for the children and young adults of MD status, the parents or guardian taking child into family had a low educational attainment paired with low employment status in 58% of cases, in 30% of the cases the parents' low educational attainment prevailed together with inadequate housing conditions, in 6.7% low employment status with inadequate housing conditions, while in the remaining 5.7% all three factors were present together. The proportion of children and young adults of D or MD status per thousand citizens of corresponding age totalled 91.5 persons at national level. The most disadvantageous counties are Borsod-Abaúj-Zemplén and Szabolcs-Szatmár-Bereg Counties: based upon this indicator, five times as many children and young adults are looked after by parents who are unable to provide a proper living standard to their children due to their low educational attainment, low employment status or inadequate housing conditions. Besides the northeastern part of the country, this proportion also exceeds the national average in Baranya, Somogy and Tolna Counties in Transdanubia. The best situation can be observed in Budapest and Győr-Moson-Sopron county, with 20 and 22 disadvantaged persons per 1,000 persons under 25, respectively.
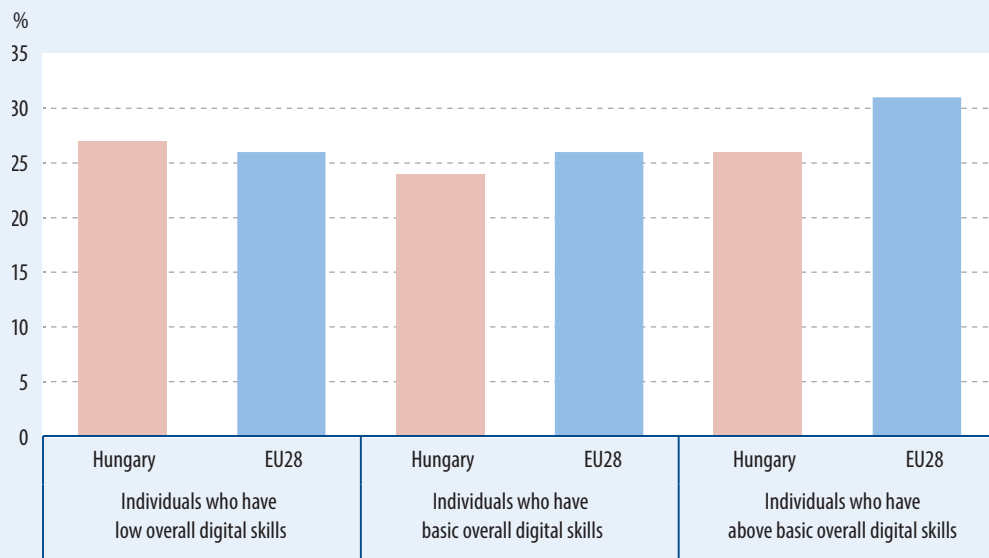
Digital skills

Since 2015

Since 2016

Figure 1.23.1 **Proportion of individuals with digital skills of different levels within the population, 2017**

! *The most substantial difference compared to the European Union average is in the proportion of individuals who have above basic overall digital skills.*

Definition The digital skills indicator is calculated by Eurostat from the data presented by the countries participating in the annual surveys. This summary indicator is intended to present the digital level of knowledge of the population and internet users as a whole, through the measurement of its sub-areas. The indicator separately measures each of the proficiency levels in case of internet usage for three months, 3-12 months and more than one year. In the present analysis, internet users within 3 months are considered relevant in terms of measuring the level of digital knowledge.

The indicator defines four levels of knowledge and measures them for all of the 4 specific digital areas.
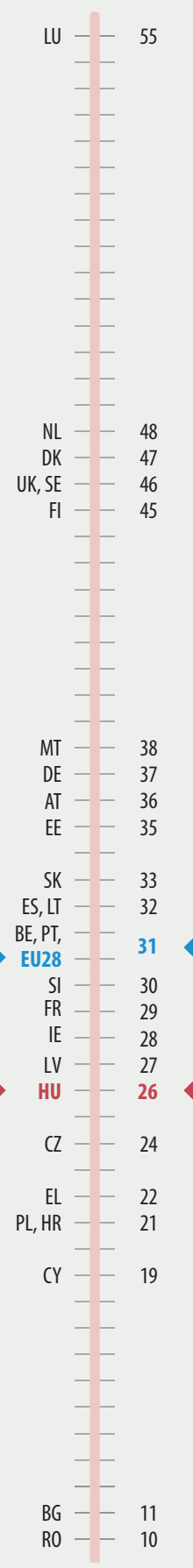
Knowledge levels:
– No digital skills: if information, communication, problem-solving and software skills are all missing, none of the four can be evaluated.
– Low level of digital skills: if skills are fully missing in one or two or three of the above four areas, but the value in one of the areas is not equal with zero, i.e. it is low, basic or above basic.

– Basic level of digital skills: if neither of the four areas is equal with zero (so each of them is low, basic or above basic level of knowledge), but at least one of the four is low level.
- Above basic level of digital skills: if all of the four areas reach the basic level.

Specific digital areas:
– Information skills: computer operations related to files and folders, online information searching, e-government, e-commerce, e-health topics.
– Communication skills: use of email, use of social networking sites, use of internet phone calls, uploading own contents.
– Problem-solving skills (solving information and everyday issues via internet): file and folder operations, software installation, change of software and problem settings, internet shopping and sale, participation in online courses, use of online study materials, online communication with online course teachers, using online banking services.

Share of individuals having basic overall digital skills in the European Union, 2017, %

1.23

LU	55
NL	48
DK	47
UK, SE	46
FI	45
MT	38
DE	37
AT	36
EE	35
SK	33
ES, LT	32
BE, PT, **EU28**	**31**
SI	30
FR	29
IE	28
LV	27
HU	**26**
CZ	24
EL	22
PL, HR	21
CY	19
BG	11
RO	10

Figure 1.23.2 **Proportion of individuals with digital skills of different levels within the internet users, by age group, 2017**

%

- 16–24 year-olds
- 25–34 year-olds
- 35–44 year-olds
- 45–54 year-olds
- 55–64 year-olds
- 65–74 year-olds

Low   Basic   Above basic
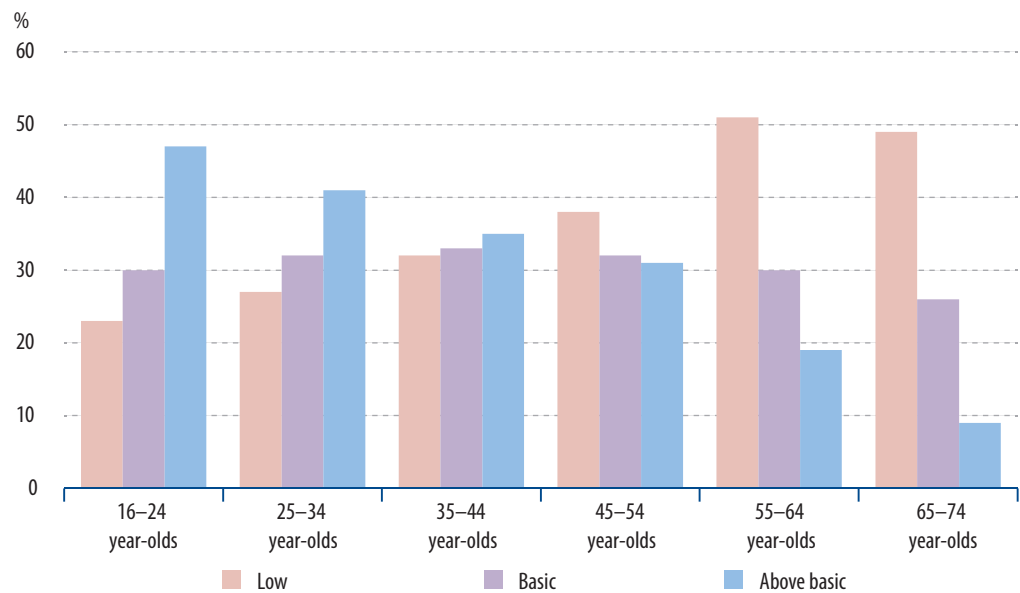
> **!** *Within the population, the youngest age group (16–24 year-olds) is equipped with above basic digital skills in the largest proportion.*

– Software skills: using word processing software, using spreadsheet program, editing photo, video and audio files with an editor program, preparing presentations, code writing in a programming language in a spreadsheet program, use of advanced software functions.

Relevance As a result of the digital revolution, the increased use of computers, mobile devices and internet both at home and at work necessitates the continuous expansion and improvement of the knowledge of information and communication tools. Digital literacy is a precondition for our everyday life, the management of private and official issues, learning and education, leisure time activities and successful presence in the labour market. Drawing a sharp line between people equipped with knowledge and people lacking in knowledge, digital technology basically determines the opportunities of an individual nowadays. This phenomenon is often called a digital gap. The knowledge specified as national resources by the National Framework Strategy on Sustainable Development requires the reduction of this digital gap.

Analysis In 2017 the aggregate population of the target group involved in the survey (persons aged 16–74), but mainly the internet users

(hereinafter persons using the internet within 3 months prior to the data recording) are equipped with measurable knowledge in the field of using the information, communication and other lifestyle software. 27% of the population and 35% of the internet users have a low level of digital knowledge.

The higher proportion within the internet users can partly be explained by the narrower range of population used as a reference, and partly by the higher level of digital knowledge of this group. Regarding the internet users, the 8 percentage point higher proportion clearly shows that the knowledge level (even if it is low) is higher in proportion than among the population. 24% of the total population already reaches the basic level of digital knowledge, and this proportion is 7 percentage points higher, i.e. 31% among the internet users. 26% of the population, i.e. a higher proportion than the above, can be characterised with an above basic knowledge level, and this rate is 34% for the internet users, which is obviously higher than the proportion within the population and higher (by 3 percentage points) than the share of persons equipped with an basic level of knowledge.

Nearly a quarter of the total population (23%) belongs to the group where we cannot speak about the total lack of digital knowledge but internet usage is so rare (exceeding the period

of 3 months prior to the survey) that the level of knowledge cannot be measured.

Within the target population aged 16–74, the low level of digital knowledge is primarily typical of the age groups 45–54 and 55–64 (31 and 32%, respectively), and the proportion was also high in the 35–44 age group (27%). Nevertheless, in the younger age groups of internet users (16-44 year-olds) far fewer individuals are equipped with a low level of knowledge (23–32%) than in the older age groups (45–74 year-olds, 38–51%). Within the population, the largest proportion of individuals equipped with basic digital knowledge was recorded in the 16–44 age groups (29–30%), while the smallest proportion (19–8%) was observed in the two oldest age groups (55–64 and 65–74 year-olds). As for the internet users, the distribution of individuals with basic knowledge level was far more even with 26–33% dispersion of the proportion. These persons were present in the largest proportion (33%) in the 35–44 age group. The proportion of individuals equipped with above basic level of knowledge was continuously decreasing towards the older age groups within both the population and the internet users. In both groups, the largest share of individuals with

above basic level of knowledge occurred in the youngest (16–24 year-olds) age group (45 and 47%, respectively), while the smallest share could be observed in the oldest (65–74 year-olds) age group (3 and 9%, respectively).

International outlook A low level of digital knowledge can be associated with 26 and 31% of the population and internet users of the European Union, respectively. From the perspective of the total lack of digital knowledge level, it is a positive phenomenon that the low level of digital knowledge within the population exceeds the EU average (26%) in Hungary (27%), while in case of internet users this value exceeds it (the Hungarian average is 35%, while the average of the EU28 is 31%). The share of persons equipped with a basic level of digital knowledge is 31% in Hungary for internet users, which equals the EU average. On the contrary, regarding the proportion of persons having an above basic level of digital knowledge, the average of the EU28 exceeds the Hungarian average for the time being both for the total population (31 and 26%, respectively) and internet users (37 and 34%, respectively).

|	
SE	96.6
LV, DK	95.8
LT	95.5
LU	94.5
FI	92.0
MT	91.8
EE	91.2
CY	89.5
SK	88.2
NL	86.3
AT	86.2
SI	84.1
CZ	79.0
DE	78.7
BE	78.5
HR	73.2
PT	69.0
PL	67.1
EL	66.5
IT	66.0
▶ EU28 ◀	64.7
FR	60.1
ES	54.2
BG	49.5
▶ HU ◀	42.4
RO	35.8
UK	34.6

Proportion of 25-64 year-old persons speaking at least one foreign language in the European Union, 2016, %

Foreign language skills

Since 2007

Since 2011

Figure 1.24.1 Distribution of people aged 25–64 by foreign language knowledge

Legend: 0 — 1 — 2 — 3 or more foreign languages spoken
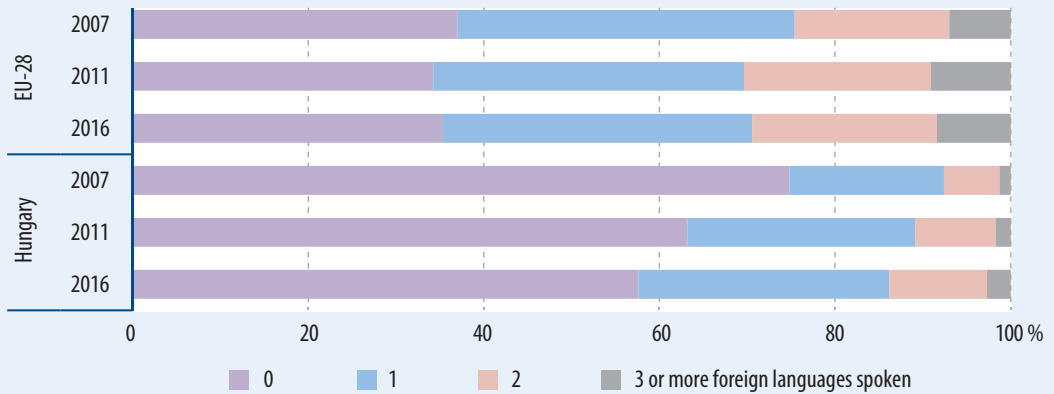
> **!** *Although the situation has improved significantly since 2007, only 42% of people aged 25–64 reported that they knew at least one foreign language in Hungary in 2016.*

Definition Foreign language skills can be defined as languages used in addition to the mother tongue. The language skill was surveyed based on self-reporting in the Adult Education Survey (AES); these skills were not tested.

Relevance Nowadays foreign language command is becoming a more and more important factor in economic and social life. Being a competence in demand at the labour market, foreign languages are taught in a larger and larger number of classes in initial education.

Analysis In 2007 only one in every four persons within the population aged 25–64 spoke at least one foreign language in Hungary. Although this proportion had increased to 42% by 2016, it is still lagging behind the average of the European Union (65%). Our disadvantage is remarkable also based upon the proportion of persons knowing several languages: while in Hungary only 14% of the respondents stated to speak two or more foreign languages, this rate is 29% in the Union.

There is no significant difference between the language command of the Hungarian women and men; however, differences are remarkable with respect to the various age groups. While 60% of the 25–34 age group knew a foreign language,

this rate was only 25% among the 55–64 year-olds. The proportion of individuals speaking two or more foreign languages was higher in the younger age groups.
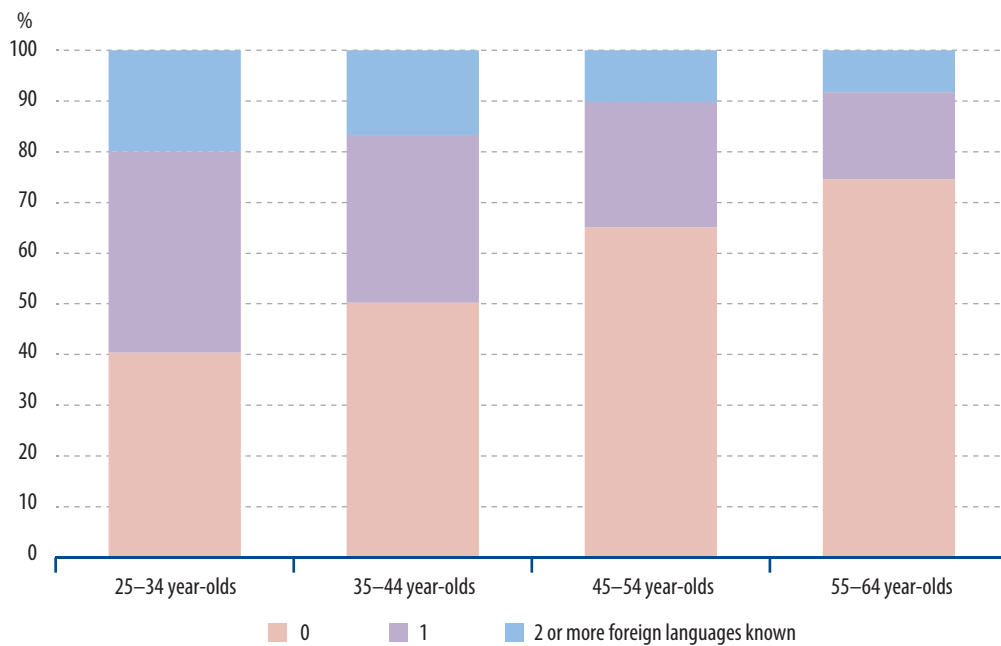
Taking a look at the foreign language command by educational attainment, we can face various results. Only 9% of the individuals with at most 8 grades of primary school spoke any language other than Hungarian, but this rate was already 35% for individuals with upper secondary educational attainment. The share of individuals knowing a foreign language was the highest among persons with tertiary educational attainment (79%); more than one-third of the respondents were able to communicate in two or more foreign languages.

International outlook Regarding foreign language command, differences are extreme among the Member States of the European Union. In eight countries (in Northern Europe, the Baltic States, Luxemburg and Malta) the share of persons speaking at least one foreign language is over 90%; on the contrary, in the United Kingdom this value is only 35%. Hungary is at the lower side of this ranking at EU level. A large dispersion can be observed in the proportion of persons using several languages in the European Union. In Luxemburg 51% of adults stated to know 3 or more languages. On the contrary, in Romania less than 1% of adults know at least 3 languages. In this respect, Hungary stands at the bottom of this ranking (3%).
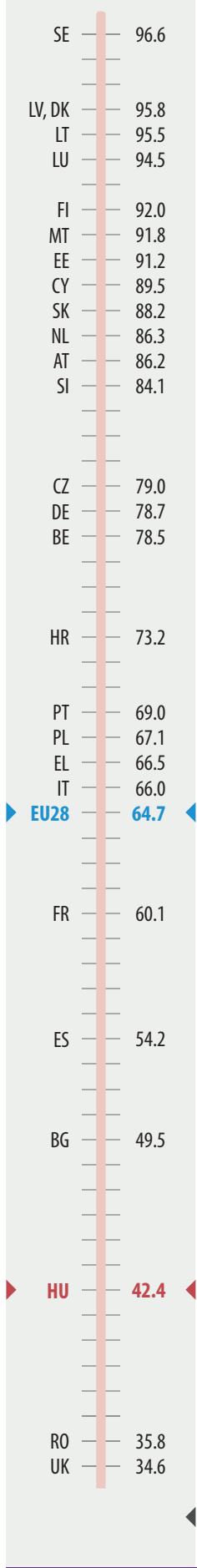
Figure 1.24.2 **Distribution of 25–64 year-old population by age and foreign language command, 2016**

%

Legend: ■ 0　■ 1　■ 2 or more foreign languages known

> **!** *In younger age groups the proportion of individuals speaking at least one foreign language is larger.*

Figure 1.24.3 **Distribution of 25–64 year-old population by educational attainment and foreign language command, 2016**

%

Legend: ■ 0　■ 1　■ 2 or more foreign languages known
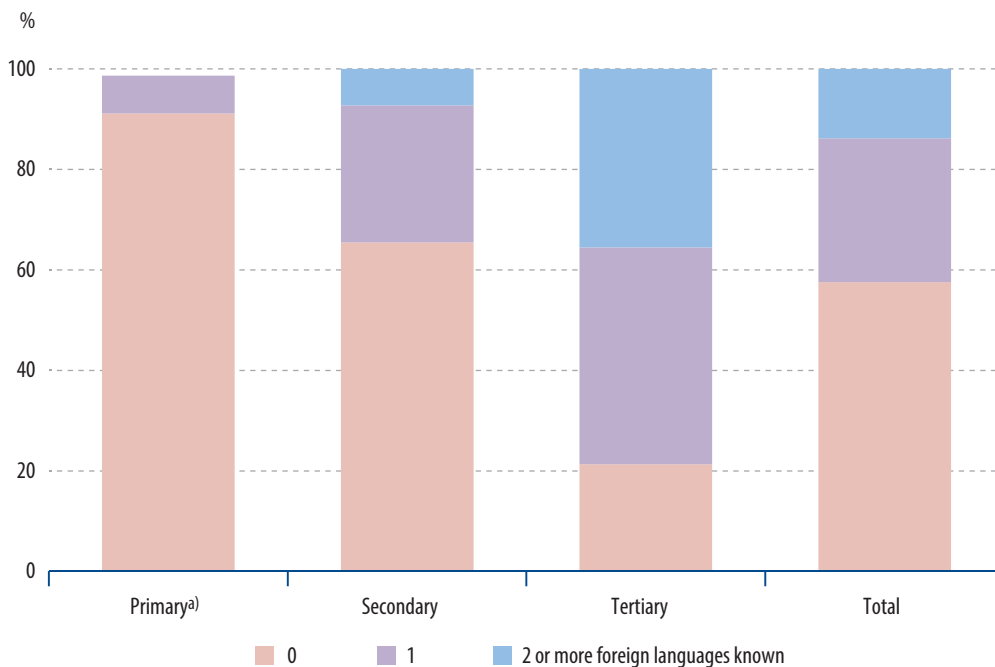
a) In case of persons having primary education attainment and speaking 2 or more languages, there is no estimation due to the small sample.

> **!** *Among persons with higher educational attainment the proportion of individuals knowing foreign languages is larger.*
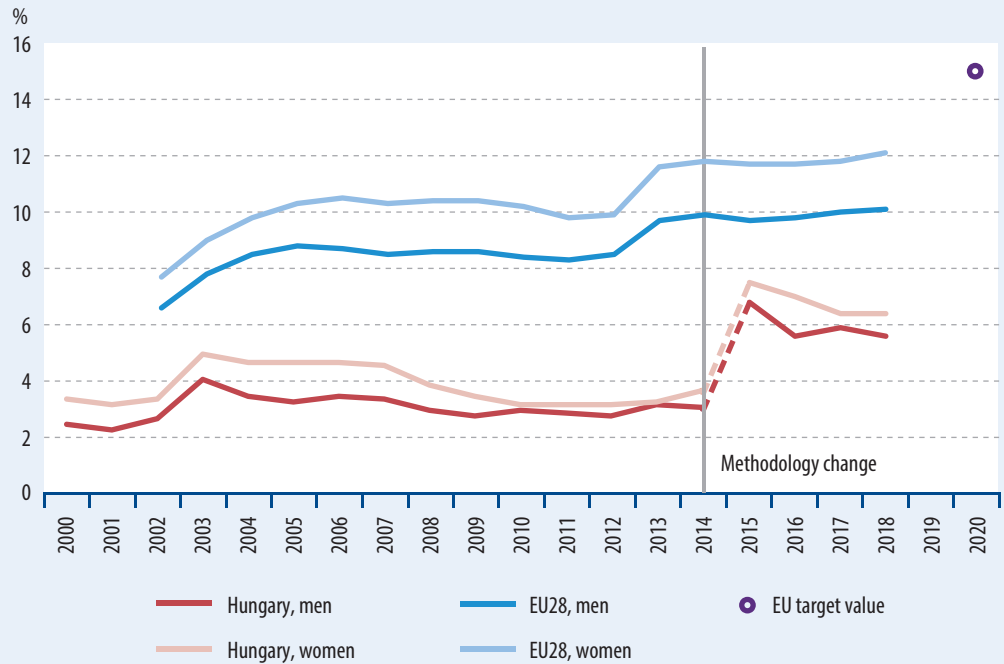
Lifelong learning

Since 2000

Since 2016

SE	29.2
FI	28.5
DK	23.5
EE	19.7
NL	19.1
FR	18.6
LU	18.0
AT	15.1
UK	14.6
IE	12.5
SI	11.4
▶ EU28	11.1 ◀
MT	10.8
ES	10.5
PT	10.3
BE, CZ	8.5
DE	8.2
IT	8.1
CY, LV	6.7
LT	6.6
▶ HU	6.0 ◀
PL	5.7
EL	4.5
SK	4.0
HR	2.9
BG	2.5
RO	0.9

Figure 1.25.1 Lifelong learning in the population aged 25–64

! *Although the proportion of adults participating in education and training increased in Hungary, it is still below the EU average.*

Definition The indicator of lifelong learning refers to the rate of 25–64 year-old persons who participated in education and training (formal or non-formal) during the four weeks preceding the survey within the whole population of the same age group.

Relevance The indicator of lifelong learning gives a picture of the learning and training activity performed by the adult population. In developed market economies, learning and training is finished less and less frequently when someone gets out of the education system and obtains qualifications. In sustainable societies the continuous technological development necessitates the completion of various training programmes, regular further training courses or career changes due to the transformation of the economic structure. The lifelong learning process of an individual serves the

adjustment to the changing demands of the economy. Furthermore, it comprehends all planned learning activities which aim at obtaining knowledge or improving abilities and competencies. Apart from the encouragement of lifelong learning, the National Framework Strategy on Sustainable Development also deems it important to highlight the values and practice of sustainability in the entire process of studies.

Analysis Between 2000 and 2002, the proportion of adults participating in lifelong learning in the total population aged 25–64 was around 3%. After a great increase of nearly 1.5 percentage points in 2003, this share became steady at a level of around 4% until 2007. However, after a continuous downward tendency until 2012, that year only 2.9% of the population concerned participated in education or training. In 2013 the rate of participation started to increase; however, it

Lifelong learning in the European Union, 2018, %

remained rather low even in 2014. The proportion of persons participating in education and training was 7.1% in 2015; however, this figure cannot be compared to the earlier ones for methodological reasons.[1] In 2018 the share of participants was lower by more than 1 percentage points (6.0%).

The reason of this low rate is not necessarily the lower level of learning intent or possibilities of the Hungarian adult population. The results of tests and ad-hoc surveys clarify that lot of respondents do not take into consideration short education and training programs, 1-2-day-long on-the job trainings or those programs not in connection with his/her work.

Examining lifelong learning indicator by gender, higher participation rate can be found among females. The 1% difference between genders at 2000 increased to nearly 1.5% by the middle of the decade. Since 2005 the difference has decreased, survey in 2013 indicated only a 0.2% gap between the participation rate of males and females.

There is a big contrast in the participation rate in education and training among regions: the difference can be twofold. Central Hungary is in the best situation followed by Northern Plain with a value above the national average. Participation rate of those adults in education and training who live in South-Plain and South-Transdanubia is slightly above the national average. The lowest adult participation rate can be found in West-Transdanubia, Central Transdanubia and Northern Hungary. Reviewing the last few years it can be stated that the difference between regions is not stable: implementation of even one project that requires massive training can result in significant change in the rate of adult participation in education and training in a certain region.

International outlook There is a large variance in the participation in lifelong learning among member states. In the population aged 25-64, one adult out of 10 in the EU, at least 2 adults out of 10 in the Scandinavian countries, and more than 3 adults out of 10 in Denmark participated in education and training. The lowest participation rates can be found in Eastern European countries. In Hungary and in general in the EU, more women are involved in lifelong learning than men.

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[1] In 2015 interview technical amendments were carried out in order to record the phenomenon in a more efficient and precise manner. These modifications resulted in a dynamic growth of the indicator; therefore, the figures of 2015 cannot be compared with the earlier ones.

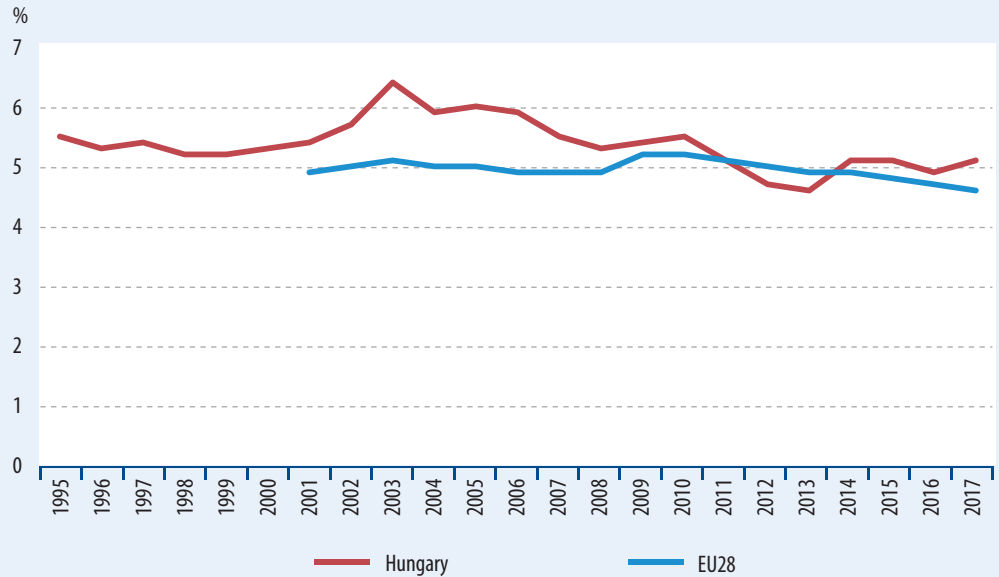*Education expenditures of government as a proportion of GDP*

Since 2004

Since 2016

SE	6.8
DK	6.5
BE	6.3
EE, LV	5.8
CY, FI	5.7
FR, SI	5.4
► **HU,** NL ◄	**5.1**
PT	5.0
LT, MT, PL	4.9
AT	4.8
HR, LU	4.7
► **EU28,** CZ, UK ◄	**4.6**
DE	4.1
ES	4.0
EL	3.9
IT, SK	3.8
BG	3.6
IE	3.3
RO	2.8

Figure 1.26.1   Education expenditures of government as a proportion of GDP

Hungary   EU28

! *Regarding a longer period education expenditures as a proportion of GDP showed a fluctuating trend.*

Definition This analysis is based on the ratio of the 09 Education division of the Classification of the functions of government (COFOG) to GDP. Education expenditures have the following components: gross capital formation, compensation of employees, intermediate consumption, other taxes on production, social benefits other than social transfers in kind, social transfers in kind – market production purchased by general government, other current transfers and capital transfers. The source of data is COFOG statistics validated by Eurostat in February 2019, which include preliminary calculations for 2017.

Relevance Education fulfils a key role in maintaining the competitiveness of a country. It affects the general knowledge level of the population, the labour market competitiveness of the citizens, and it is also important with respect to the satisfaction of economic demands. Therefore, the amount of education expenditures allocated by the government has high potential and functions as one of the key indicators in the

National Framework Strategy on Sustainable Development.

Analysis The education expenditures of the government as a proportion of GDP totalled 5.4% on average in the period 1995–2017. The average even reached 6.1% between 2003 and 2006 (6.4% in 2003), but it was followed by a decreasing trend. During the low peak in 2013 the proportion of education expenditures was only 4.6%. Following this, 5.1% was measured in two subsequent years, which declined to 4.9% in 2016. The indicator was 5.1% again in 2017.

International outlook In 2017 the education expenditures of the government as a proportion of the GDP totalled 4.6% on average in the 28 EU Member States. The highest share of education expenditures as a proportion of the GDP was spent in Sweden (6.8%), followed by Denmark, Belgium, Estonia and Latvia. The lowest share of education expenditures was allocated in Romania (2.8% of the GDP), while Greece, Italy, Slovakia, Bulgaria or Ireland did not reach 4% either.

Education expenditures of government as a proportion of GDP in the European Union, 2017, %

Social resources

In a snapshot

Financial security
- Income inequality, following the 2008 crisis had an effect until 2014 in the direction of polarisation, since then, however, the stagnation of inequalities was typical. By an increase of 0.1 percentage point the proportion was 4.4% in 2018. Income distribution inequality in Hungary is below the EU28 average.

- Debt-to-income ratio of households increased consistently after 1998, households possessed an ever increasing debt compared to their income. Debt compared to household income culminated in 2010 at 68%. After 2010 the value of the rate started to decrease due to the continuous increase in income and decrease in debt.

Trust
- Confidence among people in our country is moderate, the average value per total population was constantly 5.0 points between 2015–2018 (on a scale from 0 to 10).

Social activity
- The number of the non-profit sector's organizations reached its peak at about 65 thousand in the years around 2010, since then – partly due to cessation of the de facto non-performing organizations – their number started to decrease. Since 2010 the growth in number of the organizations dealing with municipal- and economic development, public safety, education and religion was more intense than the average. Two-thirds of these have been run as social organizations. The non-profit organizations' weight in the national economy was 5% of the GDP in 2016.

- About 37% of Hungary's population participated in voluntary work in 2017, this number increased compared to the 29% in 2011. Help offered to relatives and friends is the most common form of volunteering.

Chapter	Number	Indicator	Page	Evaluation of changes compared to past status	
				Long term	Short term
Financial security	2.1	Risk of poverty	76	☀	☀
	2.2	Income inequality	77	🌧	🌦
	2.3	Financial situation of households	78	🌧	☀
	2.4	Financial sense of security	79	🌧	☀
	2.5	Self employed persons – atypical employment	81	🌧	🌦
	2.6	Placement options for children in kindergartens and infant nurseries	84	🌧	🌦
Trust	2.7	General trust	87	🌦	🌦
	2.8	Network of personal connections	90	🌧	🌧
	2.9	The population's trust in the legal system	92	☀	☀
Social activity	2.10	Nonprofit organizations	94	☀	🌦
	2.11	Voluntary work	96	☀	☀
	2.12	Turnout in parliamentary elections	99	🌦	☀
	2.13	Availability of e-government	101	☀	☀

RO	32.2
BG	29.2
IT	26.4
LT	25.7
EL	24.5
LU	22.8
HR	21.4
UK	21.3
MT	21.2
PT	20.7
▶ **EU28**	**20.0** ◀
SK	19.9
AT, FR	19.1
BE, SE	18.6
LV	18.4
IE	17.0
CY, EE, ES	16.5
DE	15.2
▶ **HU**	**14.8** ◀
NL	14.4
PL	14.0
SI	12.8
CZ	11.6
FI	10.2
DK	10.4
FI	10.0

Risk of poverty

Since 2010

Since 2016

Figure 2.1.1 At-risk-of-poverty-rate (Total population=1.0)

Legend: 0–17 year-olds · 18–24 year-olds · 25–49 year-olds · 50–64 year-olds · 65 year-olds and older
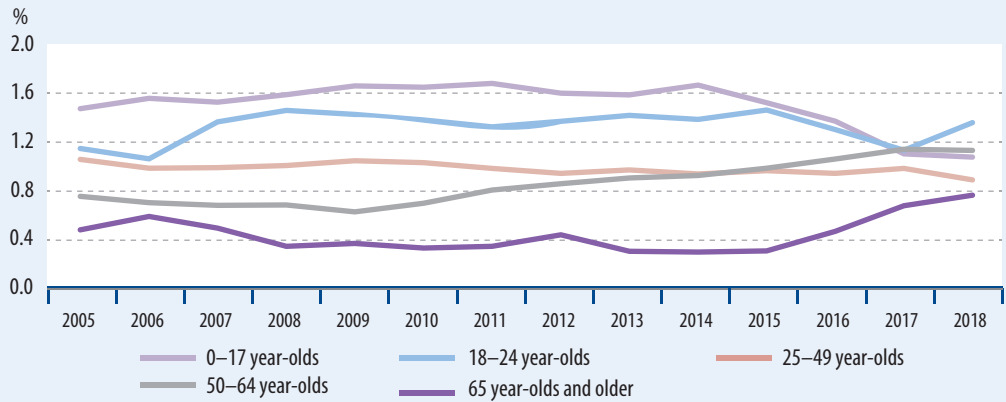
> **!** *Risk of poverty is highest among young adults aged 18–24 and lowest among the old-age population. The indicator improved for children and 25–64 year-olds from 2017 to 2018.*

Definition At risk of poverty is the proportion of people of a given group compared to the national average. The value higher than 1 means a higher than average risk of getting below the poverty threshold, the lower than 1 value means a lower than average risk. Poverty proportion represents the proportion of those having an income of below 60% of the median income (poverty threshold). We get the median income by ranking people based on their income and the median income will be the sum which will have the same number of people above and below it.

Relevance The poverty of children is determined mainly by the labour market situation of the parents, their situation is also greatly affected by social policy interventions. Childhood poverty has a negative impact on fulfilling basic needs, it hinders the formation of relationships and narrows important opportunities of the future (e.g. participating in education). All these increase the probability of social exclusion in adulthood. According to the National Framework Strategy on Sustainable Development in order to reduce childhood poverty the supporting intervention is crucial in as early an age as possible, namely making accessible the health-, care-, development-, social services, the improvement of parental competencies for the 0–3 year-olds

and their parents. At later ages disadvantaged children's kindergarten attendance, then access to quality, integrated education is essential.

Analysis By advancing in age poverty rate and at-risk-of-poverty rate decrease gradually. At-risk-of-poverty rate of children and young adults has been decreasing continuously since 2015. Although their poverty rate is still above average, it surpasses the national average to a lesser and lesser extent. The at-risk-of-poverty level of children aged 0–17 decreased between 2015 and 2018 from 1.52 to 1.08, while in the 18–24 age group from 1.46 to 1.36. The situation has slightly worsened lately for the 50–64 age group, their at-risk-of-poverty rate was 0.99 in 2015 and 1.13 in 2018. The situation of the 65 year-olds and over deteriorated as well, however, their poverty rate is significantly below average.

International outlook The poverty rate for persons aged 18 and under was 20.2% in 2017, it has decreased minimally. Child poverty is highest in Romania, Bulgaria and Spain, poverty rates measured in these countries in the 0–17 age-group approaches or exceeds 30%. The lowest child poverty data, around 10%, have been measured in Denmark and Finland.

Poverty rate of children under 18 years of age in the European Union, 2017, %

2.2

Income inequality

Since 2005

Since 2017

Figure 2.2.1 Changes in income distribution inequality
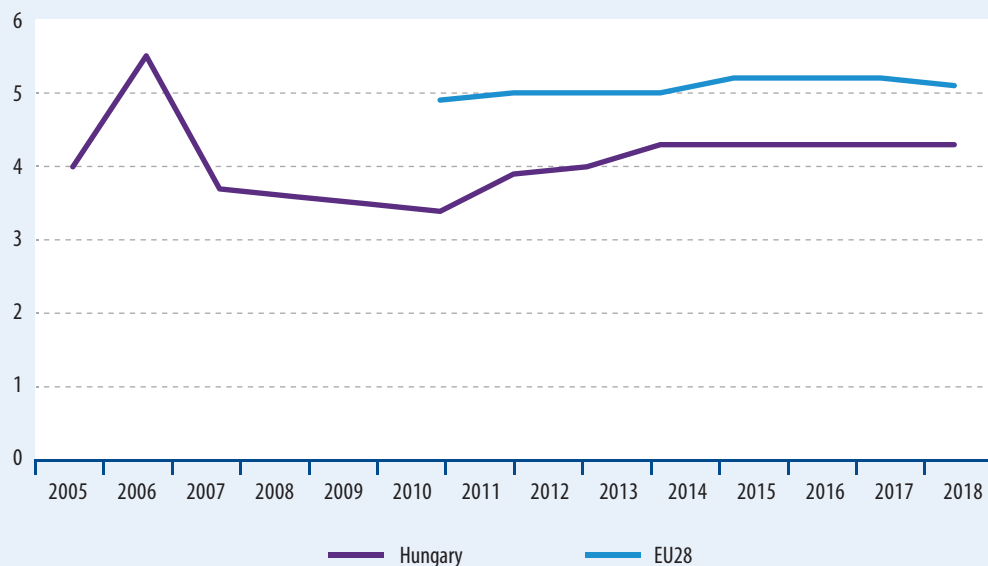
! *Income inequality in Hungary is below the EU average.*

Definition The S80/S20 index is an indicator of income distribution inequality, measuring the distribution of equivalent incomes as the ratio of income for the upper and lower income quintile. Higher value means higher inequality.

Relevance Social inequalities co-exist in several dimensions: in the geographical area – between the territorial units of the country –, by settlement types, by educational level or between sexes. Still, we primarily understand inequality as income distribution inequality, which is often closely related to the former variants. Inequality has a negative impact on social cohesion so its reduction or attempts towards its elimination are significant components of the social dimension of sustainability. Different indices express how large the income inequalities are among the members of society as well as how these changed over the past years. The index, also known as the S80/S20, expresses this phenomena as the proportion of income owned by the richest and by the poorest quintile of the society.

Analysis Inequality in income distribution decreased in Hungary up to the 2009 reference year, after that – in parallel with the expansion of the economic crisis – it started to increase. The ratio of the upper and lower quintile incomes was 3.7 in the 2006 reference year, then it decreased to 3.4 in 2009. Next up to 2013/14 the process moved once again toward polarisation, then the stagnation of inequalities became typical.

Nevertheless, income distribution inequality in Hungary is below average in European comparison, our country has a similar value as Sweden and France.

International outlook During the 2017 reference year income distribution inequality in the European Union was the highest in Bulgaria, Lithuania and Spain, and the lowest in Finland, Slovenia, Slovakia and Czechia.

BG	8.2
LT	7.3
ES	6.6
RO	6.5
LV	6.3
EL	6.1
IT	5.9
PT	5.7
EE, UK	5.4
EU28	**5.1**
HR, LU	5.0
CY, PL, IE	4.6
DE	4.5
FR	4.4
HU,	**4.3**
SE, AT	
MT	4.2
DK	4.1
NL	4.0
BE	3.8
FI, SK	3.5
SI, CZ	3.4
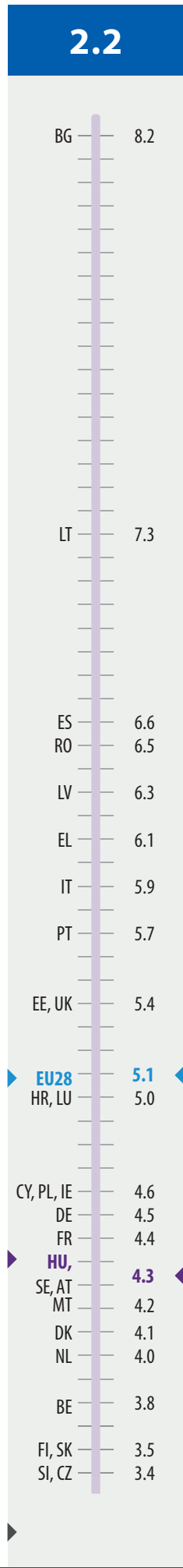
Inequality of income distribution in the European Union, 2017

DK	244.5

NL	215.3

CY	178.8
LU	171.7

SE	157.2

IE	147.1

UK	126.4

FI	114.2

PT	104.3
BE	103.3
ES	103.2

FR	89.5
AT	84.3
DE	82.7

EE	69.7
SK	63.1
IT	61.1
PL	60.0
CZ	58.9

SI	44.6
LV	37.6
▶ HU a)	**36.7** ◀
LT	35.6
BG	32.7

a) HCSO data, updated on 30 September 2018. ◀

Gross debt-to-income ratio of households in the European Union, 2016, %

Financial situation of households

Since 2000

Since 2010

Figure 2.3.1 Changes in the debt-to-income ratio of households

Legend: Hungary — Eurozone (19 countries)
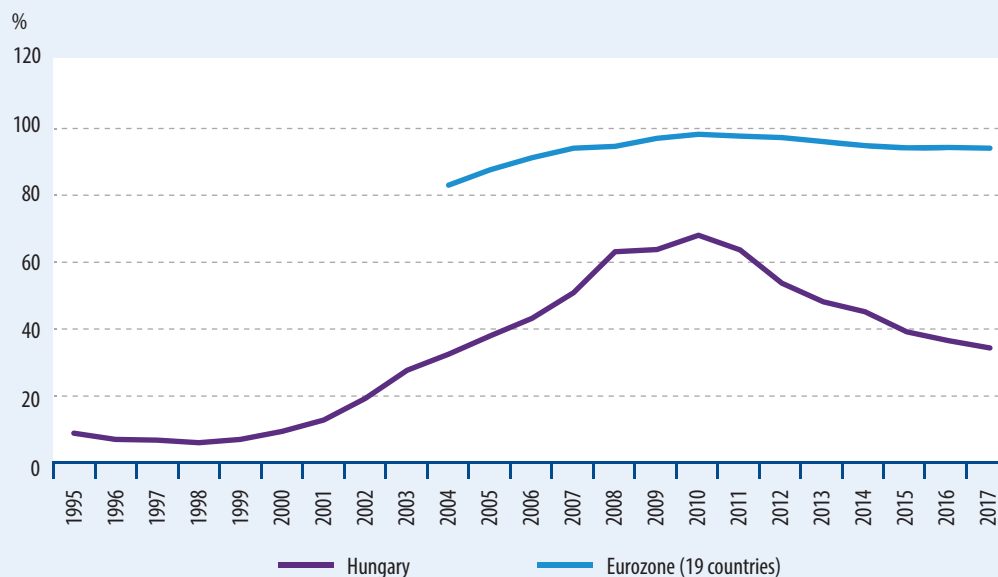
! *The debt-to-income ratio of households increased continuously between 2000 and 2010, however, this unfavourable trend reversed in 2011.*

Definition The debt-to-income ratio of households shows what percentage of the available income of the household – including corrections due to net changes in wealth of private pension funds – represents the average gross debt of the household in a given period.

Relevance Observations and surveys show that households do not have adequate financial skills: they are not able to judge their own risk taking capabilities, neither the advantages nor the disadvantages of certain financial services. The promotion of assistance in responsible consumption- and saving-related decision-making is a joint responsibility of the population, the government and the banks. The National Framework Strategy on Sustainable Development draws attention to the fact that economical and prospective management is a matter of individual reflection, in conformity with the principles regarding private property. Beside financial awareness is also an important and conveyable asset as the widespread lack of it may lead to the indebtedness of the population, to

overall economic imbalance and crisis. Both the population and the government have to play their part in avoiding this possible outcome.

Analysis Households' debt-to-income ratio reached its lowest level in Hungary in 1998 (6.2%) since 1995. After 1998 this rate increased continuously, that is, households had an increasing debt compared to their income. The indicator peaked in 2010 at 68%. Following 2010 the ratio began to decrease due to a continuous growth of income and decrease in debt. Debt due to foreign-currency-based loans represented a serious problem between 2000 and 2011, however, government intervention reversed this trend in the 2012–2017 period. Foreign currency loans of households decreased by 2015 to the 2001 level (HUF 172 billion) approximately.

International outlook Average household debt-to-income ratio was 94% in 2016 in the 19 member states of the Eurozone. Its growing trend came to a halt, the rate slightly but constantly decreased following the 2010 peak. In 2016 the highest rate was measured in Denmark (244%), the lowest in Bulgaria (33%).
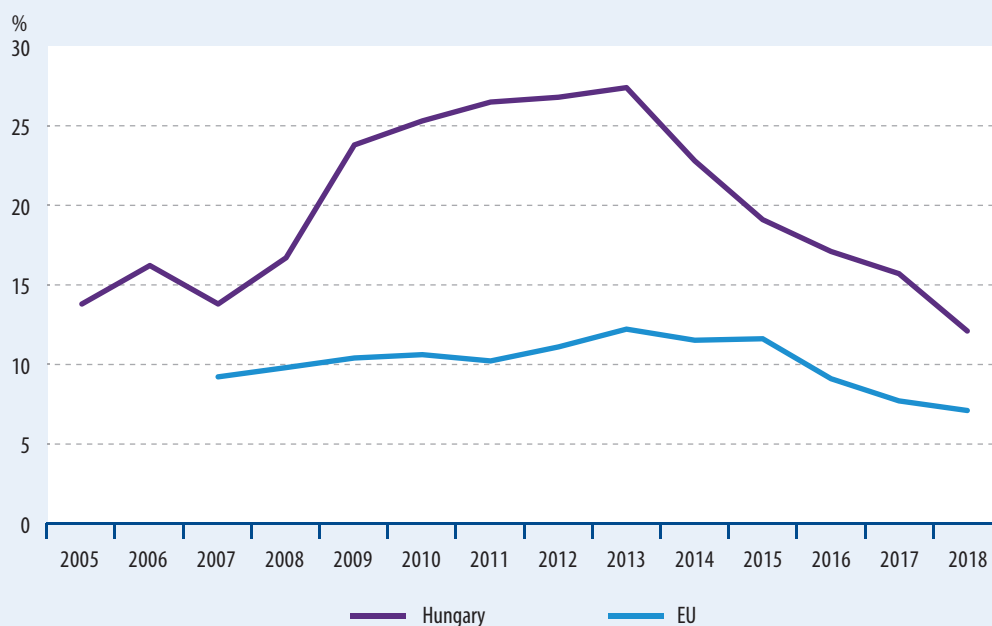
Financial sense of security

Since 2005

Since 2017

2.4

Figure 2.4.1 Proportion of those who can cover their usual expenses with great difficulty

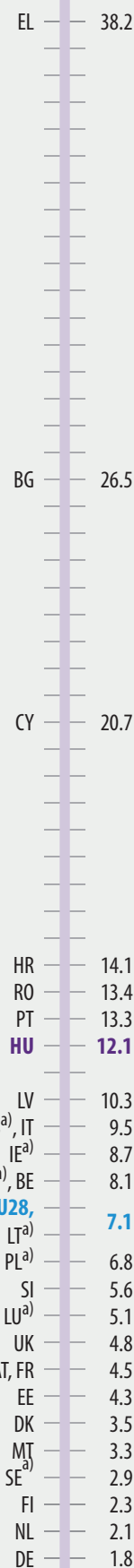! *A worsening trend prevailed up until 2013, since then improvement took on.*

Definition In case of this indicator we take into account the answers to the question: 'In your opinion how does your household cover the usual expenses?' which state: 'with great difficulty'.

Relevance Beside the material dimensions of development it is necessary to follow how the members of society see, in a subjective way, their own social situation. The Stiglitz-Sen-Fitoussi Commission, set up in 2008 by French President Nicolas Sarkozy, came into being with the purpose to offer new statistical measurement methods, more adequate than the generally accepted GDP- indicators for defining social trends, for presenting sustainability. Among the published recommendations of the Committee there is one stating: 'Measures of both objective and subjective well-being provide key information about people's quality of life. Statistical offices should incorporate questions to capture people's life evaluations, hedonic experiences and priorities in their own survey.' The subjective indicator regarding financial sense of security provides information about the most basic component of individual well-being.

Analysis In Hungary the proportion of those who feel they can cover their expenses with great difficulty is above the EU average. While the EU average in the last ten years was about 10%, in the case of the Hungarian results some major changes and significant trends took place in the examined period. The indicator was 13.8% in 2007, then a sharp, from 2009 a moderate increase followed, and the proportion of those who could cover their usual expenses with great difficulty reached 27% by 2013. Since 2014 the trend changed direction, the indicator started to decrease, it stood at 12.1% in 2018.

We see great differences among household types when it comes to the lack of financial sense of security. Households with children reported in almost the same proportion (12.5%) about their difficulties when covering their usual expenses as the ones without children (12.2%). National trends show up in a similar way in the case of both household types.

Proportion of households that are unable to make ends meet in the European Union, 2018, %

EL	38.2
BG	26.5
CY	20.7
HR	14.1
RO	13.4
PT	13.3
► **HU**	**12.1** ◄
LV	10.3
ES[a], IT	9.5
IE[a]	8.7
SK[a], BE	8.1
► **EU28,**	**7.1** ◄
LT[a]	
PL[a]	6.8
SI	5.6
LU[a]	5.1
UK	4.8
CZ, AT, FR	4.5
EE	4.3
DK	3.5
MT	3.3
SE[a]	2.9
FI	2.3
NL	2.1
DE	1.8

► *a) 2017.*

Figure 2.4.2   **The proportion of those who cover their usual expenses with great difficulty, by types of households**

%

Households without dependent children — Households with dependent children
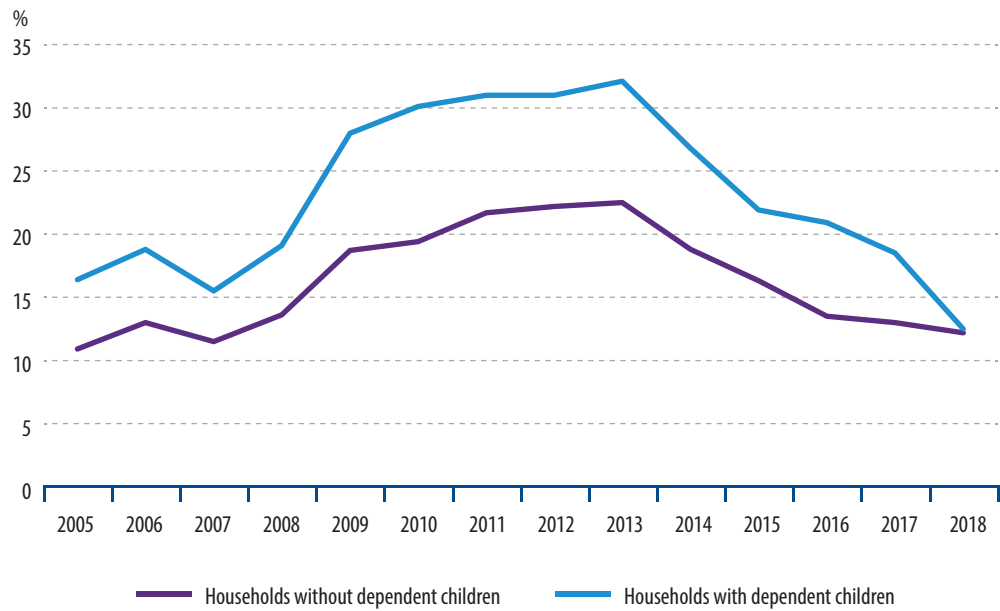
> **!** *By 2018 the difference regarding the existence in their life of the lack of financial sense of security basically disappeared between households with and without children.*

International outlook In 2018 in the European Union 7.1% of the population reported about covering their usual expenses with difficulty. The proportion of those who cover their usual expenses with difficulty slightly increased up until 2013, then it decreased moderately, or stagnated in the European Union. The lack of financial sense of security causes problems in the largest proportion in Greece, Bulgaria as well as Cyprus where the value of the indicator is above 20%. The lowest levels – under 3% – were measured in Germany, the Netherlands and Finland.

Self-employed persons – atypical employment

Since 2002

Since 2017

Figure 2.5.1 Proportion of self-employed persons among 15–64 year-old employed people

Legend: Hungary, men — Hungary, women — EU28, men — EU28, women
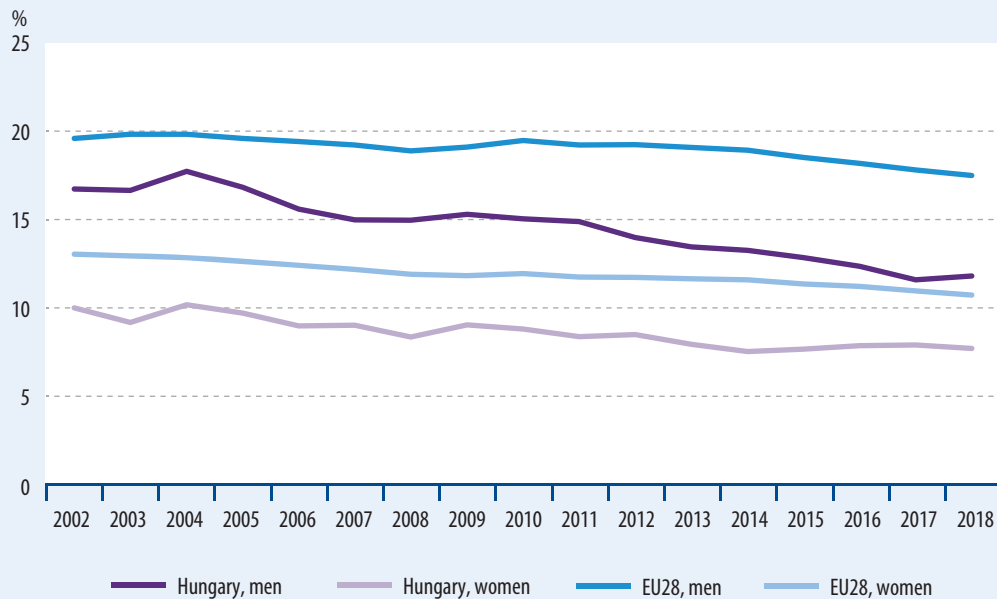
! *The proportion of self-employed persons in Hungary is still below the EU average.*

Definition Forms of work which differ from the usual ways are considered atypical. Full-time employment with a contract of indefinite duration as an employee can be regarded as a usual form. Starting from this definition – and adding several employment types with irregular circumstances – we consider at present the following categories as atypical employment: a) self-employed: not employed (individual entrepreneurs, and working members of joint entrepreneurships, unpaid family members helping out, members of co-operations); b) part-time employed people: those who work part-time based on self-declaration; c) people working with fixed-term contracts: employees whose contract is for a fixed period.

Relevance As long as atypical employment forms – by creating jobs and adequate working conditions – are in compliance with the given country's specific economic structure, are able to promote the joint increase of the employment rate and competitiveness, several EU initiatives propose their spreading. Increase in employment rate is considered a basic social foundation stone of sustainable development.

Analysis The most common form of atypical employment in Hungary is self-employment. They relate in a more flexible way to the labour market, that is why their status is less secure than the more calculable employment status. The individual or joint entrepreneur status is decisive, but cannot compete with the over 85% rate of those working as employees.

The proportion of self-employed persons decreased continuously in the last one and a half decades – in spite of the momentary increase of 2004 – the 15.1% proportion at the turn of the millennium was only 9.9% in 2018. Non-employment work – in line with all member states of the EU in Hungary, too – is higher among men. The proportion of self-employed men decreased from 18.9% in 2000 to 11.8% in 2018, that of women from 10.4% to 7.7%. Within it the discrepancy between sexes diminished, too, from 9.0 percentage points to 4.1 percentage points.

Self-employed persons as a percentage of the total employment aged 15–64 in the European Union, 2018, %

EL	32.6
RO	22.8
IT	21.7
PL	19.7
CZ	16.4
NL	15.7
ES	15.6
SK	14.6
EU28	**14.4**
UK, SI	14.0
MT	13.7
PT, BE	13.4
IE	13.3
CY	12.1
FI	11.8
LT	11.5
LV	11.4
BG	11.3
HR	11.3
FR	11.2
AT	11.1
EE	10.5
HU	**9.9**
DE	9.0
SE	8.6
LU	8.3
DK	7.5
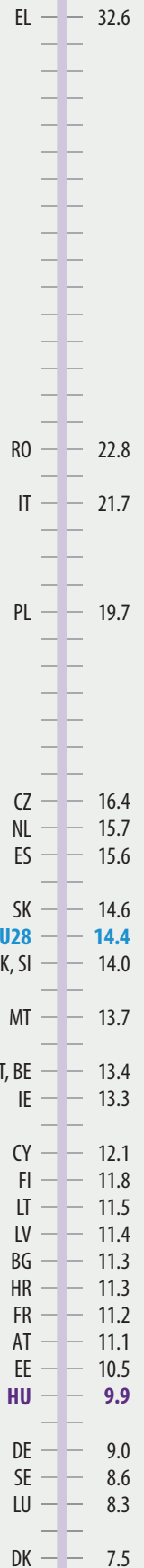
Figure **2.5.2 Proportion of part-time employed persons among the 15–64 year-olds**

%

Hungary, men ——— Hungary, women ——— EU28, men ——— EU28, women

NL	50.1
AT	27.3
DE	26.8
DK	24.8
UK	24.6
BE	24.5
SE	22.8
IE	19.5
▸ **EU28**	**19.2** ◂
IT	18.4
FR	18.0
LU	17.8
FI	15.1
ES	14.5
MT	13.3
EE	11.1
CY	10.8
SI	9.7
EL	9.1
PT	8.1
LV	7.3
LT	7.1
RO	6.5
PL	6.4
CZ	6.3
HR	5.2
SK	4.9
▸ **HU**	**4.2** ◂
BG	1.8

Part-time workers as a percentage of the total employment aged 15–64 in the European Union, 2018, %
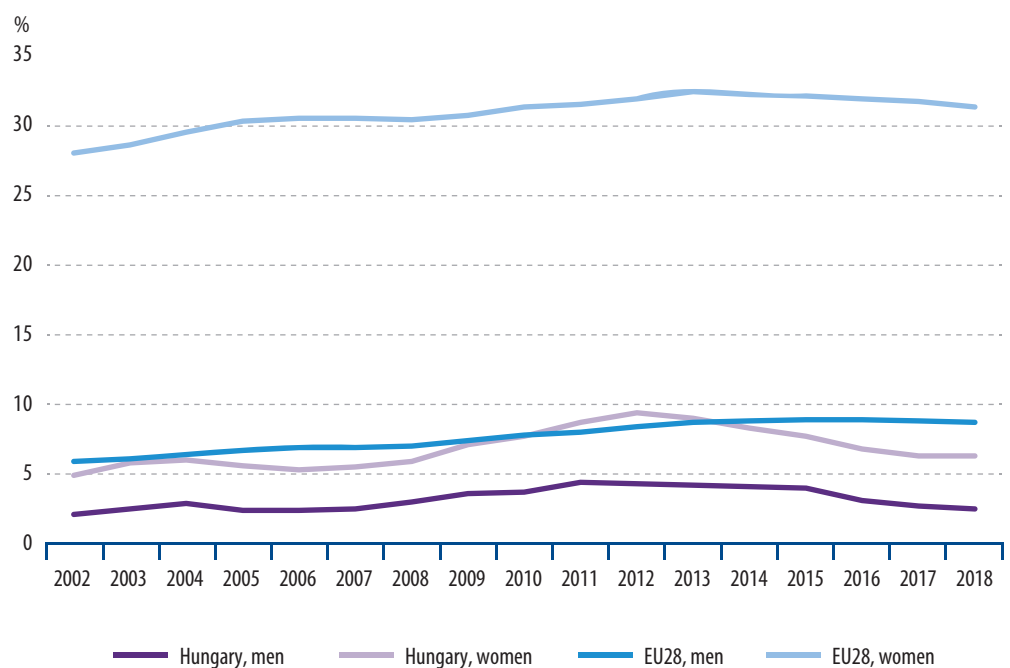
! *Part-time employment increased slightly as a tool of crisis management, however, the increase was only temporary, in recent years the prevalence of this type of employment has decreased once again.*

From the employer's point of view fixed-term employment has fewer restrictions, from the employee's perspective it is a less desirable form of employment, although it improves labour market flexibility. The 2010 data reflect this fact correctly, when, due to the economic crisis the proportion of employees with a fixed-term contract increased significantly. The fact that casual as well as public employment became more prominent, labour market trends, inflow and outflow becoming more dynamic also contributed to that.

The proportion of employees with a fixed-term contract is higher and higher in Hungary. 6.8% worked in that way in 2000, then, after some increase in the mid-decade, between 2004-2006 their proportion decreased to the level at the turn of the millennium. Since 2007 it increased once again, 11.4% of employees had fixed-term contracts in 2015, in 2018 it decreased by 4.1 percentage points to the pre-crisis level of 7.3%. The expansion of public employment at

a rate higher than ever before played a part in the continuous increase. While 22% of fixed-term employees worked as public employees, their proportion increased by 2018 to 47%. The trend had a similar path for both sexes. Among men those employed for a fixed term was 1-2 percentage points higher up to 2015, this trend reversed during the last four years, which is explicable by the increase of women's proportion among the public employees.

Working time made more flexible – partly by working time redistribution and its shortening – could be an effective instrument for managing unemployment. The proportion of part-time employment is very low in Hungary. One reason is that employers prefer full-time employment, the other is that living expenses are usually higher than a salary attainable through part-time employment. That is why for many employees it is a subsistence constraint to be employed full-time. The proportion of part-time employees hardly changed between 2000 and 2007, it was characteristically under 4%. Since 2008 one of the responses of the labour market to the global economic crisis was the adjustment of a part of

full-time employments to part-time ones by companies which faced transitional difficulties in the market. The proportion of part-time employment started to rise partly due to this trend and surpassed 6% in 2011. Their number did not rise further; after the continuous increase in employment starting in 2012 their proportion decreased to 4.2% in 2018.

Almost twice as many women choose part-time work since beside child care, other family related responsibilities often this type of work may be the only way for them for gaining income, for building a career. Up to 2008, the onset of the crisis, the proportion of part-time employees among women was under 6%, it was 7% in 2009, increased to over 9% in 2012, decreased to 6.3% by 2018.

International outlook Employee status is considered to be the typical occupational relationship in all member states of the European Union. The proportion of the atypical form of self-employment was 14.4% in 2018 on EU28 average and in most countries was situated in the 10-16% zone. Part-time employment is the most common atypical form of work in the European Union. Accordingly, every fifth employed person declared their work as a part-time one in 2018. In Hungary their proportion is 4.2%. While self-employment is more common among men, part-time work is more common among women in all member countries. In the EU28 out of one hundred employed people 31.3 consider themselves part-time workers among women, and 8.7 among men. Atypical employment with a fixed-term contract is the least prevailing form within the EU. Altogether 14% of all employees are hired with shorter or longer fixed-term contracts in the EU28, in the greatest proportion in Spain (26.9%) and the smallest in Romania (1.1%).

Summary tables (STADAT)

2.1.9 Employed persons by status in employment

2.1.11 Number of employed persons by part- or full-time and sex

2.1.12 Number of employees by contract duration and sex

Placement options for children in kindergartens and infant nurseries

Since 2000

Since 2017

FR, UK, IE	100.0
BE	98.7
DK	98.0
NL	97.6
ES	97.4
LU	96.6
MT	96.5
DE	96.4
SE, LV	96.3
▶ HU, AT ◀	**95.6**
▶ **EU28** ◀	**95.4**
IT	95.1
PT	94.2
EE	92.9
SI	92.1
CZ, CY	92.0
PL, LT	91.9
RO	89.6
FI	87.8
BG	83.9
HR	82.8
EL	81.5
SK	78.2

Figure 2.6.1 Occupancy rate of kindergartens
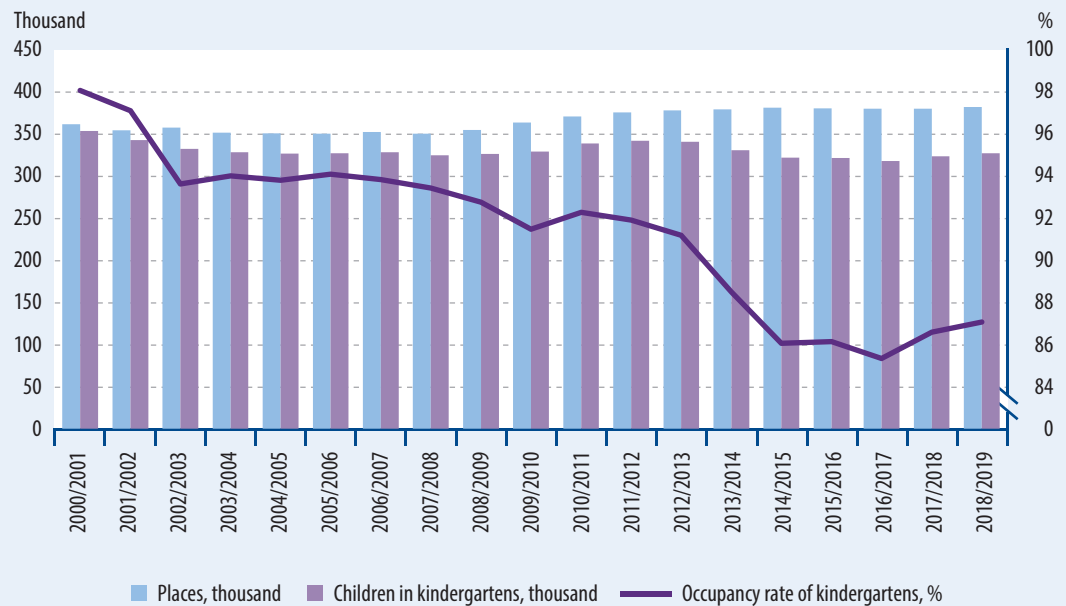
Source: Ministry of Human Resources.

Places, thousand   Children in kindergartens, thousand   — Occupancy rate of kindergartens, %

! *The occupancy rate of kindergartens in the 2018/19 school-year was 86%.*

Definition The occupancy rate of infant nurseries is a percentage indicator, defined by the ratio of enrolled children and the number of active places, including family-, workplace and mini nurseries. Kindergarten occupancy rate is the ratio between the enrolled – and in the theoretic time of data collection registered - children and the active kindergarten places.

Relevance According to the National Framework Strategy on Sustainable Development it is important from the standpoint of keeping children from falling behind that children under 3 years and their parents should have access to health-, care-, early development and social services. In this respect it is important to coordinate locally available services. In order to lay the foundation of a successful school-career and to avoid early school-leaving, kindergarten education and making quality, integrated education available are important.

Participation in early childhood education, % of the age group between 4-years-old and the starting age of compulsory education, 2017

The possibility of daytime placement of children under school-age favours parents' employment as well. Employment possibilities for young mothers and fathers contribute to the diminishing of childbearing-related income reduction of families, on the other hand the human capital incorporated in the parents' professional knowledge can be utilised.

Analysis The main form of daytime care for children up to 3 years of age – outside the family – is the infant nursery, then up to school-age the kindergarten. The infant nursery system – basically a form of institution or service specialising in daytime provision for children under 3 years of age – underwent major changes after 1 January 2017. Provision is easier to organize in settlements with fewer than 10 thousand inhabitants. In order to facilitate all these within a narrower range legislation specifies – after infant nurseries – the family nursery, workplace nursery and the mini nursery. Due to modification in legislation the comparison with available data from previous years is limited, however it can be said based on

Figure 2.6.2 Distribution of places in the different nursery types by counties, 2018

■ Nursery   ■ Mini nursery   ■ Workplace nursery   ■ Family nursery
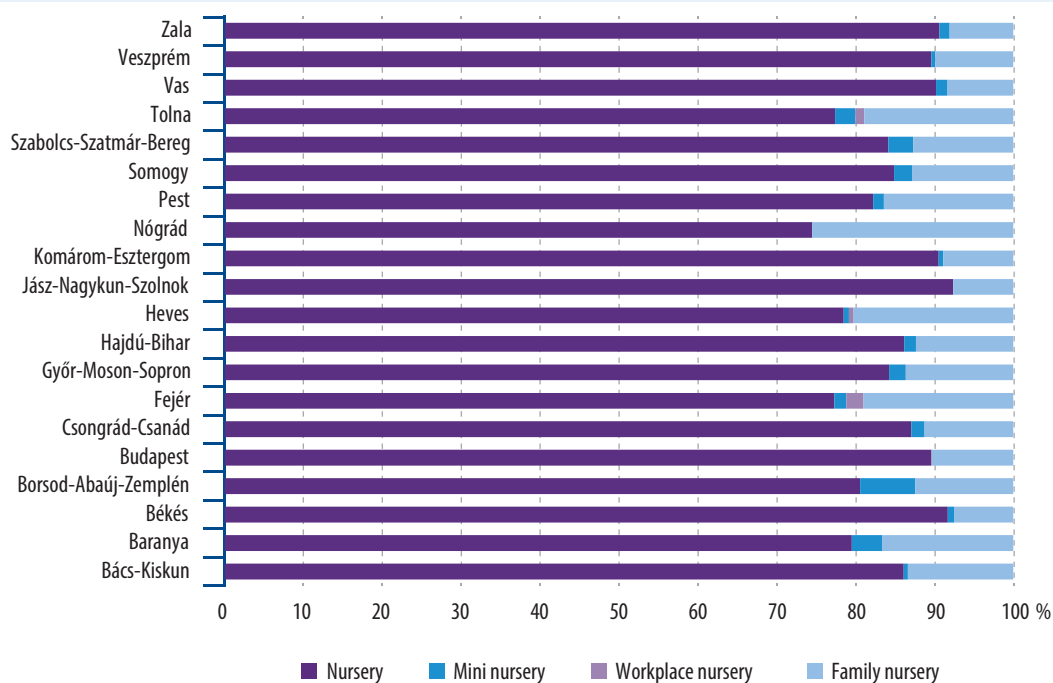
> **!** *By the reorganization of the institutional supply the distribution of different forms of daytime care varies. In the second year following the legislative amendment 25% of children under 3 years of age still lived in settlements where no form of daytime care was available.*

data available on 31 May 2018 that out of the new forms of provision the majority of institutes, 86% of the provision-infrastructure are nurseries while 12% of places functioned within the family nursery framework. 44 577 children have been cared for in the 47 169 nationally available places meaning a 95% utilisation of the institutions.

92% of children aged 3–5 years participated in kindergarten education in 2018. The number of children in kindergarten decreased by 7.5% from 2000 to 2018, however, by making kindergarten enrolment compulsory from 3 years of age the number of enrolled children – with a slight increase from 2017 to 2018 – has been stagnating. The number of kindergarten places grew by 5.7% during this time, and it is basically unchanged since 2015. As a result of the drop in the number of enrolled children and increase in number of places kindergarten occupancy rate decreased from 98% in 2000 to 86% in 2018.

The changes in proportion of places in different types of nurseries are determined in each county by the settlement structure of the given county. It is characteristic to areas with larger settlements that places at infant nurseries represent the overwhelming majority of available capacities,

this is the case in the Great Plain counties, Békés, Jász-Nagykun-Szolnok, but also in Vas and Komárom-Esztergom counties. Where further needs emerge capacities may be increased by family or mini nurseries, but it is also characteristic to counties with smaller settlements to create smaller capacity institutions, like in Heves and Nógrád counties, where these institutions represent over 20%. Workplace nurseries started to be established, too, in the highest proportion in Fejér county, but in 2018 in the capital as well as in Heves and Tolna counties children were expected in nurseries run by employers for the time their parents were at work.

In Csongrád-Csanád county the utilisation of nurseries is still above 100%. In Budapest almost every third child under 3 years of age benefits from day-care services. In the capital and in Csongrád-Csanád county the proportion of users and occupancy indicate that further space increase would be claimed by the population.

In 2018 the highest occupancy of kindergartens (over 90%) was observed in Jász-Nagykun-Szolnok county. In contrast to that, the occupancy of kindergartens in Somogy and Nógrád counties is under 80%. The ranking slightly changed but

Figure 2.6.3   Occupancy of kindergartens by counties, 2018

Percentage

	−80.0
	80.1−83.0
	83.1−86.0
	86.1−
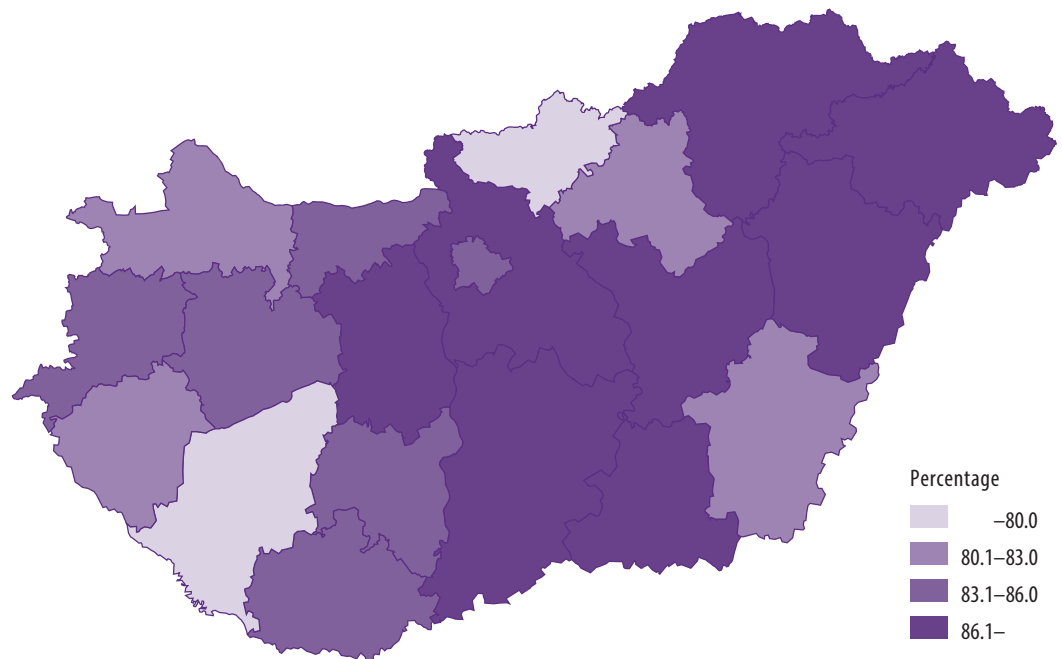
Source: Ministry of Human Capacities.

!   *Jász–Nagykun–Szolnok county shows the highest occupancy rate of kindergarten places.*

the differences between the counties hardly decreased, the difference in capacity utilisation between the best and worst county is 11.5 percentage points.

International outlook In 2017 in Hungary 15.7% of children under 3 years of age attended institutions offering day-care for children. The utilisation of the service was significantly influenced by the fact that traditionally child care takes place within the family, mothers stay at home with their infants for years. The basis of later success in education, the acquiring of key competencies – especially in the case of disadvantaged children – is participation in early childhood education. In 2017 96% of children over 4 years of age attended a kindergarten, or a family nursery. In the European Union 95% of children between 4 years and under school-age participated in education, training, within this in France, United Kingdom and Ireland every child over 4 years of age participated in institutional education and training. In contrast the participation rate in early childhood education was the lowest in Slovakia (78.2%) and Greece (81.5%).

Summary tables (STADAT)
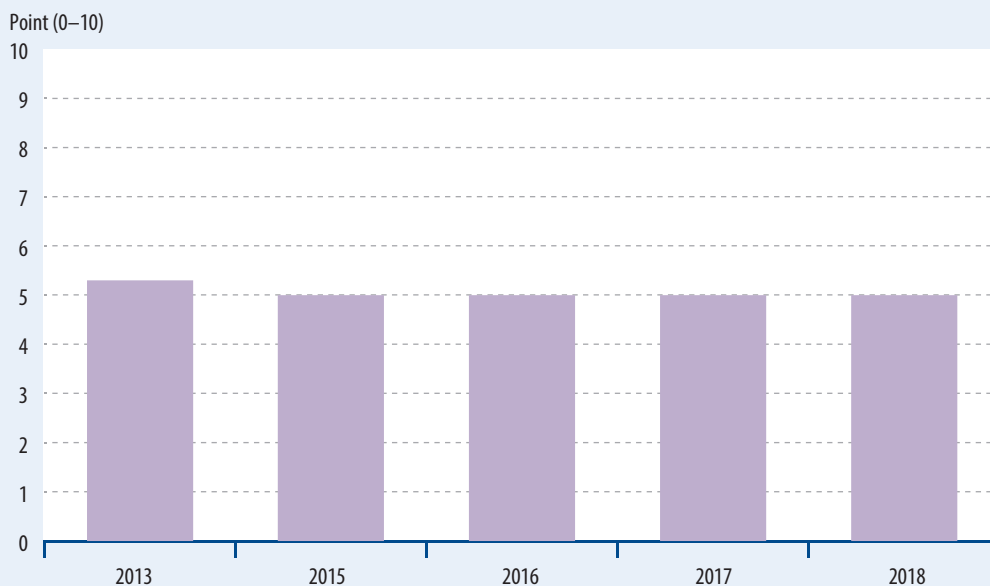**2.5.5.2 Children's day care**
2.6.4 Education at kindergartens

General trust

Since 2013

Since 2017

2.7

Figure 2.7.1 Trust in people

Point (0–10)

> **!** *Trust among people on a scale from zero to ten is moderate, the value of the indicator worsened somewhat from 2013 to 2015, but it has been constant ever since.*

Definition The level of general trust regarding the population indicates how much people trust each other. The indicator comes from a household survey, where the respondent rated the level of trust he/she has in people on a scale from 0 to 10. 0 means 'no trust at all', while 10 stands for 'total trust'.

Relevance A positive vision of the future includes the capability and subjective sense of security that the respondent feels confident that they will be capable of mobilising adequate resources for solving their own problems under changing circumstances and if necessary they cannot only rely on own resources but can expect external assistance (e.g. mutual favour), too. Positive co-operation and trust between people is part of the so-called social capital, which plays a significant part in social reproduction, within it in the future shaping of well-being.

Analysis The level of trust in people has been measured since 2013, and since 2015 on a yearly basis. While the average value on a scale from 0 to 10 was 5.3 in 2013, in the last four years the

result stagnated at 5 average points. The earlier, small-scale ESS (European Social Survey) results are endorsed by the official statistical data gathered by the HCSO that trust between people in our country is moderate.

Survey results regarding the levels of overall trust in people compared within age-groups are similar to other result of well-being indicators. Young people have the highest trust level (5.5), with advancement in age the average trust value decreases, and there is stagnation in the age-group of 45 year-olds and over up to the 65–74 year-olds (4.9). Persons aged 75 and over have the least trust in people (4.8).

With an increased level of education trust in each other increases as well. While persons with an elementary education trust people the least (4.7), those with a tertiary education valued their level of trust at 5.4. There is a difference among persons attaining secondary education: those without the final exam evaluated their trust in people (4.9) lower than those with the final exam passed (5.1).

Trust in others in the European Union, 2013, point (0–10)

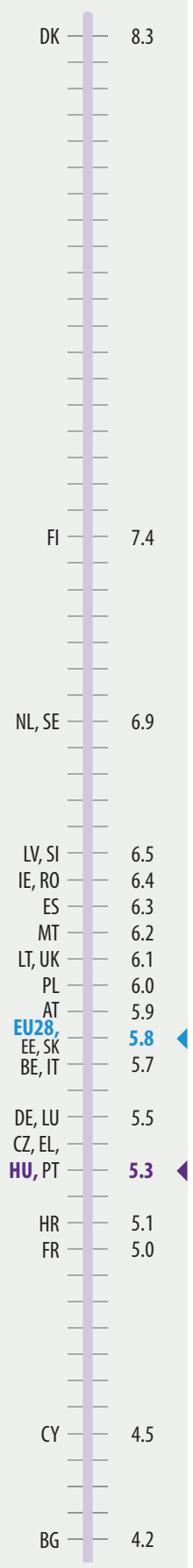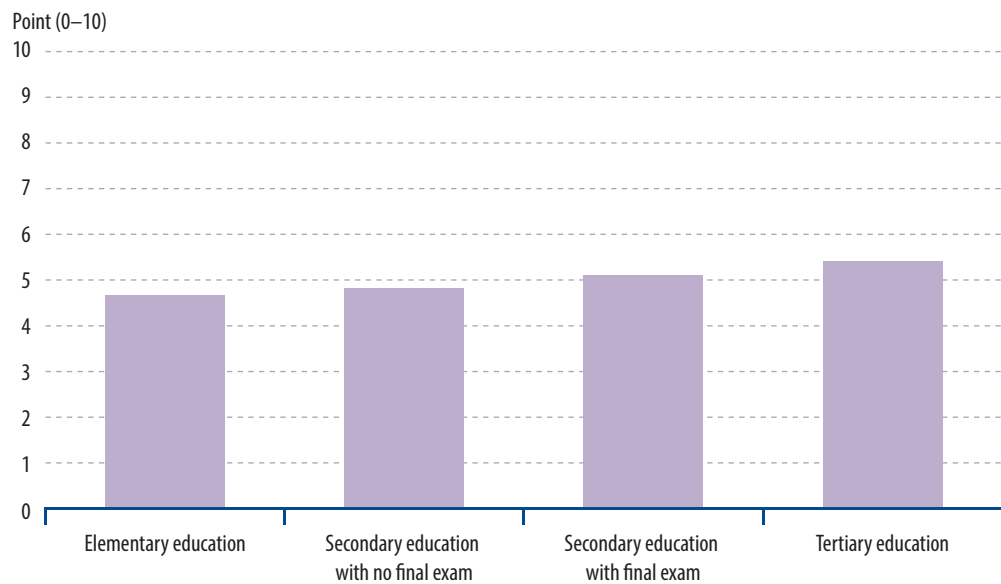|	
DK	8.3
FI	7.4
NL, SE	6.9
LV, SI	6.5
IE, RO	6.4
ES	6.3
MT	6.2
LT, UK	6.1
PL	6.0
AT	5.9
▶ **EU28,**	**5.8** ◀
EE, SK	
BE, IT	5.7
DE, LU	5.5
CZ, EL,	
▶ **HU,** PT	**5.3** ◀
HR	5.1
FR	5.0
CY	4.5
BG	4.2

Figure 2.7.2 **Trust in people according to educational attainment, 2018**

Point (0–10)

! *Trust in people increases as a trend with higher levels of education.*

Regarding territorial differences it is apparent that a higher degree of trust is measured in the case of people living in larger cities. Trust index was 4.9 in Budapest in 2018, showing a significant decrease compared with the previous years. The highest trust levels are among those living in cities of county-rank and in villages. People living in smaller towns have the lowest trust in others (4.8). The trend is similar to the ones observed in the previous years.

On national level 42% of people evaluated their level of trust between 6 and 10. There are significant regional differences regarding trust levels among people. There are surprising results in the 2018 data compared to the previous years: the highest trust level was observed among those living in Western Transdanubia: 49.6% of them chose a score between 6 and 10. In contrast the highest ratio (around 70%) was measured in Pest county in the previous year. People trust each other above average in Central Transdanubia (48.2), the Southern Great Plain (46.9) and in Southern Transdanubia (43.0). The lowest levels of trust occurred among those living in the Northern Great Plain, 30% of them gave scores between 6 and 10.

International outlook According to the results of the 2013 survey, offering an opportunity for international comparison, the trust level of the Hungarian population aged 16 and over was higher than the one measured in 2018. This value lagged behind the median value for the European Union as a whole (5.8 points). Trust in each other is most strikingly present in the Scandinavian countries, among these Denmark showed outstandingly high values. Bulgaria had the lowest score with an average trust index of 4.2. Among the least performing countries in this respect are France, Greece, Cyprus, Portugal. Croatia scored lower than our country among our neighbours, while Czechia shows the same average results as the Hungarian population does.

Figure 2.7.3 **Trust in people by regions, 2018** (inhabitants' level of trust between 6 and 10)

Percentage

	−30.0
	30.1–45.0
	45.1–
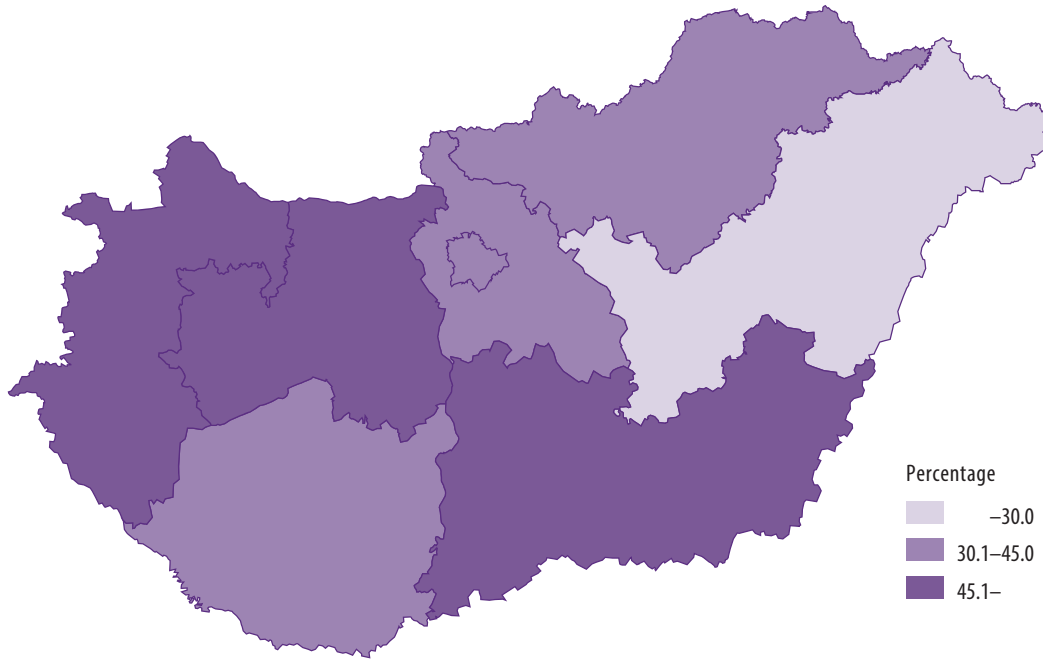
> **!** *The proportion of those ranking their trust level between 6–10 is the highest in Western Transdanubia (50%) and the lowest in the Northern Great Plain (30%).*

Summary tables (STADAT)
2.2.4 Subjective well-being
2.2.4.5 Trust in others

2.8

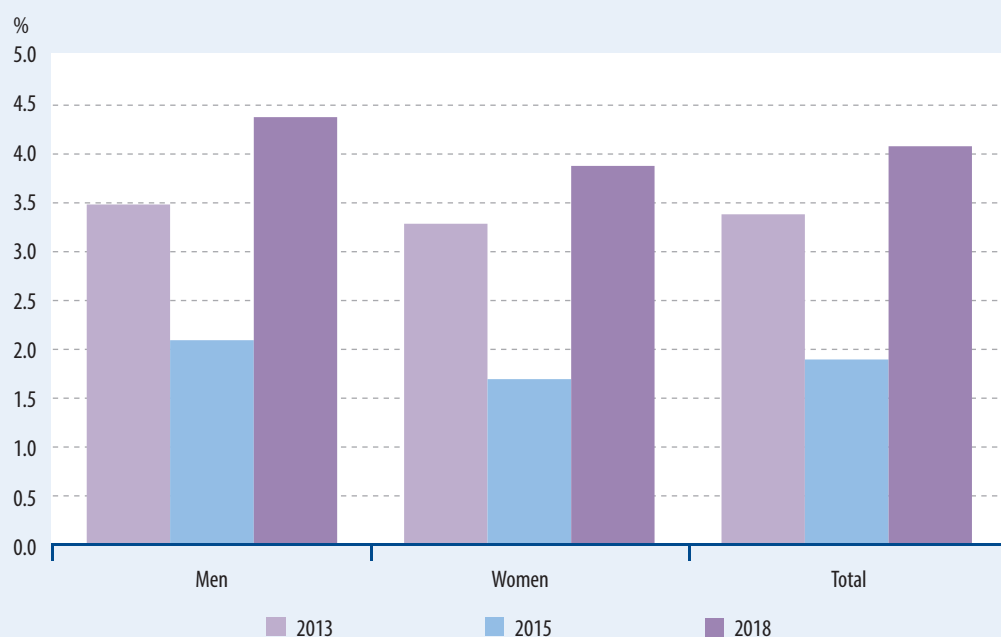|	
SK	98.6
FI	97.5
DK	97.2
SI, SE	97.1
▶ **HU**	**97.0** ◀
AT, IE	96.9
CZ	96.8
MT	96.5
LT, PL	96.4
DE	96.1
ES	95.8
EE	95.5
UK	94.4
BG	94.1
CY, RO	93.7
NL	93.4
▶ **EU28**	**93.3** ◀
FR	92.3
BE	91.8
LV	89.3
PT	87.7
HR	87.6
EL	86.6
IT	85.6
LU	84.7

Network of personal connections

Since 2013

Since 2015

Figure 2.8.1 **Proportion of those who have no one to discuss their personal issues with, by sex**

The proportion of those who have no one to discuss their personal issues with increased by 2018.

Definition The indicator shows the proportion of those – within the population aged 16 and over – who have no acquaintances, relatives they can discuss their personal issues with. The indicator refers to the personal connections, the system of social relationships and their power to support one.

Relevance Loneliness, the lack of processing everyday events verbally, the absence of a supporting medium in major decision-making or difficult situations does not only have a negative effect on the person's quality of life. If the sustaining power of social relationships does not work well, the net of the society as a whole weakens.

Analysis In 2013 in Hungary 3.4% of the population aged 16 and over declared they have no one to discuss their personal issues with. This proportion, according to the 2015 data, decreased to 1.9%. The trend worsened in 2018 as in that year 4.1% of the population declared they have no one to discuss their personal issues with.

Having someone to rely on in case of need in the European Union, 2013, %
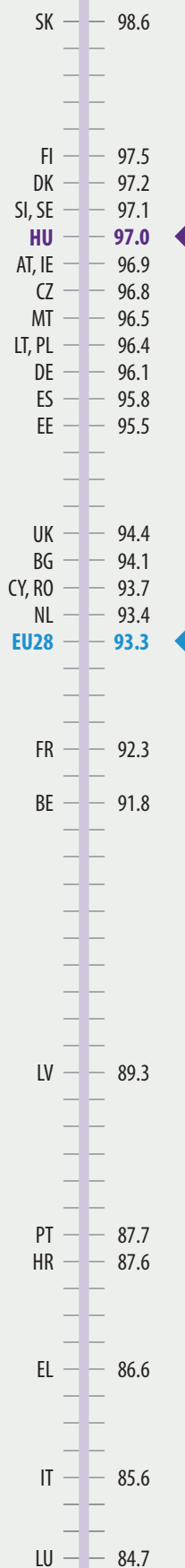
Figure 2.8.2 **The proportion of those who have no one to discuss their personal issues with by age and sex, 2018**
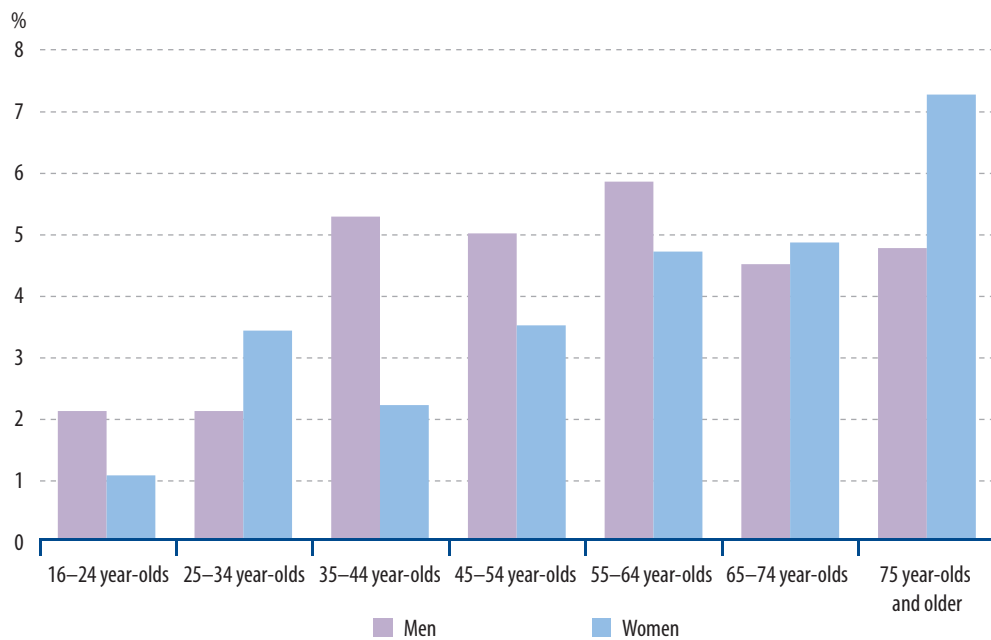
> ! *The risk of having no partner, relative, friend one could discuss their personal issues with is highest among men aged 55 to 64 and women aged 75 and over.*

The proportion of people whose loneliness, isolation, lack of personal connections is demonstrable is 4.4% for men and 3.9% for women. In the case of men the age-group of 55–64, for women the elderly age-group is at a higher risk of not having anyone to discuss their life events with. In point of gender differences the age of 75 and over may be considered a turning point as women in this age-group said in a greater proportion they have no one to discuss personal issues with, while in all other age-groups men showed a higher proportion. The absence of personal connections affects the least those living in marriage with their partner, and the most married people who are separated from their partners. The proportion of those who have no one to discuss personal issues with is lower in the economically active group. In the case of certain groups of inactive people, especially unemployed, inactive due to health reasons, as well as pensioners the proportion of those without meaningful personal connections is high. Differences can be traced by educational attainment, significant differences occur for people with elementary education at most. The proportion of those who do not have personal relationships they could rely on in processing the events of their life is higher (6.1%) in this segment.

International outlook The values of another indicator, measured in 2013 are available for international comparison purposes: has the individual someone to turn to in case of need. In the rank of countries ours has the fifth best place regarding this indicator, only 3% of the population does not feel the security of having someone to turn to in case of need. Based on the differences within the European Union the proportion of those who are certain about being helped out by those surrounding them are highest in the Scandinavian countries and Slovakia, while the southern, Mediterranean member states and Luxembourg are at the bottom of the list.

Summary tables (STADAT)
2.2.4 Subjective well-being
2.2.4.4 Personal relationships

DK	7.5
FI	7.2
SE	6.7
NL	6.2
AT	6.0
RO	5.8
UK	5.5
DE, LU	5.3
EE	5.2
▶ **HU**, IE	**5.1** ◀
BE	5.0
LT, MT	4.9
▶ **EU28**	**4.6** ◀
FR, LV	4.5
PL	4.2
EL	4.1
CZ	3.8
CY, IT, SK	3.6
HR	3.3
ES	3.1
BG	3.0
PT	2.9
SI	2.7

Trust in the legal system in the European Union, 2013, point (0–10)

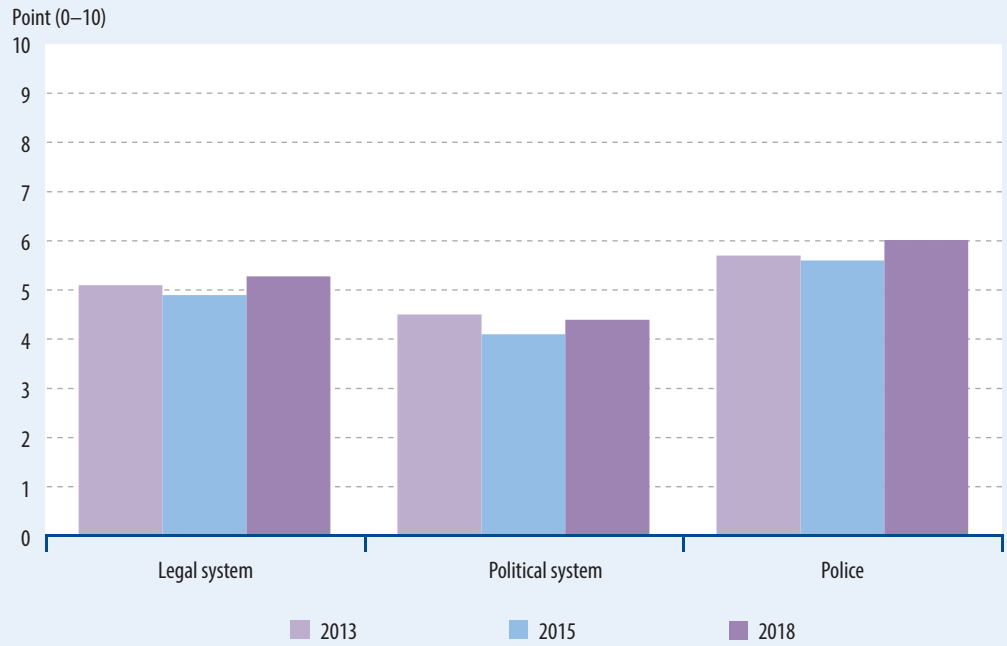## *The population's trust in the legal system*

Since 2013 ☀

Since 2015 ☀

Figure 2.9.1 **Average value of the population's trust in the legal system, the political system and in the police**

Point (0–10)

Legend: 2013, 2015, 2018

! *The population's trust in justice – as well as its trust in the political system or the police – increased compared to 2013 and 2015.*

Definition The indicator shows, in relation to the population to what extent people trust the legal system, a significant national institution. The examined variable comes from a household survey; the respondent ranked on a scale from 0 to 10 his/her trust in the legal system. 0 meant 'no trust at all', while 10 was equivalent to 'complete trust'.

Relevance Trust in national institutions, within those in the legal system is a feedback from the population regarding segments run by the state and serving public interest. In the social context of sustainable development these institutions have an outstanding role in the formation of the country's future in the long run. It is important considering the society's general condition whether people trust the legal system, the political system and the police. These issues have an impact on the degree of the population's sense of security, defined on different levels.

Analysis The average value of the trust in the legal system was 5.1 points in 2013, this number declined, according to the 2015 survey results to 4.9, while it increased to 6.0 points in 2018. The population's trust in the legal system is stronger in our country than the trust in the political system.

People's trust in the police is outstanding taking into account the attitude toward the surveyed three national institutions. Earlier there were great differences according to the age of the respondent, in 2018 the numbers decreased when it came to the average value of the trust in the legal system in different age-groups. The highest average value appears in the 16-24 age-group with 5.5 points, the lowest in the middle-age (35-64 year-olds) group with their 5.2 average points. The older group rated their trust in the legal system at 5.3, coinciding with the national average. When it comes to trust in the political system and the police, the oldest age-group displayed the highest level of trust toward these.
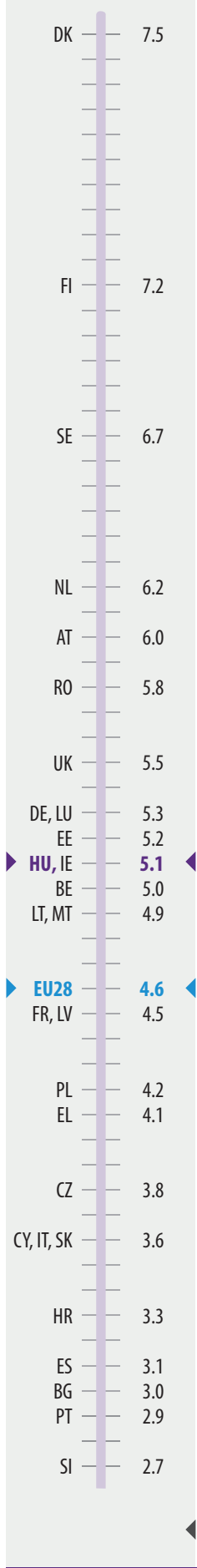
Figure 2.9.2 **Average value of the population's trust in the legal system by age groups**

Point (0–10)

2013	2015	2018	
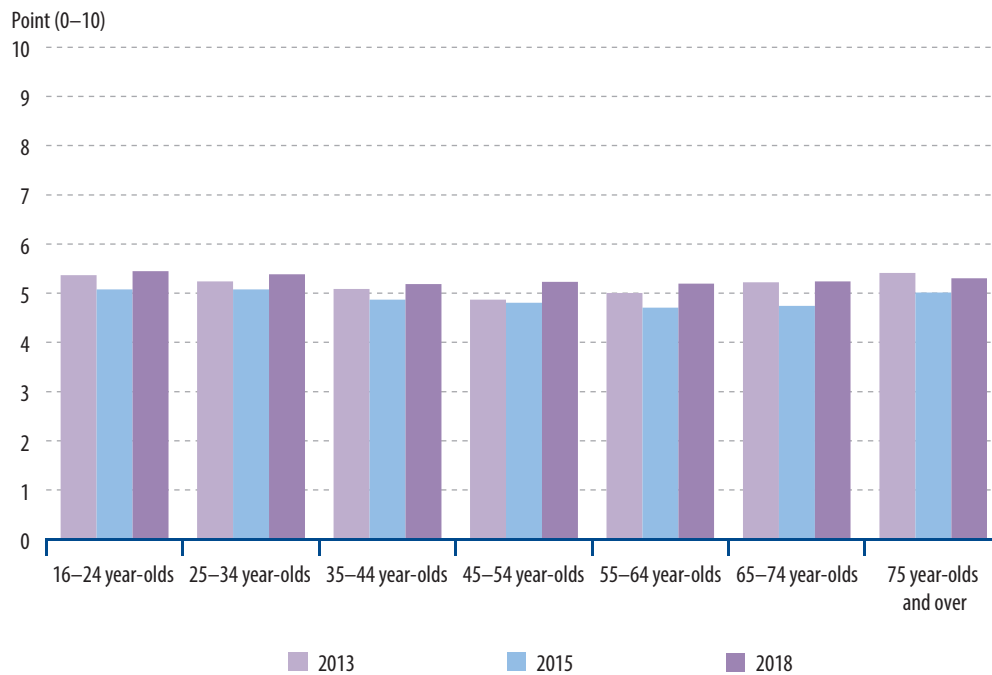
> **!** *Moving from the younger age-groups toward the older ones the value of the indicator decreases for a while, then increases again in the older age-groups.*

There is a linear relation between educational attainment and trust in national institutions. Average values for people with secondary education are close to the national average, the segment with elementary education at most displays somewhat lower values. In the case of the trust in the legal system this value is at 5.0 points. People with tertiary education trusted the legal system the most (5.7 points), in the same way as they trusted the political system or the police, too. Among the three variables the difference is the smallest between the groups by their educational attainment in the case of trust in the political system.

When considering settlement types the three variables show different results. Trust in the legal system is lowest among the inhabitants of Budapest (4.8 points). They also trust the police the least (5.6 points). In smaller towns and villages the average value of all three indicators are almost the same as the national average, the strongest level of trust being the highest among people living in county seats, cities of county rank. In their case trust in the legal system stands at 5.4, in the political system at 4.5, in the police at 6.1 points.

International outlook The results of the uniform data collection of 2013 taking place in the member states of the European Union show significant variances at the indicator regarding trust in the legal system. The highest results, between 6.7–7.5 points have been recorded in three Scandinavian countries. The lowest level of trust was measured in Slovenia (2.7 points), Portugal (2.9 points) and Bulgaria (3.0 points). The indicator signifying trust in the legal system is higher than the whole European Union's average (4.6 points). Average values close to the Hungarian one are characteristic to Estonia, Ireland and Belgium.

Summary tables (STADAT)
2.2.4 Subjective well-being
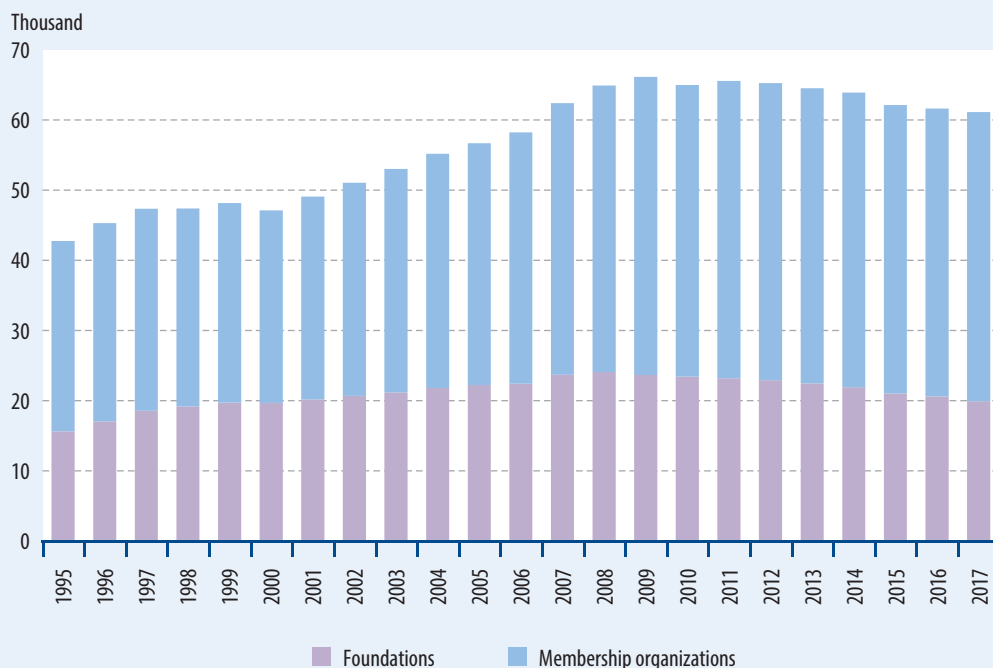**2.2.4.5 Trust in others**

Nonprofit organizations

Since 2000

Since 2016

Figure 2.10.1 Number of nonprofit organizations

Thousand

Foundations   Membership organizations

> ***Over the last two decades, the nonprofit sector has undergone significant changes in both size and composition.***

Definition Nonprofit organizations: foundations (private and public foundations) and membership organizations (associations, federations, professional organizations, trade unions, public law associations, nonprofit enterprises, nonprofit institutions).

Relevance The National Sustainable Development Strategy states that the system of responsibility and decision-making ensuring sustainability should be based on the principle of subsidiarity, also involving the civil sector. The framework strategy makes a number of recommendations for non-governmental organizations, which, by their very nature, contribute to social cohesion and to building trust between people and groups. NGOs, churches and religious communities are playing an increasingly important role in integrating marginalized groups, which is one of the key areas in the transition to sustainability.

Analysis In the early 1990s, there was an absolute dominance of membership-based organizations and the number of foundations was negligible, today, however, 33% of the nonprofit sector already operates in the latter form. Membership organizations saw a founding fever until about 1995, followed by a period of stagnation and then from 2000, a slow growth. Many private foundations were established between 1990 and 1994, but their share capital was rather small. Subsequently, the number of organizations increased vigorously until 2000, also exceeding the pace measured in case of membership organizations, then the process gradually slowed down. Around 2010, the number of nonprofit organizations peaked at nearly 65,000, and has since declined - largely due to judicial detection and deletion of de facto non-performing organizations. In addition, an average of 2-3,000 organizations alternate each year. The structure of activities has also changed considerably over

the years. Organizations working in the areas of community and economic development, public safety, education, and religion experienced a dynamic and rapid growth well above average throughout the period. In addition, the leisure, cultural, health, social and environmental subsectors more than doubled in size. In contrast, the number of business and professional groups and sports and fire associations has declined during the period under review, although the latter has started to grow again in the last decade.

Composition by activity areas is fundamentally different for foundation and association sectors. Areas relatively underdeveloped compared to Western European countries represent a much higher proportion among foundations than among associations. However, the proportion of organizations providing welfare services within the civil sector is relatively low in Hungary, unlike in developed countries where this is the most important area. By 2017, the structure of activities has become more balanced. Traditionally, the proportion of sports and leisure organizations continues to be high among associations. In addition, there are many nonprofit membership organizations in the fields of culture and the arts.

Education and health organizations primarily operate as foundations. Political, international relations, advocacy as well as multi-purpose donor organizations and nonprofit federations represent the smallest share in the domestic nonprofit sector. The sector's total revenue was HUF 1,924 billion in 2017, corresponding to 5.0% of domestic GDP. 44% of this was due to public support, 44% to basic and economic activities and 12% to private and business contributions. Nonprofit organizations provided employment for 162,000 people, of whom 91,000 were full-time employees. This accounted for more than 3.7% of those employed in the national economy.

International outlook In 1990, the proportion of the Hungarian nonprofit sector was much smaller than that of the developed Western European countries. However, following the change of regime, more and more NGOs were formed and their social and economic role gradually strengthened. Thus, in terms of the number of organizations per capita, Hungary is already close to the European average, but in terms of economic weight and employment, the gap is still significant.

Summary tables (STADAT)
3.2 Business units and non-profit organizations, annual performances and expenses of enterprises
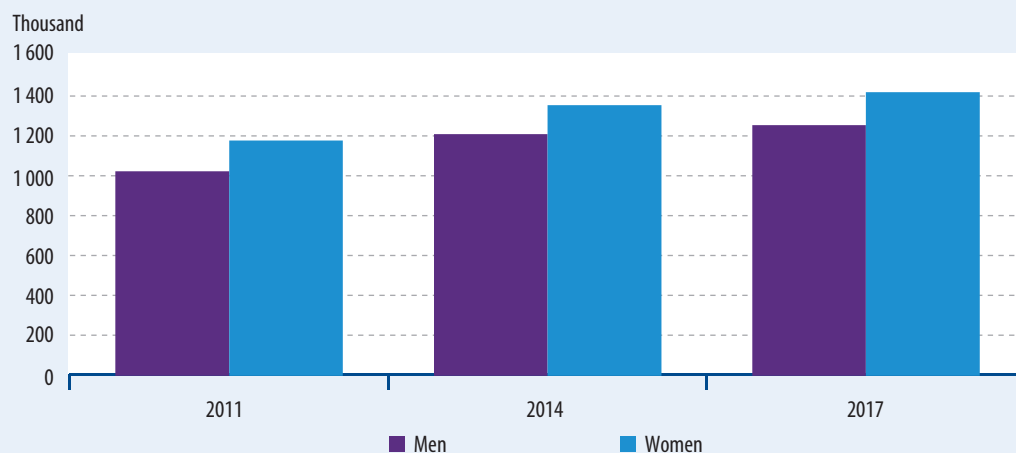
Voluntary work

Since 2011

Since 2014

Figure 2.11.1 **Number of volunteers by sex**

> **!** *Volunteering is becoming more widespread in Hungary. In 2011, nearly a third of 15- to 74-year-olds reported volunteering in the previous 12 months, compared to 37% in 2017.*

Definition In accordance with the recommendations of the International Labour Organization (ILO), persons aged 15 to 74 are considered to be volunteers who: a) directly or through an organization, b) voluntarily, free of charge, unpaid, c) for the benefit of persons outside their household or for society (group, wider community, animals or environment, etc.) performed activities during the 12 months preceding the interview, either regularly, occasionally, or even once. The three conditions must prevail together. Assistance to parents, children and relatives living outside the household is also included in voluntary work.

The 'National Volunteering Strategy 2011–2020' designated the HCSO population survey to identify and monitor changes in domestic volunteering. Within this framework, biennial surveys are carried out in accordance with ILO recommendations. Unlike previously, information on volunteering is published based on the results of this survey.

Relevance Volunteering covers the whole of social and economic life. As a means of social inclusion, it is particularly important to make it a value for individuals and for society and to develop a culture of volunteering that conveys the

importance of social responsibility, community engagement and the acquisition of competencies to all age groups. Volunteering is an opportunity for anyone, regardless of sex, age, educational attainment, socio-economic background, nationality or religion, to contribute to positive change. The National Sustainable Development Strategy draws attention to the fact that citizens' individual responsibility, including volunteering, can contribute to strengthening social cohesion and the sustainability of Hungarian institutions. According to the Framework Strategy, assisting disadvantaged groups (volunteering) contributes to improving the situation of these groups without increasing redistribution, and also creates relations between people from different backgrounds, reinforcing social solidarity. The growth of volunteering in other types of social institutions (e.g. clubs, associations) also strengthens relations between members of society and community cohesion, which indirectly contributes to a wider recognition of the values of democratic decision-making.

Analysis Surveys on volunteering show that a significant and growing proportion of the Hungarian adult population – 29% in 2011, 34% in 2014 and 37% in 2017 – volunteered during

Figure 2.11.2 Areas and frequency of volunteering, 2017

■ Regularly	■ Occasionally
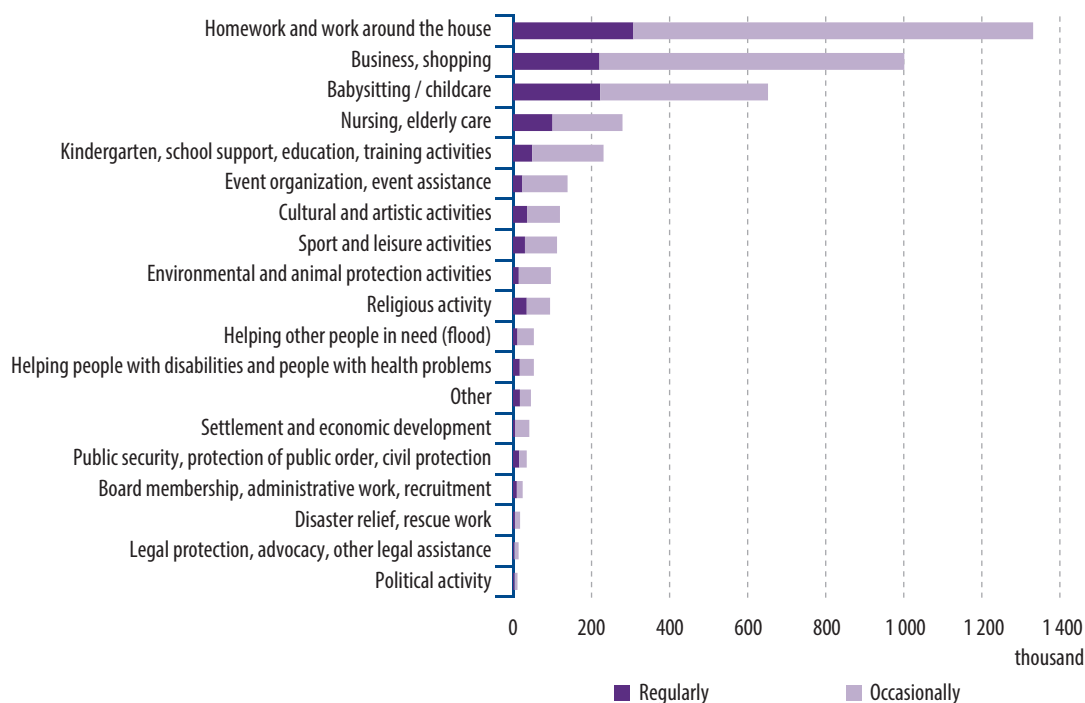
> **!** *Helping relatives and friends is the most common form of volunteering.*

the 12 months preceding the survey. There were some who helped regularly or occasionally without a profit-making goal and there were others who did it only once. However, they all volunteered to support others, a community, or an important goal.

The number of volunteers in 2017 was 2 million 668 thousand, 472 thousand more than in 2011, however, there was no significant change in the structure of volunteering during that 6 years.

The overwhelming majority of volunteers (90.5% in 2017) continue to directly assist with their unpaid work only, while organized volunteering (7.1%) – although its significance is increasing – is not yet widespread. The proportion of those who, in both forms of volunteering - directly and through organizations - supported people in need, different organizations, institutions, or some common cause is quite low (2.4%).

Women continued to participate in volunteering in slightly higher numbers and proportions (53%) than men, and their position also improved (52%) in the previously male-dominated category of (formal) voluntary work through an organization.

Hungarian volunteering continues to reflect a slightly older age structure. Similarly to 2011, the highest proportion (43%) of volunteers in 2017

was in the 60–64 age group. At the other end of the spectrum, volunteering among young people aged 15 to 19 has increased significantly, from 19% six years ago to 40%. This is probably due to the government's amendment to the Public Education Act, which stipulates that 'the completion of at least 50 hours of community service' is a prerequisite for taking the final examinations.

Educational attainment is a crucial determinant of charitable behaviour. The proportion of volunteer helpers correlates with educational attainment and is the highest among graduates (42%).

The most common forms of volunteering continued to be housework and work around the house, administration and shopping, babysitting, childcare, as well as nursing and elderly care. In 2017, three quarters of all volunteers' activities, whether regular or occasional, were such activities. Partly because of this, there have been no significant changes in the beneficiaries of direct volunteering. In 2017, 2 million 480 thousand volunteers provided services to 3 million 869 thousand beneficiaries, primarily to family members living outside household, relatives (49%) and friends (21%), and the composition of these

groups did not change significantly compared to previous years.

The motivation for volunteers was mainly the joy of helping others, with the general belief that helping children, the elderly, and the seriously ill was a moral obligation.

In addition to traditional volunteering, young people are mainly characterized by a shift towards new forms of volunteering, where the focus is on skills, practical experience, networking and similar social values of the knowledge-based information society.

Summary tables (STADAT)
9.3 Voluntary work, Q1 2014
9.7 Voluntary work, Q1 2017
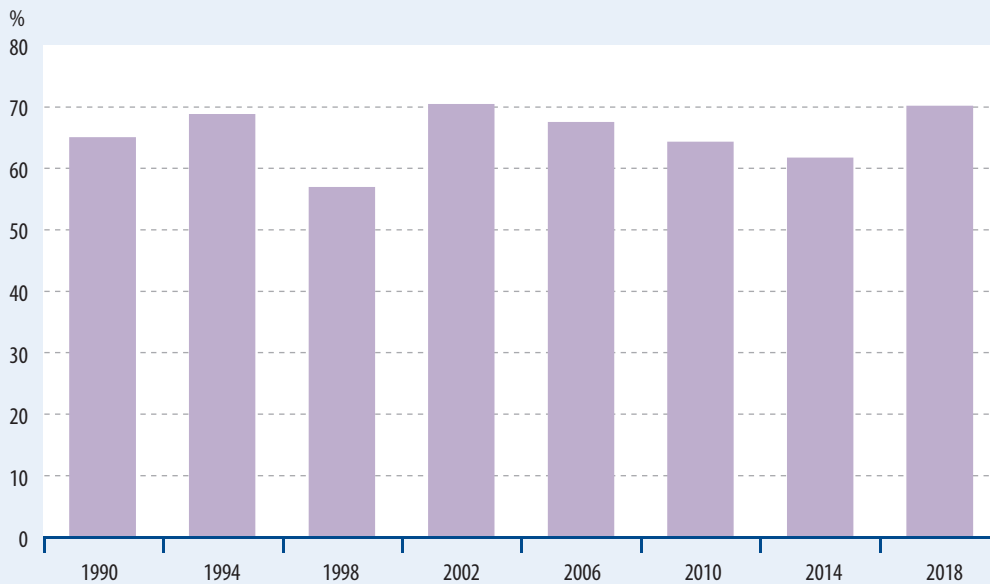
Turnout in parliamentary elections

Since 2002

Since 2014

Figure 2.12.1 Turnout at Hungarian Parliament elections*

* First-round participation rates until 2010.
Source: National Election Commission.

! *In Hungary, the turnout in the parliamentary elections was again above 70% by 2018, with only 2002 having a higher rate, but only by 0.3 percentage points.*

Definition The turnout in the Hungarian parliamentary elections shows the proportion of eligible voters who participate in the parliamentary elections.
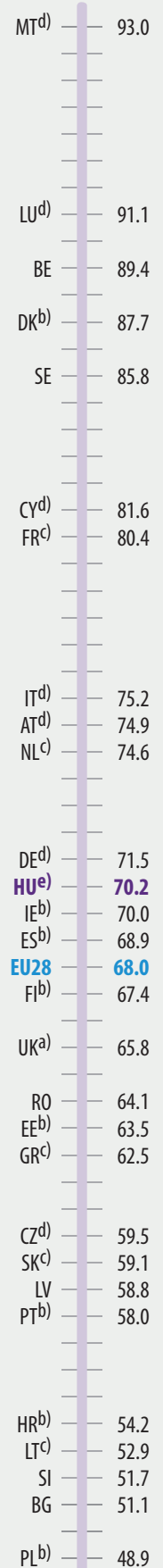
Relevance Sustainable society aims to continuously improve the quality of life, which covers health, material well-being and social well-being, including democratic rights. Citizenship activity is an important indicator for the state regarding the functioning of democracy. Within this, participation in parliamentary elections is the most basic form of political activity, as citizens can express their views on decisions affecting society as a whole by participating in elections and referendums.

Analysis In 2018, 70.2% of eligible voters participated in the elections, which is outstanding compared to the turnout rate of recent elections. The highest turnout was in the first round of the 2002 parliamentary elections, which was 0.3 percentage points higher than in 2018. The lowest turnout (at 57%) was in 1998; it generally exceeded 60% in other years.

There are significant territorial differences in turnout. Budapest presented the highest turnout (at 75.4%). Vas county, where more than 74% of the voters went to the polls, was not far behind Budapest. People living in Western Transdanubia and Central Transdanubia also had high turnout rates, ranging from 73.1% to 70.0%. The northern regions saw the lowest turnout rates, ranging from 65% to 68%. Voting activity was generally higher in the western regions and in the central part of the country, but overall, the turnout was much higher in all counties than in the last election in 2014.

International outlook Malta has the highest turnout rate, where 93% of the electorate voted in the last parliamentary elections (2013), followed by Luxembourg and Belgium with around 90%. Similarly to our country (2014), participation in Greece was close to 63% in 2012. Slovenia and Bulgaria (51%) and Switzerland and Poland (below 50% in 2011) are at the bottom of the ranking.

Voter turnout in national parliamentary elections in the European Union in 2014, %

MT[d]	93.0
LU[d]	91.1
BE	89.4
DK[b]	87.7
SE	85.8
CY[d]	81.6
FR[c]	80.4
IT[d]	75.2
AT[d]	74.9
NL[c]	74.6
DE[d]	71.5
HU[e]	**70.2**
IE[b]	70.0
ES[b]	68.9
EU28	**68.0**
FI[b]	67.4
UK[a]	65.8
RO	64.1
EE[b]	63.5
GR[c]	62.5
CZ[d]	59.5
SK[c]	59.1
LV	58.8
PT[b]	58.0
HR[b]	54.2
LT[c]	52.9
SI	51.7
BG	51.1
PL[b]	48.9

a) 2010.   d) 2013.
b) 2011.   e) 2018.
c) 2012.

Figure 2.12.2   **Turnout at the Hungarian parliamentary elections by county**

Percentage

	−66.9
	67.0–68.9
	69.0–70.9
	71.0–72.9
	73.0–
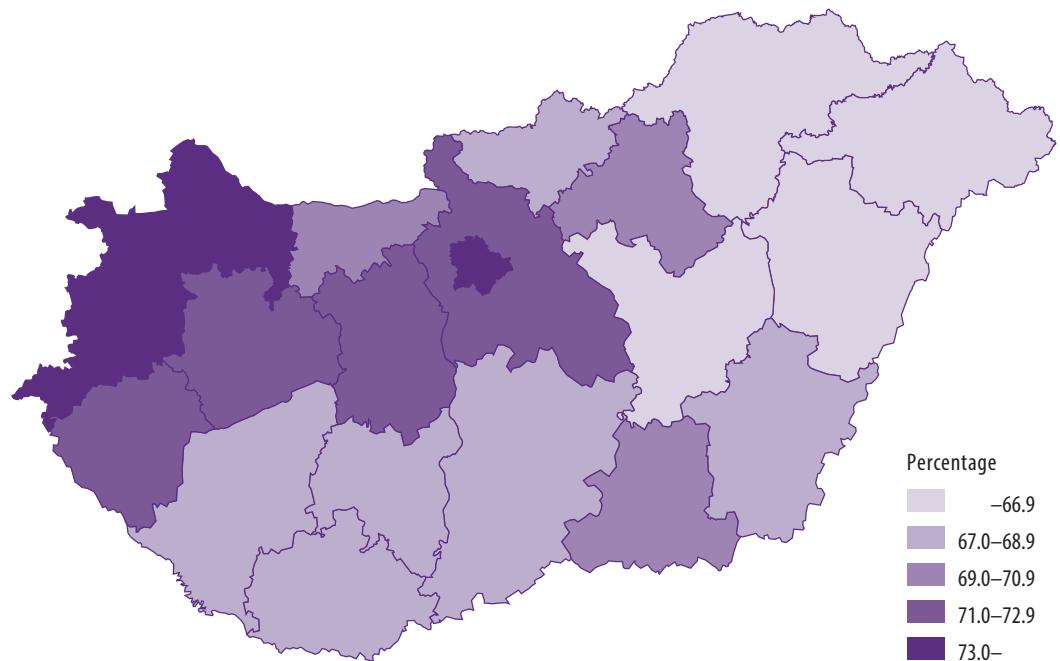
Source: National Election Commission.

!   *Participation varies greatly by county, the last parliamentary election saw the highest voter turnover rates in Budapest, Győr–Moson–Sopron and Vas counties, and the lowest ones in Borsod–Abaúj–Zemplén and Hajdú–Bihar counties.*
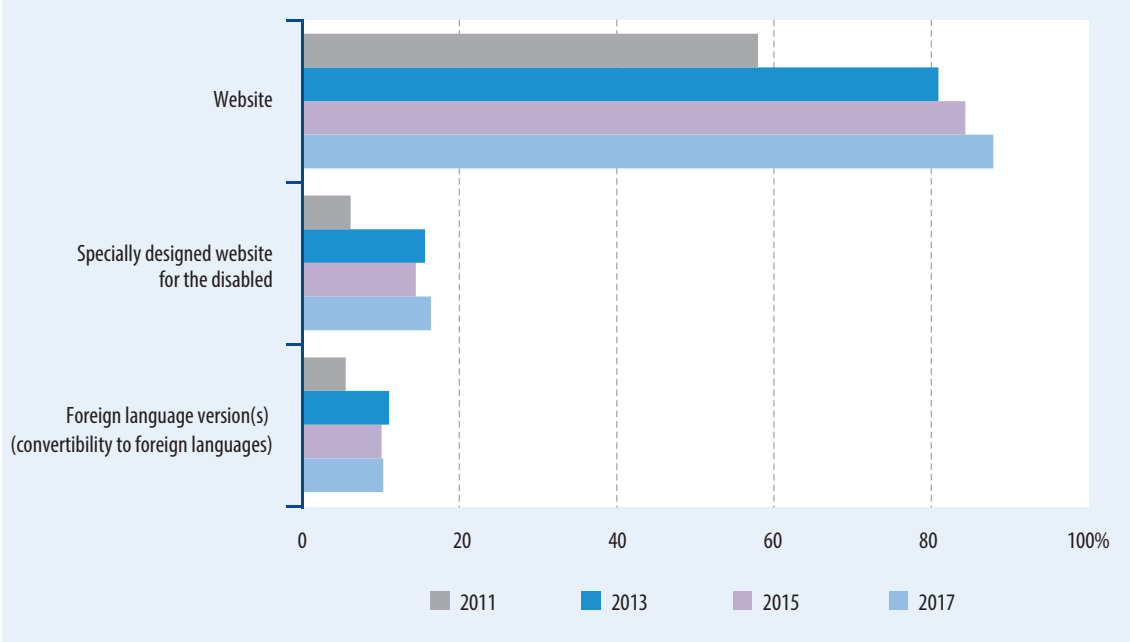
Availability of e-government

Since 2010

Since 2017

Figure 2.13.1 Availability of e-government

> ! *Between 2015 and 2017, there was a slight increase in the online accessibility of public administrative bodies, the proportion of specialized pages and the convertibility to foreign languages.*
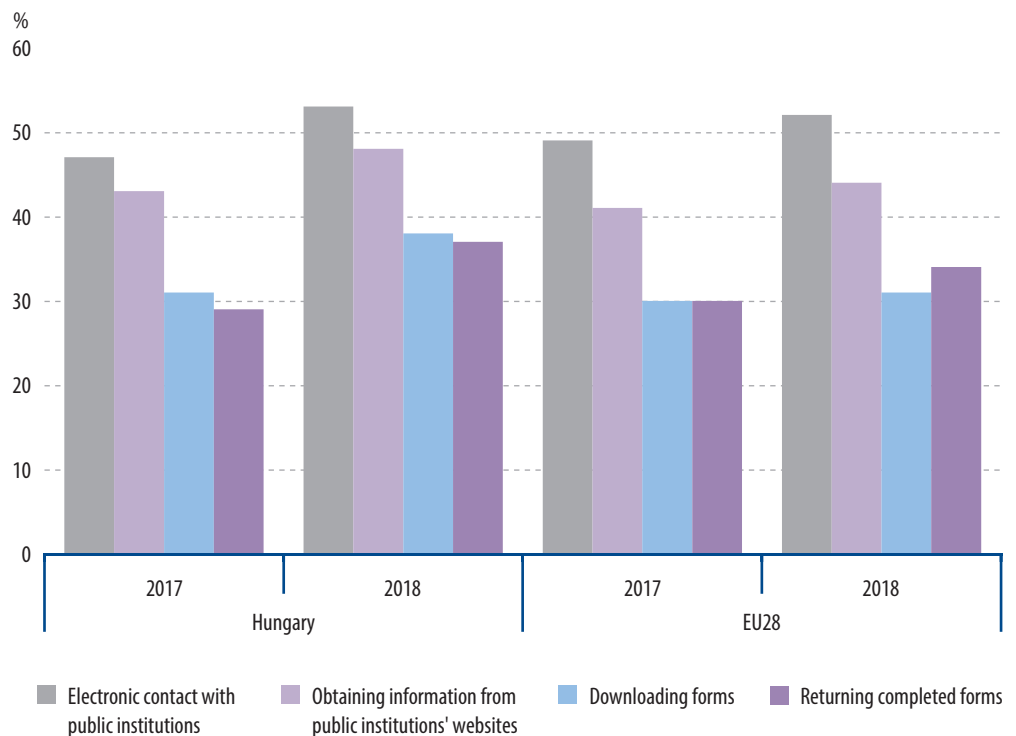
Definition The availability of e-government shows the proportion of public administration institutions with a website. Pages whose content and style the institution contributes to are considered as stand-alone websites of the institution, whether created by the institution or by a local IT professional. The indicator on how the population uses e-government describes what percentage of the population aged 16–74 had established electronic contact with public institutions, used electronic government websites to obtain information, download forms or return completed forms in the 12 months preceding the survey. The results on how the general public uses this are from the 2018 survey containing data for 2018, while the indicators for services provided by public administration institutions are from the 2017 data collection carried out in 2018.[1]

Relevance Infocommunication technology is the engine of 21st century development. Due to dematerialisation, modern information tools can have a positive impact on transport, freight, trade, health and production processes. E-government is an important tool for achieving the goals of sustainable development.

Analysis One of the important development indicators of e-administration is the spread and diversity of websites. In 2017, 87.9% of the observed administrative institutions had their own websites, which is a slight increase compared to the previous (2015) survey (84.3%). 86.7% of public administration institutions had their own websites, compared to 88% in case of local governments. While the number of municipal bodies with a separate website increased by 4.3 percentage points, in case of

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[1] ICT data collection for public administrations takes place every two years; the next is due in 2020.

Figure 2.13.2   Use of e-government by the general public in the preceding 12 months

Legend:
- Electronic contact with public institutions
- Obtaining information from public institutions' websites
- Downloading forms
- Returning completed forms

> **!** *In 2018, the use of e-government services by the Hungarian population continued to increase significantly, as a result of which Hungarian indicators exceeded the EU28 average in all segments.*

public administration institutions it decreased by 3.1 percentage points. Compared to 2015, the proportion of websites that are convertible into a foreign language and accessible for the visually impaired increased slightly (by 0.2 percentage points). Most websites provide local community news (77.4%) as well as organizational and contact information (74.8%).

It is a positive development that the use of more developed e-government services (downloading forms or electronically submitting completed forms) keeps rising in Hungary over a longer period of time. While in 2010 only 24% and 17% of the population were using these two services, by 2018, their share had increased to 38% and 37%, respectively. By this, Hungary significantly exceeded – by 7 percentage points and 3 percentage points, respectively – the EU average, which was 31% and 34% for these two services in 2018, respectively.

International outlook The most comprehensive indicator of eGovernment use is the percentage of people contacting public authorities electronically during the prior 12 months. The share of e-government users was 53% in 2018, 19 percentage points higher than in 2010. Between 2010 and 2017, with the exception of 2014, the EU average was still above the Hungarian level every year. However, in 2018 the share measured in Hungary (53%) was already 1 percentage point higher than the EU28 average (52%) as a result of a significant, 6 percentage points high, Hungarian expansion rate exceeding the EU average. In 2018, the proportion of people accessing public websites for information in Hungary grew year-on-year by 2 percentage points to 48% exceeding the 44% EU average.

Natural resources

In a snapshot

Air
- In Hungary, greenhouse gas emissions have decreased since 1990; however, they started to rise again in 2015 and 2016, which can be explained largely by public electricity and heat production, as well as growing emissions from passenger cars and the energy use of households.
- Total PM_{10} emissions were down by 2.9%, from 75 thousand tonnes to 73 thousand tonnes in Hungary from 2000 to 2016. The largest particulate matter emitter in Hungary in 2016 was the sector of trade, institutions and households, with a share of 64%. The limit value for the annual average concentration of PM_{10} is 40 micrograms/m^3 in the EU; population exposure remained below this in Hungary between 2003 and 2017, though typically exceeded the EU28 average.

Climate
- According to the trend of annual mean temperatures in the capital, warming exceeded 1.5°C from 1901 due to the increasing effects of urbanisation.
- The proportion of areas exposed to drought was 51% in 2017, which proportion lessened to 32% in 2018. There were low and moderate droughts in the north-eastern part and in the middle of the Great Hungarian Plain.

Water
- Public water utility gaps further diminished in 2017. The proportion of dwellings connected to the public water network was over 95% in 2017, while public water abstraction per capita decreased by 10% between 2000 and 2017 due to water fee increase. The number of settlements with wastewater collecting system increased from 854 in 2000 by almost 2.5 times to 2100 by 2017.
- Water quality of the Tisza, according to BOD_5 measurements at measurement points fell into the 1–2 water quality class – considered the cleanest – in 2018. In contrast the water quality (BOD_5) of the Danube significantly worsened both at the inflow point (Rajka) (4) and the outflow one (Kölked), being in the worst (5) water quality class at the latter in 2018. Between the two measurement points the water quality of our largest river also deteriorated.

Land
- The proportion of artificial land cover grows in Hungary year by year, while cultivated arable land area was only some 92% of the 1990 figure. The highest rates of increase between 2012 and 2018 were recorded in artificial land cover made up by contiguous settlement structure (17%) and industrial or commercial areas (16%).
- The quantity of active ingredients of fertilisers per hectare of agricultural area lessened to 104 kg in 2018 from 119 kg in the previous year; however, the quantity of active ingredients of fertilisers applied has increased by nearly two-thirds since 2009. The fertilised area was 3.0 million hectares in 2018, 23 thousand hectares more than a year earlier.
- Areas under organic farming as a proportion of agricultural area stagnated in Hungary between 2004 and 2015, then, as an effect of the Rural Development Programme, having started from 2015, went up significantly, by 54% in the last two years.

Wildlife
- 105 animal species, 36 plant species and 46 habitat types have been identified on the designated Natura 2000 areas.
- After the native oak, the non-native black locust represents the largest part of Hungary's tree-stock.
- Hungary's growing stock was 386 million m^3 in 2017 on larger than 2 million hectares of forest area which represents on national level a 16% increase since 2000.

Waste and material flow
- The quantity of generated waste in Hungary has hardly changed since 2008; however it slightly increased in the EU. The volume of agricultural and food industrial as well as industrial and other economic waste decreased the most in Hungary.
- In Hungary the utilisation of 1 kilogram of resources contributed by 0.67 EUR to the gross domestic product in 2000; this value is well behind the EU28 average. Domestic material consumption significantly increased in the 2000s reaching its peak in 2005; it hit a low point during the economic crisis, and has since increased once again. The resource productivity of Hungary was 0.90 EUR/kg in 2017.

Environmental management
- The ratio of environmental taxes to total taxes decreased from 7.5% in 2005 to 7.0% in 2016. Over this period, the value-to-GDP ratio fluctuated between 2.61 and 2.78%. Energy taxes account for three quarters of environmental tax revenue.

Energy
- Hungary's dependence on energy imports rose to 56% in 2016, 2 percentage points above the EU average.
- Hungary should increase its share of renewable energy sources to 14.65% of total final energy consumption by 2020, compared to 13.3% in 2017.
- In 2016, per capita energy consumption was 26.2 GJ, 12% above the EU28 average. Gas has become the main source of energy for household use.

Transport
- In the early 2000s, the performance of freight transport relative to GDP increased significantly year by year, but this trend reversed at the outset of the crisis and has stagnated since then. In 2018, 75.6% of freight transport performance was by road, 21.2% by rail and 3.2% by water.

Chapter	Number	Indicator	Page	Evaluation of changes compared to past status	
				Long term	Short term
Air	3.1	Greenhouse gas emissions	106	☀	⛅
	3.2	Greenhouse gas intensity of energy consumption	109	☀	⛅
	3.3	Emissions of acidifying air pollutants	110	☀	⛅
	3.4	Ozone precursors emissions	113	☀	☀
	3.5	Particulate matter pollution	116	☀	☁
Climate	3.6	Annual mean temperature	118	🌧	
	3.7	Amount of precipitation	119	🌧	
	3.8	Number of heat days and freezing days	120	🌧	
	3.9	Areas exposed to drought	122		
Water	3.10	Public water abstraction	124	☀	☁
	3.11	Residential water consumption from public water supply	126	☀	⛅
	3.12	Municipal wastewater treatment	128	☀	☀
	3.13	Public water utility gap	130	☀	☀
	3.14	Biochemical oxygen demand of rivers	132	☀	☁
Land	3.15	Biologically inactive areas	134	⛅	⛅
	3.16	Sales of fertilisers	136	🌧	☀
	3.17	Sales of pesticides	137	🌧	☀
	3.18	Nutrient balance	138	☀	☁
	3.19	Livestock density	140	⛅	⛅
	3.20	Floods and inland inundation	141		
	3.21	Organic farming	143	☀	☀
	3.22	Areas subject to agri-environmental measures	144	☀	☁
Wildlife	3.23	Changes in farmland bird population	145	🌧	⛅
	3.24	Protected natural areas	146	☀	⛅
	3.25	Native tree species	148	☀	⛅
	3.26	Logging and annual increment	150	☀	⛅
	3.27	Forest health and pathology	152	🌧	🌧
Waste and material flow	3.28	Wasted generated	154	☀	☀
	3.29	Waste treatment	156	☀	☀
	3.30	Packaging waste	158	🌧	🌧
	3.31	Resource productivity	160	☀	⛅
Environmental management	3.32	Environmental taxes	162	🌧	⛅
	3.33	Implicit energy tax	164	⛅	⛅
	3.34	Environmental expenditures	165	🌧	🌧
Energy	3.35	Energy import dependency	167	⛅	🌧
	3.36	Energy intensity	169	☀	⛅
	3.37	Renewable energy sources	171	⛅	⛅
	3.38	Households energy consumption	174	🌧	🌧
	3.39	Energy use in transport	176	⛅	⛅
Transport	3.40	Freight transport performance	178	🌧	☀
	3.41	Passenger transport performance	180	☀	☀

Greenhouse gas emissions

Since 1990	☀
Since 2015	⛅

CY	152.9
ES	116.4
PT	115.8
IE	113.4
AT	103.1
MT	99.4
SI	95.2
NL	91.6
EL	89.7
LU	87.5
FR	85.6
PL	85.0
FI	84.0
IT	83.9
BE	81.5
▶ EU28 ◀	**77.6**
HR	76.2
SE	76.1
DE	74.1
DK	73.9
▶ HU ◀	**65.8**
CZ	65.6
UK	63.6
BG	57.0
SK	55.6
EE	48.6
RO	45.8
LV	43.8
LT	42.0

Figure 3.1.1 Greenhouse gas emissions (1990=100.0)

CO_2 equivalents, %
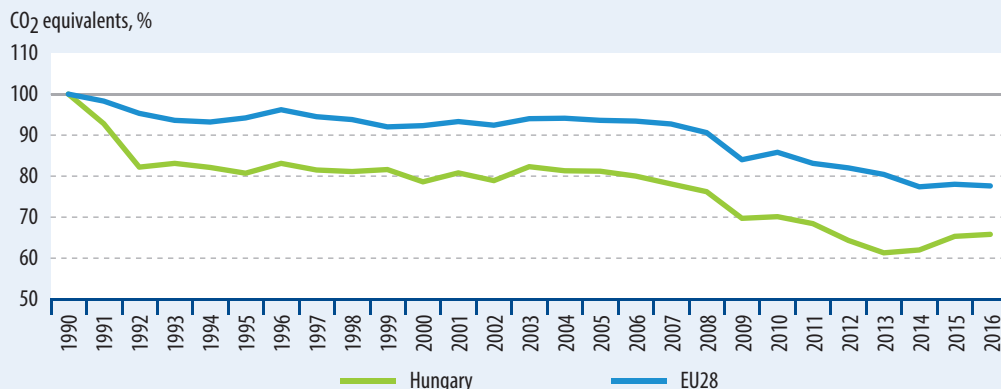
─── Hungary   ─── EU28

! *The GHG emissions of Hungary are lower than those of EU28 countries compared to 1990.*

Definitions The greenhouse gas (GHG) emissions indicator shows the emissions of seven greenhouse gases (CO_2 – carbon dioxide, CH_4 – methane, N_2O – dinitrogen oxide, HFC – hydrofluorocarbons, PFC – perfluorocarbons, SF_6 – sulphur hexafluoride, NF_3 – nitrogen trifluoride), converted into CO_2 equivalents. Different air pollutants have different impacts on the environment and the climate. To be able to compare their impact, their emissions are expressed in equivalents.

The indicator does not include emissions from and sequestration in the land use, land use change and forestry (LULUCF) sector, as well as emissions from sea transport, and carbon dioxide coming from biomass; however, it includes emissions from international air transport.

The greenhouse gas emissions per capita indicator does not include emissions from and sequestration in the LULUCF sector, as well as emissions from international sea transport, and carbon dioxide coming from biomass, however, it includes emissions from international air transport and indirect carbon dioxide emissions.

The greenhouse gas emissions by sector indicator does not include emissions from and sequestration in the LULUCF sector, and carbon dioxide coming from biomass, however, it includes emissions from international air transport.

Transport covers road transport, rail transport, inland navigation and air transport.

Greenhouse gases emissions in CO_2 equivalents in the European Union, 2016 (1990=100.0), %

Relevance One of the most important actions in the area of climate change is the regulation of greenhouse gas emissions. According to the National Framework Strategy on Sustainable Development, the capacity of environment has to be a barrier to economic activity. It is necessary to decrease the environmental load on humanity and to economise on non-renewable resources. These aims can only be realised by partnership covering the whole society, and by the universalisation of education and environmentally sound behaviour of enterprises and families. In parallel with reducing environmental load, we have to prepare to save ourselves from the harmful effects of climate change. Goal 13 of the UN's Sustainable Development Goals (SDG) is to take urgent action to combat climate change and its impacts, for the realisation of which it is of primary importance to quantify greenhouse gas emissions. The EU set a goal of reaching a reduction of 40% in GHG emissions by 2030 and of 80% by 2050 compared to the level of emissions in 1990.
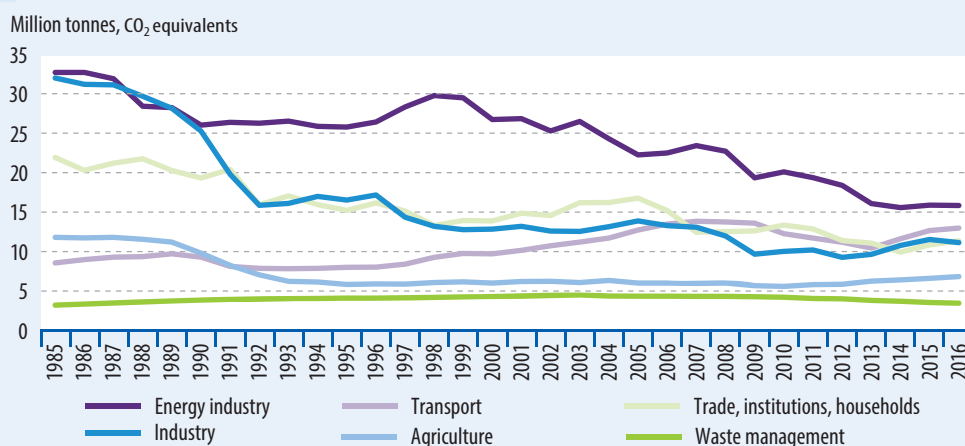
Transport has accounted for an increasing proportion of greenhouse gas emissions both in the EU and Hungary. Transport is the only major sector in Hungary the emissions from which have grown significantly since the regime change, those from the rest have decreased. The European Commission made a decision in 2011 on lowering GHG emissions from EU transport to 40% of the 1990 value of emissions by 2050.

Figure 3.1.2 Greenhouse gas emissions by sector

Million tonnes, CO_2 equivalents

Legend:
- Energy industry
- Industry
- Transport
- Agriculture
- Trade, institutions, households
- Waste management

Source: Hungarian Meteorological Service.

! *GHG emissions from the transport sector have risen since the regime change.*

Analysis The total quantity of GHG emissions by the different sectors decreased from 111 million to 62 million tonnes of CO_2 equivalents in Hungary from 1985 to 2016. According to statements in the 1985–2016 volume of the *National Inventory Report,* which is to be submitted to the UN annually, gross value added went down in almost all economic areas in Hungary in the two years following the regime change, including energy industry, industry and agriculture, all involving substantial greenhouse gas emissions. As a consequence of all this, GHG emissions fell significantly in Hungary by 1992 and stagnated until 2005. The most considerable decrease in energy use was recorded especially in energy-intensive industrial sectors (e.g. mining, manufacture of basic metals, machine industry). The volume was cut substantially in agriculture as well.

It is a basically positive development that GHG emissions did not change significantly until 2006, and emissions were reduced relatively significantly again between 2005 and 2009, which was initially due to milder winters, higher energy prices and the modernisation in chemical industry, then to the financial crisis in 2008 and the subsequent economic crisis. Emissions slightly rose in 2010 in line with GDP growth, and decreased again in 2011, mainly as a consequence of lower electricity production and transport emissions, decreasing mineral extraction and the substantial fall of natural gas use by the household sector. The decrease continued in 2012 because of the reduction of electricity production and the fall of natural gas use by other sectors. A further cut was observed in emissions in 20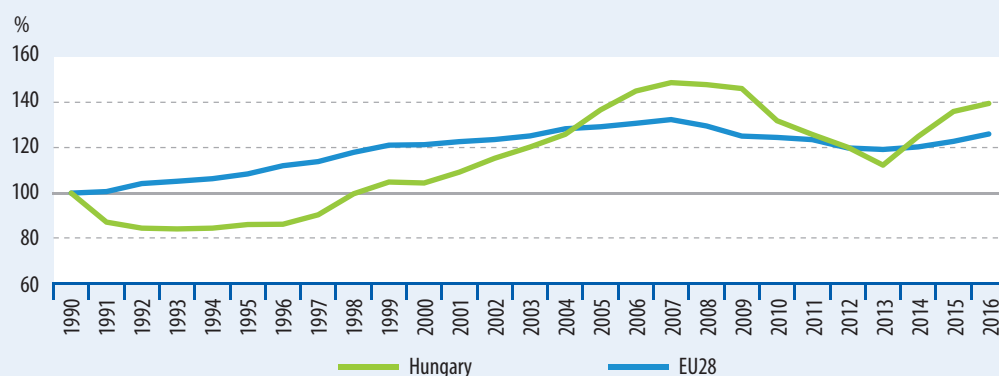13, which was mostly owing to significantly lower electricity production from fossil fuels. Transport emissions were up considerably, by 11% in 2014 compared to the previous year, which, however, was offset by the decline of fossil-fuel-based electricity production and the diminishing energy consumption of the household sector, which all in all resulted in the slight decrease of greenhouse gas emissions. Emissions stopped lessening in 2014, and rose by already 5% in 2015 and by less than 1% in 2016. The growth in the last two years can be explained largely by public electricity and heat production, and growing emissions from passenger cars and from the energy use of households. GHG emissions in 2016 were at 66% of the 1990 figure.

26% of the quantity of GHG emissions came from energy industry in 2016. GHG emissions per capita in Hungary were continuously below the preliminarily estimated EU28 average between 2000 and 2016, reaching merely 72% of that in 2016.

Emissions were lowered in all the examined sectors except transport and waste treatment. In the former sector the increase was 52% between 1985 and 2016. Greenhouse gas emissions from transport in Hungary stagnated at a low level in 1991–1996 compared to the 1990 value, then grew dynamically, mainly due to the growing number of motor vehicles and parallelly increasing goods transport performances. Emissions almost doubled by 2007 compared to their low point in 1995, however, they substantially lessened from 2010 to 2013, since motor spirit and gas oil consumption decreased in 2010 principally owing to the long-term effect of the economic crisis and to price rises caused by higher tax load.

PL	262.4
CZ	248.5
IE	239.8
LU	234.8
SI	208.7
MT	191.0
AT	173.7
PT	170.4
ES	159.3
HR	149.5
CY	148.8
▶ **HU**	**139.5** ◀
BG	136.4
RO	133.8
NL	129.4
BE	128.1
DK	126.5
▶ **EU28**	**126.1** ◀
EL	120.8
FR	116.0
UK	115.1
FI	111.3
DE, LV	109.5
IT	108.0
SK	100.2
SE	95.1
EE	94.5
LT	92.7

Figure 3.1.3 Greenhouse gas emissions from transport (1990=100.0)

! *The growth dynamics of GHG emissions from transport in Hungary exceed the EU level.*

The increase of emissions between 2013 and 2016 was mostly caused by growths in goods transport performance and passenger car stock. Transport contributed to total emissions by merely 10% in 1990, compared with 21% in 2016. The weight of transport rose significantly in the EU, too, between 1990 and 2016. This section accounted for 15% of total GHG emissions in the EU28 in 1990, compared with 24% in 2016. Transport emissions have been up by 9.5% in Germany, making up 18% of GHG emissions from transport in the EU28, by 15% in the United Kingdom, accounting for 15%, and by 16% in France, emitting 14%, since 1990.

GHG emissions from transport have more than doubled in Poland, Czechia, Ireland, Luxembourg and Slovenia since 1990. This indicator decreased in Lithuania, Estonia and Sweden only.

International outlook The Europe 2020 Strategy aims at a reduction of at least 20% in GHG emissions compared to 1990, which it intends to realise among others through the reduction effect of the EU Emissions Trading Scheme (EU ETS) for different sectors on the one hand and through reduction expectations declared by the Effort Sharing Decision for (non-ETS) sectors not included in this trading scheme on the other hand. The EU ETS covers some 45% of the EU's total greenhouse gas emissions and sets emissions quotas decreasing year by year. With this, the EU intends to reach a reduction of 21% in GHG emissions by 2020 compared to 2005, which, coupled with a 10% cut aimed to be reached by the Effort Sharing Decision (Hungary's effort is a maximum 10% increase in emissions), can result in total in a 14%

average reduction of emissions in the EU by 2020 compared to 2005, which is at the same time equal to the decrease of at least 20% compared to 1990. The GHG emissions of Hungary moved in line with the trend of the later EU28 from 1992. The countries with the highest proportions of GHG emissions in the EU: Germany (21%), the United Kingdom (12%) and France (11%). Emissions in these countries in 2016 compared to 1990 were 64% in the United Kingdom, 86% in France and 74% in Germany. Emissions in Lithuania, Latvia, Romania and Estonia fell to less than the half of the 1990 level. The most substantial increases in GHG emissions compared to 1990 were recorded for Cyprus, Spain, Portugal and Ireland.

Summary tables (STADAT)
5.3.1 Emissions of air pollutants and greenhouse gases
5.3.2 Emission of greenhouse gases by industries and households
5.3.3 Emission of carbon dioxide (CO_2) by industries and households
5.3.4 Emission of carbon dioxide (CO_2) (without emissions from biomass used as fuel) by industries and households
5.3.5 Emission of carbon dioxide (CO_2) from biomass, by industries and households
5.3.6 Emission of dinitrogen oxide (N_2O) by industries and households
5.3.7 Emission of methane (CH_4) by industries and households
5.3.8 Emission of hydrofluorocarbon (HFC) by industries and households
5.3.9 Emission of perfluorocarbon (PFC) by industries and households
5.3.10 Emission of sulphur hexafluoride (SF_6) by industries and households

◀ *GHG emissions from transport in the European Union, 2016 (1990=100.0), %*

Greenhouse gas intensity of energy consumption

Since 2000

Since 2015

Figure 3.2.1 Greenhouse gas intensity of energy consumption (2000=100.0)

Hungary	EU28

> **!** *The greenhouse gas intensity of energy consumption decreased to a higher extent than the average of the EU28 countries between 2000 and 2016.*

Definition The greenhouse gas intensity of energy consumption is the quotient of greenhouse gas (GHG) emissions of energy use and gross domestic energy use.

Relevance The indicator provides information on the extent to which the tools and methods of energy use are a burden on the environment and human health, at the same time, it also describes the environment-consciousness of economic and social actors. The switch to low or lower carbon-content fuels helps achieve a number of objectives of the EU Sustainable Development Strategy. Using lower carbon-content fuels and renewable energy sources reduces GHG emissions and thus contributes to the decrease of the greenhouse gas intensity of energy consumption. For the practical implementation of efficient energy use it is necessary to increase the share of biomass, and geothermal, hydroelectric, solar and wind energy, agricultural by-products and biogas in energy use, which contributes to a more sustainable energy management, too.

One of the targets of the Europe 2020 Strategy is to increase energy efficiency and the share of renewable energy sources in final energy consumption by 20% by 2020 in the EU. The indicator is part of the EU set of 'sustainable development objectives' indicators and the UN's sustainable development goals (SDG).

Analysis GHG emissions of energy use per unit of energy use go down in Hungary, primarily due to the spread of gas and renewable energy sources instead of solid fuels.

International outlook GHG emissions per unit of energy use decreased in the EU as well from 1990 to 2016. With the exception of Bulgaria, Lithuania and Cyprus, the value of the indicator decreased in the European Union by 2016 compared to 2000. The indicator was down to 96%, 84% and 85% in Germany, the United Kingdom and France, respectively, the largest GHG emitters within the EU.

Summary tables (STADAT)
**5.3.2 Emission of greenhouse gases
  by industries and households**

Greenhouse gas intensity of energy consumption in the European Union, 2016 (2000=100.0), %

BG	106.2
LT	105.7
CY	100.8
NL	96.1
DE	95.7
EE	93.6
LU	92.6
HR	91.3
PL	90.3
SI	88.7
▶ EU28 ◀	87.9
RO	87.3
LV	87.2
IE	86.6
ES, IT	85.1
FR	85.0
UK	84.4
AT, PT	84.2
BE	83.6
SK	83.0
CZ	81.3
EL	81.0
▶ HU ◀	80.3
FI	76.8
DK	76.7
SE	75.1
MT	61.0

Emissions of acidifying air pollutants

Since 2000

Since 2015

LT	92.5
PL	84.5
LV	82.9
DE	77.3
EE	74.7
SE	71.2
CY	69.5
BG	68.3
HU	**66.9**
IE	66.6
RO	66.3
SI	66.2
AT	64.3
FI	63.7
EU28	**62.8**
NL	62.6
HR	62.0
BE	60.7
SK	59.8
IT, FR	59.4
CZ	58.5
PT	57.7
DK	56.1
ES	55.2
EL	52.3
MT	52.1
UK	51.9
LU	36.4

Figure 3.3.1   Emissions of ammonia, nitrogen oxides and sulphur dioxide   (2005=100.0)
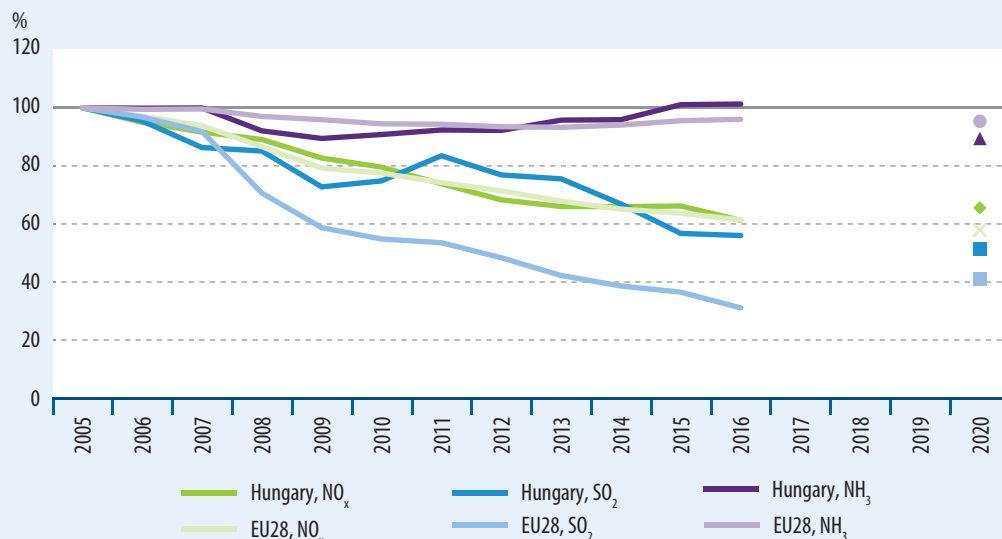
Source: European Environment Agency.

! *The emissions of sulphur dioxide and nitrogen oxides were reduced, ammonia emissions did not change significantly in the EU and in Hungary in the last eleven years.*

Definition The indicator of emissions of ammonia, nitrogen oxides and sulphur dioxide does not include the emissions of nitrogen oxides from activities defined in the categories of manure management and agricultural soils, as well as airplane emissions in other than landing and take-off phases. The indicator of emissions of acidifying air pollutants monitors the total annual emissions of nitrogen oxides, coming from human activities, sulphur dioxide and ammonia, which covers total national figures as included in the official national emissions inventory, i.e. total emissions other than 'memo items'. Memo items are separate items in international reports, such as CO_2 emissions from the use of fuels used for aviation or navigation, and from biomass, or carbon content stored for a long time in waste disposal sites.

SO$_2$ equivalents: different air pollutants have different impacts on the environment and the climate, and to be able to compare these impacts of theirs, their emissions are expressed in equivalents, using in the present case sulphur dioxide as a base.

Relevance The emissions of substances causing acidification damage the ecosystem, especially the soil, forests and water resources. Nitrogen oxides emitted in the atmosphere, getting far from the originating source, are deposited, thus they play a role in acidification and eutrophication (growth of algae due to excess nutrient content in waters), as well as – through their increased concentration – in the development of photochemical smog. Emitted sulphur dioxide is responsible for the development of winter smog, while nitrates leaching into waters during ammonia emissions, together with phosphates, mainly for the excess growth of algae. To regulate acidifying gases a number of laws were formulated including the Gothenburg Protocol to the 1979 Geneva Convention on Long-range Transboundary Air Pollution (CLRTAP). EU Member States made new commitments in connection with the Gothenburg Protocol in Geneva in May 2012. In Hungary the National Framework Strategy on Sustainable Development refers to the continued growth of production, through technological development, not having implied in the past decade an increase in the emissions of substances causing acidification. Continuous monitoring can show if it holds true.
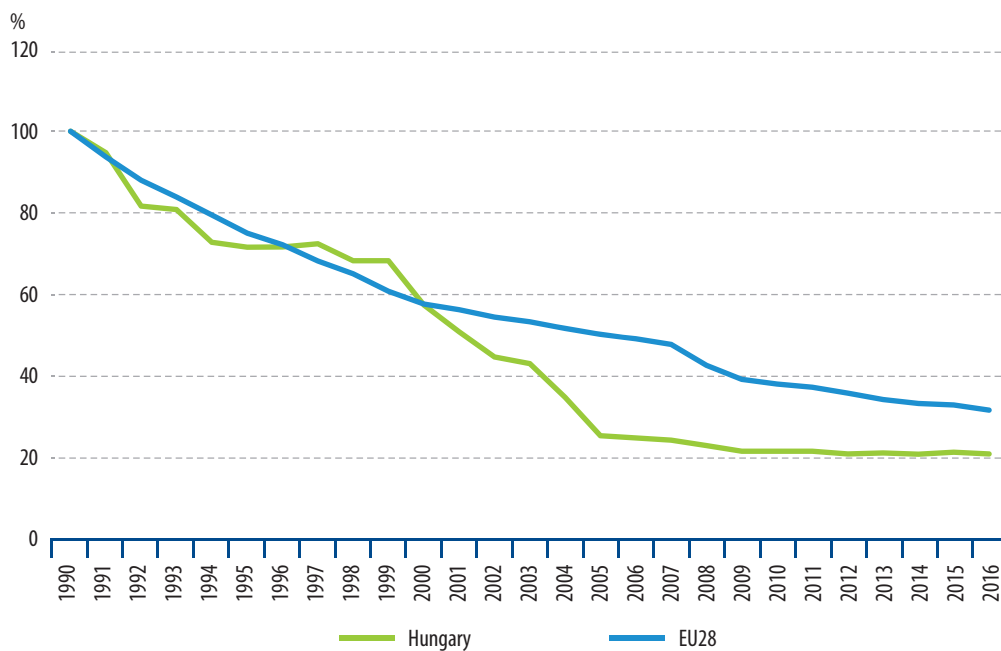
Source: European Environment Agency.

Emissions of nitrogen oxides in the European Union, 2016 *(2005=100.0), %*

Figure 3.3.2 **Emissions of acidifying air pollutants** (1990=100.0)

Source: European Environment Agency.

> **!** *The emissions of acidifying air pollutants have decreased significantly both in the EU and in Hungary since 1990.*

Analysis Based on figures for 2016, emissions at the level of the EU were reduced by 69% in the case of sulphur dioxide, by 39% in respect of nitrogen oxides and by 4% in the case of ammonia compared to 2005. Emissions in Hungary fell by 44% in respect of sulphur dioxide and by 39% for nitrogen oxides, and went up by 1.3% in the case of ammonia by 2016 compared to 2005.

The longer-perspective analysis – compared to 1990 – reveals that emissions in Hungary fell by 97% for sulphur dioxide, by 50% in respect of nitrogen oxides and by 42% in the case of ammonia by 2016. The total SO_2 equivalents of acidifying gases emitted by Hungary were cut substantially, from 1,271 thousand tonnes in 1990 to 270 thousand tonnes in 2014. This was

Table 3.3.1 **Commitments on reducing emissions of air pollutants compared to 2005**

(2005=100%)

Air pollutants	Year	Hungary	EU28
SO_2 reduction	Any year between 2020 and 2029	46	59
	2030 and any subsequent year	73	79
NO_x reduction	Any year between 2020 and 2029	34	42
	2030 and any subsequent year	66	63
NH_3 reduction	Any year between 2020 and 2029	10	6
	2030 and any subsequent year	32	19

Figure 3.3.3 Emissions of acidifying air pollutants by sector

Thousand tonnes, SO$_2$ equivalents
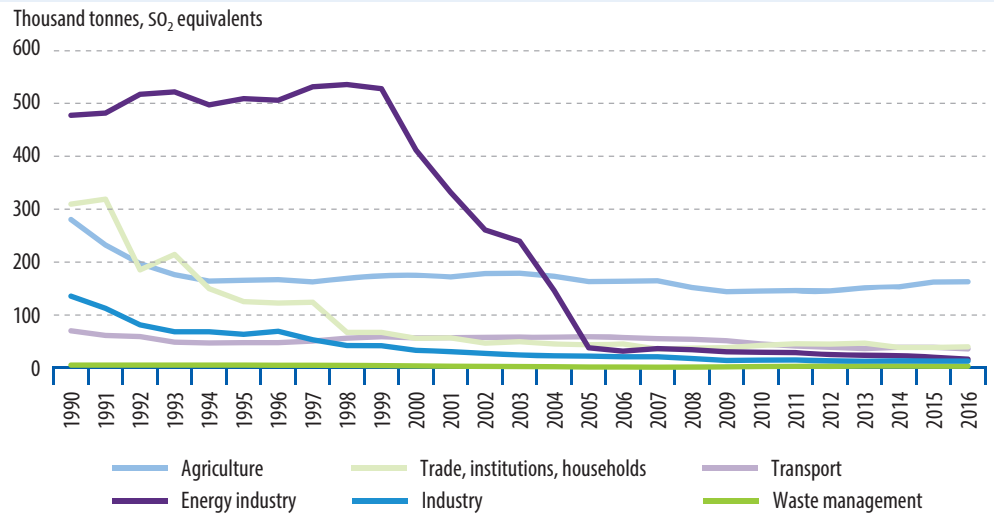
Source: European Environment Agency.

> ! **Emissions from the energy industry fell considerably, mostly due to the use of desulphurisation equipment and the decline of heating by coal.**

mostly due to technological changes in energy industry (e.g. the wide use of desulphurisation equipment), and the decline of heating by coal. With a substantial decrease in emissions from energy industry, agriculture became the primary source of emissions of acidifying gases, which had a share of 60% in 2016. With the 97% decrease of sulphur dioxide emissions from 1990 to 2016, ammonia and nitrogen oxides emissions of the economy became more substantial factors of the acidification of the environment. The emissions of ammonia and nitrogen oxides decreased in a few years right after the regime change, after which they practically stagnated until the beginning of the 2000s. Following that, the emissions of nitrogen oxides went on lessening, while those of ammonia were reduced, then showed an increasing trend from 2009. The main sources of ammonia emissions are manure management and the use of fertilisers. The emissions of ammonia equalled 165 thousand tonnes of SO$_2$ equivalents in 2016, 61% of the total emissions of acidifying air pollutants.

International outlook The emissions of nitrogen oxides in the EU in 2016 were 63% of the base value for 2005, in comparison with which changes in Hungary's emissions were slightly less favourable (67%). Germany accounted for 16%, the United Kingdom for 12% and France for 11% of nitrogen oxides emissions in the EU. Germany reached a reduction of 23%, the United

Kingdom 48% and France 41% in emissions in the period between 2005 and 2016. Luxembourg is in the most favourable position, emissions have been lowered by 64% there since 2005, while a reduction of merely 7.5% could be reached in emissions in Lithuania during this period. The decrease of EU emissions can mostly be explained by EU legislation favouring reduction, which mainly covered emissions from motor vehicles (European emissions standards) as well as the combustion of industrial fuels, and production by power plants. However, a substantial proportion of motor vehicles operate invariably using traditional technology (not reaching European emissions standards), which indicates that there is still a further significant potential in reducing the emissions of nitrogen oxides. Combustion modification technologies and switching fuel from coal to gas helped further cut nitrogen oxides emissions.

Summary tables (STADAT)
5.3.11 Emission of acidifying gases by industries and households
5.3.12 Emission of nitrogen oxides (NO$_x$) by industries and households
5.3.13 Emission of sulphur dioxide (SO$_2$) by industries and households
5.3.14 Emission of ammonia (NH$_3$) by industries and households
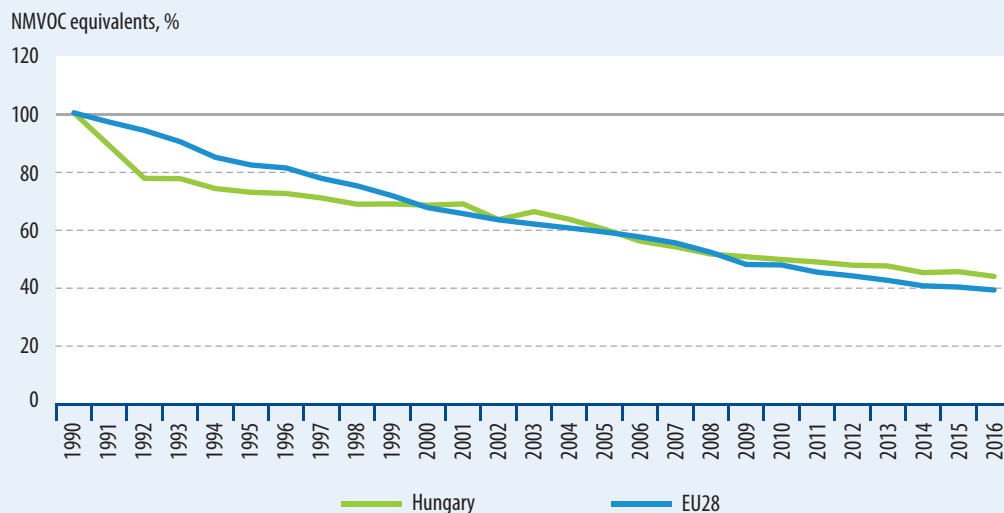
3.4

Ozone precursors emissions

Since 2000

since 2015

Figure 3.4.1 Ozone precursors emissions   (1990=100.0)

NMVOC equivalents, %

Source: European Environment Agency.

PL	81.3
MT	74.6
CY	73.5
IE	66.8
PT	62.6
AT	55.3
ES	53.2
RO	49.5
EL	48.3
SI	47.7
SE	45.1
HU	44.0
HR	43.0
DK	41.8
FI	41.5
LT	40.6
EE	40.5
BE	39.8
IT	39.5
LV	39.4
EU28	39.3
NL	36.3
SK	35.6
DE	34.5
FR	32.8
LU	31.5
CZ	28.2
UK	27.0
BG	26.8

! *The emissions of ozone precursors in Hungary closely correlate with the decreasing EU trend.*

Definition The ozone precursors emissions indicator shows the trend of nitrogen oxides, non-methane volatile organic compounds (NMVOCs), carbon monoxide and methane emissions, expressed in NMVOC equivalents, not including memo item figures. Memo items are separate items in international reports, emissions accounted in addition to total national figures, such as CO_2 emissions from the use of fuels used for aviation or navigation, and from biomass, or carbon content stored for a long time in waste disposal sites.

The indicator on ozone precursors emissions in transport indicates the trend of nitrogen oxides, carbon monoxide, methane and non-methane volatile organic compounds emissions from transport, expressed in NMVOC equivalents, not including memo item figures.

Different air pollutants have different impacts on the environment and the climate. To be able to compare these impacts, their emissions are expressed in equivalents.
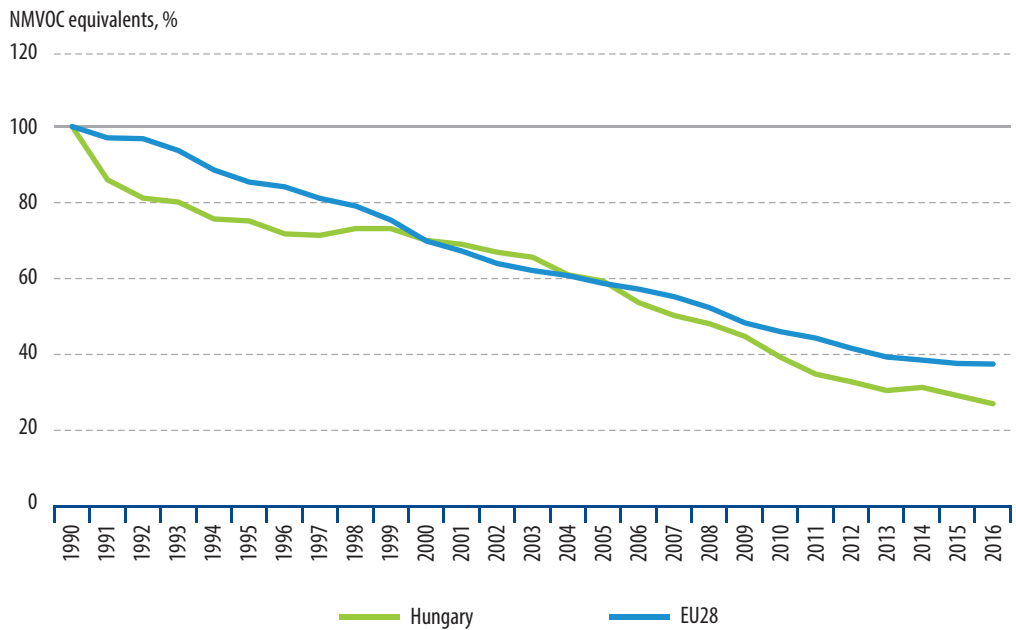
Relevance Ozone precursors contribute to the formation of ground-level ozone. Tropospheric ozone is harmful to health, it is one of the components of smog, and hits mostly cities with heavy traffic. It is an extremely reactive gas, which causes serious health problems and damage to the eco-system and agricultural crops. Human exposure to elevated ozone concentrations can give rise to respiratory problems and decreased lung function. Tropospheric ozone arises from the energy use of transport, industry and households. Together with nitrogen oxides, non-methane volatile organic compounds (NMVOCs) are referred to as photo-oxidants. Significant emissions of nitrogen oxides come mainly from agriculture, households and transport, and considerable emissions of NMVOCs from households, followed by agriculture and manufacturing. These pollutants contribute to the formation of photochemical smog, especially in summer. With the aid of up-to-date technologies, a part of loads can be reduced, e.g. by operating catalysers and more fuel-economical engines.

Ozone precursors emissions in NMVOC equivalents in the European Union, 2016, (1990=100.0), %

Source: European Environment Agency.

PL	77.4
ES	69.6
IE	65.4
PT	64.9
CY	54.4
SE, RO	51.3
SI	50.7
EL	50.4
EE	49.1
LU	43.9
NL	43.6
LT, AT	43.0
BE	41.6
DK	40.9
MT	39.2
BG	38.9
LV	38.7
▶ EU28 ◀	37.5
HR	36.9
IT	34.5
UK	30.8
SK	29.5
DE	28.1
FR	27.8
▶ HU ◀	27.0
FI	25.7
CZ	16.7

Source: European Environment Agency. ◀

Figure 3.4.2   Ozone precursors emissions from transport

NMVOC equivalents, %

Source: European Environment Agency.

> **!** *Ozone precursors emissions from transport in Hungary correlate with the decreasing EU trend.*

Though cleaner vehicles and alternative fuels do not in and of themselves resolve the basic sustainability problems of transport; their use is indispensable to decrease the environmental load of transport. In addition to rationalising demand for transport, it is also necessary to have an increasing proportion of demand satisfied by environment-friendly alternative modes of transport, using environment-friendly alternative fuels.

Analysis Ozone precursors emissions decreased steadily in Hungary between 1990 and 2016. Emissions were down from 766 thousand tonnes of NMVOC equivalents recorded for 1990 to 337 thousand tonnes in 2016. The most substantial ozone precursors were nitrogen oxides (42%) in 2016, the respective shares of non-methane volatile organic compounds, carbon monoxide and methane in ozone precursors emissions were 42%, 15% and 1.3%. The main contributors to the 50% fall of nitrogen oxides emissions were the reductions of emissions from industry (76%), energy industry (68%) and transport (35%)

between 1990 and 2016. Non-methane volatile organic compounds emissions dropped by 56% from 1990 to 2016, which was primarily due to a significant fall of 90% in emissions from transport.

Ozone precursors emissions from transport became 73% less in Hungary compared to 1990. Their share of total ozone precursors emissions declined from 41% to 25% between 1990 and 2016. Population exposure to air pollution by ozone varies between countries, partly due to differences in climate and vegetation. In general, the inhabitants of southern countries with higher summer temperatures (e.g. Italy) are exposed to pollution by ozone to a higher extent than the inhabitants of cooler northern countries (e.g. Norway and Ireland).

Over 15% of all measured data of ozone concentration in Hungary in 2017 exceeded the long term target, which is 120 µg/m³, the maximum of a daily 8-hour moving average concentration measured in a calendar year, only at the measuring stations in Kecskemét and Mosonmagyaróvár.

Ozone precursors emissions from transport in NMVOC equivalents in the European Union, 2016 (1990=100.0), %
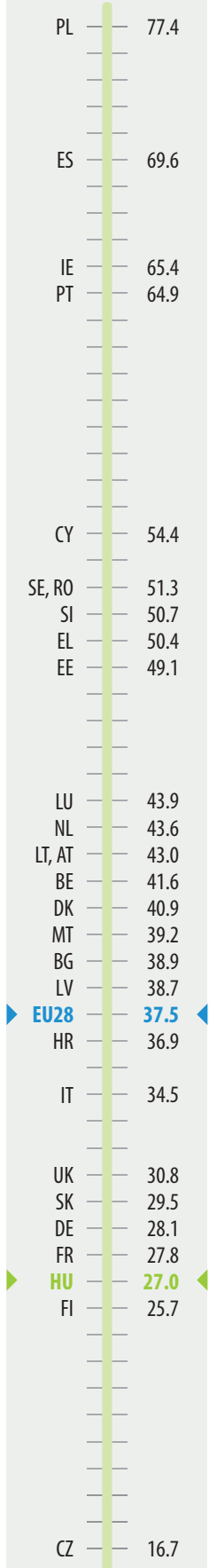
International outlook Germany had the largest share (16%) of ozone precursors emissions in the EU in 2016, the second largest emitter was the United Kingdom (12%) and the third one Italy (11%). Emissions in 2016 compared to 1990 were 34% in Germany, 27% in the United Kingdom and 40% in Italy. Ozone precursors emissions in 2016 compared to 1990 dropped less in Hungary (to 44%) than the EU figure (to 39%). Within the EU, Czechia, the United Kingdom and Bulgaria reduced their ozone precursors emissions by more than 70%, while the decrease was only 19% in Poland compared to 1990.

The highest shares of ozone precursors emissions from transport in 2016 were observed for the United Kingdom (14%), Spain (14%) and Germany (13%). Emissions in 2016 compared to 1990 were 31% in the United Kingdom, 70% in Spain and 28% in Germany. Ozone precursors emissions from transport fell the most in Czechia (by 83%) and the least in Poland (by 23%). Emissions in Hungary were cut at a rate exceeding the EU average of 63%.

Summary tables (STADAT)

5.3.7 Emission of methane (CH$_4$) by industries and households

5.3.12 Emission of nitrogen oxides (NO$_X$) by industries and households

5.3.15 Emission of ozone precursors by industries and households

5.3.16 Emission of non-methane volatile organic compounds (NMVOCs) by industries and households

5.3.17 Emission of carbon monoxide (CO) by industries and households

Particulate matter pollution – population exposure to particulate matter air pollution
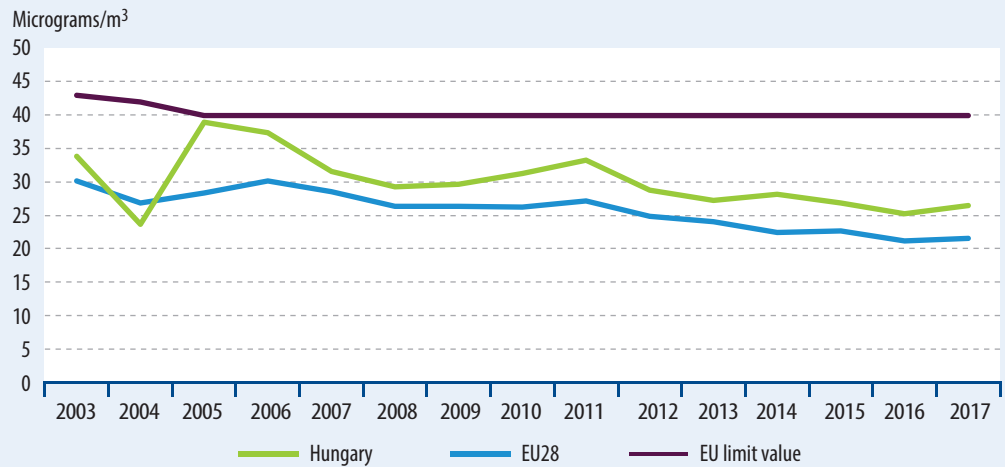
Since 2003

Since 2016

BG	37.3
HR	35.1
PL	32.2
IT, CY	29.2
EL[a)]	29.0
RO	26.6
▶ HU ◀	**26.5**
SI	24.8
SK	24.2
CZ	23.9
LT	22.8
ES	21.9
▶ EU28 ◀	**21.6**
BE	20.4
LU	20.3
NL, AT	19.2
FR	19.1
PT	18.3
DE	17.5
LV	17.2
UK	15.6
DK	15.5
SE	11.8
IE	11.5
EE	10.5
FI	10.0

a) 2016.
Source: European Environment Agency.

Figure 3.5.1   Urban population exposure to particulate matter air pollution (PM$_{10}$)

Source: European Environment Agency.

! **Population exposure to particulate matter air pollution was typically higher in Hungary than the EU average between 2003 and 2017.**

Definitions The indicator of particulate matter emissions (PM$_{10}$) indicates the annual quantity of emissions of particulate matters with a diameter of less than 10 micrometres from anthropogenic activities, not including memo item figures (emissions accounted in addition to total national figures). The indicator of particulate matter emissions from transport shows the annual quantity of total particulate matter emissions from transport, not including memo item figures. The indicator of population exposure to particulate matter air pollution indicates the annual mean concentration of particulate matter pollution measured at monitoring stations in different agglomerations, weighted with the number of people living there.

Relevance The main sources of particulate matter emissions in towns are diesel-powered vehicles, as well as industrial, household and other types of combustion. The wear of tyres and brakes also enhance particulate matter emissions. Reducing pollutant emissions from transport to levels that minimise effects on human health or the environment is a specific objective of the Sustainable Development Strategy of the European Union. The natural sources of particulate matter emissions are dust, sand and smoke from forest fires. At high

levels of sulphur dioxide concentration and in the case of slow air motion and low temperature, particulate matters are the generators of 'winter smoke fog' (winter smog). PM$_{10}$ came to the focus of attention due to their harmful effects on health. Breathing in these substances contributes to the formation of several heart and respiratory diseases.

Analysis The limit value for the annual average concentration of PM$_{10}$ is 40 micrograms/m^3 in the EU at present, and average population exposure was below this in the EU as well as in Hungary between 2003 and 2017. Values exceeding the limit value occurred at certain measuring stations both in Hungary and in the EU in this period. Air pollution by particulate matter with a diameter of below 10 micrograms/m^3 exceeded the 24-hour limit values in more than 20% of the measured cases at measuring stations in Sajószentpéter, in Alföldi street in Miskolc and in Kazincbarcika in 2017.

Total PM$_{10}$ emissions were down by 2.9%, from 75 thousand tonnes to 73 thousand tonnes in Hungary from 2000 to 2016. The largest particulate matter emitters in Hungary in 2016 were the trade sector, institutions and households, with a share of 64%. The main contributors to the 26% reduction in PM$_{10}$ emissions in the EU in 2016 compared to 2000 were decreases of 32% in industry, 67% in energy industry and 41% in transport.

Urban population exposure to particulate matter air pollution, 2017, *micrograms/m^3*

Figure 3.5.2 Particulate matter emissions (PM₁₀) (2000=100.0)
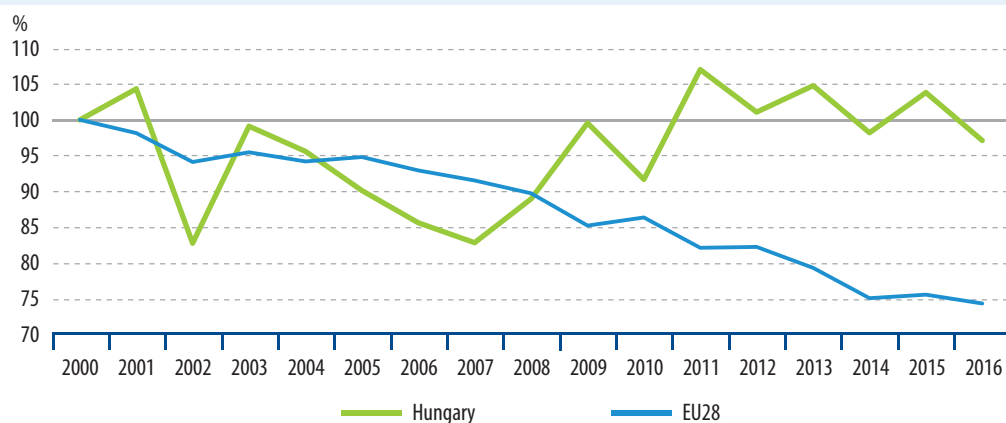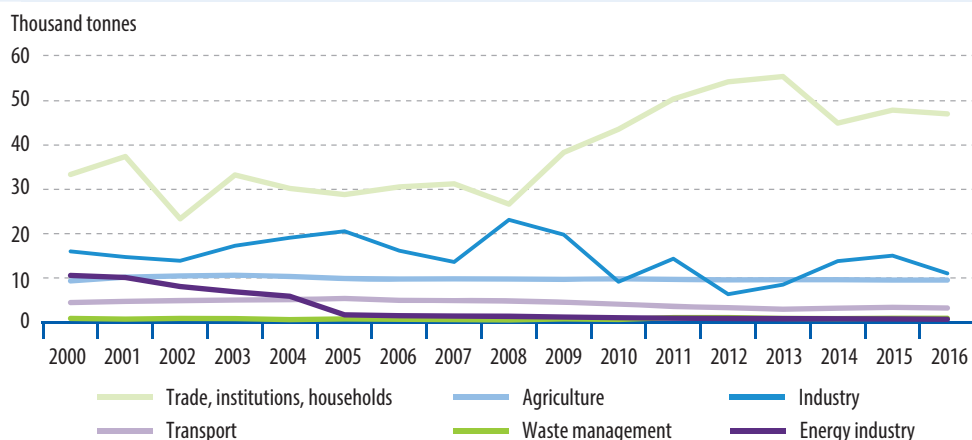

Source: European Environmental Agency.

> **!** *PM₁₀ emissions – amid substantial fluctuations – remained practically at an unchanged level in Hungary between 2000 and 2016. The EU emissions were reduced by 26% over this period.*

Figure 3.5.3 Particulate matter emissions (PM₁₀) by sector

Source: European Environment Agency.

> **!** *PM₁₀ emissions from the sector of trade, institutions and households – amid considerable fluctuations – were up by 41% between 2000 and 2016.*

International outlook Population was exposed to particulate matter air pollution the most in Bulgaria (37 micrograms/m³) and the least in Finland (10 micrograms/m³) and Estonia (11 micrograms/m³) within the EU in 2017. The accumulation of particulate matter was due to severe summer heat waves as well as hot and dry weather (e.g. in 2003 and 2006) and also forest fires (in 2003). Poland had the largest share (13%) of PM₁₀ emissions in the EU in 2016, France accounted for 12% of the total EU emissions. Poland reduced its emissions by 16%, France by 42% compared to 2000. PM₁₀ emissions in the EU lessened by 26% in 2016 compared to 2000. The emissions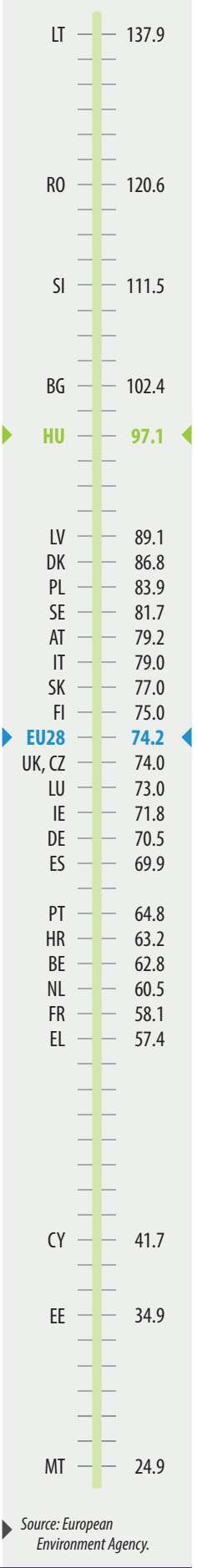 in 2016 were 75% lower in Malta, in the most favourable position in terms of the change, and 38% higher in Lithuania, in the most unfavourable position, than the emissions in 2000.

Summary tables (STADAT)
5.3.18 Emission of particulate matter by industries and households
5.3.28 Concentrations of particulate matter with a diameter of 10 μm or less (PM₁₀), in the monitoring network

*PM₁₀ emissions in the European Union, 2016, (2000=100.0), %*

LT	137.9
RO	120.6
SI	111.5
BG	102.4
HU	**97.1**
LV	89.1
DK	86.8
PL	83.9
SE	81.7
AT	79.2
IT	79.0
SK	77.0
FI	75.0
EU28	**74.2**
UK, CZ	74.0
LU	73.0
IE	71.8
DE	70.5
ES	69.9
PT	64.8
HR	63.2
BE	62.8
NL	60.5
FR	58.1
EL	57.4
CY	41.7
EE	34.9
MT	24.9

Source: European Environment Agency.

Annual mean temperature

Since 1901

Figure 3.6.1   Annual mean temperature in Budapest

Source: Hungarian Meteorological Service.
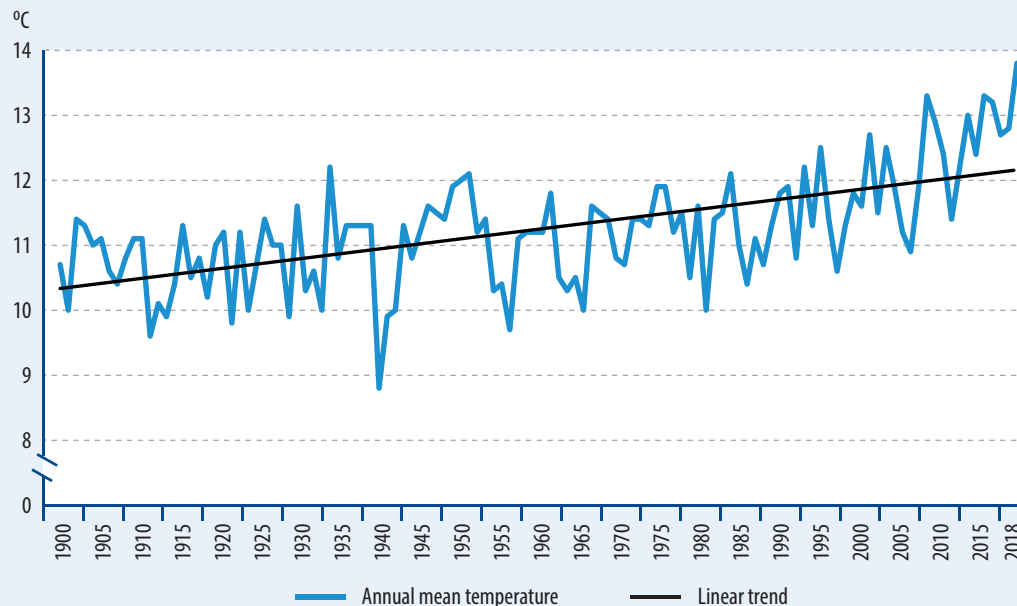
!   *Warming exceeded 1.5°C in Budapest from 1901.*

Definition Annual mean temperature is the average of monthly mean temperatures (averages of daily mean temperatures).

Relevance In compliance with the 2015 Paris Agreement on climate change, signatory states set a global objective of seeing that mean temperature on the Earth is not to rise by more than 2°C compared with the value for the pre-industrial period (1750), and will make efforts to guarantee that the rise is not to reach even 1.5°C. To meet this objective greenhouse gas emissions should be reduced significantly. The priorities of sustainability in Hungary also include combatting climate change, which puts a high emphasis on reducing greenhouse gas emissions to the atmosphere as well as starting to adapt to changing weather and climatic conditions.

Analysis Though the weather changed year by year over the time span of 117 years, the temperature followed a rising trend. According to the linear trend fitted to the series of annual mean temperatures in Budapest, warming exceeded 1.5°C – due to the increasing effects of urbanisation. The highest temperature in the capital was measured in 2007 (40.1°C). In spite of volatility, a general rise in temperature can be clearly seen in the last some 30 years.

International outlook According to the global climate evaluation of the World Meteorological Organization for 2018, the extremely intensive global rise in surface temperature (over land surface and oceans together) has lasted since the beginning of the century and is expected to continue. Major indicators on climate change increasingly support warming. The level of carbon dioxide rose intensively in the past 25 years, and concentrations of greenhouse gases are expected to have further increased and to increase in 2018 and 2019, respectively.

Summary tables (STADAT)
5.10.3 Extreme weather values at certain measuring stations
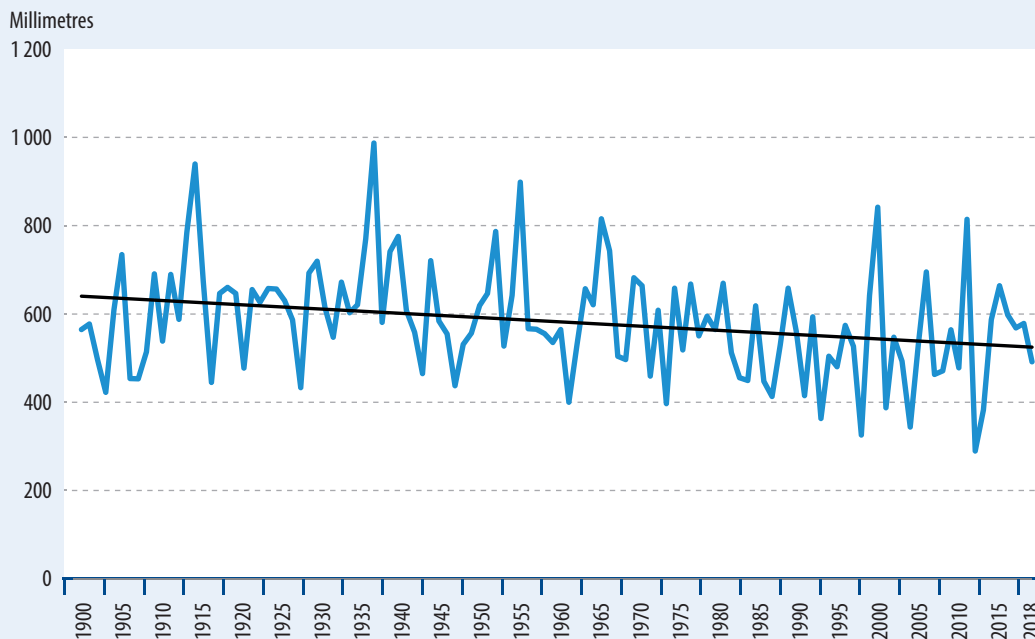**5.10.4 Meteorological data**
5.10.5 Extreme weather values
**5.10.6 Meteorological data of Hungary and Budapest**

Amount of precipitation

Since 1901

Figure 3.7.1 Annual amount of precipitation in Budapest

Millimetres

Source: Hungarian Meteorological Service.

> ! *The long time series of annual precipitation indicate a decrease in Budapest.*

Definition The amount of atmospheric precipitation is measured with the height (millimetres) that rainwater (or melted snow) would reach if it did not evaporate or leak away.

Relevance Combating climate change implies the rational planning of water management, too. In water management, preparations need to be made principally for extreme hydro-meteorological events and extreme conditions of precipitation, which may lead to increasing exposure to floods on the one hand and to droughts on the other. Flood safety is to be improved, including protection against 'flash floods' in smaller watershed areas and municipalities. It is needed to make efforts and create more efficient irrigation systems, as well as to increase the quantity of water held back and to enhance water retaining capacities in the area of Hungary and to ensure the high-level protection of water resources.

Analysis Most precipitation in Hungary takes place in May and June, and the least in January and February. The quantity of precipitation varies from year to year, even three times as much precipitation might fall in the wettest years as in the driest ones. The largest amount of precipitation in Budapest between 1901 and 2018 was measured in 1937 (988 millimetres) and the smallest in 2011 (291 millimetres).

Summary tables (STADAT)
5.10.3 Extreme weather values at certain measuring stations
5.10.4 Meteorological data
5.10.5 Extreme weather values
5.10.6 Meteorological data of Hungary and Budapest

Number of heat days and freezing days

Since 1901

Figure 3.8.1 Number of heat days and freezing days in Budapest
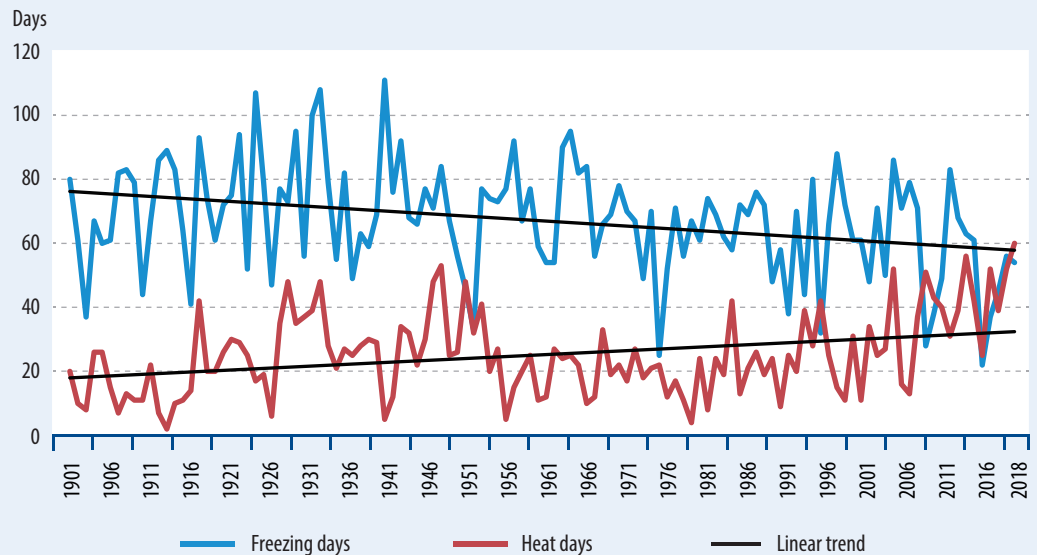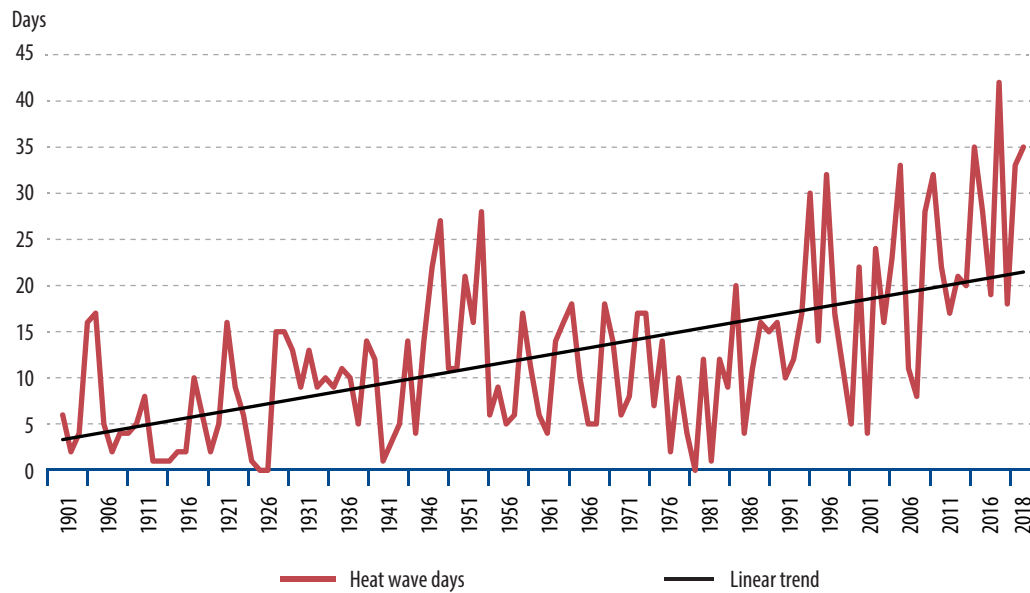

Source: Hungarian Meteorological Service.

! *The number of freezing days went down and that of heat days increased between 1901 and 2018.*

Definitions The days when the daily maximum temperature exceeds 30°C are referred to as heat days. Freezing days are those in which the daily minimum temperature falls below 0°C. On days when there is a heat wave, the daily mean temperature exceeds 25°C.

Relevance The numbers for freezing days and heat days are major indicators of global warming. The global rise in temperature can lead to changes in the environment, a rise in the sea level, changes in the amount and spatial distribution of precipitation, as well as extreme weather conditions.

Analysis Information from average mean surface temperature data is completed by the analysis of extreme temperatures (heat days and freezing days) and temporal range (e.g. heat waves). The number of freezing days declined and the number of heat days rose between 1901 and 2018. The number of days when there was a heat wave was 42 in 2015, which can be considered as a record, based on data measured since 1901.

Figure 3.8.2   Number of days when there was a heat wave, in Budapest

Source: Hungarian Meteorological Service.

**!**   *The number of days when there was a heat wave was rising in the last few decades, along with substantial fluctuations.*

Summary tables (STADAT)

5.10.3 Extreme weather values at certain measuring stations

5.10.4 Meteorological data

5.10.5 Extreme weather values

5.10.6 Meteorological data of Hungary and Budapest

Areas exposed to drought

Figure 3.9.1 Proportion of areas exposed to drought, based on Pálfai index
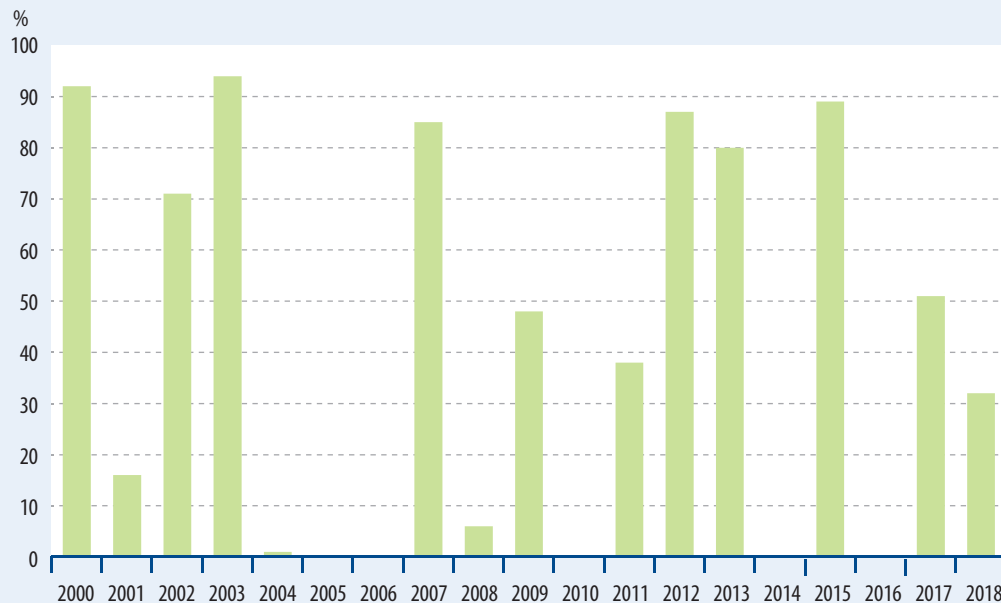
Source: General Directorate of Water Management.

! *32% of the area of Hungary was exposed to at least a low drought in 2018.*

Definitions The size of areas exposed to drought is determined by the Pálfai drought index (PDI). This index is the quotient of mean temperature in the period of April–August and weighted precipitation amount in the period of October–August. The index takes into account the number of heat days, the length of periods with low precipitation, the depth of ground water, and also the water demand of agricultural plants, changing over time. Areas not exposed to drought are those where PDI is <6˚C/100 millimetres; areas exposed to extreme drought are those where PDI is >12˚C/100 millimetres.

Relevance Due to climate change, weather extremes – including drought – occur more and more frequently all over the world as well as in Hungary. The harmful effect of droughts can be quantified the most apparently through losses in agriculture. Resulting from drought and the lack of irrigation, agriculture in Hungary as well as all the fauna, cultivated and uncultivated areas and areas under protection, and so society itself, occasionally suffer severe damage.

Analysis The proportion of areas exposed to drought significantly exceeded 50% in many cases in Hungary between 2000 and 2018. 2000, 2003, 2007, 2012 and 2015 were years of severe drought. This was the consequence of extreme heat, the lack of precipitation, and the combination of the two. The drought in 2013 (proportion of areas exposed to drought was 80%) was lower than in 2012 (87%). This was mainly owing to the considerably-wetter-than-average spring weather. 2014 was a year with no drought, drought in the areas of the Trans-Tiszanian region and the Lower Danube Valley approximated the lower drought threshold. In 2015, hit by substantial drought, the 5 heat waves in the period of – mainly – summer covered 42 days. 2016 was a year with no drought, but the proportion of areas exposed to drought reached again 51% in 2017, then it lessened to 32% in 2018. There was low and moderate drought in the north-eastern part and in the middle of the Great Hungarian Plain.

Figure 3.9.2 **Territorial distribution of drought index (PDI) values for 2018**

PDI, °C/100 mm

6.0– 7.9 (low drought)

8.0– 9.9 (moderate drought)

10.0–11.9 (medium drought)

Source: General Directorate of Water Management.
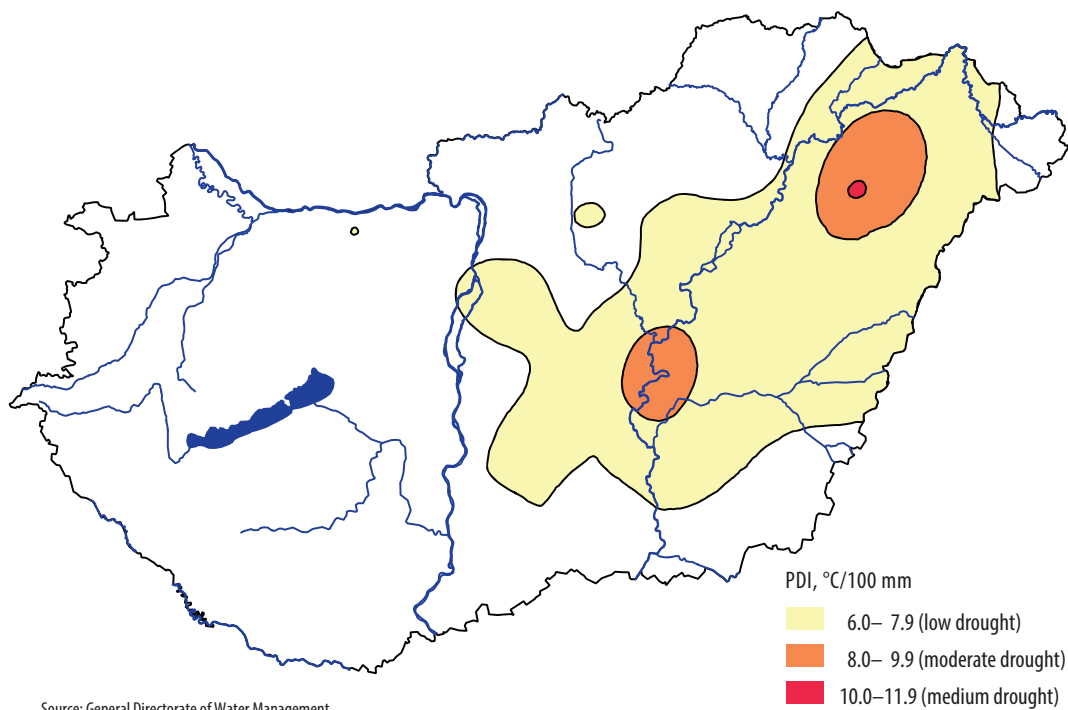
Summary tables (STADAT)
5.6.1 Area exposed to drought

IT[b]	159.1
IE[e]	134.0
EL[e]	130.6
BG[e]	120.7
HR[e]	111.9
ES[d]	97.9
SE[a]	97.2
FR[b]	84.0
PT[b]	83.8
AT[a]	82.0
UK[d]	81.2
SI[e]	79.7
FI[c]	76.5
LU[e]	74.9
NL[d]	72.7
CY[e]	72.4
DK[b]	64.6
BE[d]	64.5
HU[f]	63.8
DE[a]	62.1
CZ[e]	58.2
PL[e]	53.9
SK[e]	53.3
RO[e]	51.3
LV[c]	50.4
EE[c]	45.8
LT[e]	44.4
MT[e]	30.6

a) 2010.   d) 2014.
b) 2012.   e) 2015.
c) 2013.   f) 2017.

Per capita public water abstraction in the European Union, m^3/capita

Figure 3.10.1 Public water abstraction per capita
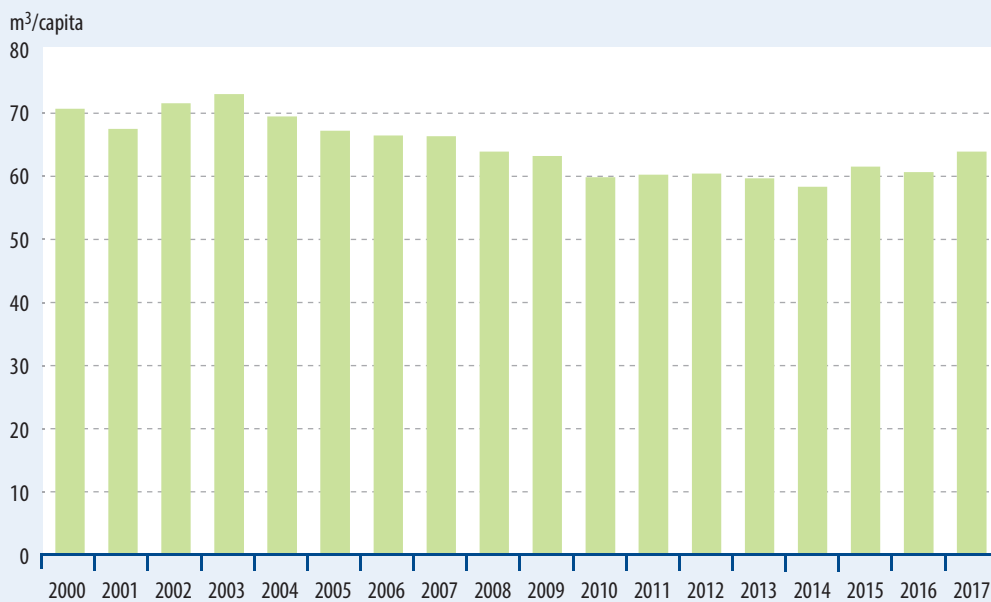
m^3/capita

! *Public water abstraction per capita decreased by 10% in the period between 2000 and 2017.*

Definition The indicator of annual per capita water abstraction of public utilities contains the volume of water abstracted from surface and ground water bodies, refer to the mid-year population.

Relevance The quantitative and qualitative protection of the water supply are emphasized tasks, EU member states fulfil these duties according to the 7th Environment Protection Action Plans, as well as the goals set by the Water Framework Directive. Safeguarding water and preventing its contamination are the overarching objectives. In this respect wastewater treatment and remediation, large scale collection of wastewater resulting from use of drinking water, its treatment according to regulations, finally its discharge into our surface waters by tight control are important. The feasibility plan accepted at Johannesburg calls the attention to introducing prevention and protection measures for the purpose of promoting sustainable water use and

water scarcity management. Sustainable water use makes possible the retention of groundwater levels, as such contributes to the subsistence of linked ecosystems (e.g. water habitat) and economic activities (e.g. agriculture). Good water quality status may be achieved by river basin management planning, with the involvement in the process of a wide range of those concerned.

Analysis Public water abstraction per capita decreased by 10% between 2000–2017 in Hungary. The main reason is the price increase of water and the equally high wastewater fee in the areas with sewage collecting system. Since 2015 a slight increase occurred possibly due to droughty summer seasons.

Water abstraction per capita in 2017 was excessively high in Pest county, almost three times the country's average (64 m^3) as the majority of water supply of Budapest comes from Pest county. The amount in Veszprém county is 33% higher than the national average. The water abstraction of Budapest is insignificantly small (4.0 m^3) but Békés county's abstraction is small also (13.0 m^3). The reason for territorial differences may be found

Figure 3.10.2 Per capita water abstraction of public utilities by counties, 2017

m³/capita

	−40.0
	40.1–50.0
	50.1–60.0
	60.1–70.0
	70.1–80.0
	80.1–
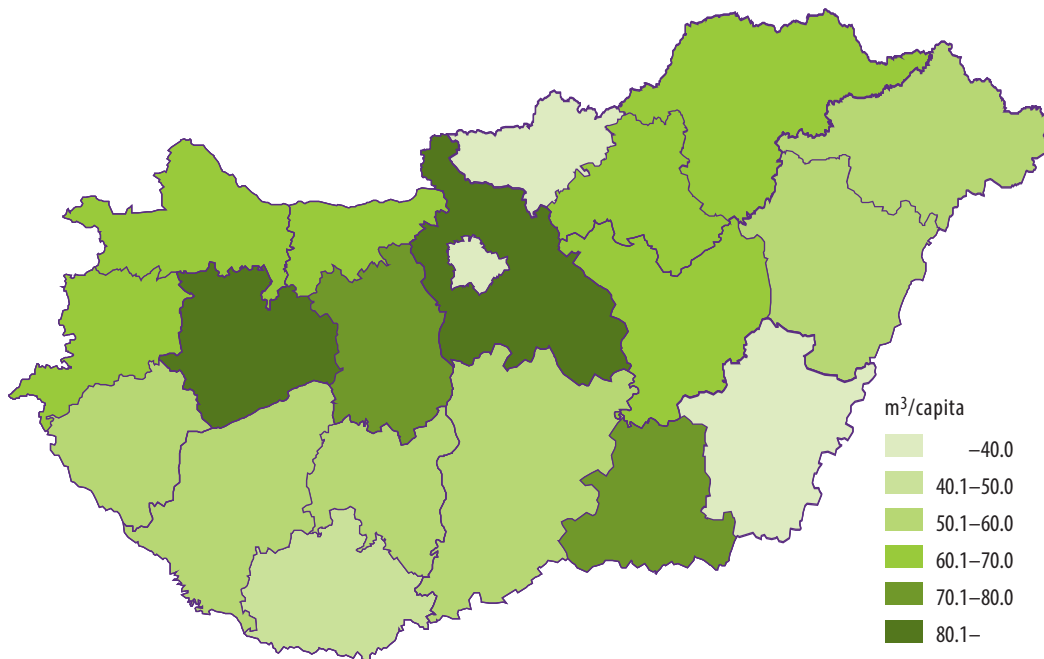
! *Water abstraction per capita in 2017 was the highest in Pest county (173 m³) and the lowest in Budapest (4,0 m³).*

in the different technologies of water extraction and different level of dwellings' water utility development, water exchanges between counties and the fact that except Budapest and the large cities – within it in the Great Plain mainly – the own-well water abstraction is significant.

International outlook In Hungary water abstraction per capita produced by public utility works falls in the lower level of the mid-third among the EU member states, which denotes water saving. The value of the indicator is usually lower in the new member states than in the old ones. Some of the main reasons are the different water abstraction technologies, the different level of the dwellings' water utility installations(drinking water, sewage), diverse climatic conditions, water works' ownership (state owned / private), price of water as well as the role of own wells' water supplies.

Summary tables (STADAT)
5.4.2 Public water abstraction and supply
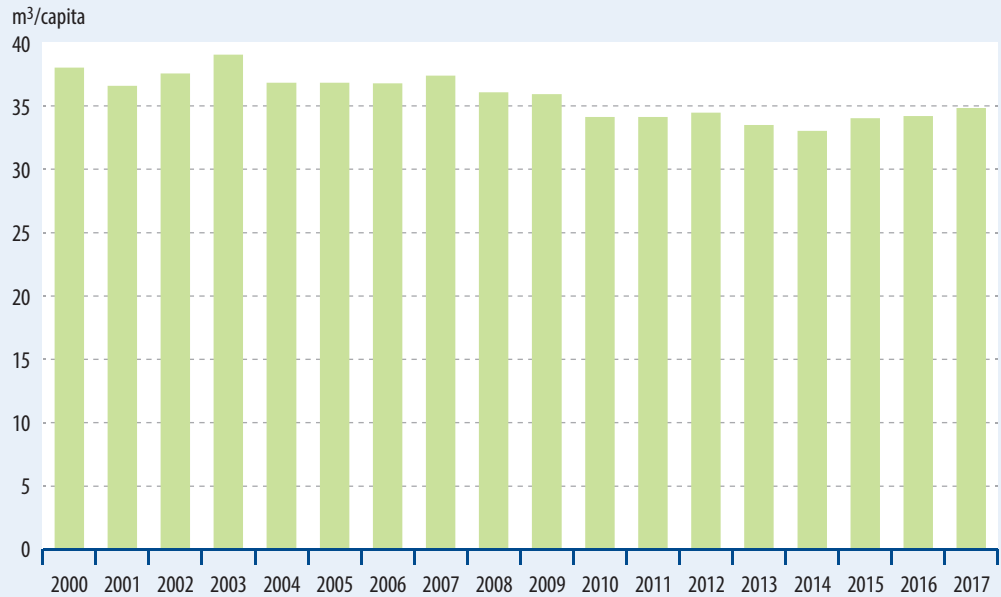
Residential water consumption from public water supply | Since 2000

Since 2016

Figure 3.11.1 Residential water consumption from public water supply

m³/capita

! *Residential water consumption from public water supply per capita declined up to 2014, since then the trend reversed.*

EL[g]	94.3
CY[f]	91.1
LU[g]	74.0
PT[b]	58.6
SE[a]	52.3
ES[f]	52.2
FR[e]	51.5
NL[f]	46.4
UK[d]	45.9
AT[c]	45.6
DE[e]	43.9
HR[g]	42.7
MT[g]	42.2
SI[g]	38.0
BG[g]	36.0
HU[h]	**34.8**
LV[g]	34.5
PL[g]	32.6
CZ[g]	30.5
RO[g]	25.2
LT[g]	23.6
BE[b]	13.5

a) 2007.   e) 2013.
b) 2009.   f) 2014.
c) 2010.   g) 2015.
d) 2011.   h) 2017.

Residential water consumption from public water supply in the European Union, 2015, m³/capita/year

Definition Residential water consumption from public water supply comprises the water quantity supplied by water utility works for households including the water served through public taps. Annual water consumption by counties is projected to the mid-year population number.

Relevance Environmentally conscious societies save drinking water with the aim of protecting their water reserves and for a healthy, sustainable development of their societies. Shaping the quantitative balance in the man-made rotation as well as the dissemination of water saving and pollution-free techniques are sustainability goals. According to the National Framework Strategy on Sustainable Development personal motivation toward diminishing environmental damages and limited use of scarce natural resources is more effective from environmental point of view and results in a more economic action than measures forced by the state.

Analysis Yearly residential water consumption from public water supply per capita in Hungary decreased more than 8% between 2000–2017. The main reasons of this trend are the price increase of water and the significant wastewater collecting and treatment fee in the areas with sewage collecting systems and the water supplied through own wells as a consequence. The yearly residential water consumption from public water supply is also influenced by the climatic condition of the given year: in years with drought (2000, 2003, 2007, 2012, 2015, 2017) water consumption increased.
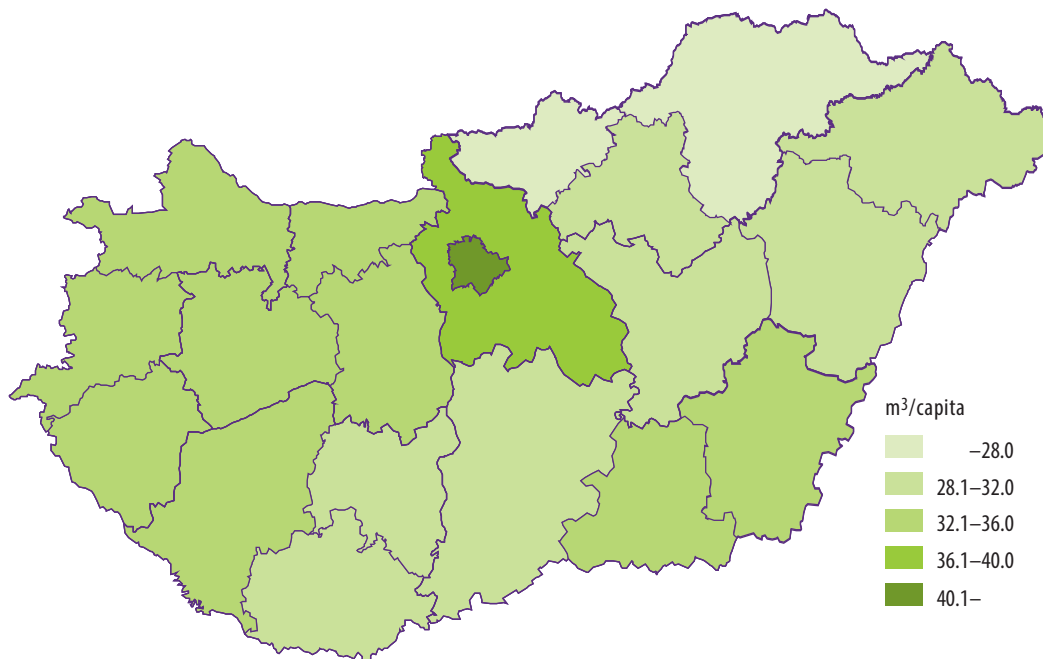
Due to water price and infrastructural differences by counties consumption per capita shows significant differences by counties. Yearly water consumption per capita is the highest in Budapest and Pest county, and the lowest in Nógrád and Borsod-Abaúj-Zemplén counties.

Figure 3.11.2 Residential water consumption from public water supply by counties, 2017

m³/capita
- −28.0
- 28.1–32.0
- 32.1–36.0
- 36.1–40.0
- 40.1–

! *Water consumption per capita is the highest in Budapest (47.6 m³) and the lowest in Nógrád county (23.2 m³).*

International outlook Hungary's indicator of drinking water per capita produced by public utility works (approximately 35 m³ per capita in 2017), in comparison with the European Union member states falls in the lowest one-third, which is a good environmental protection related trend, denoting water saving. The value of the indicator for the new member states (except Cyprus) is usually lower than for the old states.

Summary tables (STADAT)
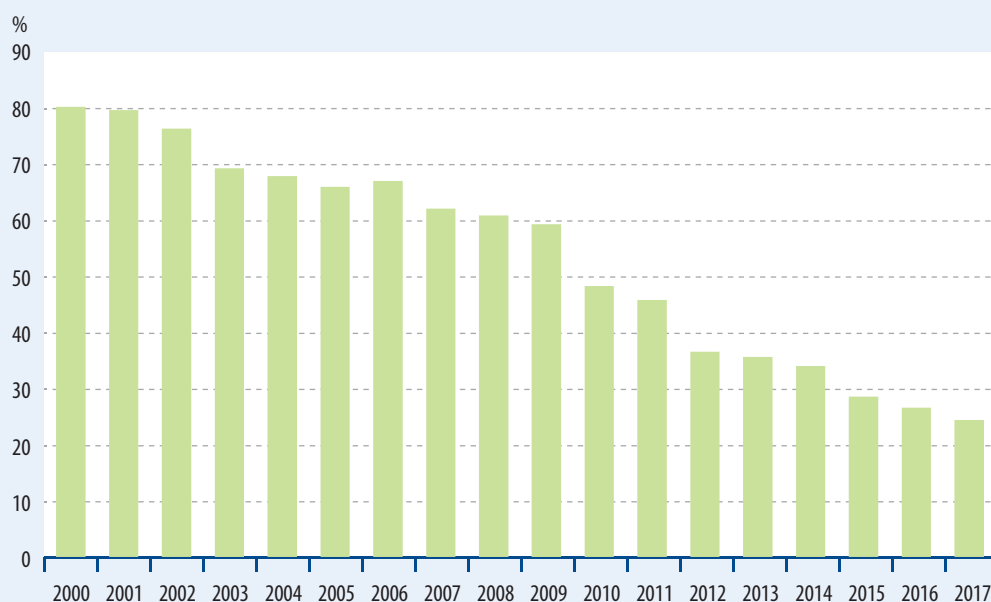**5.4.2 Public water abstraction and supply**

Municipal wastewater treatment   **Since 2000**

                                                       Since 2016

Figure 3.12.1 **Municipal wastewater treatment index**

> **!** *The value of the municipal wastewater treatment index significantly improved between 2000 and 2017.*

Definition The municipal wastewater treatment index shows the development stage of municipal wastewater management, considering treatment efficiency, too.

To characterise the efficiency of municipal wastewater treatment we applied average weights developed by Eurostat: non-cleaned wastewater: 1.00, only first degree treated (mechanically) wastewater: 0.86, second degree (biologically) treated wastewater: 0.49, third degree treated wastewater: 0.00. Municipal wastewater treatment index is 100% if there is no wastewater treatment and 0% if all municipal wastewater is treated by third degree techniques.

Relevance Public water utility works fulfil an outstanding task: by properly running the wastewater treatment plants in their care they decrease the strain on natural waters, protect the quality of water supplies and the water bases. According to National Framework Strategy on Sustainable Development institutional R&D, innovations, support of basic and applied

research at universities are important, from wastewater management point of view, too.

Analysis The value of the municipal wastewater treatment index in Hungary decreased by approximately 56 percentage points between 2000–2017 due to putting into operation high efficiency (at least biological treatment level) wastewater treatment plants.

The municipal wastewater treatment index is best in Komárom-Esztergom county (10%) and Budapest (12%), Veszprém county (18%) and Fejér county (18%) also show good results. Tolna (54%) and Bács-Kiskun (49%) counties show the worst index values. The main reason for these territorial differences is the number of people living in dwellings connected to wastewater treatment plants with at least biological treatment degree: their proportion is high in Budapest, Central Transdanubia, Western Transdanubia and Pest regions (88%, 85%, 83% and 81%) while this proportion in the Southern Great Plain is low.

Figure 3.12.2 Municipal wastewater treatment indices by counties, 2017

Percentage
- −15.0
- 15.1–25.0
- 25.1–35.0
- 35.1–
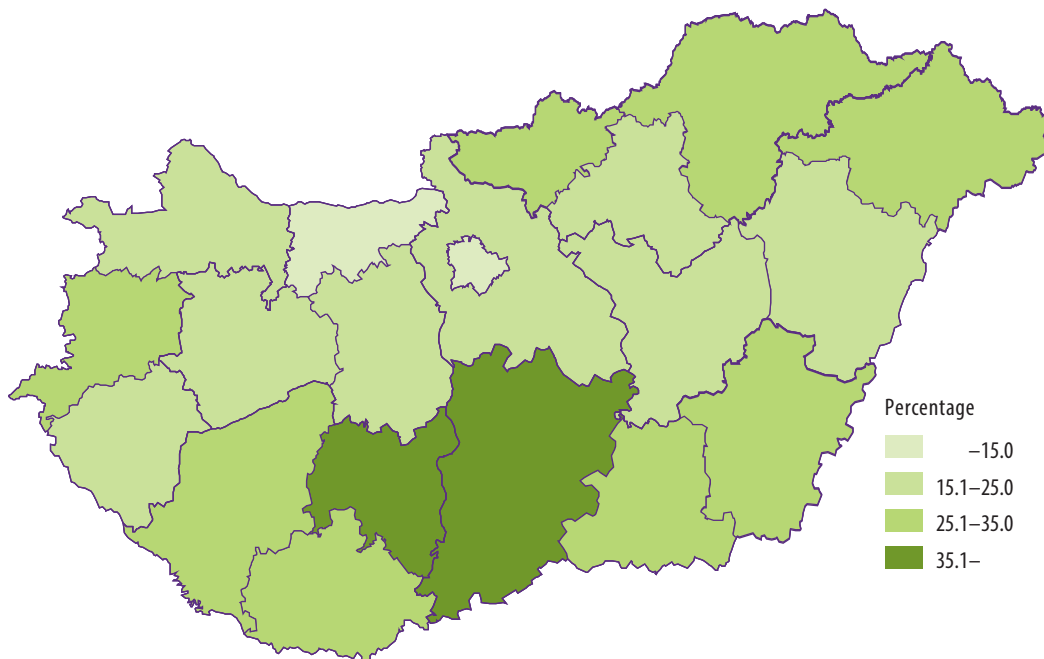
! *After Budapest, the index of municipal wastewater treatment was the most favourable in Komárom–Esztergom county.*

International outlook Municipal wastewater treatment index calculations based on Eurostat data show that Hungary's index (about 24.3% in 2017) in comparison with EU member states falls into the second lowest quarter which is good from environmental protection point of view and denotes the efficient functioning of municipal wastewater treatment plants. The value of the index based on data of the most recent year available is usually lower (more favourable) in old member states (except Italy, Ireland, Portugal) than in the new member states.

Summary tables (STADAT)
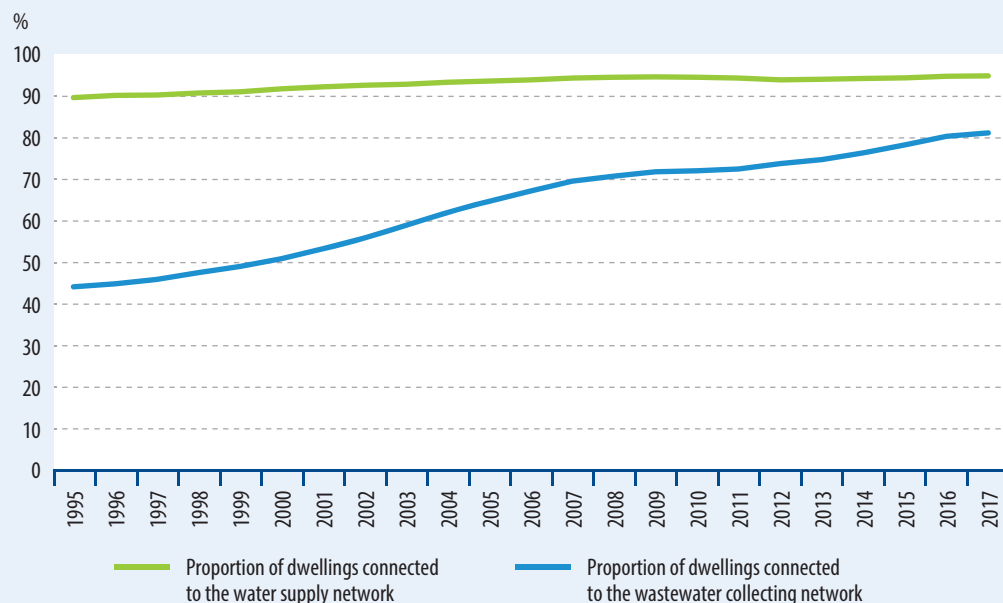**5.4.3 Municipal wastewater discharge and treatment**

Public water utility gap

Since 2000

Since 2016

Figure 3.13.1 Changes in public water utility gap

Proportion of dwellings connected
to the water supply network

Proportion of dwellings connected
to the wastewater collecting network

! *Public water utility gap showed a significant closing tendency, it was 14 percentage points at the end of 2017.*

Definition Public water utility gap is the difference between the proportion of households connected to the public water supply network and the proportion of households connected to the public wastewater collecting network expressed in percentage points. In an ideal case, the public water utility gap is at 0 percentage point.

Relevance Domestic agricultural, industrial and household sources contribute to the contamination of our fresh waters. Municipal wastewater has a significant role in polluting surface waters. The wastewater discharge of independent wastewater treatment facilities with low efficiency of living spaces with no wastewater collecting systems represents a major burden for groundwater.

Analysis Public water supply in the settlements of Hungary reached 100% by 2008, dwellings connected to the public water conduit network was over 95% in 2017. The quantity of abstracted and supplied water, within it the quantity supplied for households decreased between 2000–2017

due to increasing water costs and to switch to own well water supply. The setback in the case of abstracted water is more than 13%. The number of settlements with sewage system increased from 854 in 2000 to 2100, almost 2.5 times more, by 2017. The number of dwellings connected to the sewage network increased by more than 1.5 million, it was over 3.6 million in 2017, meaning an 82% wastewater collecting system level on a national average. Wastewater running through the wastewater collecting system was a yearly average of 526 million m³ between 2000 and 2017, almost 81% of the water abstracted by the public water producing plants (647 million m³).

The situation was the most favourable in Budapest, Komárom-Esztergom and Győr-Moson-Sopron counties in 2017, there the public water utility gaps values were 4, 7 and 8 percentage points; in contrast Tolna county had 27, Baranya, Bács-Kiskun, Békés, Somogy and Szabolcs-Szatmár-Bereg counties stood at 21-23 percentage points, the latter due to the low wastewater collecting system level.

Figure 3.13.2 Public water utility gap by counties, 2017

Percentage points
- − 5.0
- 5.1–10.0
- 10.1–15.0
- 15.1–20.0
- 20.1–25.0
- 25.1–
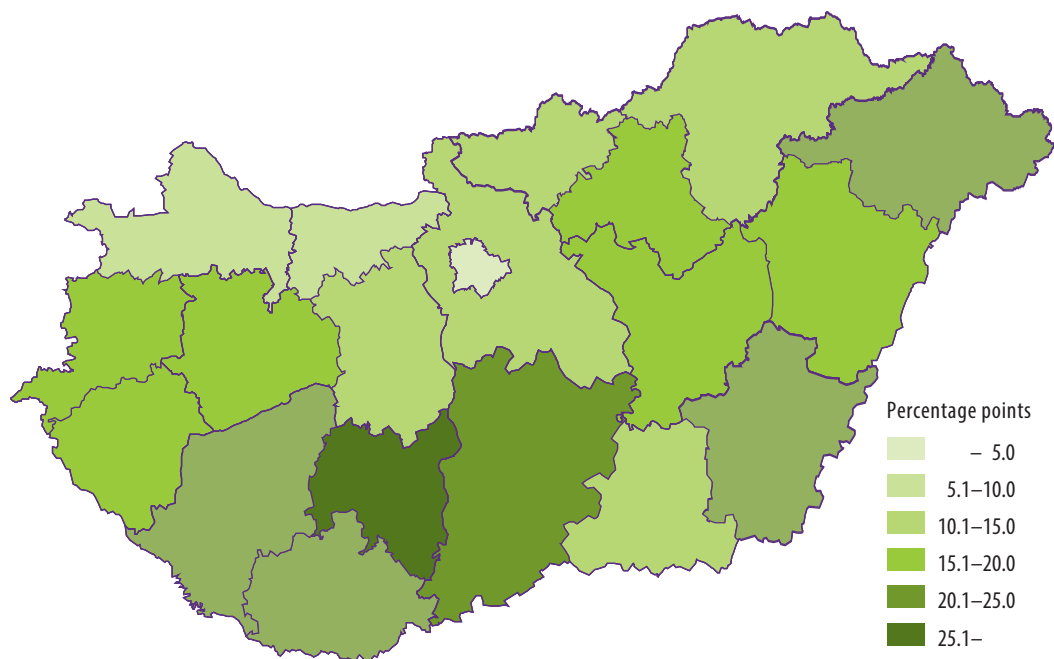
! *The value of the public water utility gap is the lowest in Budapest (4 percentage points).*

Summary tables (STADAT)
5.4.2 Public water abstraction and supply
**5.4.3 Municipal wastewater discharge and**
   treatment

SE[c]	5.53
EL[a]	3.86
RO	3.35
BE	2.91
PT[b]	2.77
PL	2.76
HU[d]	**2.75**
ES[b]	2.71
CZ	2.69
BG	2.59
SK	2.35
DE[b]	2.17
IT	2.05
LT	2.03
HR	1.98
CY, LU	1.88
DK	1.72
FI	1.66
EE	1.63
UK	1.55
AT	1.34
FR	1.28
LV	1.26
NL[b]	1.24
IE	1.21
SI[c]	0.88

a) 2004. c) 2014.
b) 2008. d) 2018.

Biochemical oxygen demand of rivers

Since 2000

Since 2017

Figure 3.14.1 Changes in the biochemical oxygen demands (BOD$_5$) in the Danube
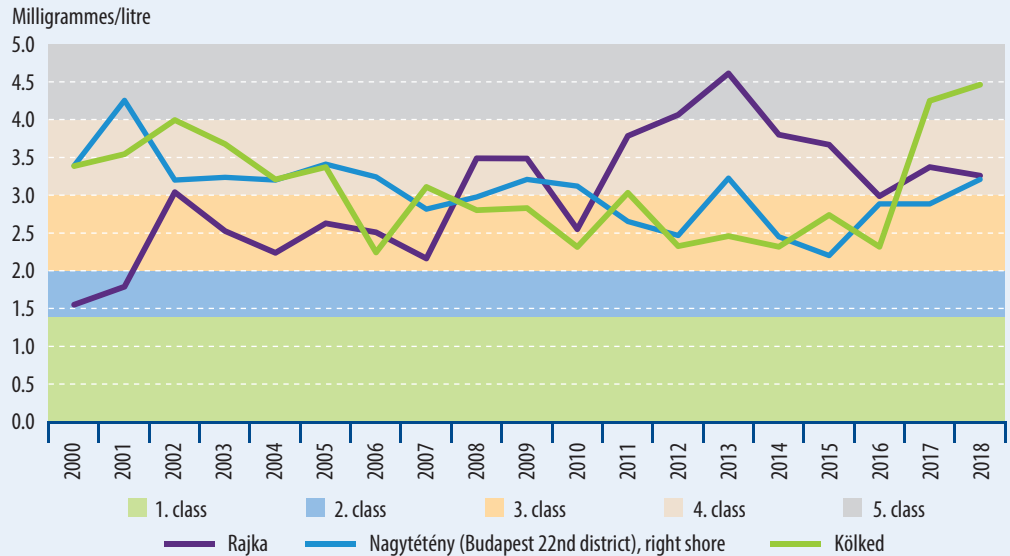
Source: Database of National Environmental Information System (OKIR).

! *Samples collected at the middle measurement point (Nagytétény) show a decrease in BOD$_5$ values, samples from the measurement point (Kölked) at the outflow signal an increase in BOD$_5$ values.*

Definition The indicator shows the water quality of rivers in a given section based on the average annual values of the biochemical oxygen demands in a given year. Biochemical oxygen demand is the measured oxygen quantity necessary for the aerobe biological decomposition of the organic materials present in the water sample, by microorganisms (e.g. aerobe bacteria). The lower value represents the better water quality of rivers.

BOD$_5$ water quality classes are:
Class 1: <1.4 mg/l
Class 2: ≥ 1.4 < 2.0 mg/l
Class 3: ≥ 2.0 < 3.0 mg/l
Class 4: ≥ 3.0 < 4.0 mg/l
Class 5: ≥ 4.0 mg/l

Relevance Human activities leading to wastewater discharge have a direct impact on the quality of surface waters, rivers. In order to decrease environmental burden it is imperative the adaptation of adequate cleaning technologies, treatment methods and the decrease of utilized water quantity.
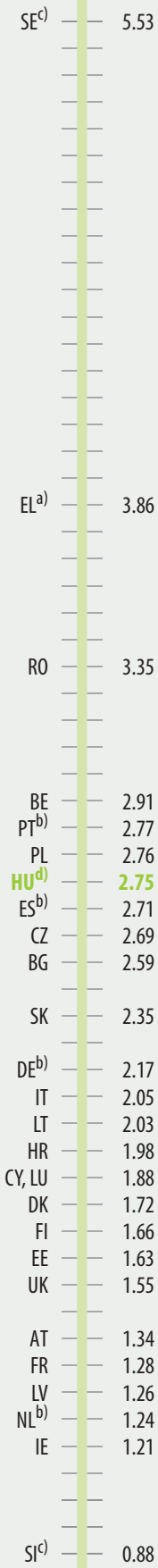
***BOD$_5$ of rivers in the European Union, 2015,** milligrams/litre*

Analysis We identify the Danube's water quality at Rajka, Nagytétény and Kölked based on the data measured by the environmental protection authorities. According to the classification system of the European Environment Agency (EEA) the quality of the Danube water based on BOD$_5$ values was at Rajka and Nagytétény in the 4th, at Kölked in the 5th water quality class in 2018. In the background of the lower values at the Nagytétény measurement point stand the less water use and wastewater emission of Budapest as well as wastewater treatment developments. It may be said that at the Rajka inflow point the Danube's contamination increased in 2018 compared to 2000, in contrast at the Kölked outflow point it improved up until 2016, then it fall back 2 quality classes by 2018.

We rank the water quality of Tisza based on data measured at Tiszabecs, Szolnok and Tiszasziget. According to above classification the water quality of Tisza at Tiszabecs and Szolnok was class 1, at Tiszasziget was class 2 in 2018 according to measured BOD$_5$ data.
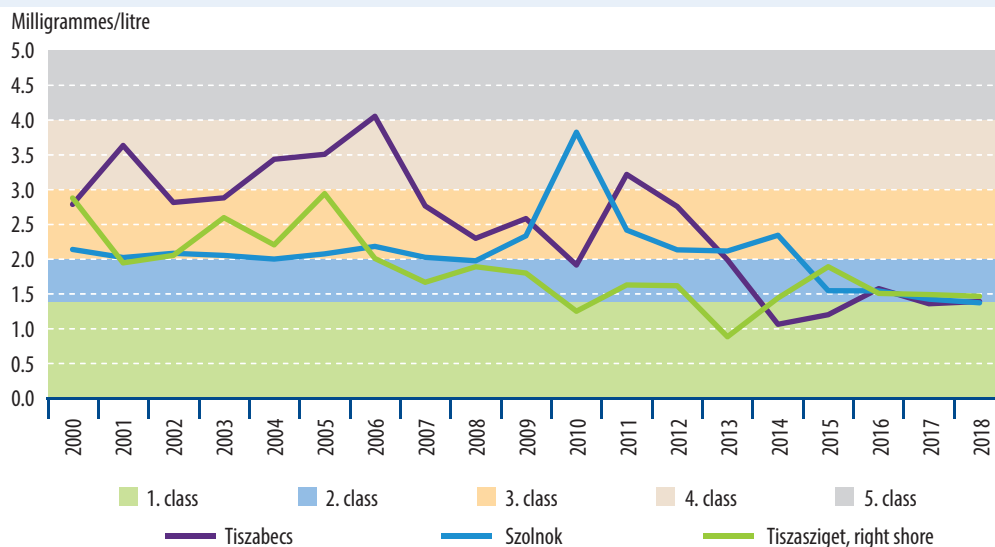
The water quality of Dráva is marked by data measured at Barcs and Drávaszabolcs. According to the EEA classification the Dráva's water

Figure 3.14.2   Changes in the biochemical oxygen demands (BOD$_5$) in the Tisza
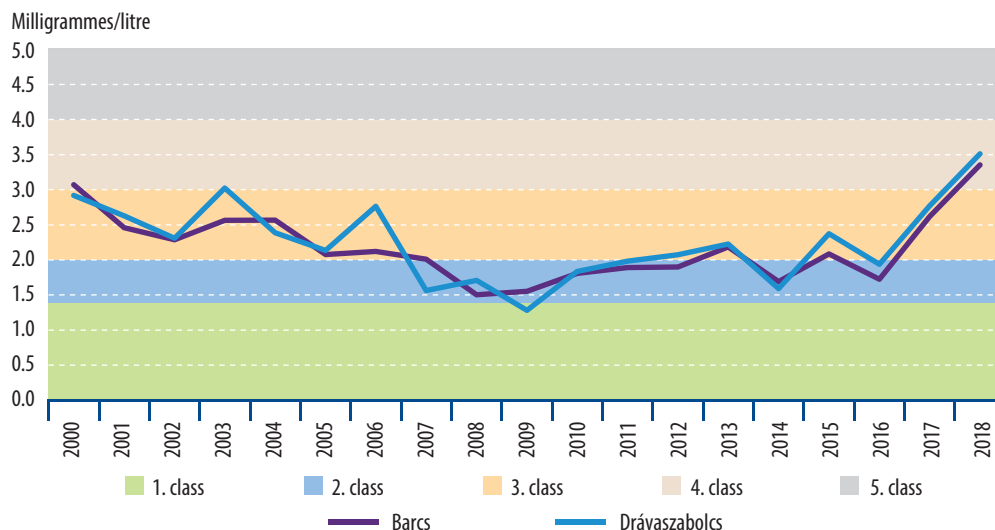

Source: Database of National Environmental Information System (OKIR).

> **!** *Water quality of Tisza was – according to the measurement points – in class 1 and 2 in 2018.*

Figure 3.14.3   Changes in the biochemical oxygen demands (BOD$_5$) in the Dráva

Source: Database of National Environmental Information System (OKIR).

> **!** *Water quality of the Dráva has been rated as class 4 in 2018.*

quality was both at Barcs and Drávaszabolcs in class 4 in 2018.

International outlook Based on non-full scale 2015 EU data according to BOD$_5$ values measured in rivers Sweden and Greece had the most polluted rivers, while Slovenia (0.88 mg/l) and Ireland (1.21 mg/l) had the cleanest ones. Hungary stands at the mid-third (2.75 mg/l in 2018).

Summary tables (STADAT)
5.4.4 Main surface water quality parameters of Hungarian rivers
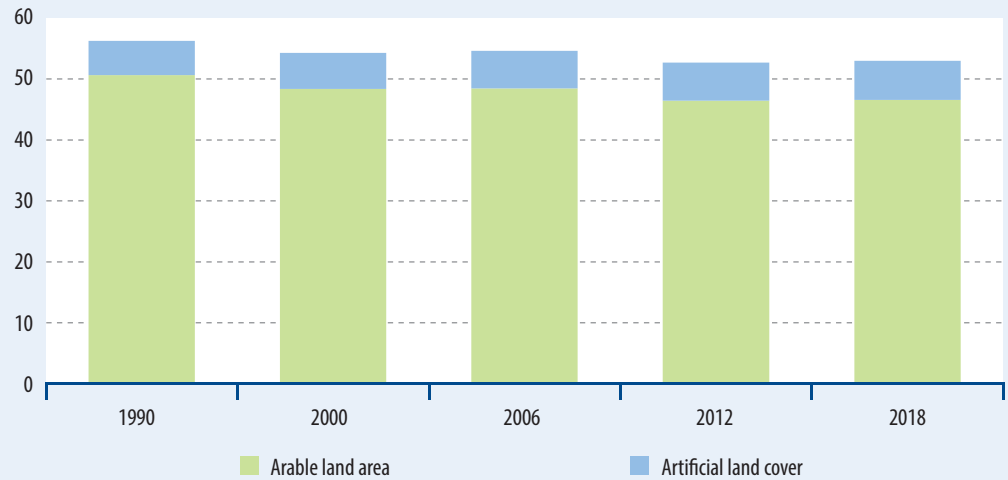
Biologically inactive areas

Since 2000

Since 2012

| MT | 23.7 |

Figure 3.15.1   Biologically inactive areas

As a percentage of country's area

◼ Arable land area   ◼ Artificial land cover

Sources: HCSO and CORINE land cover database.

| NL | 11.8 |
| BE | 11.3 |

! *The proportion of artificial land cover increases year by year, while cultivated arable land area was only some 92% of the 1990 figure.*

| LU | 8.5 |

DE	6.9
IT	6.5
DK, UK	6.1
CY	5.6
FR	5.2
PT	5.0
CZ	4.6
HU	4.1
AT,	4.0
EU28	
HR	3.7
IE	3.4
PL	3.3
ES, EL	3.2
SI	3.1
SK	2.9
RO	2.2
LT	2.0
BG	1.9
EE, SE, FI	1.5
LV	1.4

Source: LUCAS survey.

***Proportion of built-up and other artificial areas in the European Union, 2015**, %*

Definitions Built-up areas and arable land areas are considered as biologically inactive. Total plant coverage cannot be achieved there due to their structure and the cultivation method, respectively. Agricultural areas are the total of the land use categories of utilised arable land, kitchen gardens, orchards, vineyards and grassland. Uncultivated land areas include uncultivated agricultural areas and the areas of buildings, roads, courtyards, ornamental gardens, water reservoirs, etc. in inner and outer areas. Areas under construction, areas involved in earthworks and areas where soil or bedrock excavations are carried out are defined as construction sites.

Relevance The increase of built-up and inner areas is an almost irreversible process, it leads to the long-lasting closure of land surface and the fragmentation of ecosystems, and endangers habitats and biodiversity. In establishing artificial areas disturbances may occur in the circulation of water: the closed land surface cannot absorb precipitation, water flows away from it in large quantities, thus it

might cause soil erosion elsewhere. According to the first progress report (2013–2014) of the National Framework Strategy on Sustainable Development, the share of ecologically inactive arable land areas is unfavourably high in agricultural areas.
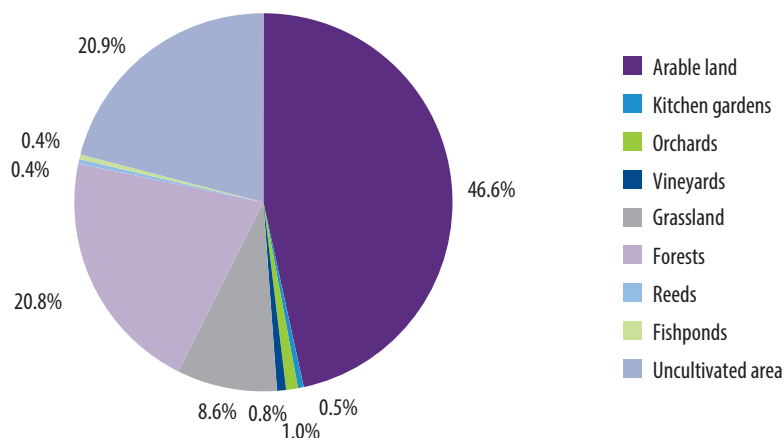
Analysis The extension of inhabited areas grew linearly, by 8.4% in total between 1990 and 2018, however, an essentially larger proportion of surface is covered by quarters with green surfaces instead of a contiguous settlement structure. A similar volume of increase was observed in the area of road and railway networks, too, a significant part of the area of more than 14 thousand hectares used for this purpose satisfied the needs of motorways built after the turn of the millennium. In addition, the area of construction sites increased six-fold nationally in 15 years following the regime change, however, merely three times the 1990 figure was measured for 2018. The highest rates of increase between 2012 and 2018 were recorded in artificial land cover made up by contiguous settlement structure (17%) and industrial or commercial areas (16%). Contiguous settlement structure, with a stagnating area from 2000, was affected by a recovery in the real estate market and a growth

Figure 3.15.2 Distribution of land use, 1 June 2018

Legend:
- Arable land
- Kitchen gardens
- Orchards
- Vineyards
- Grassland
- Forests
- Reeds
- Fishponds
- Uncultivated area

20.9%
0.4%
0.4%
20.8%
46.6%
8.6% 0.8% 0.5%
1.0%

! *Agricultural cultivation is carried out on 57% of the area of the country.*

in the number of dwelling constructions. Areas classified to industrial or commercial categories went up continuously, they were nearly one-and-a-half times as large as the value measured for 1990. A continuous decline has been observed in the area of disposal sites and refuse dumps since the turn of the millennium, while the substantial rise between 2000 and 2006 in the area of the extraction of raw materials was followed by a slighter decrease between 2012 and 2018. The largest part, some three-quarters of artificial land cover is made up by non-contiguous settlement structure, which was in effect unchanged in the last six years.

The trend of decrease in areas used as arable land broke in 2010. Although agricultural enterprises are engaged in crop production on a smaller and smaller area, private farmers cultivate an increasing area year by year.

5,344 thousand hectares, nearly three-quarters of productive area, the latter accounting for nearly 79% of the area of Hungary, were agricultural areas in 2018, a large part of which was utilised as arable land (4,334 thousand hectares). Productive area includes in addition the area of forests, having grown by 10% since the turn of the millennium, as well as reeds and fishponds. Forest areas, covering 21% of the country, increased continuously in the past fifteen years, by nearly 135 thousand hectares, they, together with areas utilised as reeds and fishponds, covered more than one-quarter of productive area in 2018. The proportion of the land use categories of arable land, kitchen gardens, vineyards, orchards and grassland, making up agricultural area, changed slightly in the last eight years. This was due to the withdrawal of too old

vineyards and uncultivated kitchen gardens, as well as abandoned or just broken grassland areas.

National data certainly hide significant regional differences. 30% of the area of Nógrád County is covered by forest areas, while this proportion is merely 5% for Békés and Jász-Nagykun-Szolnok Counties. However, nearly 44% of arable land areas can be found in the two regions of the Great Plain. Over a quarter of grassland areas are concentrated in Hajdú-Bihar and Bács-Kiskun Counties, the two counties in the Great Plain engaged also in traditionally extensive livestock production. Compared to the area of a particular county, the proportion of productive area was the largest in Tolna County, where more than 90% of land areas were used for some agricultural purpose.

International outlook Land cover and land use were surveyed in 2018 again for the 28 countries of the European Union in the frame of the LUCAS survey (Land Use/Cover Area frame Statistical survey). According to the results of the 2015 survey, nearly 40% of the area of the EU is made up by forests and other wooded areas, over one-quarter by arable land and one-fifth by grassland areas. The proportion of built-up and other artificial areas was the highest in Malta (23.7%) and the lowest in Latvia (1.4%). Based on the LUCAS survey, this indicator was 4.1% for Hungary, about the same as the EU28 average (4.0%).

Summary tables (STADAT)
6.4.1.1 Land area by land use category

BE+LU	166.7
NL	137.7
PL	115.7
DE	114.9
IE	114.5
DK	108.7
FR	95.4
HU	**91.9**
FI	82.8
SK	82.3
SI	82.0
LT	81.5
CZ	81.2
BG	78.7
UK	77.7
EE	73.2
EU27	72.5
EU28	**71.7**
LV	70.3
SE	62.1
ES	59.7
RO	59.1
AT	58.7
IT[a)]	58.1
CY	52.0
EL	47.0
PT	29.1

a) 2016.
Source: Estimates by Fertilizers Europe.

Sales of fertilisers

Since 2000

Since 2017
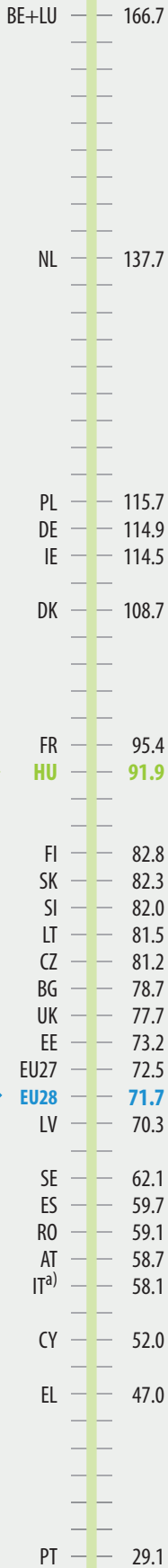
Figure 3.16.1   Quantity of active ingredients of fertilisers per hectare of agricultural area
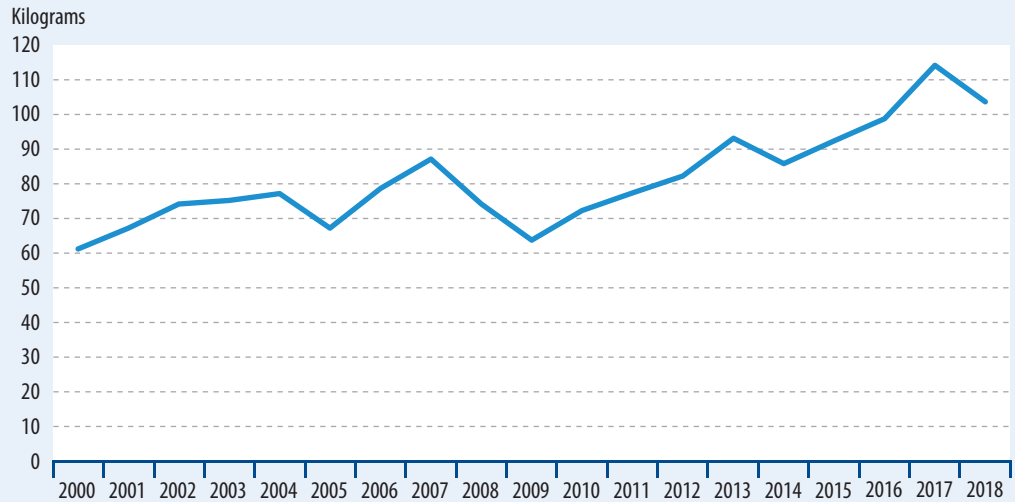
Source: Research Institute of Agricultural Economics.

> **!** *The quantity of active ingredients of fertilisers per hectare have risen every year since 2009 – except for 2014 and 2018 –, so two-thirds more fertilisers were applied on land areas in 2018 than nine years earlier.*

Definitions Quantity of active ingredients of fertilisers per hectare: sold quantity (N, P_2O_5, K_2O) divided by agricultural area.

Eurostat figures are sold quantity (N, P, K), as estimated based on calculations of Fertilizers Europe, divided by the agricultural area of the particular member state. Their calculation was possible only in cases where both data were available for a particular country.

Relevance The National Framework Strategy on Sustainable Development sets maintaining soil productivity as an important target. Nitrogen in fertilisers oxidised into nitrate causes the acidification of the soil, while leaching into deeper soil layers causes the groundwater's nitrate level to rise. It results in the eutrophication of surface waters (growth of algae in waters), and may cause poisoning in drinking water. When producing fertilisers containing nitrogen, substantial volumes of greenhouse gases are emitted to the atmosphere.

Analysis The quantity of fertilisers sold has risen in Hungary year by year since 2009 – along with a fall in 2014. The quantity per hectare of agricultural area reached 104 kilograms in 2018, compared with 64 kilograms in 2009. Out of the nutrients applied, the highest share is recorded for nitrogen, it was 62% in 2018. Fertilised area was 3.0 million hectares in 2018, 23 thousand hectares more than a year earlier, but even so not reaching the 2015 figure of 3.2 million.

International outlook According to the estimation of the European organization of fertiliser producers (*Fertilizers Europe*), the quantity of active ingredients per hectare of agricultural area was the highest in Belgium and Luxembourg together and in the Netherlands, 167 kilograms/hectare and 138 kilograms/hectare, respectively, and the lowest in Portugal and Greece, with values of 29 kilograms/hectare and 47 kilograms/hectare, respectively, in 2017. According to their estimation, the figure for Hungary was 92 kilograms per hectare.

Active ingredients of fertilisers per hectare of agricultural area in the European Union, 2017, kilograms/hectare

Summary tables (STADAT)
4.1.7 Quantity of sold fertilisers
6.4.1.4 Fertilisation

Sales of pesticides

Since 2000

Since 2017

Figure 3.17.1 Quantity of sold pesticides by group of pesticides

Thousand tonnes

Herbicides Fungicides Insecticides Other pesticides
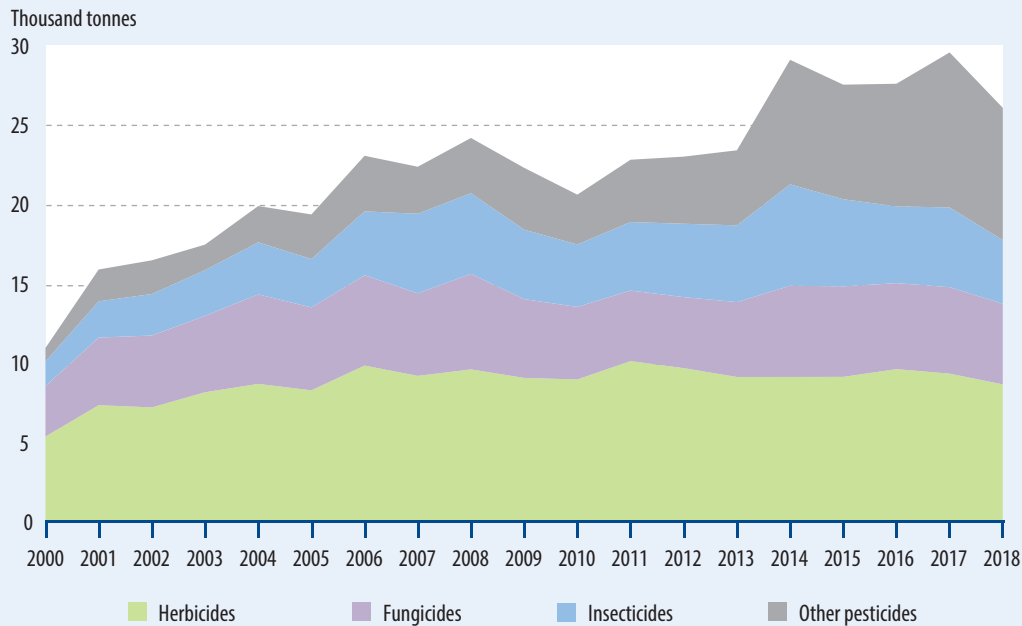
Source: Research Institute of Agricultural Economics.

> **!** *Apart from larger falls in 2009–2010 and 2015, the quantity of sold pesticides rose almost continuously; contrarily, there was a decrease in 2018.*

Definition The indicator of sales of pesticides shows sales by pesticides producing and distributing enterprises, expressed in tonnes. Sales figures are considered as use, since no regular statistical survey of the total use is conducted in Hungary. Use data have been surveyed every five years – last in 2014 –, and merely in the case of the most substantial agricultural plants.

Relevance Using inappropriate pesticides is a risk to both the environment and health, since certain distributed pesticides are degraded in a slow and difficult way. They may get introduced into the food chain, ecological systems, the soil and waters, where they may accumulate and cause serious damage. The National Framework Strategy on Sustainable Development sets supporting environment-friendly technologies and land use methods as an important target.

Analysis The quantity of pesticides sold in Hungary was down by 12% in 2018 compared to the previous year. The sold quantity has grown continuously since 2000 – except for a few years –, reaching an over two and a half times higher value over this time. 33% of the quantity of pesticides sold to agricultural producers were herbicides in 2018.

International outlook The Member States of the European Union have been obliged to report on the quantity of distributed pesticides since 2011. Hungary is in the middle of the EU ranking of the use of active ingredients of pesticides per agricultural area. The quantity of active ingredients per hectare of agricultural area was 1.82 kilograms on average in Hungary in 2017.
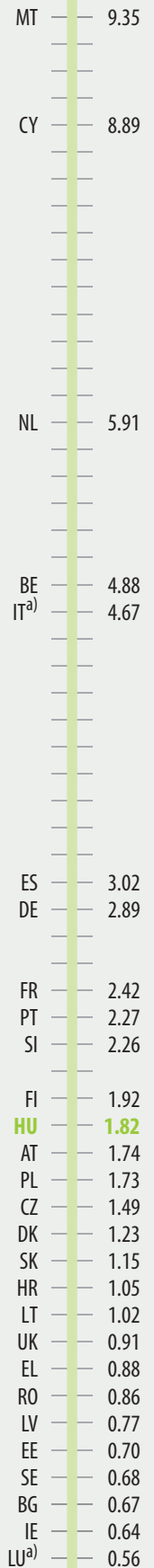
Summary tables (STADAT)
4.1.9 Quantity of active ingredients of pesticides placed on the market

Active ingredients of pesticides per hectare of agricultural area in the European Union, 2017, kilograms/hectare

3.17

MT	9.35
CY	8.89
NL	5.91
BE	4.88
IT[a]	4.67
ES	3.02
DE	2.89
FR	2.42
PT	2.27
SI	2.26
FI	1.92
HU	**1.82**
AT	1.74
PL	1.73
CZ	1.49
DK	1.23
SK	1.15
HR	1.05
LT	1.02
UK	0.91
EL	0.88
RO	0.86
LV	0.77
EE	0.70
SE	0.68
BG	0.67
IE	0.64
LU[a]	0.56

a) 2016.

3.18

CY	194
NL	189
MT	147
BE	132
LU	129
CZ	98
UK	83
DE	82
DK	80
IT	66
HR	65
EL	59
▶ EU28	51 ◀
FI	49
PL	48
SI	45
IE, FR	42
AT, PT	41
▶ ES, HU	39 ◀
SK	38
SE	32
BG, LV	28
LT	25
EE	22
RO	9

Nitrogen balance per hectare of agricultural area in the European Union, 2015, kilograms/hectare

Nutrient balance

Since 2000 ☀

Since 2016 🌧

Figure 3.18.1 Gross nitrogen balance per hectare of agricultural area
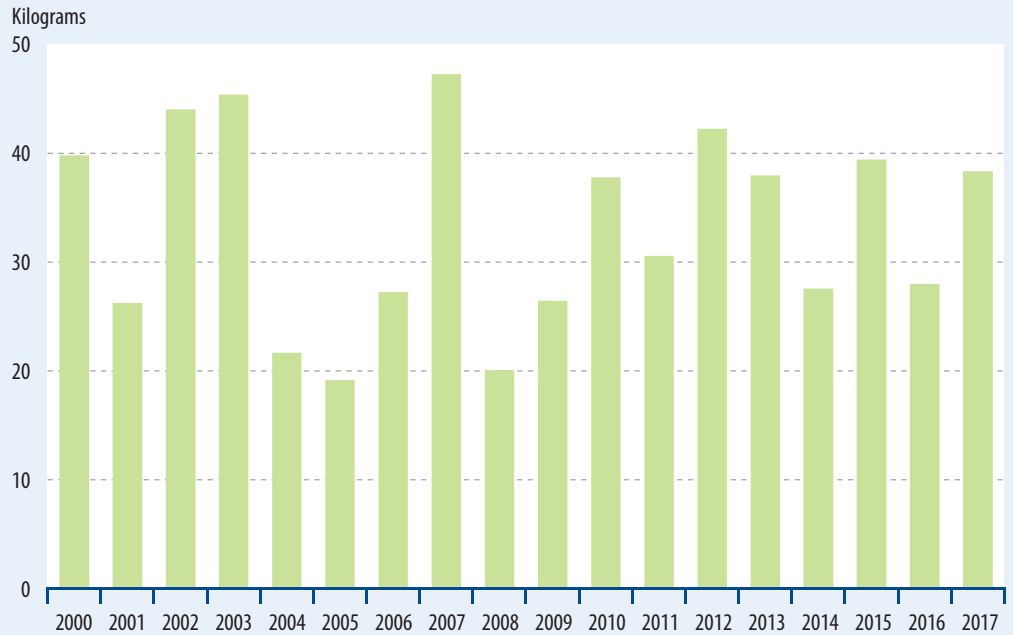
Kilograms

The nitrogen balance per hectare of agricultural area was 38 kilograms in 2017.

Definition Gross nitrogen balance includes emissions from agriculture. Nutrient balance is the difference between nutrient input by applying fertilisers and manures as well as other methods and nutrient output due to crops. A major component of the input side of the balance is nutrient input by applying fertilisers. The output side is determined by the quantity of crops, but it significantly depends on weather conditions in a particular year, too.

Relevance Component balances demonstrate changes in the state of nutrient components of the soil as well as the cycle of major mineral substances vital for crops. A permanently and significantly positive nutrient balance results in high risks of nutrient leaching and of water contamination as a consequence. And a long-term negative balance indicates potential problems of sustaining the applied agricultural

methods. Nutrient intake in line with soil type and status is especially important since too much nitrogen leaching into standing waters causes eutrophication, the growth of algae in waters. One of the objectives in the National Framework Strategy on Sustainable Development is preventing the degradation of biodiversity, soil productivity as well as eco-system services. The application of inorganic fertilisers and organic manure may result in pollutant emissions of nitrogen dioxide and ammonia in the atmosphere.

Analysis According to data calculated based on the Eurostat/OECD methodology, the quantity of fertilisers' nitrogen input has risen in Hungary since 2010, 65% of total nitrogen input into the soil was due to fertilisers in 2017. The nutrient balance of nitrogen has fluctuated as a function of crop output from the area, and has shown a decreasing trend since 2010 in spite of a growth on the input side, which means that nitrogen output from the soil due to crops increased at a higher rate, so nutrient use became more efficient.
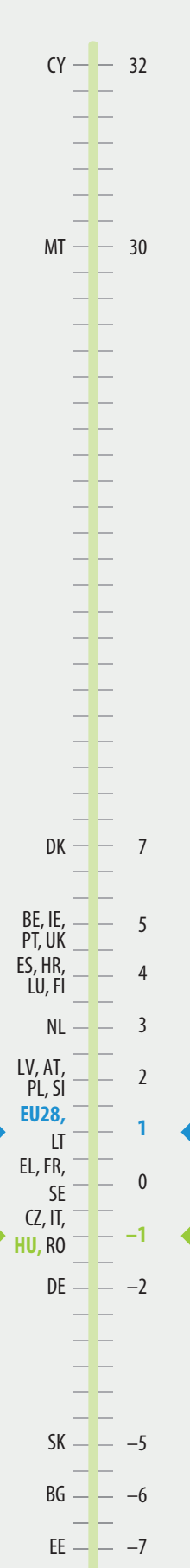
Figure 3.18.2 Phosphorus balance per hectare of agricultural area
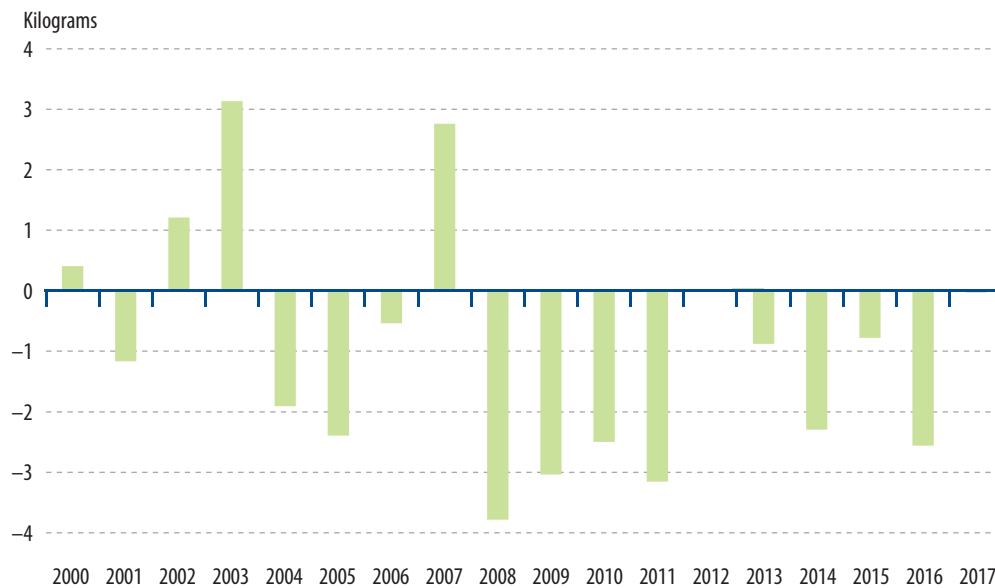
Kilograms

! *The phosphorus balance was 0 kilogram in 2017.*

As phosphorus is less mobile than nitrogen, the surplus remaining in the soil is accumulated year by year, increasing the dissolved and total phosphorus content of the soil. Nevertheless, the phosphorus balance of soils was negative in most of the years between 2000 and 2017 in Hungary, which may threaten already the sustainability of production. However, the balance of phosphorous shows a growing trend which is still negative for most years.

International outlook The comparison of nutrient balances across countries is limited since the different Member States estimate the nitrogen content of manure and crop products in differing ways; nevertheless, both nitrogen and phosphorous balances in general were still below the EU average in Hungary. The nitrogen balance was the highest in Cyprus (194 kilograms/hectare) and the Netherlands (189 kilograms/hectare), while the phosphorus balance was the most in Cyprus (32 kilograms/hectare) and Malta (30 kilograms/hectare) in 2015.

Phosphorus balance per hectare of agricultural area in the European Union, 2015, kilograms/hectare

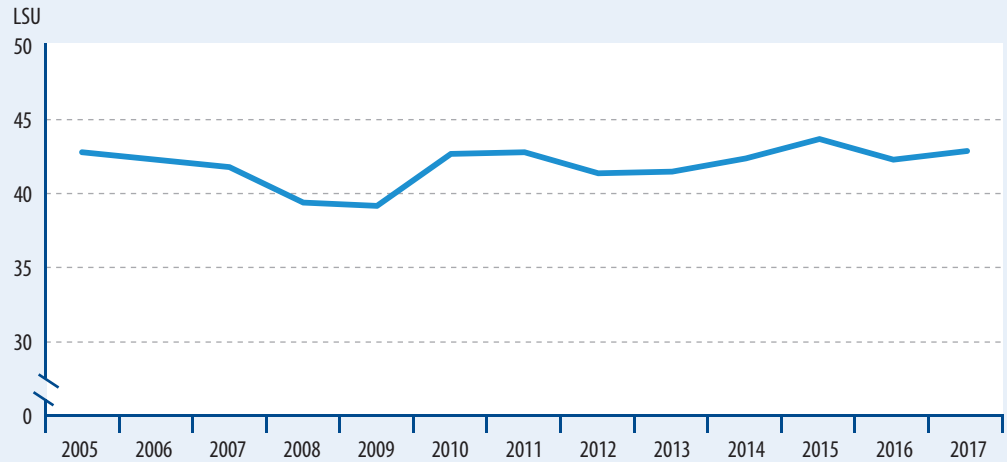|	
NL	380
MT	289
BE	279
DK	158
CY	154
LU	133
IE	127
DE	109
SI	105
AT	91
UK	80
FR	79
► EU28 ◄	76
IT	75
PL	66
ES	62
PT	61
SE	56
► HU ◄	52
CZ	51
FI	49
HR	48
EL	46
RO	39
SK	33
LT	29
EE	28
LV	26
BG	24

Livestock density

Since 2005

Since 2016

Figure 3.19.1 Livestock units per hundred hectares of agricultural area

! *The number of livestock, expressed in livestock units, per hundred hectares of area decreased between 2005 and 2009, went up in 2010 and has stagnated since then.*

Definition The value of the livestock density indicator shows the number of livestock, expressed in livestock units (LSU), per hundred hectares of agricultural area. A livestock unit is an equivalent of total livestock, used for the aggregation of animals of different ages and sexes of various animal species. The indicator covers cattle, pig, sheep, horse and poultry stocks as well as goat and rabbit stocks, which it aggregates after using a specific coefficient for each of these.

Relevance Intensive livestock rearing – especially in the case of pig and poultry production – is the main source of farmyard manure, and is a dominant component of potential nutrient surpluses. These nutrient surpluses put remarkable pressure on aquatic systems. In addition, the number of cattle and other livestock has a considerable influence on greenhouse gas concentration and other harmful emissions from agriculture.

Analysis The value of the indicator of livestock units per hundred hectares of agricultural area decreased in Hungary between 2005 and 2009. Since the rise in 2010, it has fluctuated between 43.7 and 41.4.

Livestock density in the European Union, 2016, livestock units/hundred hectares

International outlook According to the farm structure survey conducted in EU Member States, livestock density was the highest in the Netherlands (380), Malta (289) and Belgium (279), and the lowest in Latvia (26) and Bulgaria (24) in 2016. The value of the indicator for Hungary was low (52) in a European context.

Summary tables (STADAT)
4.1.27 Livestock, December
6.4.1.22 Cattle, 1 December
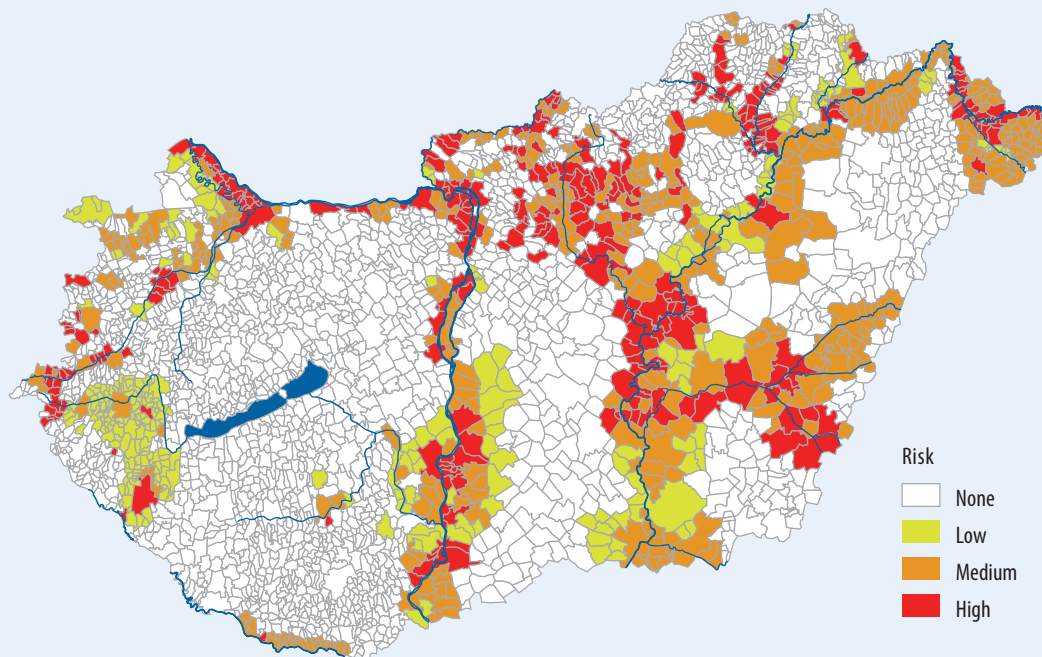**6.4.1.23 Pig, 1 December**
6.4.1.24 Sheep, 1 December
6.4.1.25 Chicken, hen and cock, 1 December

Floods and inland inundation

Figure 3.20.1 Flood risk classification of settlements in Hungary, 2011

Risk
- None
- Low
- Medium
- High

Source: National Disaster Risk Assessment, National Directorate General for Disaster Management of the Ministry of Interior, 2011.

! *An area of over 20,000 km² is exposed periodically to floods in Hungary.*

Definitions Floods occur when water exceeds the edge of the mean-stage bed or exiting the mean-stage bed of a river or watercourse.

Inland inundation is generated in the upper layer of soil when the free pores of soil are impregnated with water. Typically, it develops on the spot as an effect of unfavourable meteorological and hydrological factors, from sudden melting of snow or precipitation activity, but it can also be the result of a high level of ground water, when ground water exits onto the surface.

Relevance Hungary is considered an area in the Carpathian Basin where the extent of flood and inland inundation exposure is high. The temporal and spatial distribution of our water resources is very extreme. Generally there are two main periods of floods on rivers in Hungary every year: floods in early spring are caused by runoff from snowmelt, those in early summer are the consequences of maximum precipitation at the beginning of summer ('green' flood). Nearly the half of Hungary is plain area (44,500 km²), with endorheic lowlands

having a significant share. An area of over 20,000 km² is exposed to floods, of which 5,610 km² in the catchment basin of River Danube and 15,641 km² in the catchment basin of River Tisza.

Analysis The protection from floods and inland inundation has a tradition of over 150 years in Hungary. An about 4,200-kilometre-long flood protection embankment system was built along the rivers. The extreme weather conditions in the last decades (floods and droughts) have made it necessary to change the former water management practice (rapid channelling of water in floods). In floods a substantial part of water needs to be led into reservoirs, and this reserved water needs to be used for irrigation in droughts.

One-quarter of the area of Hungary is plain lowlands, from where water does not flow away in a natural way. Some 10–15% of the regularly used, nearly 5 million hectares of arable land area is often covered annually by inland water, about 130 thousand hectares for 2–4 months per year on average.

Figure 3.20.2 **Inland inundation risk classification of settlements in Hungary, 2011**
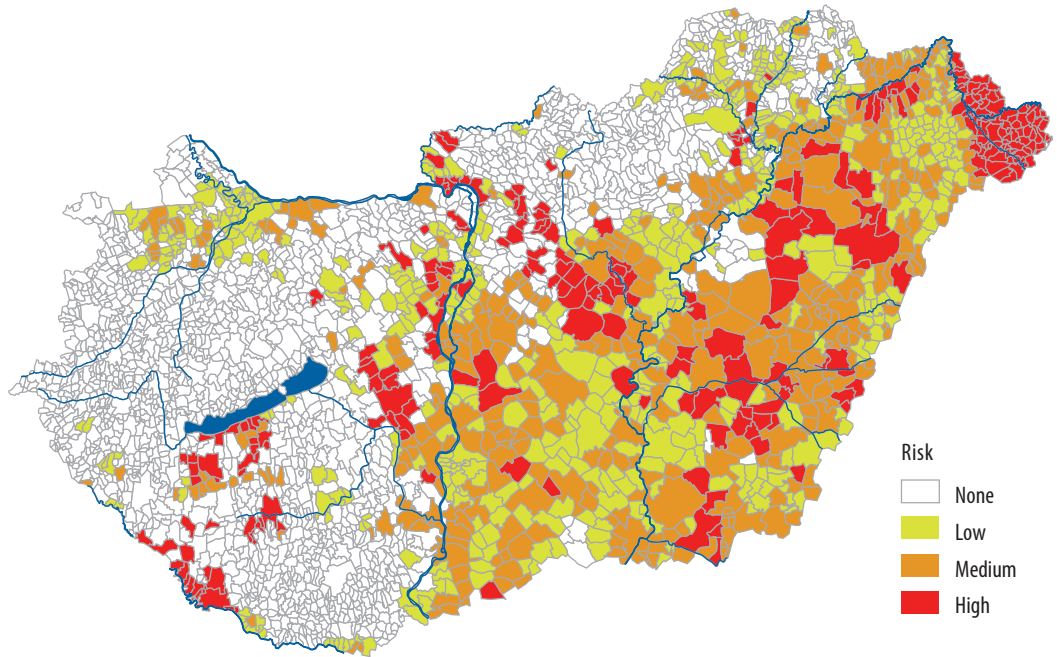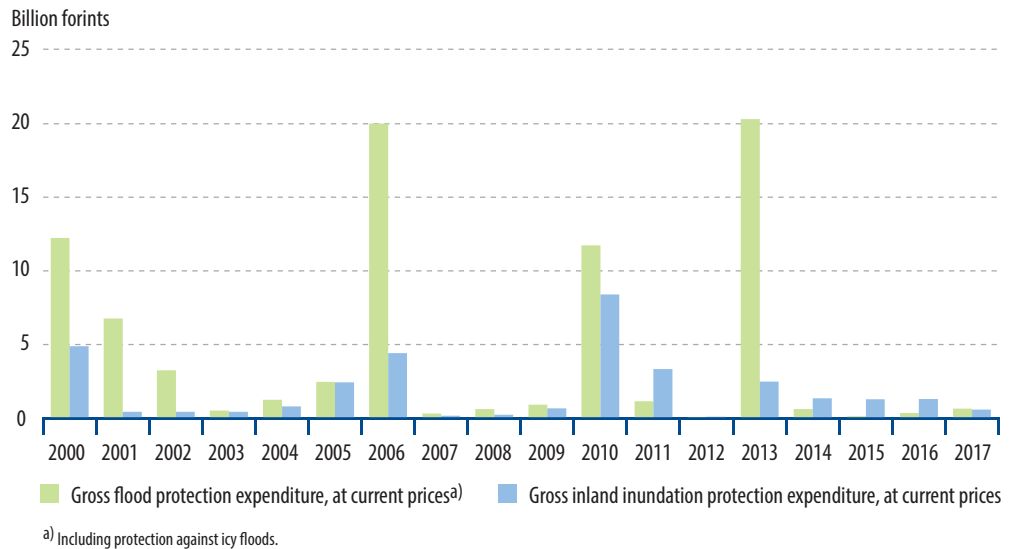

Risk
None
Low
Medium
High

Source: National Disaster Risk Assessment, National Directorate General for Disaster Management of the Ministry of Interior, 2011.

! *Around 60% of lowlands in Hungary are exposed periodically to inland inundation.*

Figure 3.20.3 **Flood and inland inundation protection expenditure in Hungary**

Billion forints

☐ Gross flood protection expenditure, at current prices[a)]   ☐ Gross inland inundation protection expenditure, at current prices

[a)] Including protection against icy floods.

Source: General Directorate of Water Management.

! *The effect of floods in 2006 and 2013 is apparent in annual protection expenditure from the central budget on flood and inland inundation drainage.*

Organic farming

Since 2000

Since 2016

Figure 3.21.1 Areas under organic farming as a proportion of agricultural area
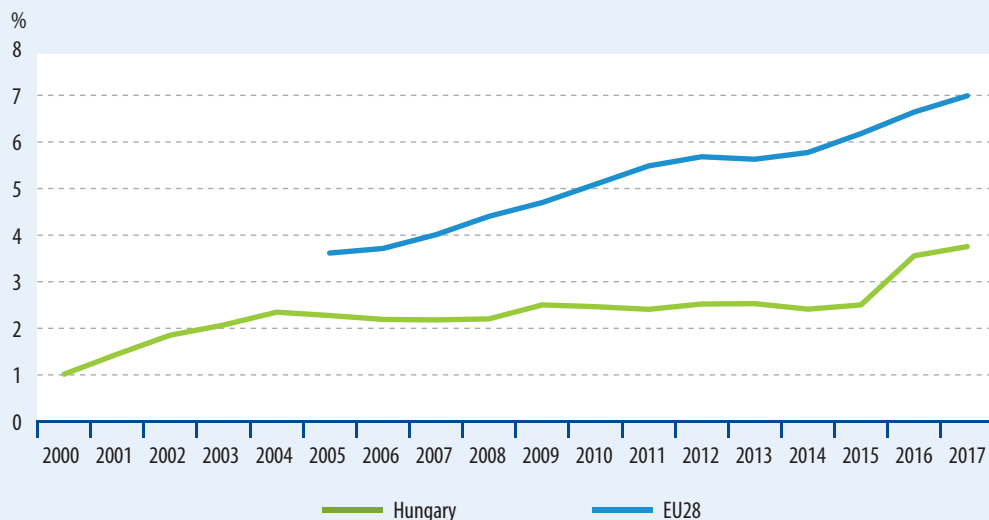
! *Areas under organic farming as a proportion of agricultural area increased one-and-a–half-fold in Hungary after 2015. The areas concerned covered 200 thousand hectares in 2017.*

Definition The indicator is calculated by dividing areas subject to the Agri-Environment Scheme by the total agricultural area.

Relevance Organic farming is a production method governed by regulations in the EU, laying high emphasis on protecting the environment, within which the soil, surface and sub-surface water reserves, maintaining biodiversity and promoting food safety. Considering that the Carpathian Basin is one of the EU regions with the richest biological diversity, agriculture has a substantial impact on the state of the natural environment. The objectives of the National Framework Strategy on Sustainable Development include supporting environment-friendly technologies and land use methods, as well as putting Hungary at the top of the EU rankings of the proportion of ecological farming. And the National Action Plan for the Development of Ecological Farming aimed that areas under organic farming should reach 350 thousand hectares by 2020. Supporting organic farming makes part of the Rural Development Programme in Hungary and amounts to around 64.4 billion forints until 2020.

Analysis Areas under organic farming covered 200 thousand hectares in Hungary in 2017. Areas under organic farming as a proportion of agricultural area practically stagnated in Hungary in the period between 2004 and 2015, then, as an effect of the Rural Development Programme, having started from 2015, went up significantly, by 54% in the last two years. By contrast, the proportion of such areas has risen almost continuously and at a high pace in the EU since 2005.

International outlook Areas under organic farming as a proportion of agricultural area represented 3.7% in Hungary in 2017, approximately the half of the average value of 7% for the European Union. The proportion of areas under organic farming was the highest, 23.4% in Austria, and somewhat less than one-fifth of agricultural area was under ecological farming in Estonia and Sweden as well. Areas under organic farming as a proportion of agricultural area were the lowest in Malta (0.4%), as well as Ireland (1.7%) and Romania (1.9%).

Summary tables (STADAT)
4.1.6 Organic farming

Areas under organic farming as a proportion of agricultural area, in the European Union, 2017, %

AT	23.4
EE	19.6
SE	19.2
IT[a]	14.9
CZ	14.1
LV	13.9
FI	11.4
SK	9.9
SI	9.6
ES	8.7
DK	8.6
LT, EL	8.0
EU28,	**7.0**
PT	
DE	6.8
HR	6.5
BE	6.3
FR	6.0
CY	4.6
LU	4.2
HU	**3.7**
PL	3.4
NL	3.1
UK	2.8
BG	2.7
RO	1.9
IE	1.7
MT	0.4
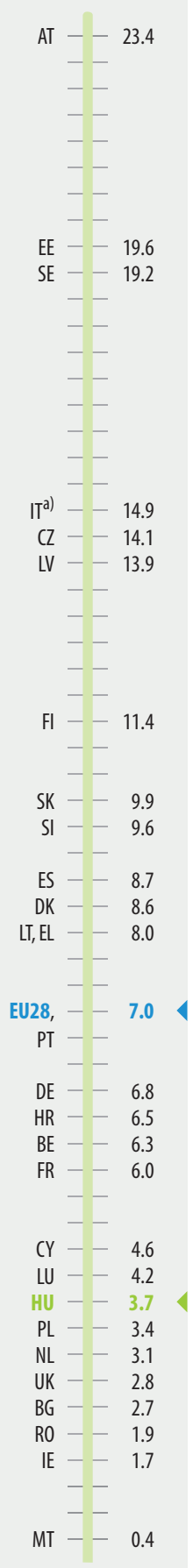
a) The utilised agricultural area figure refers to 2016.

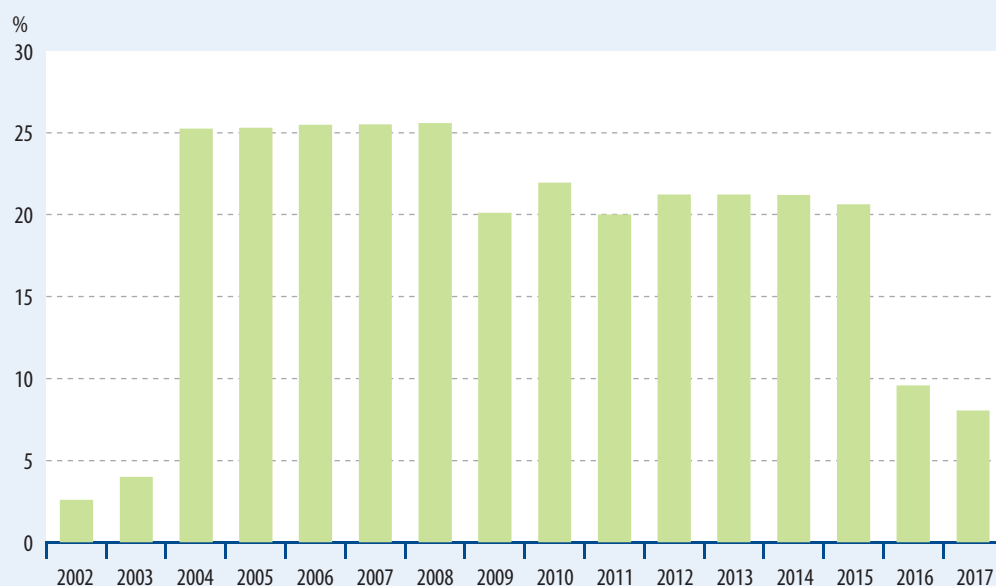Areas subject to agri-environmental measures

Since 2002

Since 2016

Figure 3.22.1 **Agri-environmental aid recipient areas as a proportion of agricultural area**

Source: Hungarian State Treasury.

! *The proportion of agricultural areas subject to the Agri-Environment Scheme was 8.0% in 2017.*

Definition The indicator is calculated by dividing areas subject to the Agri-Environment Scheme by the total agricultural area.

Relevance Since the reform of the Common Agricultural Policy (CAP) in 1999, agri-environmental measures have been a compulsory element of the rural development programmes of Member States. Their role is to ensure mutual correspondence as well as to integrate environment protection aspects into CAP. In Hungary the National Agri-Environment Protection Programme, financed from the domestic budget, was launched in 2002. Farmers having joined the Agri-Environment Scheme (AES) can be supported from EU funds since 2004. The aid compensates for the extra costs of meeting the requirements and for the loss of revenues.

Analysis Agri-environmental measures are a five-year scheme, where farmers can enrol in the year when the scheme is started. The new AES, launched from 2015 in the frame of the Rural Development Programme, highly supports maintaining biodiversity, protecting nature, water and the soil, combatting climate change and adapting to climate change. 8.0% of agricultural area was subject to the Agri-Environment Scheme in 2017. It is a change compared to the earlier period that payments related to ecological farming do not make part of AES any more but became a separate form of aid, so these areas are not to be considered as areas subject to AES.

Changes in farmland bird population

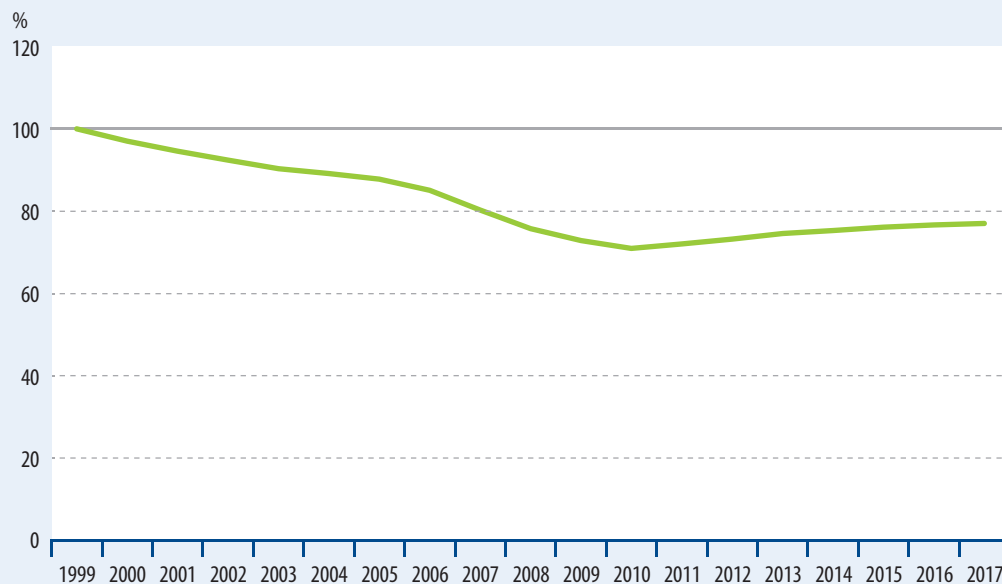**Since 1999**

Since 2016

Figure 3.23.1   Changes in farmland bird population   (1999=100,0)

Source: Hungarian Ornithological and Nature Conservation Association.
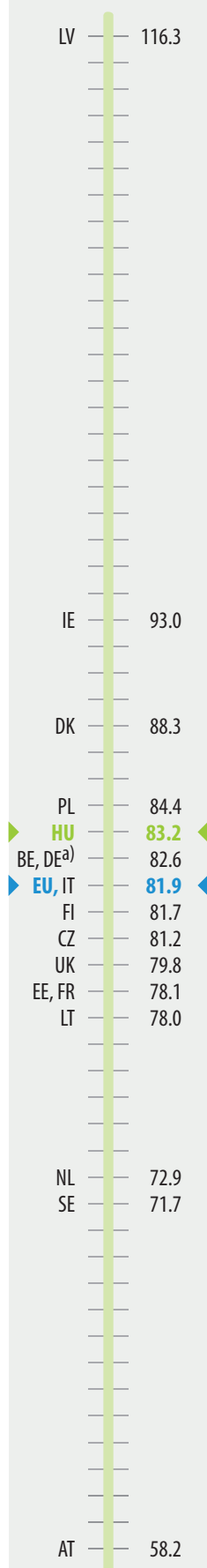
! *Between 2005–2010 farmland bird populations significantly decreased; since then their numbers are slowly increasing.*

Definition The indicator is an aggregated index based on results of monitoring programmes regarding prevalent bird species related to farmlands from feeding and reproduction point of view, its rate shows the changes in farmland bird population. The Hungarian index is calculated based on data regarding 16 species which, according to the 1999–2012 data properly represent the prevalent bird species of the country's agrarian habitat (considering habitat use and preference). The EU member states' index is calculated based on 39 species.

Relevance The programme entitled Monitoring of our common birds supplies, run by the Hungarian Ornithological and Nature Conservation Society, has been providing data about changes in population of the farmland-related 16 bird species since 1999. These surveys are run year-on-year on approximately 20% of the country's territory, they reflect the condition of farmland-related habitat and the sustainability of agricultural practices.

Analysis In the case of the majority of the surveyed species the index rate stagnated up until 2005, then, since 2006, started to decrease significantly, reaching its lowest level in 2010. It is moderately improving ever since.

International outlook According to values on – different methodology based – observations of 39 bird species, published by Eurostat as well, the population of farmland birds was on a 77% level in 2017 compared to the 2000 base value. Latvia is the only member state where the bird population increased compared to 2000 (116.3%). Out of the 17 EU countries participating in the monitoring Austria has the lowest rate (58.2%).

Change in the population of farmland birds in the European Union, 2014 (2000=100.0), %

LV	116.3
IE	93.0
DK	88.3
PL	84.4
HU	83.2
BE, DE a)	82.6
EU, IT	81.9
FI	81.7
CZ	81.2
UK	79.8
EE, FR	78.1
LT	78.0
NL	72.9
SE	71.7
AT	58.2

a) 2013.
Source: BirdLife.

IE — 100

BE, BG, DK,
EE, ES, **HU,**
SE, UK — 99

MT, NL — 98

FR, FI — 97

LU — 96

HR, SI — 95

EL, RO — 93

EU28,
DE, LV — **92**

IT — 88

PT — 87

CZ — 85

PL — 79

LT, SK — 77

AT — 70

CY — 46

Suitability of areas designated by the EU Habitats Directive in the European Union, 2013, %

Protected natural areas

Since 2000

Since 2016

Figure 3.24.1 Natural areas of national importance, protected by specific legislation

Thousand hectares

■ National parks ■ Landscape protection areas ■ Nature conservation areas ■ Natural monuments
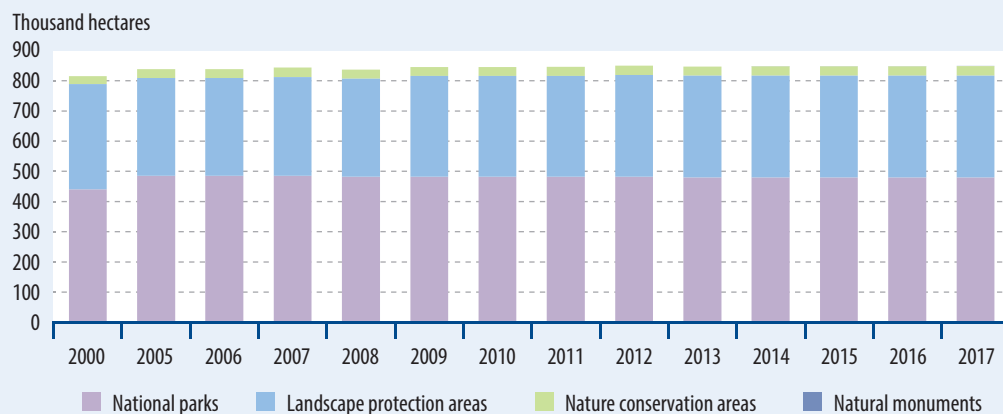
Source: Ministry of Agriculture.

! *The size of areas falling into the national importance protected category was 849 thousand hectares in 2017, 23% of which are in Northern Hungary.*

Definition National parks: are such extensive territories of Hungary whose natural character has not been significantly altered, and whose primary function is to conserve the natural botanical, zoological, geological, hydrological, scenic and cultural historical values of outstanding importance, sustain biodiversity and the sound functioning of natural systems, promote education, scientific research and recreation (Act LIII of 1996 on Nature Conservation in Hungary).

Landscape protection areas: a characteristic, natural, scenery-rich, larger, usually contiguous area of the country where the interaction of man and nature created an aesthetically, culturally and nature-related well-defined trait and its primary goal is the preservation of scenery and natural values.

Nature conservation areas: a smaller territory of the country, rich in characteristic and special natural values, with the main purpose of preserving one or more natural values and their interconnected system. According to the Nature Conservation Act protected bogs, alkaline lakes are considered nature conservation areas.

Natural monuments: an especially important unique natural value, formation and the area meant to protect it. According to the Nature Conservation Act protected springs, swallets, tumuli, hillforts are considered natural monuments.

Natura 2000 network is comprised by territories assigned based on the two nature protection directives of the European Union: the Birds Directive of 1979 (79/409/EEC) which designates special bird-protection areas and the Habitats Directive of 1992 (92/43/EEC) which marks off special natural conservation areas.

Relevance According to the National Framework Strategy on Sustainable Development it is necessary to preserve the unique richness of species in Europe, the landscape and the natural monuments, to stop depletion of ecosystem services.

Analysis Protected natural areas of national importance are primarily made up by national parks (57%), and in a lesser degree by landscape protection areas, nature conservation areas and since 2014 by natural monuments. The number (10) and area (481 thousand hectares) of national parks representing the most diverse category of nature conservation areas is unchanged since 2013, the most of them, circa one-fifth are on the Southern Great Plain. Within protected natural areas the proportion of landscape protection areas is approximately 40%. A significantly smaller proportion of them are the nature conservation areas (3.7%) and the natural monuments (0.01%) the proportion of which does not reach 1%. Around 15% of the protected natural areas are highly protected.

Figure 3.24.2 Natura 2000 areas in Hungary

Special birds protection areas
Special nature conservation areas
Both
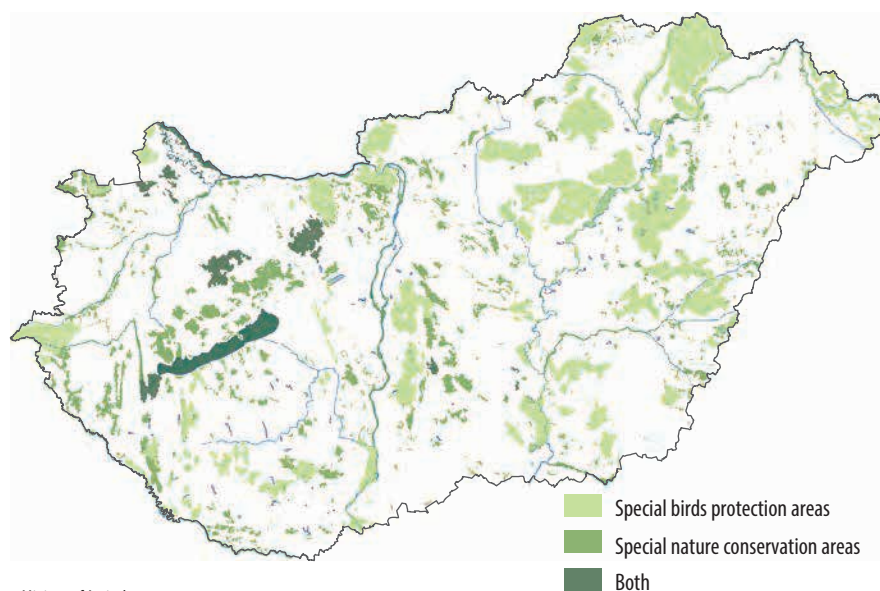
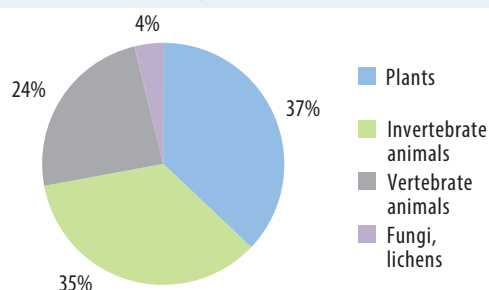Source: Ministry of Agriculture.

> **!** *A number of 105 animal-, 36 plant species and 46 habitat types have been identified on the designated Natura 2000 areas.*

The overwhelming majority of the more than 43 thousand animal species of our country, circa 40 thousand species are arthropods. Out of the vertebrate animal species of the country 83 are fish, 18 amphibians, 15 reptilian, 373 bird, and 83 mammal species. In line with international practice most vertebrate animal species are protected by law. The number of legislation protected vertebrates is 483 out of which 129 are in the highly protected category.

The aim of designating Natura 2000 areas is the preservation of the biological diversity, the recovery of the natural state of the area in question as well as its protection. The network includes special bird protection and special habitat protection areas, the assignment of the former is based on the Birds Directive, that of the latter on the Habitats Directive. The protection of our native and European-level significance bearing bird species as well as the ones which migrate through our country is served by 56 special bird protection areas on a total of 1 million 375 thousand hectares. The number of special natural conservation areas is 479, its total area is 1 million 444 thousand hectares showing a significant overlap with the special bird protection network. The joint total size of the aforesaid territories is circa 1 million 995 thousand hectares, 39% of which comprises pre-existent protected areas.

Figure 3.24.3 The proportion of natural values protected without assigned areas, 2017

- Plants
- Invertebrate animals
- Vertebrate animals
- Fungi, lichens

Source: Ministry of Agriculture.

> **!** *In 2017 animals represented 59% of all protected species.*

International outlook The areas assigned in Hungary in 2013 in accordance with the Habitats Directive were in 99% fit for covering all habitat types as well as plant- and animal species of Community importance in the territory of the country. Within the EU only Ireland had a 100% capacity. Cyprus had the smallest capacity (46%) lagging significantly behind the EU average of 92%.

Summary tables (STADAT)
5.2.4 Natural values protected
6.5.6 Protected areas of national significance

Native tree species

Figure 3.25.1 Proportion of native tree species

Source: National Food Chain Safety Office, Forestry Directorate.

> **!** *In 2017, the proportion of native trees within stocked forest area was 63% in Hungary.*

Definition Species which represent natural components of indigenous communities are called native species. The most well-known native trees in Hungary are: pedunculated oak, sessile oak, turkey oak, beech, hornbeam, domestic poplar. The most well-known non-native trees are: Austrian pine, black locust, improved poplar.

Relevance Devastated native forests have been replaced quite often by non-native species, which had a negative effect on the long run. On one hand our climatic conditions are not suited for their ecological needs, on the other coniferous leaf mould changes the structure of the soil. Following early forest devastation due to changed soil conditions the barren area may become unsuited for recovering the original natural communities. The influence of black locust on the soil had a similar effect. It uses completely up the nutrient content of the soil, while its mould-creating capability is insignificant. The majority of black locust in our country will grow old in several years.

In consequence one of the main tasks of our nature conservation and forestry is to protect the ancestral communities and natural forests which

are in unison with the environmental factors; this also means the protection of the forests' animal and plant population. The adaptation of corresponding silviculture and afforestations are main parts of this planned conservation activity, too. It is a basic principle of afforestation and regeneration that the growing forest should approximate the characteristics of the natural tree communities. With the promotion of close-to-natural shrubbery and herb layer formation and continuance the survival of the community's animal population is secured.

Analysis The size of our country's stocked forest area is close to 1.9 million hectares, out of this 1.2 million hectares are populated with native species. The proportion of native tree species decreased by 1.8 percentage points between 2000 and 2017, while the area covered with native trees grew by 7%, that is to say that the increase in forest areas resulted in the spreading of non-native tree species in a greater proportion. The share of native trees is 63% which means that the plant compositions living in these areas of existing forests look more or less like the original tree communities. The area occupied by non-

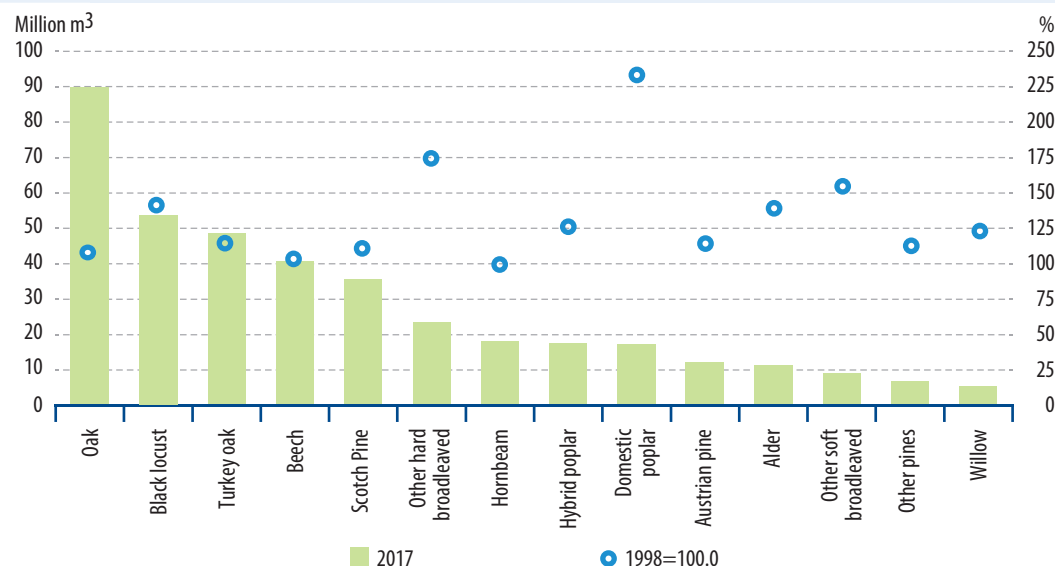**Figure 3.25.2   Distribution of stocked forest area by groups of tree species**   (1998=100.0)
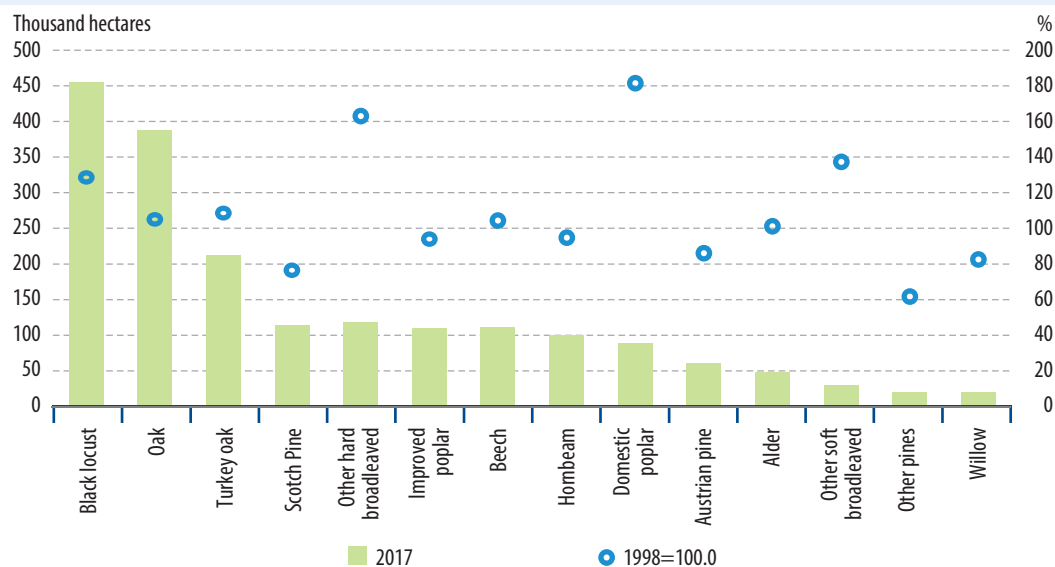
Source: National Food Chain Safety Office, Forestry Directorate.

!   *In 2017 the non-native black locust represented the largest part of forest areas.*

Figure 3.25.3   Distribution of growing stock by tree species, 2017   (1998=100.0)

Source: National Food Chain Safety Office, Forestry Directorate.

!   *After the native oak the non-native black locust represents the largest part of Hungary's tree stock.*

native species is 685 thousand hectares, 37% of the stocked forest areas.

In our country 86% of the growing stock is part of the deciduous tree species group characteristic to the temperate zone. Out of the native tree species the oaks (subgenus Quercus) and beech are of outstanding importance. Imported, established tree species and different clones primarily spread due to their fast growing (e.g. improved poplars) or their drought-resistant characteristics (e.g. Austrian pine). Within the deciduous tree-stock the 27% proportion of the oak-species group is outstanding, black locust represents 16%, turkey oak 15%, beech 12%. Pine forests' growing stock is made up by Scotch pine in 66%, Austrian pine and other conifers represent 34%.

Logging and annual increment

Since 2000

Since 2016

Figure 3.26.1   Changes in wood harvesting ratio
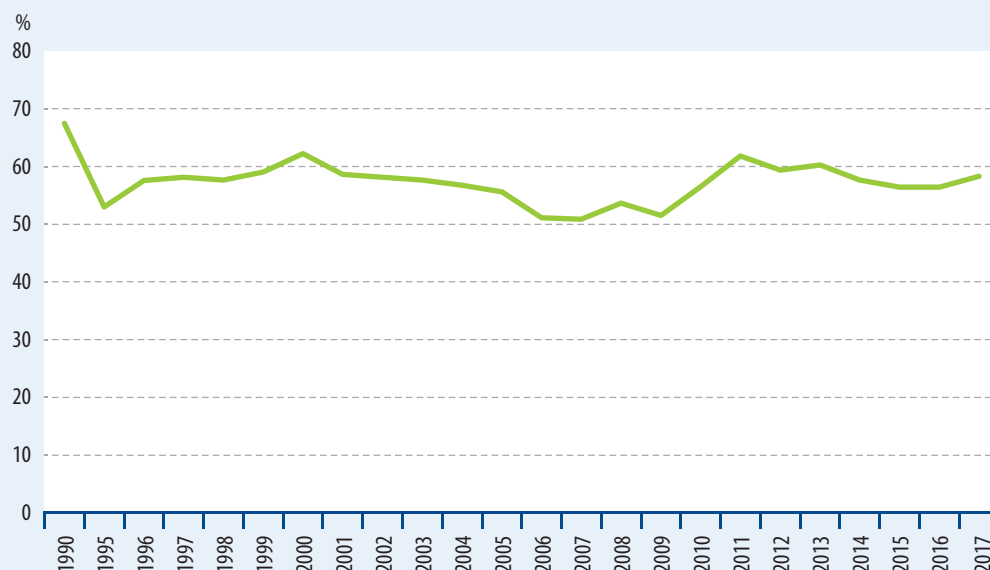
Source: National Food Chain Safety Office, Forestry Directorate.

!   *Wood harvesting ratio was 58% in 2017.*

Definition We define the wood harvesting ratio by correlating the volume of yearly logging to the gross annual increment. In EU comparison we calculate this indicator by correlating the volume of yearly logging to the net annual increment. The volume of annual increment is the yearly average of ten years' total logging.

Relevance Out of the multiple functions of a forest, logging is the most important and the largest space demanding economic function. Industrial forestry has been replaced in the recent decades by sustainable forestry. Modern requirements are met by a greater growth of the annual increment than that of logging, at the same time it is important to consider how the increase of growing stock is changing the proportion of native and non-native tree species. The faster expansion of imported tree species produces an unfavourable outcome from ecological point of view. Based on legal requirements and considering sustainable forestry aspects logging can only be done in conformity with forest management plans

related regulations. The growing stock of Hungary increased considerably in the recent decades as the annual increment surpassed year-on-year the volume of actual logging. Thanks to the rigorous requirements of forest management plans forestry enterprises concentrate not only on timber production, but on supporting sustainable forestry, too. Based on the principles adopted during the 1992 Conference on Environment and Development held in Rio de Janeiro, Hungary, alongside the other European countries ensures the sustainability of forest ecosystems' viability, the preservation of biodiversity, the operation and development of socio-economic functions.

Analysis From 1998 to 2017 annual increment grew from 11.6 million m³ to 13.0 million m³, while logging ranged between 6.6–8.1 million m³. The proportion of logging compared to annual increment moved between 51% and 67% from 1990 to 2017.

Hungary's growing stock was 386 million m³ in 2017 on larger than 2 million hectares of forest area which represents on national level a 19%

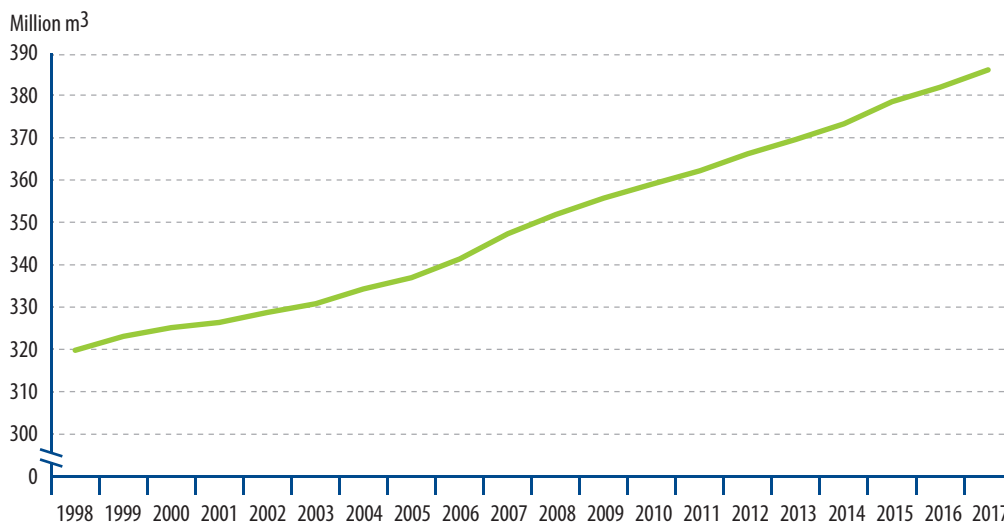**Figure 3.26.2 Changes in logging and annual increment**
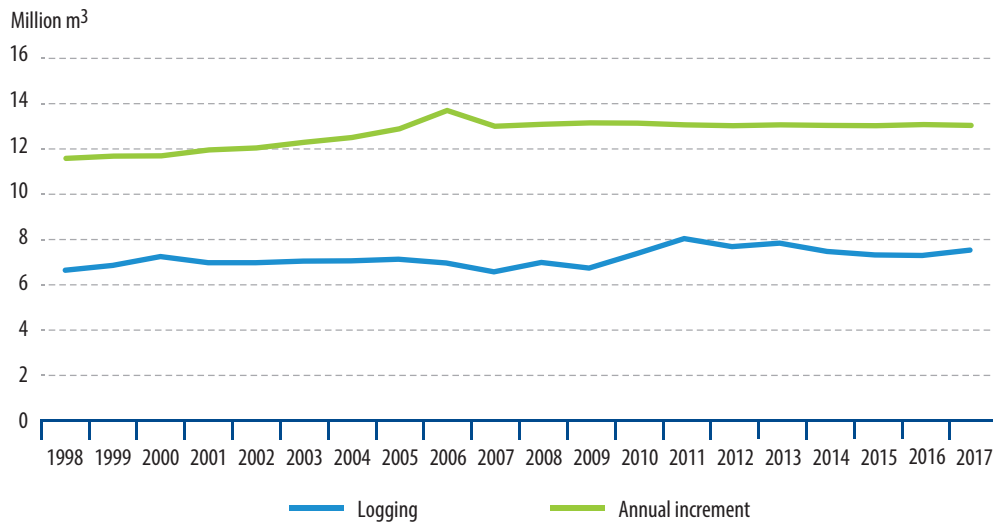
Source: National Food Chain Safety Office, Forestry Directorate.

! *In 2017 logging was 7.6 million m³ and annual increment was nearly 13 million m³.*

Figure 3.26.3 Changes in growing stock

Source: National Food Chain Safety Office, Forestry Directorate.

! *The volume of growing stock in our forests grew from 320 million m³ to 386 million m³ since 1998.*

increase since 2000. Out of the total forest area of our country more than 58% is economically utilizable forest stock. Since 1998 the volume of yearly logging varied between 6.6–8.1 million m³, its value being 7.6 million m³ in 2017.

Summary tables (STADAT)
5.1.2 Distribution of stocked forest area by tree species and age-group
5.1.3 Logging by tree species

Forest health and pathology   **Since 2007**

Since 2016

Figure 3.27.1 Health conditions of forests based on all types of damages
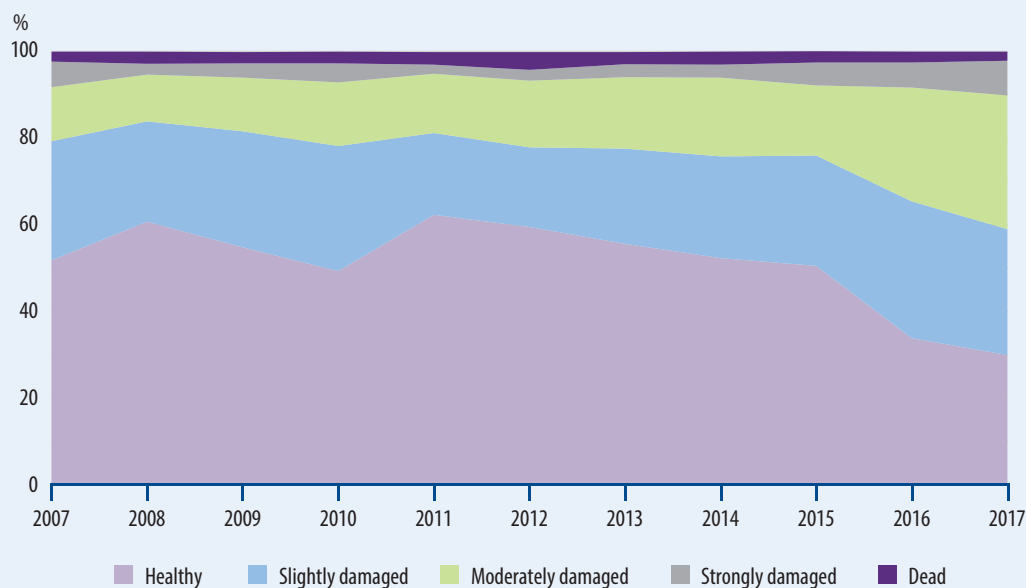
Source: National Food Chain Safety Office, Forestry Directorate.

! *In 2015 forest health was good, then the proportion of damage increased up to 2017, in contrast that of forest dieback areas decreased.*

Definition Forest pathology means all damages of the root system, trunk, bark and the foliage of trees including all damaging factors. Damage degrees do not include losses for clearly defined reasons like breakages or foliage chewing.

Relevance According to the first progress report of the National Framework Strategy on Sustainable Development (2013–2014) 'the forest stock, wood yield are continuously growing and are of good quality, however the conditions necessary for a good silviculture and game management are endangered by the effects of climatic changes, by the increase in proportion of non-native tree species and other factors (aridification, acid rains, diseases, pests, etc.).' Possible causes of defoliation and canopy discolouration may be accumulation of pollutants in the atmosphere, extreme weather conditions (especially drought) and connected with these the propagation of insect- and fungal damages.

Analysis The proportion of healthy forests was in the 30%-62% range between 2007 and 2017, in 2017 was the lowest. Based on defoliation,

mirroring in the best way the overall health status it can be stated that in 2017 the best health conditions were registered in the turkey oak and hornbeam forests.

Hungary's forests are, in the ranking of European countries in the mid-damaged category. In 2017 based on sample results 30% of trees were healthy 29% slightly damaged, endangered, 31% were moderately damaged, 8% strongly damaged, 2% died. From damage point of view the most affected species in 2017 – among deciduous trees – was the pedunculated oak, 96% of which has been damaged in a way. Among pines the condition of the Austrian pine improved in the last two years. Based on damages affecting different tree species the turkey oak is the healthiest (44.3% of the stock healthy) and the hornbeam (43.7% of the stock healthy). The worst health conditions were registered for pedunculated oak (3.8% of the stock healthy), Austrian pine (11.4% healthy) and poplars (15.5% healthy). In the case of Austrian pine the significant fungus and wood-beetle damages lasting for years, in the case of oaks insect damages are dominant.

Figure 3.27.2 **Health conditions of forests based on all damages, by tree species groups, 2017**

Legend: Healthy · Slightly damaged · Moderately damaged · Strongly damaged · Dead
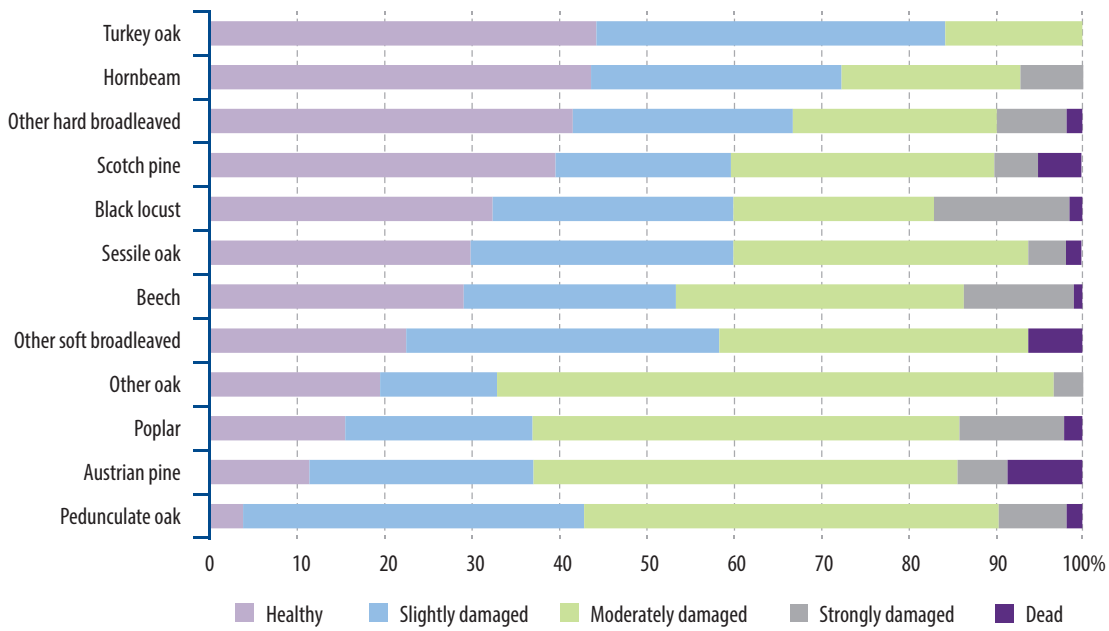
> **!** *In 2017 turkey oak was the least damaged tree species, the most damaged one was the pedunculated oak.*

Summary tables (STADAT)
5.1.6 Health conditions of the forests

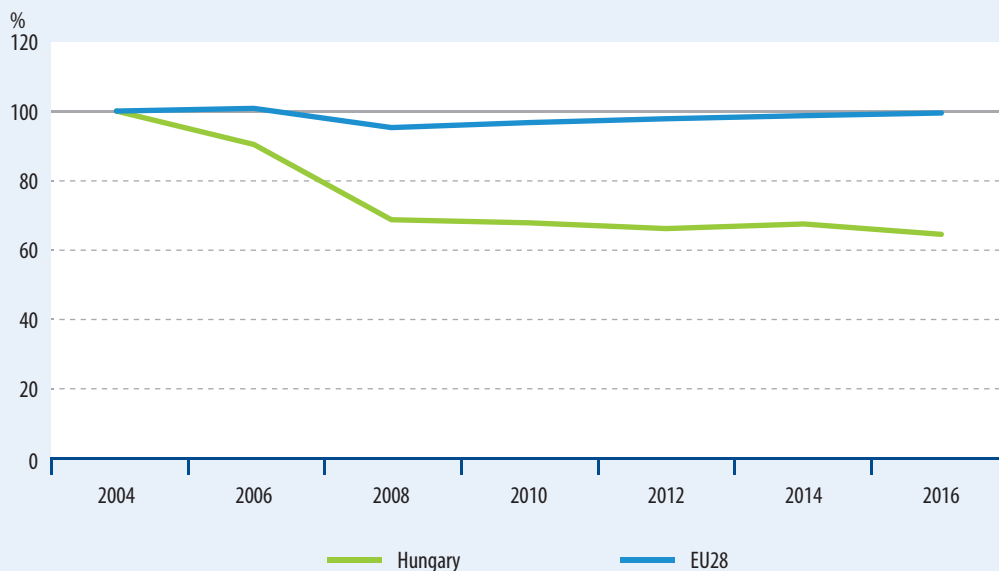| DK	781

Waste generated

Since 2004

Since 2014

Figure 3.28.1 Changes in volume of waste generated (2004=100.0)

Source: Ministry of Innovation and Technology, Waste Information System, Eurostat.

CY	637
DE	633
LU	607
MT	604
IE[a)]	581
AT	570

! *The volume of waste hardly changed since 2008 in Hungary, in contrast it slightly increased in the EU.*

FR	514
NL	513
FI	510
EL	504
IT	489
PT	487
▶ EU28	**486** ◀
SI	471
UK	468
ES	462
LT	455
SE	452
LV	438
BG	435
HR	416
BE	410
EE	390
▶ HU	**385** ◀
SK	378
CZ	344
PL	315
RO	272

Definition We define as waste generated the totality of any materials or objects formed in a given country the owner parts with or intends to part or is obliged to part with (Act CLXXXV of 2012 on Waste).

The per capita municipal waste indicator shows the volume of household and household-like waste (mostly generated in offices, at service providers, mixed in composition or collected separately, but not waste from production) per person.

Household waste is mixed, separately collected and junk waste generated in households, including waste generated in dwellings, residential real estates, in premises for relaxation, recreation, in common areas and areas of real estates. Waste similar in aspect and composition to household waste is the mixed as well as separately collected waste which is generated outside of households.
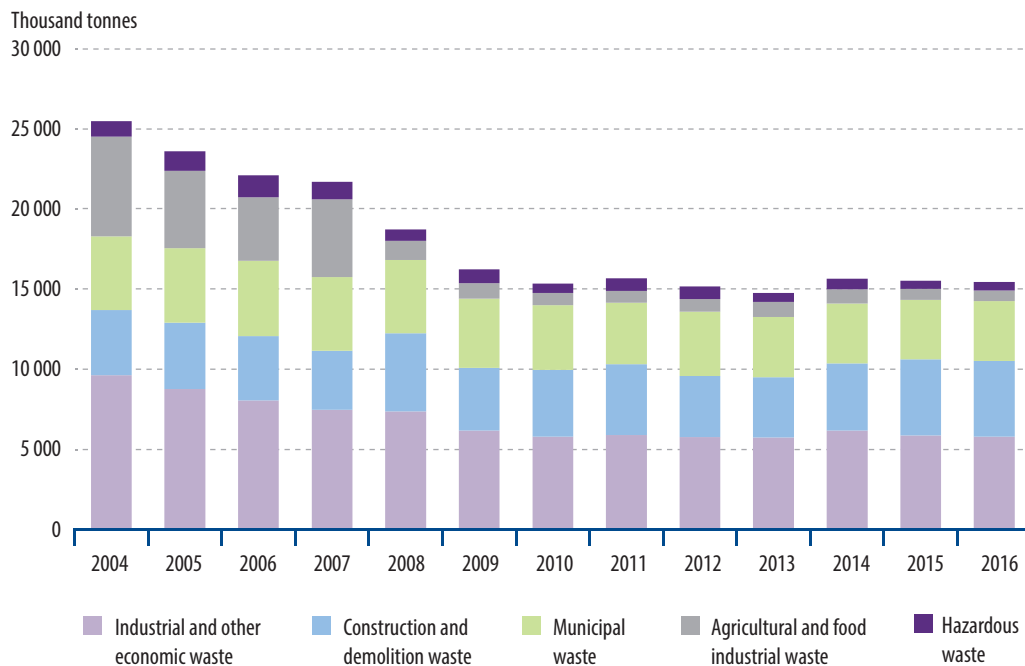
Relevance It is a goal of waste management to minimise waste generating. This is attainable by more efficient base material usage and a higher proportion of recycling. Waste generating can also be reduced by promoting coordination between economic activities along material and energy flows, meaning the material and energy waste of one production process should be the input of the next one. The National Framework Strategy on Sustainable Development emphasizes that by establishing and use of closed material cycles materials formerly considered waste could be further utilised (as such disposable waste quantity decreases). The strategy mentions waste discharge as a serious problem, as a strain on natural resources and proposes – among others – the support of base and applied research on waste management, ecological production and consumption.

a) 2016.

◀ *Per capita municipal waste in the European Union, 2017, kilograms/capita*

Indicators of sustainable development for Hungary, 2018

Figure 3.28.2 Generated waste distribution by types of waste

Source: Ministry of Innovation and Technology, Waste Information System, Eurostat.

> **!** *The overall quantity of individual waste types – except waste from constructions and demolitions – significantly decreased from 2004 to 2016.*

Analysis The quantities of generated waste in our country significantly decreased between 2004 and 2009, and they have stagnated ever since.

Among the different waste types the agricultural and food industrial as well as industrial and other economic waste decreased in the largest proportion between 2004 and 2016. Due to methodological changes the quantity of agricultural and food industrial waste significantly lessened, since then it only contains quantities of fertilizer qualified as waste, animal and vegetal by-products.

Industrial waste quantities decreased due to the fact that large waste-producing divisions (e.g. mining, metallurgy) fell back, the proportion of less base material demanding divisions increased in the process of production and production technologies improved.

Waste quantities from construction and demolition are influenced by the changes in investment volume in construction, so it could seriously fluctuate from one year to another.

International outlook Considering the EU as a whole close to 2.5 billion tonne of waste were generated each year, this quantity lessened to close by 100 million tonne in 2008. Next it started again to increase and reached by 2016 the 2004 level. As far as the member states are concerned the Western-European ones and Cyprus and Malta – being significant tourism destinations – are in more unfavourable situations. The smaller municipal waste quantities of new member states – Central-Eastern European ones – are due to different consumption habits. Our country's per capita municipal waste quantity (385 kg) in 2017 was 79.2% of the EU average. The indicator is the lowest in Romania, 29.5% less than in Hungary, and the highest in Denmark, more than double of our indicator.

Summary tables (STADAT)
5.5.2 The volume of each type of waste by method of treatment
6.5.2 Municipal waste removed in the framework of public services
6.5.3 Generation of municipal waste transported in the framework of public services
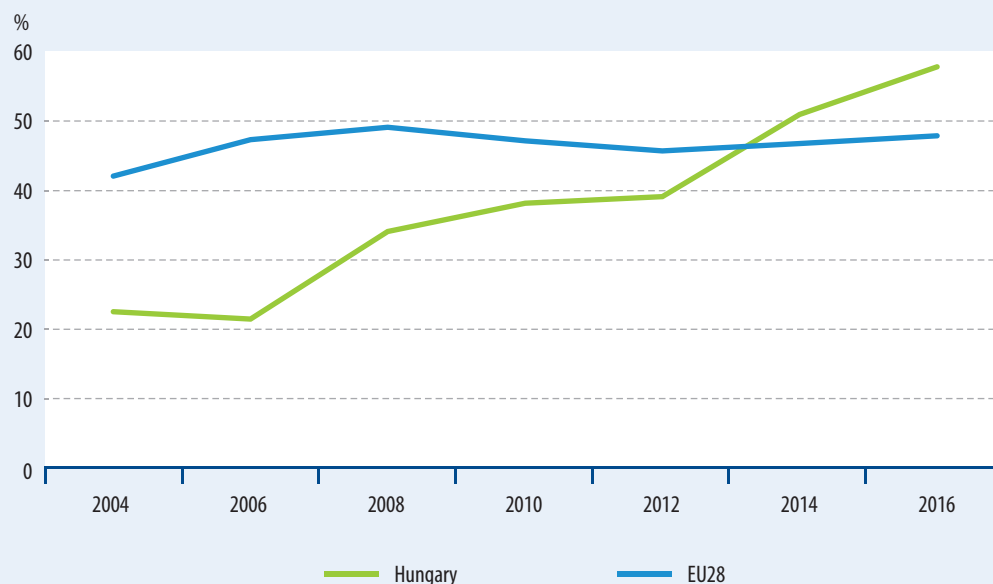
Waste treatment

Since 2004

Since 2014

SI	87.5
MT	82.5
IT	79.0
CZ	78.5
BE	76.9
LV	72.8
DE	69.3
PL	68.3
FR	65.4
LU	58.9
HU	**57.8**
IE	56.6
UK	56.4
PT	53.0
DK	51.4
HR	51.2
AT	48.0
EU28	**47.9**
NL	45.6
SK	44.7
ES	42.8
CY	38.4
LT	37.6
EE	32.7
SE	16.9
EL[a]	11.3
FI	7.4
BG	5.2
RO	4.5

a) 2014.

Figure 3.29.1 Proportion of recycling

Source: Ministry of Innovation and Technology, Waste Information System, Eurostat.

! *The proportion of recycling in total waste treatment is continuously increasing since 2006, in 2014 surpassed the EU28 average.*

Definition Waste treated: the totality of any materials or objects treated in a given country the owner parts with or intends to part or is obliged to part with, including the quantity of waste exported for processing, but excluding imported waste.

Waste treatment: procedures for utilisation or disposal (landfill, incinerating) including preparation for utilisation or disposal.

Recycling is a procedure where waste is transformed into product or material either in line with its original purpose or for other purposes. It includes processing of organic materials but does not contain energy recovery or processing into materials to be used for backfilling (Act CLXXXV of 2012 on Waste). Incineration is heat-treatment in incineration facilities. Landfill is the process of placing waste by adhering to legal requirements and technical protection regulations.

Backfilling: a form of utilisation where waste suitable for certain uses replaces non-waste materials during reconstruction processes of areas affected by mining or cutting or landscaping.

The recycling rate of waste in the European Union, 2016, %

Relevance From the sustainability point of view it is important to strengthen reuse and recycling as well as the formation of secondary base material markets. In the case of existing waste the requirements of recovery and reuse are normative. For the purpose of reuse the production or more lasting consumer goods should be supported and the demand for disposable goods should be ousted. Recycling should be advanced by making its technologies economically viable and by strengthening secondary base material markets first of all by consumer price-support as well as by reducing taxes on production costs.

Analysis The proportion of recycling is continuously increasing in our country since 2006, in 2014 it surpassed the EU28 average, it was 58% in 2016.
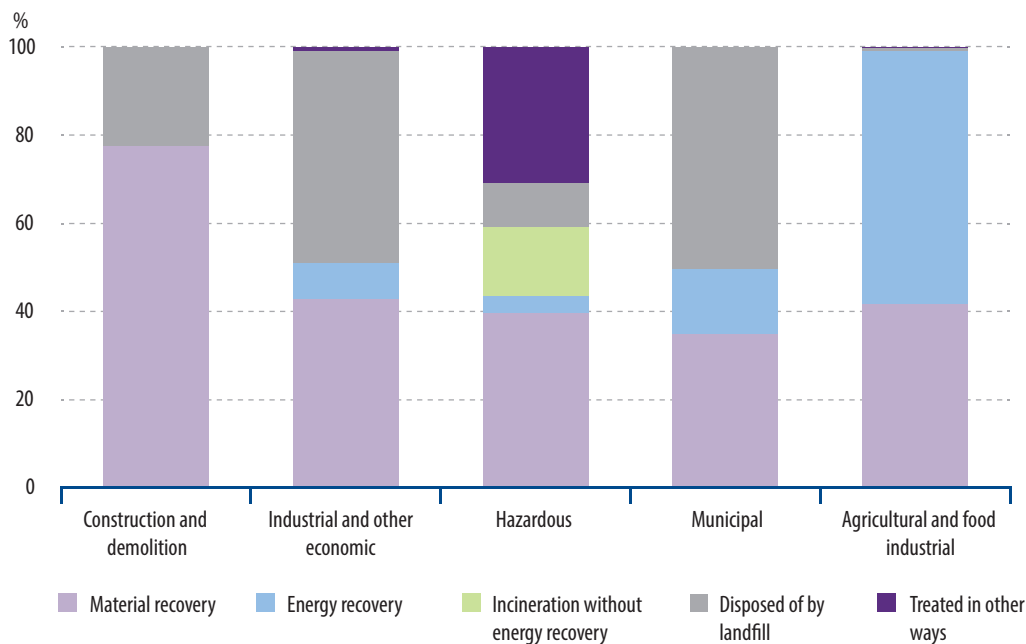
The most characteristic type of treatment differs by type of waste. It is primarily determined by the material and consistency of the waste.

Figure 3.29.2 Distribution of types of waste by treatments, 2016

Source: Ministry of Innovation and Technology, Waste Information System.

! *Recycling was the highest at construction and demolition waste, proportion of landfill was the highest in the case of municipal waste in 2016.*

Recycling is the highest in the case of construction and demolition waste and least characteristic at agricultural and food industrial waste. Energy recovery is most significant at agricultural and food industrial waste and it also carries weight in the case of municipal waste. Landfill is most characteristic for municipal, industrial and other economic waste.

International outlook Considering the EU as a whole the proportion of recycling fluctuates between 42% and 49% since 2006. Based on

2016 measurements the proportion of recycling is the highest in Slovenia, Malta, Italy, Czechia and Belgium, surpassing 75%. The lowest, under 10% values have been registered in Finland, Bulgaria and Romania. The proportion of recycled waste in Hungary is above the European Union average by approximately 10 percentage points.

Summary tables (STADAT)
5.5.2 The volume of each type of waste by method of treatment
**6.5.4 Municipal waste transported in the framework of public service by method of treatment**

DE	220.6
LU	219.4
IT	209.5
IE	208.5
FR	189.7
NL	184.4
UK	175.0
▶ EU28	**169.7** ◀
EE	169.3
DK	163.3
PT	160.2
BE	157.1
ES	155.6
AT	153.5
PL	148.6
MT[b]	140.6
SE	132.4
FI	129.2
LT	127.4
▶ HU	**121.8** ◀
LV	118.2
CZ	108.8
SI[b]	104.8
SK	95.4
CY[a]	85.7
RO[b]	70.5
EL[b]	68.6
BG	59.1
HR	55.0

a) 2014.
b) 2015.

Per capita packaging waste in the European Union, 2016, kilograms/capita ◀

Packaging waste

Since 2004

Since 2015

Figure 3.30.1 Packaging waste per capita

Kilogram/capita
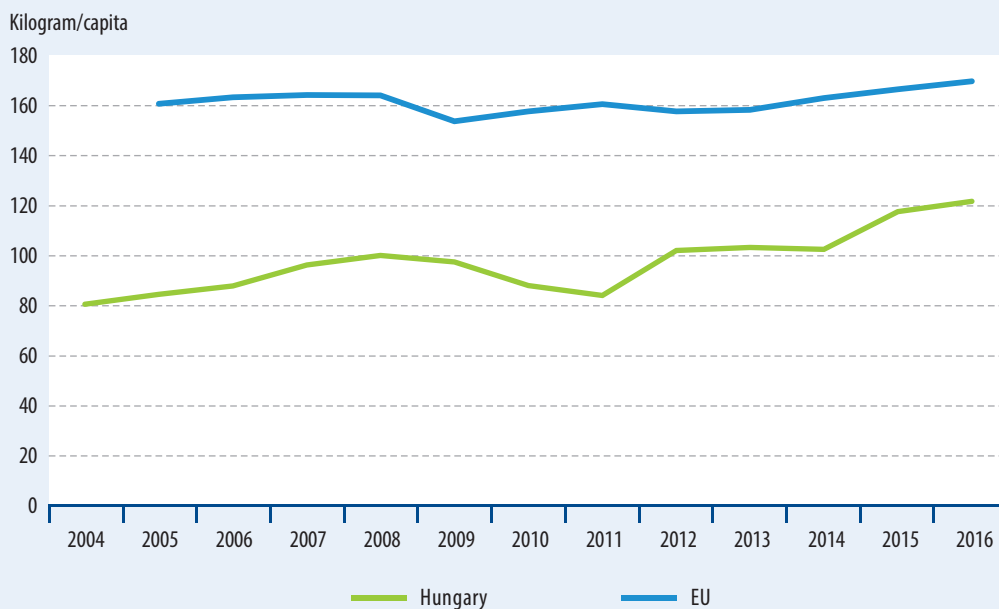
Source: Ministry of Innovation and Technology, Waste Information System, Eurostat.

! *Packaging waste per capita is increasing since 2012, it was 122 kg/person in 2016.*

Definition Packaging is considered every product made of any kind of material which serves the purpose of keeping, protecting, reception, transportation as well as presentation of goods, including all merchandise from raw materials to processed goods, furthermore disposable goods serving the same purpose. Packaging waste is packaging becoming waste, excluding industrial or production waste or leftover waste (442/2012. (XII. 29.) Government Decree).

Relevance It is a waste management goal to minimise the generation of waste. This is attainable by prevention measures, by more efficient base material usage, by preparing for reuse and a higher proportion of recycling. We reached the target value defined in the 2005/20/ EK guideline according to which at least 60% of packaging waste has to be recycled by our country starting from 2012. Its value did not increase further, it is around 60% since 2012.

Analysis The quantity of packaging waste per capita in our country continuously increased from 2004 to 2008, however it significantly decreased between 2009-2011 due to the decline in consumption following the onset of the economic crisis. The overall quantity increased once again since 2012, within it packaging paper waste grew significantly.

The proportion of packaging waste utilisation in our country continuously increased between 2004 and 2011, except two short-term fall-backs. Its value is constant since 2012, at around 60%. In contrast the European Union average continued to increase since 2005, although the growth rate slowed down. The proportion was the highest in Finland, Belgium and Luxembourg (over 97%), the lowest in Croatia (under 55%).
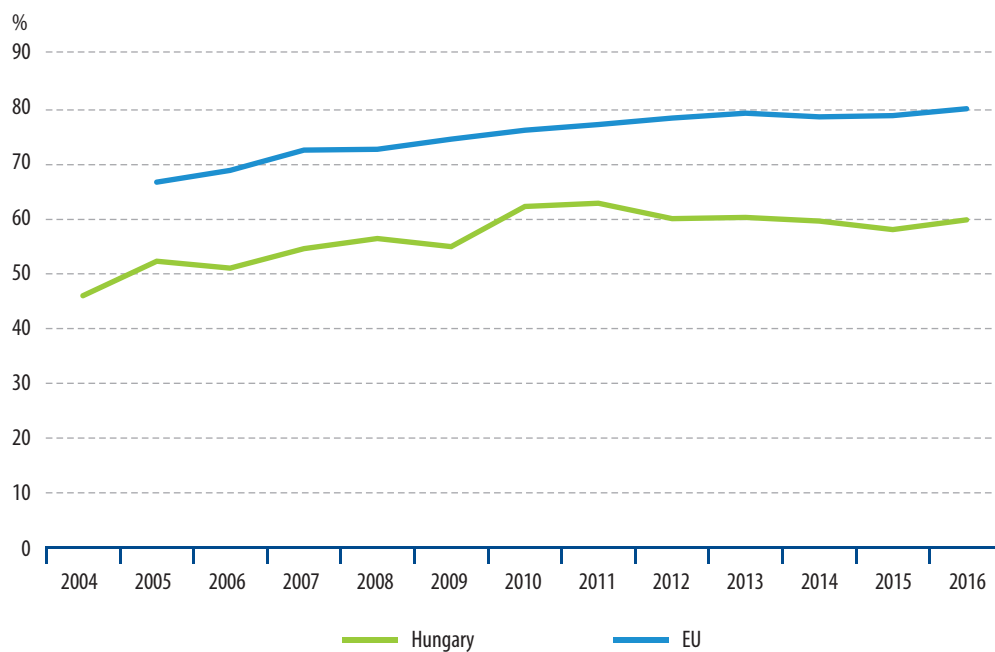
International outlook The volume of packaging waste per capita in Hungary (122 kg/person) is below the European Union average. The lowest value (Croatia) is less than half of ours, the highest (Germany) is more with 99 kg/ person.
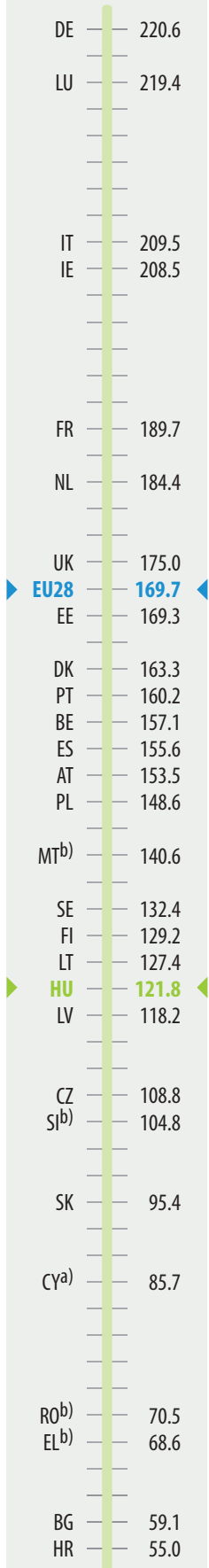
Figure 3.30.2 Changes in the proportion of utilisation of packaging waste

Source: Ministry of Innovation and Technology, Waste Information System, Eurostat.

> ! *In Hungary the proportion of packaging waste utilisation increased by 14 percentage points since 2004.*

NL	4.38
UK	3.69
LU	3.44
IT	3.24
FR	2.87
ES	2.81
BE	2.58
IE	2.40
DE	2.27
EU28	**2.08**
DK	1.95
AT	1.79
SE	1.78
MT	1.76
SI	1.48
EL	1.45
CY	1.25
HR	1.16
SK	1.15
PT	1.10
CZ	1.10
FI	1.09
HU	**0.90**
LV	0.89
LT	0.71
PL	0.64
EE	0.49
RO	0.39
BG	0.32

* EU estimation.

Resource productivity

Since 2000

Since 2016

Figure 3.31.1 **Changes in resource productivity and its components (DMC and GDP)**
(2000=100.0)
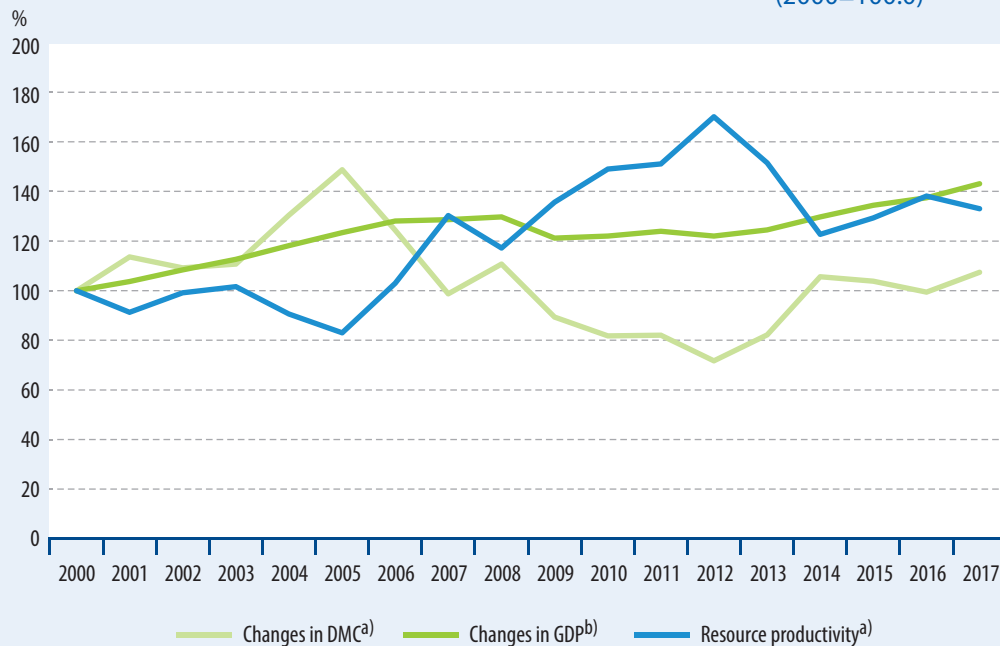
a) Eurostat estimation for 2017.
b) At 2010 prices.

! *Since 2000 resource productivity was the highest in 2012.*

Definition Resource productivity is the ratio between GDP and domestic material consumption (DMC). Domestic material consumption incorporates the total quantity of materials directly used in the national economy. According to the definition, domestic material consumption (DMC) equals the difference between all materials entering the national economy (used domestic extraction plus imports) and exported materials. In an economic sense, domestic material consumption reflects material consumption by residents of the national economy. Exports are therefore deducted to distinguish the consumption driven by domestic needs from the demand driven by needs of the export market. In an environmental sense, the indicator is used to measure all the environmental pressures associated with the use of materials within the national economy throughout their life cycle, irrespective of whether the environmental pressures occurred in the country itself or in the country from which the product was imported.

Relevance With the help of resource productivity the natural resources' strain could be determined alongside with the economic growth. Growth in the indicator means the increase in productivity of the available resources, making possible economic growth with less environmental strain. Decoupling is the relative rate of change of certain environmentally and economically important variables in cause-and-effect relation with each other. On macro- or national level the rate of increase of the variable showing the environmental strain is usually compared with the rate of growth of the GDP.

We discuss about decoupling of the environmental strain from economic growth when in a certain period the growth rate of the environmentally significant variable is lower than that of the GDP, in our case if the resource productivity increases.

Resource productivity in the European Union, 2017,* euros/kilogram

Indicators of sustainable development for Hungary, 2018

Figure 3.31.2 Components of domestic material consumption
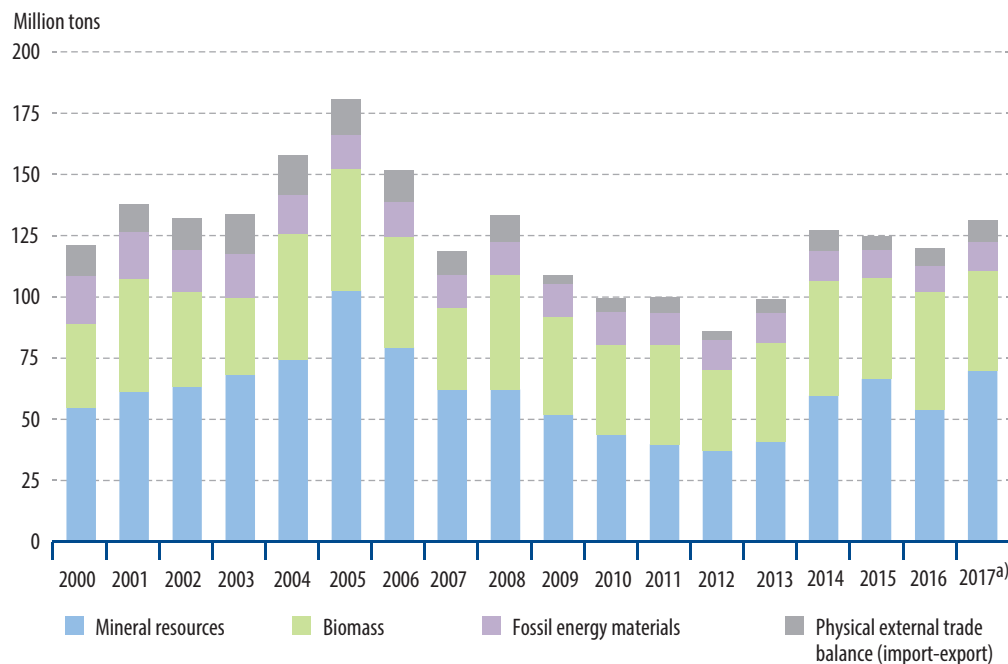
a) Eurostat estimation.

! *The value of domestic material consumption was on the level of the second half of the 2000s between 2014 and 2017.*

Decoupling is strong (or absolute) in case the environmentally important variable is unchanged, or diminishes while the economic indicator grows. Weak (or relative) is the decoupling when the environmentally important variable increases but its rate of growth does not reach that of the economic indicator.

Resource productivity is a sustainability promoting key indicator derived from the European Union's 'Europe 2020' strategy, serving its resource productivity goals.

Analysis In Hungary the utilisation of 1 kilogram of resources contributed by 0.67 EUR to the gross domestic product in 2000. By the end of the 2000-2012 period the value of the indicator significantly increased (1.1 EUR/ kilogram in 2012) compared to the beginning of the period, mostly due to reduction in material consumption. Next in parallel with increase in material consumption a significant setback of resource productivity could be observed.

Fossil energy material and metal ore mining is in decline, the quantity of extracted non-metallic minerals and biomass is fluctuating year by year. Metal ores and non-metallic minerals

constitute the mineral resources. Between 2004 and 2006 when mineral raw material mining significantly increased following an increase in demand (highway construction), also biomass was created in above average quantities thanks to the favourable weather conditions, the total value of domestic raw material extraction was around 135-164 million tonne. In 2013-2014 due to more intensive mining of minerals domestic material consumption started to increase once again.

International outlook The value of the indicator was low in 2017 in the countries accessing to the EU in 2004 and after. Western European countries managed better than the new member states with their natural resources at hand. The value of our domestic indicator in 2017 (0.90 EUR/kilogram) lags significantly behind the EU28 average.

Summary tables (STADAT)
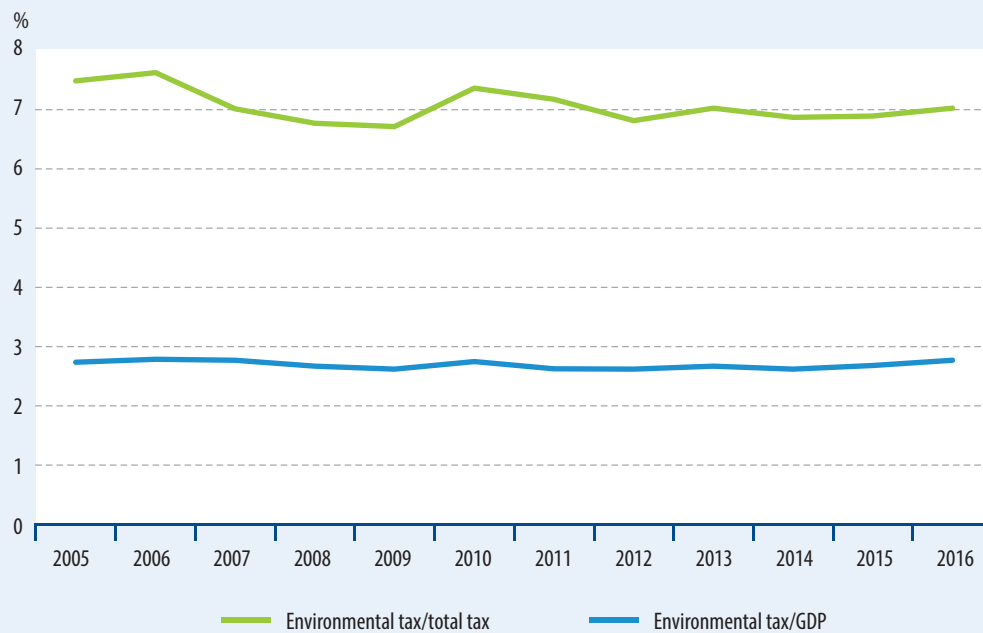**5.10.2 Material flows**

Environmental taxes

Since 2005

Since 2015

Figure 3.32.1 **Proportion of environmental taxes within the overall tax system and in relation to GDP**

LV	11.57
SI	10.48
BG	9.57
HR	9.28
EL	9.09
RO	8.99
CY	8.82
EE	8.81
NL	8.58
DK	8.43
MT	8.28
IT	8.16
PL	7.91
IE	7.73
FI	7.03
PT	7.02
HU	7.00
UK	6.94
LT	6.41
EU28	6.11
CZ	6.07
SK	5.58
AT	5.53
ES	5.41
SE	4.99
BE	4.74
FR	4.69
DE	4.60
LU	4.42

! *The share of environmental taxes in the total tax system decreased by almost 0.5 percentage points by 2016 compared to 2005, while their ratio to GDP stagnated.*

Definition Environmental taxes are defined by the OECD and Eurostat as those types of taxes whose tax base is a physical entity that has a proven negative impact on the environment. This indicator shows the proportion of all types of taxes that are considered as environmental taxes according to the OECD / Eurostat common methodology, within the overall tax system (including social security contributions) and as a percentage of GDP.

Environmental taxes are grouped in most European countries by the OECD and Eurostat terminology. Accordingly, environmental tax types fall into one of the following four categories: energy taxes (including carbon tax), transport/transportation taxes, pollution taxes, resource taxes.

Energy taxes are based on various energy products that are used as fuel in power stations or in road, air, etc. transport (for example, motor gasoline tax is included here, not among transport taxes). As regards transport taxes, Hungary is characterized by various taxes levied on motor vehicles. The third category, pollution taxes, is based on air and water pollution, various types of solid waste or noise emissions. In Hungary, this includes various environmental product fees. So-called resource taxes are payable on the use of various natural resources, and in Hungary, among other things, soil protection levies belong to this group.

Relevance The indicator plays an important role in measuring the 'greening of the tax system', which is about increasing the role of environmental taxes throughout the tax system. Environmental taxes are levied on environmental damages as well as actual and potential pollutions.

Environmental taxes as a proportion of total tax revenue in the European Union, 2016, %

Figure 3.32.2 Grouping of environmental taxes by type of tax

Billion forints
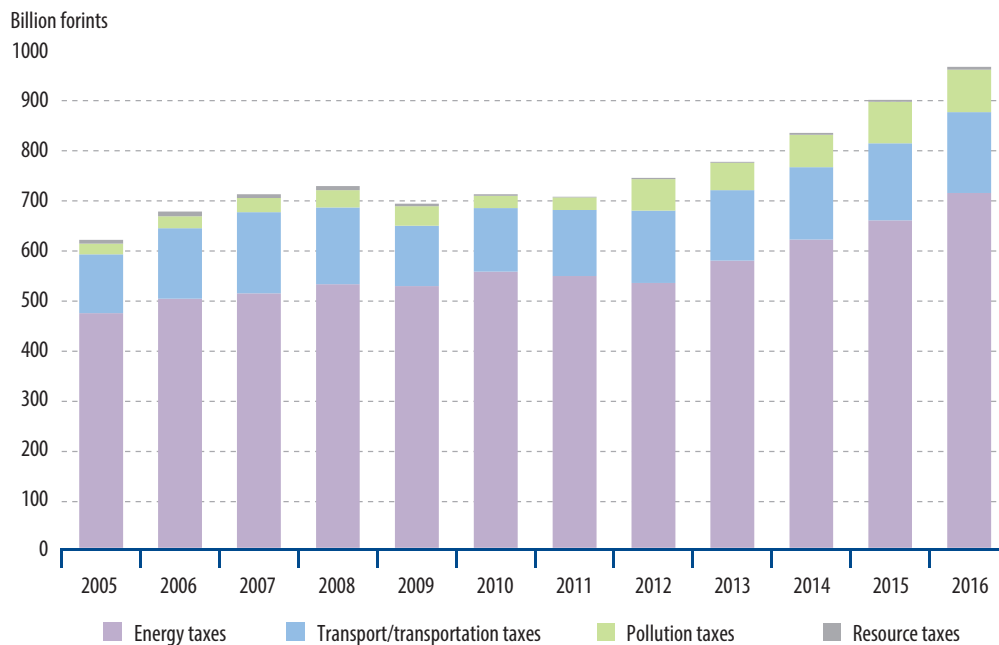
! **Energy taxes account for three quarters of all environmental taxes. On average, nine-tenths of energy taxes are fuel excise duties.**

Analysis The ratio of environmental taxes to total taxes decreased from 7.5% in 2005 to 7.0% in 2016. Over this period, the value-to-GDP ratio has fluctuated between 2.61% and 2.78%.

Similarly to other EU Member States, energy taxes generate the highest revenues in Hungary, their proportion was 76% in 2005 and 74% in 2016. Most of this (88%) is made up of excise duties on fuels.

International outlook In 2016, the ratio of environmental taxes to all taxes in the EU was the largest in Latvia (11.6%) and the smallest in Luxembourg and Germany (4.4 and 4.6%). Hungary (at 7.0%) was slightly (by 0.9 percentage points) above the EU average.

In 2016, the ratio of environmental taxes to GDP was highest in Denmark (3.99%) and lowest in Luxembourg (1.75%). The Hungarian figure (2.76%) is slightly above the EU28 average (2.44%).

Summary tables (STADAT)
5.9.4 Environmental taxes

Implicit energy tax

Since 2000

Since 2016

Figure 3.33.1   Tax revenues from energy use in relation to final energy consumption

EUR/tonne of oil equivalent
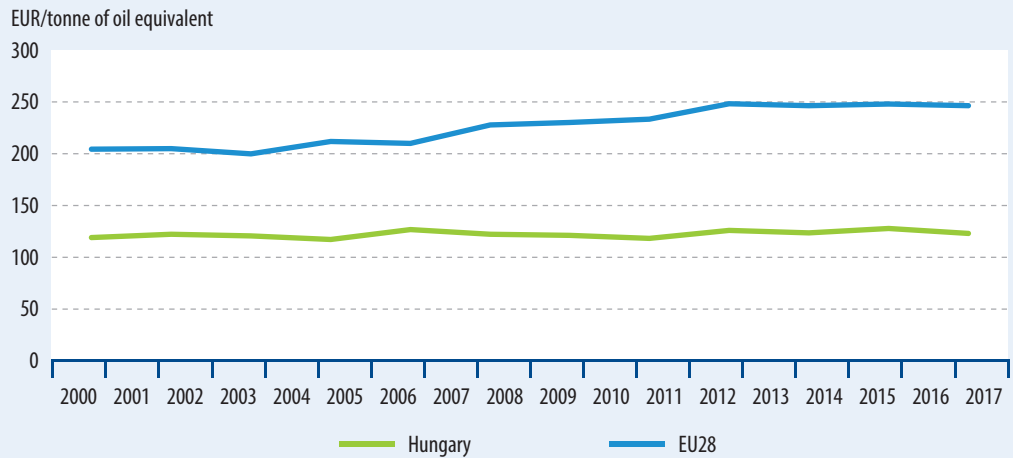
In Hungary, the value of tax revenues from energy use increased by 3.2% between 2006 and 2017.

Definition The implicit energy tax indicator shows the tax revenue that can be linked to energy use in relation to final energy consumption. The unit of measurement for the indicator is EUR / tonne of oil equivalent, tax receipts are expressed in deflated euros and the amount of energy used is calculated in tonne of oil equivalent. Tonne of oil equivalent is a normalized energy unit and, by convention, it is equal to the approximate amount of energy that can be extracted from one tonne of crude oil - which, as defined by Eurostat, is 41 868 MJ net calorific value per tonne.

Relevance Energy tax is a possible government instrument to enforce the polluter pays principle, generating additional budgetary resources. The EU Sustainable Development Strategy recommends that member states should move away from labour taxes, as far as possible, to taxation of resource and energy use and environmental pollution, thereby promoting employment growth while reducing negative environmental impacts in a cost-effective way. These taxes may influence consumer behaviour by encouraging more efficient use of energy and the use of cleaner energy sources. The National Sustainable Development Strategy also sets out these goals. In addition, there is a

need for energy subsidies (incentives for the use of renewable energy sources, energy savings and energy efficiency improvements, and subsidies for the purchase price of electricity), and a review of the overall system of excise and VAT taxation of energy carriers, taking into account their sustainability performance.

Analysis Slightly increasing and decreasing periods of tax revenue per unit of energy consumed alternated between 2006 and 2017. The value of the indicator increased moderately for the whole time series examined, in 2017 it was 3.2% higher than in 2006. This indicates a positive shift towards a more sustainable tax system, however, overall, in Hungary, taxes remain primarily on income and on labour.

International outlook Looking at the EU28 average, taxes on final energy consumption per tonne of oil equivalent increased by 21% between 2006 and 2017. Energy tax revenue is highest in Denmark (EUR 391 / tonne of oil equivalent) and lowest in Bulgaria (EUR 106 / tonne of oil equivalent). The Hungarian value is the third lowest in the EU, 16% higher than the Bulgarian value and half of the EU28 average.

Implicit energy tax in the European Union, 2017,
euro / tonne of oil equivalent

3.34

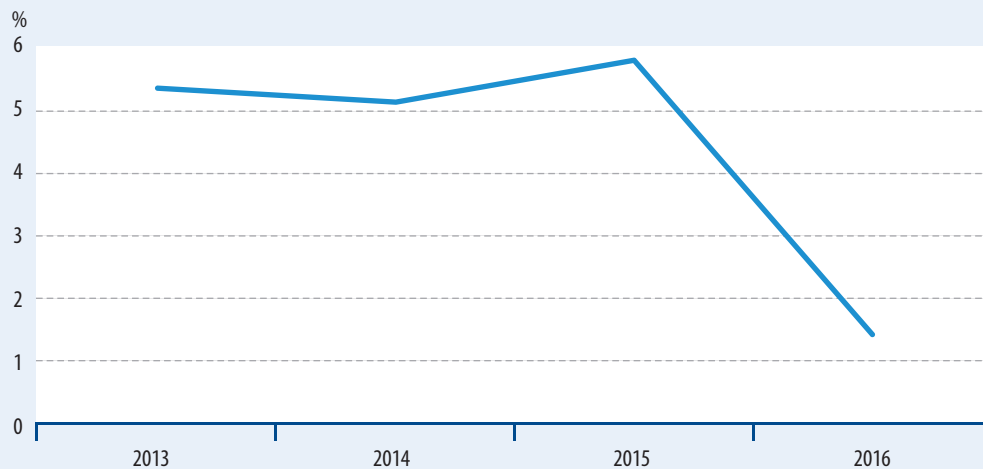## Environmental expenditures

Since 2013

Since 2015

Figure 3.34.1 Environmental investment as a proportion of total investment

> **!** *In the national economy, the share of environmental investments in total investments decreased significantly by 4.4 percentage points in 2016 compared to the previous year.*

Definition Any investment expense is an environmental investment whose primary purpose is the prevention, reduction and elimination of pollution or any other damage to the environment. These investments result from an environmental task and are clearly and directly attributable to this environmental task.

Relevance The main purpose of environmental investments is to improve the state of the environment, to prevent future environmental damage and to minimize the harmful effects.

Analysis Environmental investments amounted to HUF 245 billion in 2013 and HUF 354 billion in 2015, compared to HUF 76 billion in 2016. In 2016, environmental investment fell dramatically due to a decline in EU funds. In 2016, environmental investment fell dramatically due to a decline in EU funds. This is due to the fact that while during the base period, owing to the completion of the 2007–2013 projects, outstanding investment performance was achieved, most of the projects with significant total value paid out in the reference period and belonging to the 2014–2020 cycle have not yet been realized in fixed asset investments. Compared to the total investments of the national economy, this decline (5.8% of total investment in 2015

and 1.4% in 2016) can be explained by the fact that environmental investments are more closely linked to EU funds than other investments.
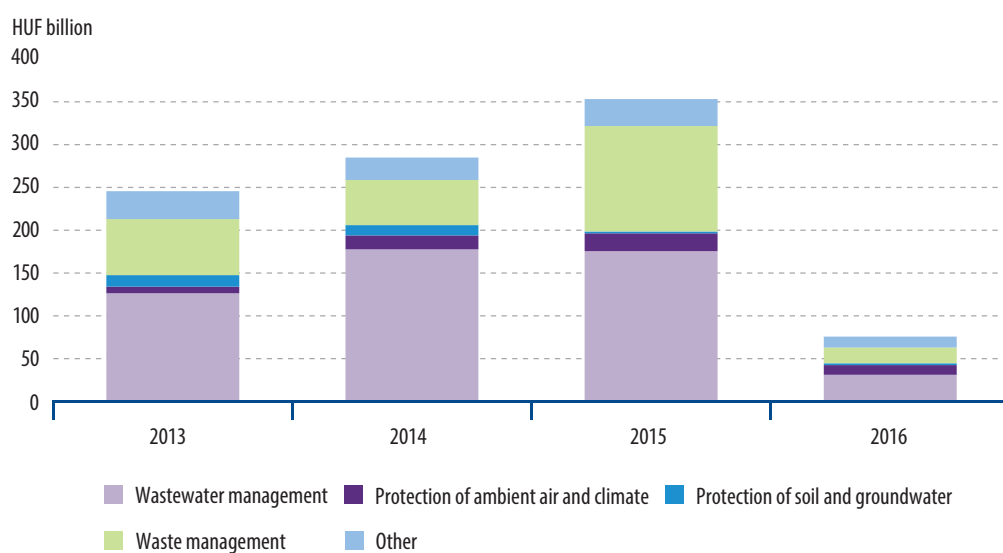
In 2016, around 42% of environmental investment in the national economy was spent on wastewater management, 24% on waste management, 15% on protection of ambient air and climate and 3% on soil and groundwater protection. By 2016, environmental investments of business organizations classified into public administration had significantly decreased, accounting for 50% of all environmental investments. Waste accounted for 68% of intra-organizational expenditure.

International outlook In 2015, the share of environmental investment among the EU Member States was the highest in Bulgaria with 10% of the total investment and the lowest in Ireland (0.3%). The data shows that countries that joined the Union later have a higher proportion of environmental investments.
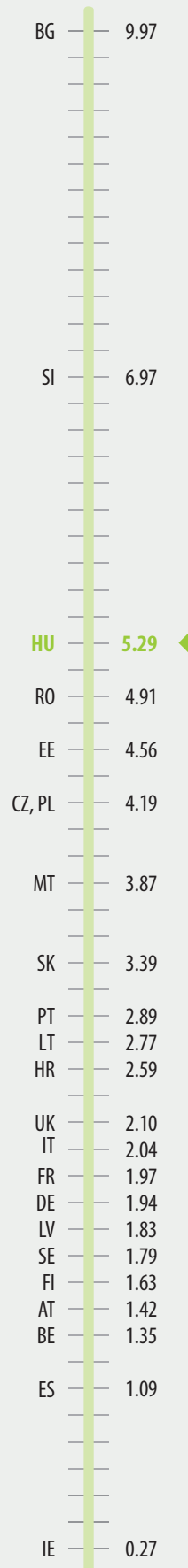
Environmental expenditures, 2015 (million EUR) ▶

BG	9.97
SI	6.97
HU	**5.29**
RO	4.91
EE	4.56
CZ, PL	4.19
MT	3.87
SK	3.39
PT	2.89
LT	2.77
HR	2.59
UK	2.10
IT	2.04
FR	1.97
DE	1.94
LV	1.83
SE	1.79
FI	1.63
AT	1.42
BE	1.35
ES	1.09
IE	0.27

Figure 3.34.2 Environmental investments by environmental areas

HUF billion

▮ Wastewater management	▮ Protection of ambient air and climate ▮ Protection of soil and groundwater
▮ Waste management	▮ Other

! *In 2016, the proportion of environmental investments related to the reduction of wastewater and waste generation decreased significantly compared to the previous year.*
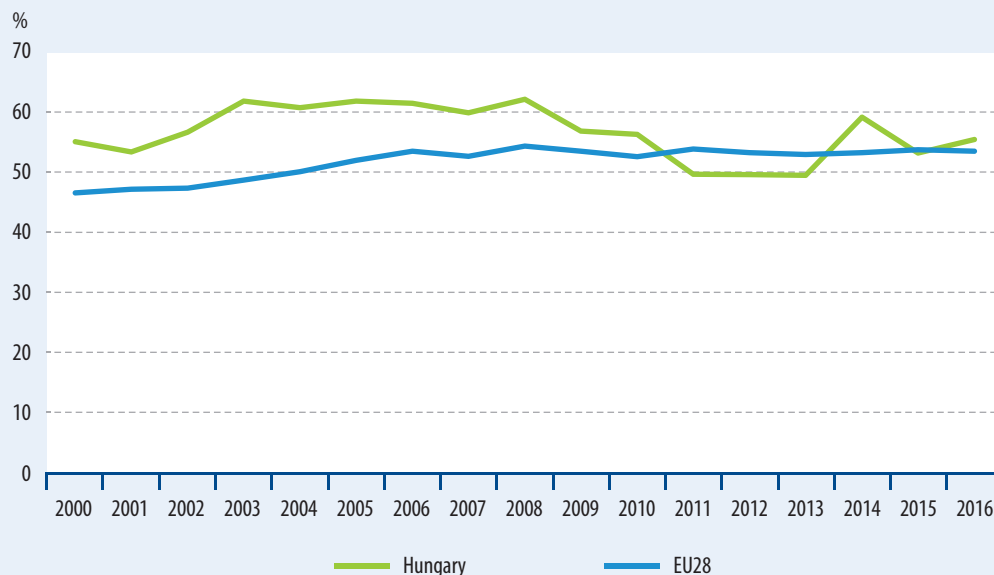
Energy import dependency

Since 2000

Since 2015

3.35

Figure 3.35.1 Energy import dependency

> **!** *In 2016, Hungary's dependence on energy imports rose to 56% and was 2 percentage points above the EU average.*

Definition Percentage of energy import dependency expresses the extent to which a country relies on imported energy sources to meet its domestic energy needs. The indicator is calculated by dividing the volume of net imports by the sum of gross inland energy consumption (which, in this case, includes stocks). Net imports is the difference between total imports and total exports. Energy dependency can also be negative for a net exporter, and a positive value above 100% indicates stock accumulation.

Primary energy is energy from renewable and non-renewable sources that has not undergone any conversion or processing. Secondary energy is energy converted from primary energy (e.g. liquid fuels, electricity).

In this publication, nuclear energy is considered to be of Hungarian origin, which includes both nuclear power plant electricity and direct heat recovery. The renewable and waste energy components are biogas, biomass, biofuel, water, wind, geothermal energy, solar thermal energy, photovoltaic electricity and municipal and industrial waste.

Relevance Use of fossil fuels, import of energy carriers and the resulting security of supply risk define important tasks for our energy management. On the one hand, increasing the proportion of renewable energy sources – according to local conditions – and on the other hand, reducing one-way dependency and diversifying the sources of imports are essential for ensuring security of supply. One of the main objectives of the European Union's climate and energy package and the energy strategy for 2020 is to reduce dependence on energy imports and to encourage the production of energy from renewable sources.

Analysis Hungary covers a significant part of its energy supply from imports, according to 2016 data 56% of gross domestic consumption came from imports. Between 2003 and 2008, our dependency, which fluctuated between 60% and 62%, fell to 50% by 2011 and then stagnated until 2013, and was below the EU28 average in these three years. Compared to 2013, the indicator increased by 6 percentage points

Energy import dependency in the European Union, 2016, %

MT	100.9
CY	96.2
LU	96.1
IT	77.5
LT	77.4
BE	76.0
EL	73.6
PT	73.5
ES	71.9
IE	69.1
DE	63.5
AT	62.4
SK	59.0
HU	55.6
EU28	53.6
SI	48.4
HR	47.8
LV	47.2
FR	47.1
NL	45.8
FI	45.3
BG	37.2
UK	35.3
CZ	32.7
SE	32.0
PL	30.3
RO	22.3
DK	13.9
EE	6.8

Figure 3.35.2 Production of primary energy in calorific values
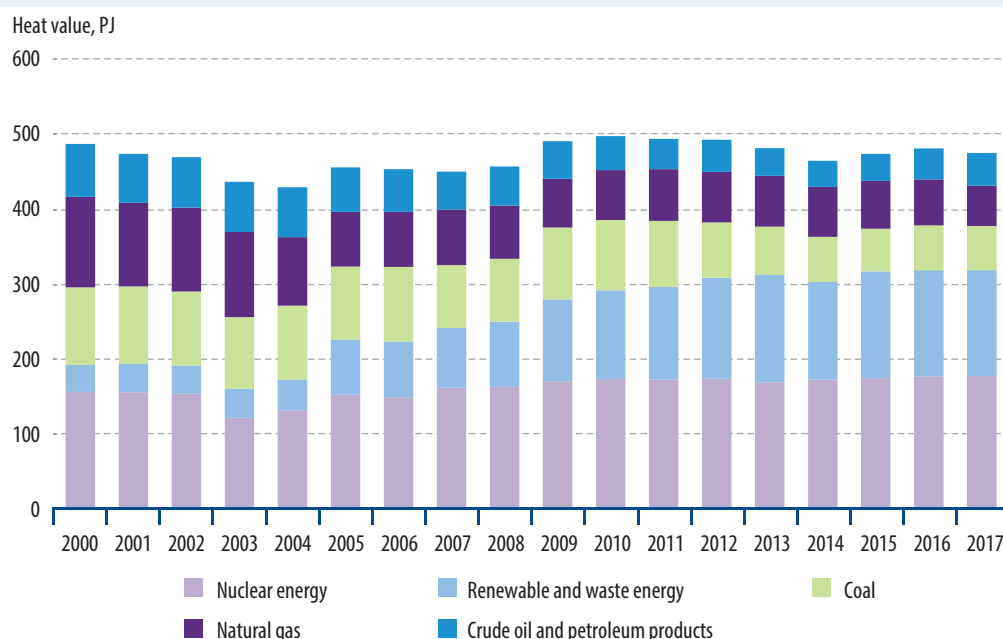
Source: Hungarian Energy and Public Utility Regulatory Authority.

> **!** *Our primary energy production is mainly based on nuclear as well as renewable and waste energy, and the use of fossil fuels has declined significantly since 2000.*

in 2016 and was again above the EU average. Over the longer term, our energy import dependency is 0.4 percentage points higher than in 2000. In addition to primary energy sources, we also import secondary energy sources (such as gasoline, electricity). In 2016, 36% of the electricity used was imported.

Our primary energy production decreased by 2.4% between 2000 and 2017. Hungary's traditional energy sources (coal and hydrocarbons) have been largely depleted over the past decades, so fossil fuels do not dominate our energy production anymore.

In terms of composition, nuclear power has a leading role at 37%, accounting for more than one third of total production each year since 2007. The share of renewable and waste energy is 30%, which represents a dynamic increase of 294% in calorific value since 2000. The latter derives mainly from the increasing use of biomass, which has replaced coal as a fuel in many thermal power plants. However, the use of biomass will only contribute to the promotion of sustainability if it is also produced in a sustainable way, for example through the use of specially cultivated plant species and plantations, and not by felling natural forests without regeneration.

Production of crude oil and petroleum products, natural gas and coal in terms of calorific value has fallen by 38, 43 and 56% respectively since 2000. After the end of hard coal mining, production stopped in our last brown coal mine at the end of 2014, so today our coal production is essentially limited to lignite.

International outlook The EU's energy import dependency increased from 47% in 2000 to 54% in 2016, mainly due to increasing energy demand and the growing importance of natural gas imports. From 2004, more than 50% of the energy used in the EU comes from imports. Dependence on imported energy is below 50% in 14 EU Member States and over 50% in 14. The states with the highest dependency ratios are Malta (101%, through stockpiling), Cyprus and Luxembourg (both 96%). Small states are followed by Italy with 78%. Estonia (6.8%), Denmark (14%) and Romania (22%) have the lowest values. Hungary's dependency is 2 percentage points above the EU28 average.

Summary tables (STADAT)
3.8.1 Primary energy balance
5.7.2 Primary energy production in calorific values
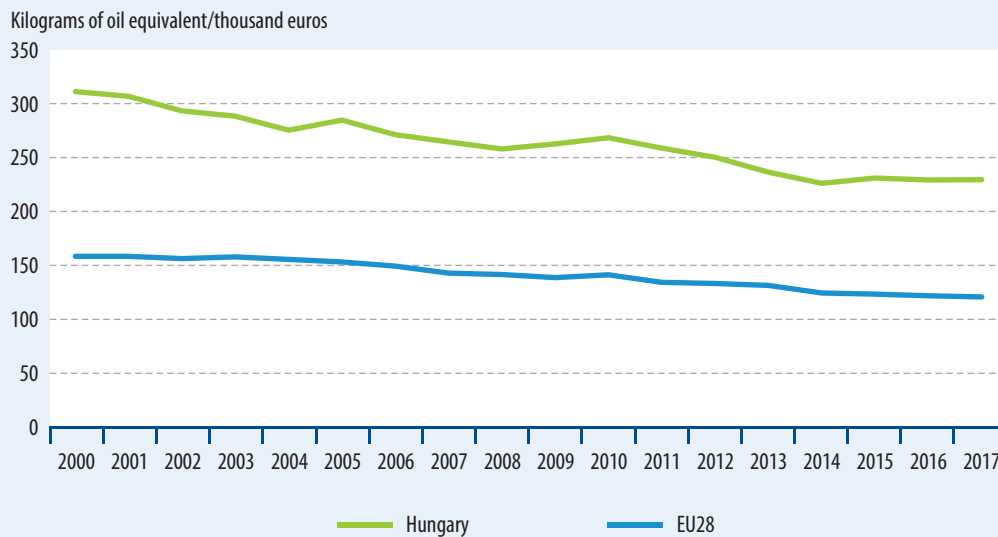
Energy intensity

Since 2000

Since 2015

Figure 3.36.1 Energy intensity (ratio of gross domestic energy consumption to GDP)

Kilograms of oil equivalent/thousand euros

Hungary   EU28

! *Energy intensity decreased by 26% in Hungary between 2000 and 2017.*

Definition Energy intensity is the ratio of gross domestic energy consumption to gross domestic product (GDP). Energy consumption is measured in kilograms of oil equivalent, while GDP is calculated at the 2010 exchange rate, in thousands of euros.

The direct (final) energy use indicator shows the share of individual user sectors (population, transport, industry, commerce and public services, agriculture, forestry, fisheries) as end users, excluding non-energy and raw material use. The value of the transport sector consists of the energy use of domestic road, rail and waterborne transport.

Relevance Energy intensity shows how much energy is needed to produce a unit of GDP. The lower its value, the less energy it needs to produce one unit of GDP. Energy intensity at the level of the national economy is limited in characterizing energy efficiency. The internal structure of the economy and the geographical conditions of the country may significantly influence the development of the indicator. The presence of energy-intensive industries (such as metallurgy, chemical industry) or being located at higher latitudes (higher heating demand due to

colder climates) will cause the index to increase even if energy is utilized with the most up-to-date technologies.

Analysis The energy intensity index of Hungary decreased by 26% between 2000 and 2017, which was also due to the significant changes in the structure of the economy and the increase in the efficiency of energy production and use. Energy-intensive plants, such as the country's last alumina plants and aluminium smelters, have ceased operations during this period, while the economy as a whole has been increasingly dominated by the service sector. Residential (heating) energy efficiency has improved significantly, mainly due to state-sponsored renovations under the panel program, and to a lesser extent to privately funded family house thermal insulations.

Domestic direct (or final) energy consumption increased by 7.8% between 1995 and 2017, however, this increase was not even, and in some years the value of consumption decreased, which was 3.2% higher in 2017 than one year earlier. In final energy use, households have the highest

Energy intensity in the European Union, 2017, kilograms of oil equivalent/thousand euros

BG	422.56
EE	340.41
CZ	239.58
HU	**231.37**
PL	231.16
RO	214.02
SK	208.90
LT	203.69
LV	202.82
HR	185.24
FI	180.85
SI	178.32
BE	147.72
CY	133.07
PT	132.96
EL	130.79
EU28	**118.36**
FR	117.08
SE	116.25
NL	115.82
DE	110.52
ES	110.37
AT	106.78
IT	98.50
UK	90.71
LU	87.94
MT	81.08
DK	66.38
IE	58.82
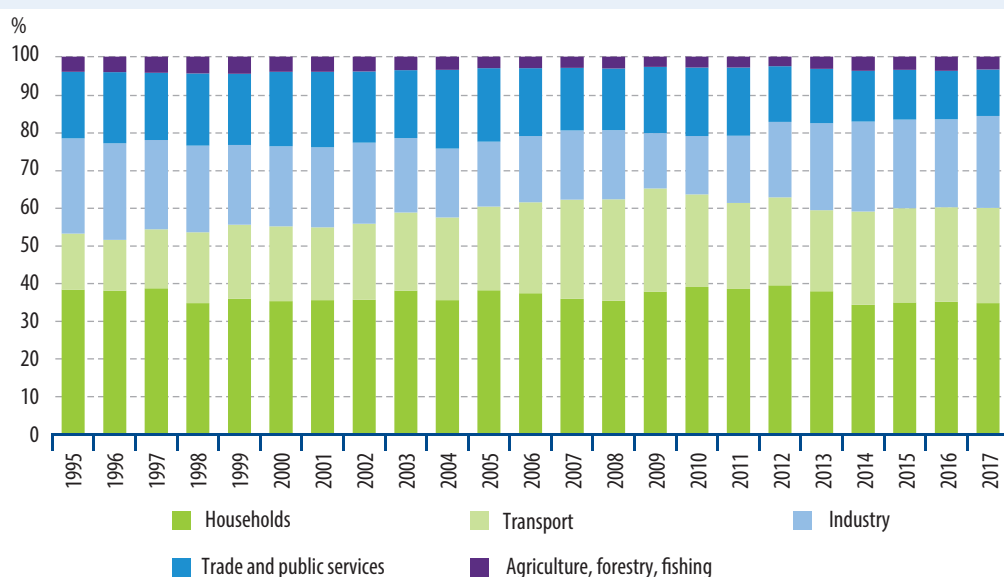
Source: Hungarian Energy and Public Utility Regulatory Authority.

! *The share of transport increased significantly between 1995 and 2017, while that of other sectors decreased slightly.*

share (35%), followed by transport (25%), industry (24%), trade and public services (12%), and agriculture, forestry and fishing (3%). Since 1995, the share of transport has increased significantly, by 10 percentage points, while the share of all other user sectors has slightly decreased. The reason for this is mainly the improvement in residential motorization, the increasing role of individual transport, which, however, is unfavourable in terms of environmental sustainability. According to the annual energy balance of the Hungarian Energy and Public Utility Regulatory Authority, 35% and 31%, respectively, of final energy consumption comes from crude oil and petroleum products as well as from natural gas; proportions were 10% for combustible renewables and waste, 16% for electricity, 5% for heat energy and 2% for other sources (coal and coal products, non-combustible renewables).

International outlook Despite a significant decline, domestic energy intensity was 90% higher than the EU28 average in 2017. The latter fell by 24% between 2000 and 2017. Nine out of the ten Member States with the highest values were former socialist countries, with Bulgaria and Estonia leading by 252% and 162% above the EU average, Malta ranked third with 150% above that. The countries with the lowest energy intensity values were Ireland, Denmark and the United Kingdom, 55, 43 and 27% below the EU average. Since 2000, the value of the indicator has fallen in all Member States except Malta, with Romania, Ireland and Slovakia showing the most significant decreases of 54%, 52% and 50% respectively.

Summary tables (STADAT)
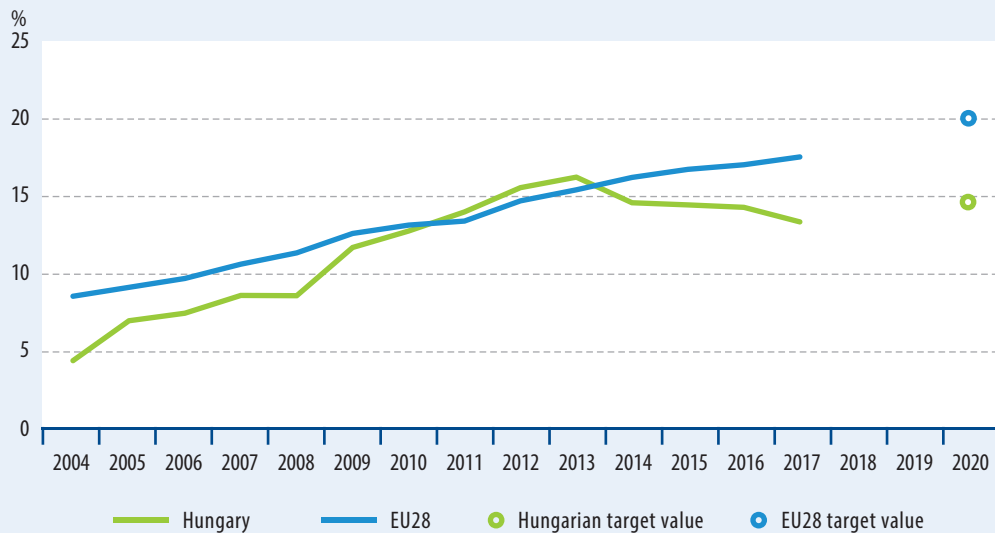**5.7.1 Final energy consumption**

Renewable energy sources

Since 2004

Since 2015

Figure 3.37.1 Share of renewable energy in total energy consumption

%

Hungary — EU28 — Hungarian target value — EU28 target value

! *According to the Renewable Energy Action Plan, Hungary should increase the share of renewable energy sources to 14.65% of total final energy consumption by 2020, in 2017 it was 13.3%.*

Definition The indicator measures the share of energy produced from renewable energy sources (water, wind, solar, geothermal, biomass, biogas, biofuels, renewable municipal waste) within the total final energy consumption. Hydropower and wind energy are only used as electricity, however, both electric and thermal energy can be produced from solar energy, the former requires solar cells and the latter requires solar collectors. Biomass and the renewable part of municipal waste includes firewood and other solid bio-energy carriers.

Primary energy is energy from renewable and non-renewable sources that has not undergone any conversion or processing. Secondary energy is energy converted from primary energy (e.g. liquid fuels, electricity).

Relevance Energy demand in Europe is gradually increasing, while energy prices and supply security are constantly changing. EU energy policy takes into account three main aspects: security of supply, competitiveness and sustainability. Its aim is to reduce dependence on fossil fuels and to lower emissions, especially greenhouse gases. The EU Directive 2009/28/EC, which aims to increase the share of renewable energy in the Community's

energy consumption to 20% by 2020, will help to achieve these goals. The directive also sets targets to be achieved at Member State level within total gross final energy consumption, which is 13% for Hungary. However, Hungary has set an even higher target at 14.65% in its Renewable Energy Action Plan, along with a 10.9% target for electricity. The National Sustainable Development Strategy states that the use of, and transition to, renewable resources currently entail additional costs for economic operators. As these costs must be borne by economic operators in the event of a depletion of non-renewable resources, it is appropriate to support investments aimed at more efficient replacement of fossil resources. Production of green energy plays a prominent role among activities to be supported. This means increasing the share of biomass, biogas, geothermal, hydro, solar, wind and agricultural by-products in energy use. This requires support for technologies and investments in renewable energy.

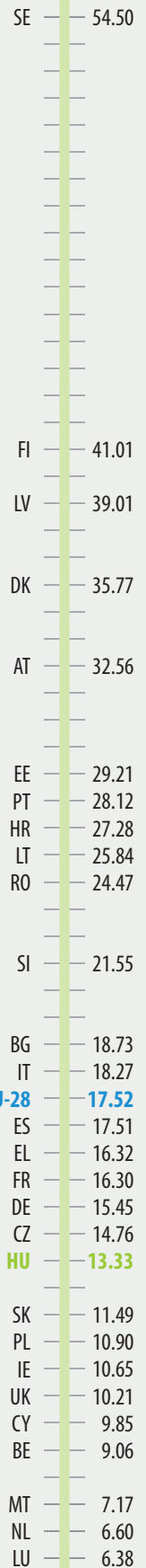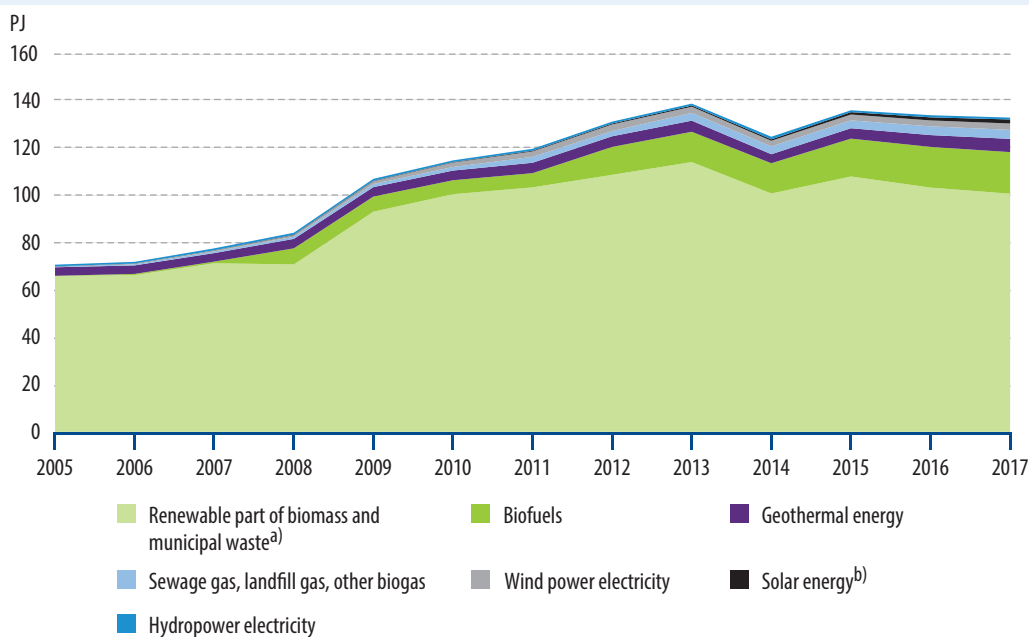*Share of renewable energy sources in total energy consumption in the European Union, 2017,* %

SE	54.50
FI	41.01
LV	39.01
DK	35.77
AT	32.56
EE	29.21
PT	28.12
HR	27.28
LT	25.84
RO	24.47
SI	21.55
BG	18.73
IT	18.27
► EU-28	17.52 ◄
ES	17.51
EL	16.32
FR	16.30
DE	15.45
CZ	14.76
► HU	13.33 ◄
SK	11.49
PL	10.90
IE	10.65
UK	10.21
CY	9.85
BE	9.06
MT	7.17
NL	6.60
LU	6.38

Figure 3.37.2   Energy from primary renewable sources and waste, by energy source

Legend:
- Renewable part of biomass and municipal waste[a]
- Biofuels
- Geothermal energy
- Sewage gas, landfill gas, other biogas
- Wind power electricity
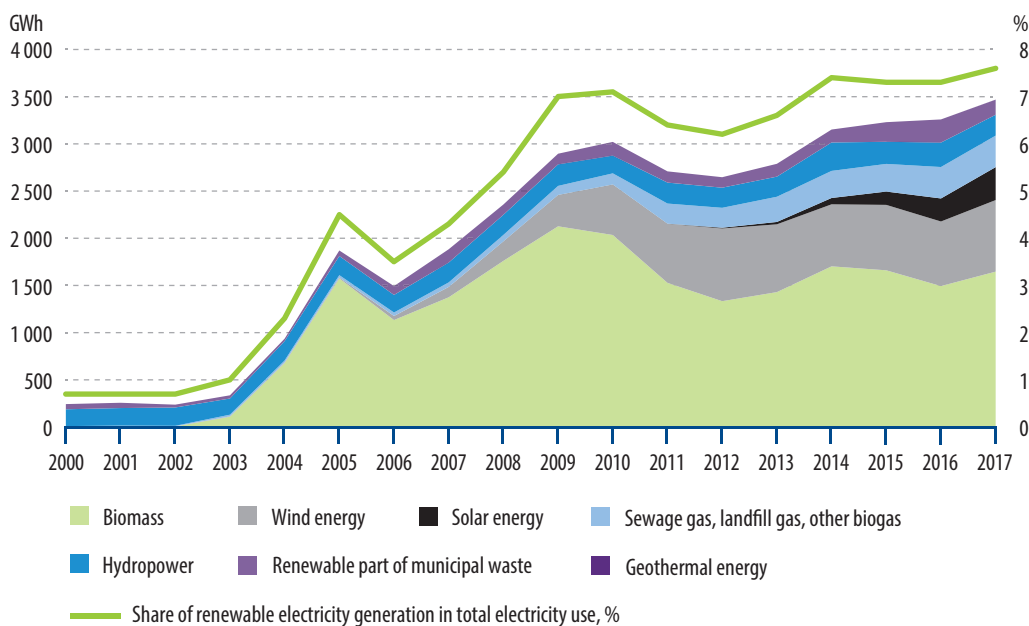- Solar energy[b]
- Hydropower electricity

[a] Includes firewood and other solid bio-energy carriers.
[b] Solar panel and solar collector.

Source: Hungarian Energy and Public Utility Regulatory Authority.

Our renewable energy production has almost doubled since 2005, dominated by the renewable share of biomass and municipal waste, with a combined share of 76%.

Figure 3.37.3   Volume and share of electricity from renewable energy sources and waste

Legend:
- Biomass
- Wind energy
- Solar energy
- Sewage gas, landfill gas, other biogas
- Hydropower
- Renewable part of municipal waste
- Geothermal energy
- Share of renewable electricity generation in total electricity use, %

Source: Hungarian Energy and Public Utility Regulatory Authority.

The amount of electricity produced from renewable energy sources and waste has increased more than ten times since 2000, a significant proportion (47%) of which was accounted for by biomass in 2017.

Analysis The share of renewable energy sources in Hungary's energy use has decreased every year since its peak in 2013. Between 2004 and 2013, the share of renewable energy increased from 4.4% to 16.2%, and in 2012 and 2013 it was already above the 2020 target of 14.65%. As a result of the subsequent decline, the value of the indicator in 2017 was 13.3%.

Within total energy production, the amount of energy from renewable sources and waste almost doubled from 71 PJ to 133 PJ between 2005 and 2017. Renewable energy sources are used primarily in heat and electricity production and to a lesser extent as biofuels. The dominance of biomass and renewable municipal waste is very significant in our production of renewable energy, although slightly declining in recent years. Its share of total production fell from 93% to 76% between 2005 and 2017. During the period under review, the largest increase was in biofuel production, which increased from 0.1 PJ to 18 PJ and its share from 0.1% to 13%. Other energy sources together account for 11%. Since 2005, the share of biogas-based production has increased from 0.4% to 2.9%, of wind energy from 0.0% to 2.0% and of solar from 0.1% to 1.3%. However, the share of geothermal energy (from 5.1% to 4.2%) and hydropower (from 1.0% to 0.6%) has decreased, although their production has increased in volume.

The amount of electricity produced from renewable energy sources and waste in Hungary has increased more than fourteen-fold since 2000, reaching 3468 gigawatt-hours in 2017. During the same period, the share of renewable electricity in total consumption increased from 0.7% to 7.6%, which is 70% of the 10.9% target for 2020.

Renewable electricity generation has been intensified since 2003, as a result of one of the forms of operating subsidies, the mandatory take-over scheme (KÁT). Within this framework, producers could sell electricity at prices higher than the market price. As of 1 January 2017, the Renewable Energy Support System (METÁR) is in effect, which is also used to support the production of electricity from renewable energy sources. Over the years, fluctuations in renewable production (and share) have been closely linked to changes in KÁT: there has been a downturn as a result of the limitation of compulsory take-up or the removal of mixed fuel power plants from the KÁT. The two major setbacks in 2006 and 2011 are also explained by the above reasons. Biomass is the most important in production, increasing from 10 GWh to 1646 GWh in volume and from 4.1% to 48% in share since 2000. Wind energy has the second highest share. The country's first wind power plant came into operation in 2000, the share of wind energy has since increased to 22%, although this is down from its 2012 peak (29%). Biogas-based electricity production increased significantly between 2010 and 2013, reaching a 9.6% share in 2017. Hydropower production has increased since 2000, but its share fell sharply from 73% to 6.3%. Electricity produced from renewable municipal waste and solar panels increased significantly, but their share was low at 4.6% and 10% respectively.

International outlook In 2017, renewables accounted for 18% of total EU28 energy consumption, 2 percentage points below the 2020 target. The value of the indicator has increased steadily since 2004, and the achievement of the 2020 target seems realistic. Of the member states, Sweden has the highest share of renewable energy use (55%), followed by Finland (41%) and Latvia (39%). Based on 2017 data, the 2020 country targets set in Directive 2009/28/EC have already been exceeded by 10 member states, with Denmark, Sweden and Estonia the most, by 5.8, 5.5 and 4.2 percentage points, respectively. A further 8 countries are less than 3 percentage points below the target. Most notably, the Netherlands, France and Ireland are lagging behind the 2020 targets, with differences of 7.4, 6.7 and 5.4 percentage points, respectively. The Hungarian value is 4.2 percentage points below the EU average.

Summary tables (STADAT)
5.7.3 Share of renewable resources and waste in electricity consumption
5.7.4 Production of primary renewable resources, by sources
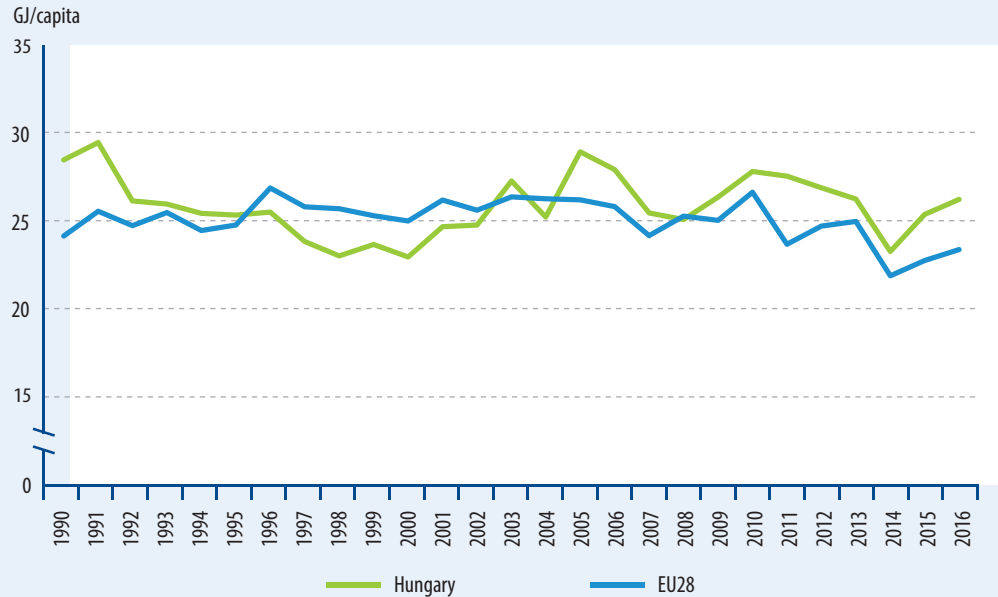
Household energy consumption

Since 2000

Since 2015

FI	40.4
LU	35.6
DK	32.7
SE	31.7
AT	30.4
BE	30.1
EE	29.6
DE	28.6
CZ	27.7
HU	**26.2**
FR	25.0
UK	24.4
LV, NL	24.3
HR	23.9
IE	23.6
EU28	**23.4**
SI	23.3
IT	22.2
PL	21.8
LT	20.9
EL	16.6
CY	16.1
RO, SK	15.7
ES	13.6
BG	13.2
PT	10.6
MT	7.5

Household energy consumption per capita in the European Union, 2016, *GJ/capita*

Figure 3.38.1 Residential energy consumption per capita

GJ/capita

Hungary   EU28

! *In 2016, per capita energy consumption in Hungary exceeded the EU28 average by 12%.*

Definition Solid fuels: coal and coal-based solid products. Crude oil and petroleum products: generally liquid fossil fuels, including petroleum and all products derived therefrom, such as motor gasoline, diesel oil, fuel oil. Gas: primarily natural gas and other gases derived from it.

Relevance Household and energy expenditure account for the largest share of household expenditure. In addition to mitigating the negative effects of climate change, reducing energy consumption is also an important goal for energy management. It is important to increase the energy efficiency of heating and cooling, to adapt the structure of the settlements and buildings to the changing weather, and to use electricity efficiently and consciously. There is a need to raise public awareness of climate change, and to make progress in disseminating and applying knowledge on emissions reduction and adaptation. The aim is to reduce the energy consumption of households and communities through better thermal insulation, more efficient machinery and equipment, and a shift in consumer patterns towards less energy

consuming goods and services. According to the National Sustainable Development Strategy, the entire system of energy subsidies and the excise and general taxation of energy carriers should be reviewed, taking into account their sustainability performance.

Analysis In 1990, per capita energy consumption in Hungary was 18% higher than the EU average. Since then, both domestic and EU values have fluctuated to a greater or lesser extent, but there is no clear upward or downward trend for the longer term. In 2016, the Hungarian value of 26.2 GJ/capita was 12% higher than the EU28 average.

Household energy consumption per capita dropped significantly from 29.5 GJ to 23.0 GJ between 1991 and 1998 after 1990-91 due to the economic recession following the change of regime. Thereafter, ascending and descending periods alternated, with the 2016 value being 7.9% lower than in 1990, but 14% higher than in 2000. Gas is the most important source of energy for residential use (46%), followed by the use of renewable energy sources (28%), electricity (15%), district heating (8%), solid fuels (2%) and crude oil and petroleum products (1%).

Figure 3.38.2 Household energy consumption per capita by energy source

GJ/capita

Legend:
- Solid fuels
- Crude oil and petroleum products
- Gas
- District heating
- Renewable energy sources
- Electricity

> **!** *The importance of solid fuels and crude oil and petroleum products in household energy consumption has become marginal, while gas has become the main source of energy.*

Solid fuels (coal and coal products), and crude oil and petroleum products, which accounted for the largest share of household energy consumption in 1990, became marginal by 2016, while gas became the main source of energy. The latter reached its highest share in 2003, at 60%, and by 2016 its share fell to the already mentioned 46%. Utilization of renewable energy sources increased by 225% and its share by 18 percentage points between 2000 and 2016. The volume and share of district heat and electricity used by the population has fluctuated slightly since 1990.

The public electricity network covers all settlements in Hungary. In 2017, household consumers accounted for 29% of total electricity consumption. The proportion of settlements with pipeline gas is 91% and 73% of the housing stock is supplied with gas. 41% of the gas supplied was used by households. In 2017, district heating was available in 95 settlements in the country, with 72% of the district heat supplied was used by households.

International outlook The EU28 average per capita household energy consumption was 23.4 GJ in 2016, 13% below its 1996 peak. In 2016, Finland, Luxembourg and Denmark had the highest levels of residential energy consumption per capita (73, 52 and 40% above the Community average), while Malta, Portugal and Bulgaria had the lowest (68, 55 and 44% respectively below the EU average).

Summary tables (STADAT)
2.3.12 Piped gas supply
2.3.13 Electricity supply
6.2.2.12 Gas and electricity consumption
6.2.2.13 District heating and hot water supply

3.39

BG	108.7
LT	103.0
HR	102.3
EL	101.4
FI	100.4
SI	100.2
AT	98.0
RO	97.9
CZ	96.9
DE	96.4
IT	95.7
PT, BE	95.3
FR	95.2
► EU28 ◄	93.7 ◄
► HU	93.4 ◄
CY	93.3
ES	91.9
SE	91.8
DK	91.4
PL	91.1
UK	90.6
NL	89.2
EE	84.6
MT	82.1
SK	80.5
LV	79.3
LU	78.3
IE	69.2

Energy use of transport as a share of GDP
in the European Union, 2016, (2010=100.0), %

Energy use in transport

Since 2000

Since 2015

Figure 3.39.1   Energy use of transport as a proportion of GDP   (2010=100.0)
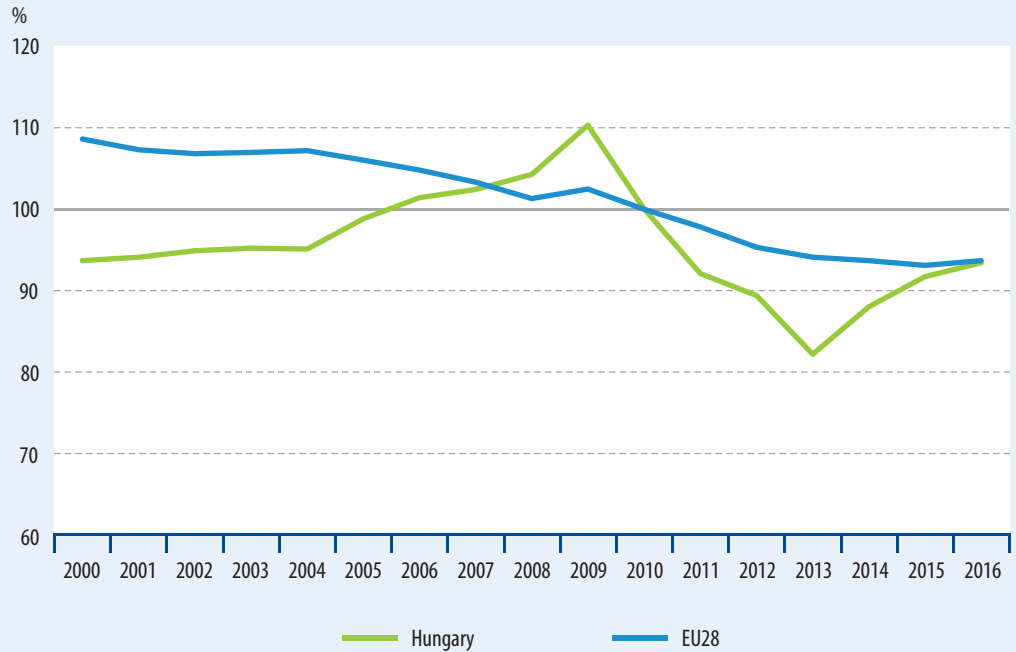
! *Energy use of transport as a proportion of GDP peaked in 2009, then it was down between 2009 and 2014 and up from 2014.*

Definition The 'energy consumption of transport as a proportion of GDP' indicator is the ratio of energy consumption of transport to gross domestic product, where GDP is calculated at 2010 exchange rates. We consider the value of the indicator for 2010 to be 100%, so the data for the following years show the direction and magnitude of the deviation compared to 2010. Energy use in transport includes road, rail, air transport and inland shipping, but excludes maritime and pipeline transport.

Relevance Current transport patterns have many negative effects on our environment: transport is one of the most polluting sectors. In recent decades, improvements in transport vehicles have resulted in declining pollutant emissions, making the reduction of energy consumption and the compliance with climate protection requirements

major tasks for the sector. In the framework of the Europe 2020 strategy, Hungary has committed itself to cutting its total energy use by 10% and enforcing its legal obligations. Sustainable energy consumption for transport needs to be created, along with reducing greenhouse gas emissions, in line with the National Sustainable Development Strategy. Energy consumption and GDP are decoupled in absolute terms if economic performance increases with stagnant or decreasing environmental pressure. Relative decoupling occurs when the growth rate of both components is positive, but energy use is rising to a lesser extent than GDP.

Analysis In terms of GDP, energy use of transport was the highest in 2009, 10 percentage points above the 2010 reference value. The indicator increased slightly between 2000 and 2004 and more intensively between 2004 and 2009. After peaking in 2009, it steadily declined to 82% by 2013. It has risen again since 2014, reaching 93% in 2016.

Figure 3.39.2 Per capita energy use of transport by mode of transport
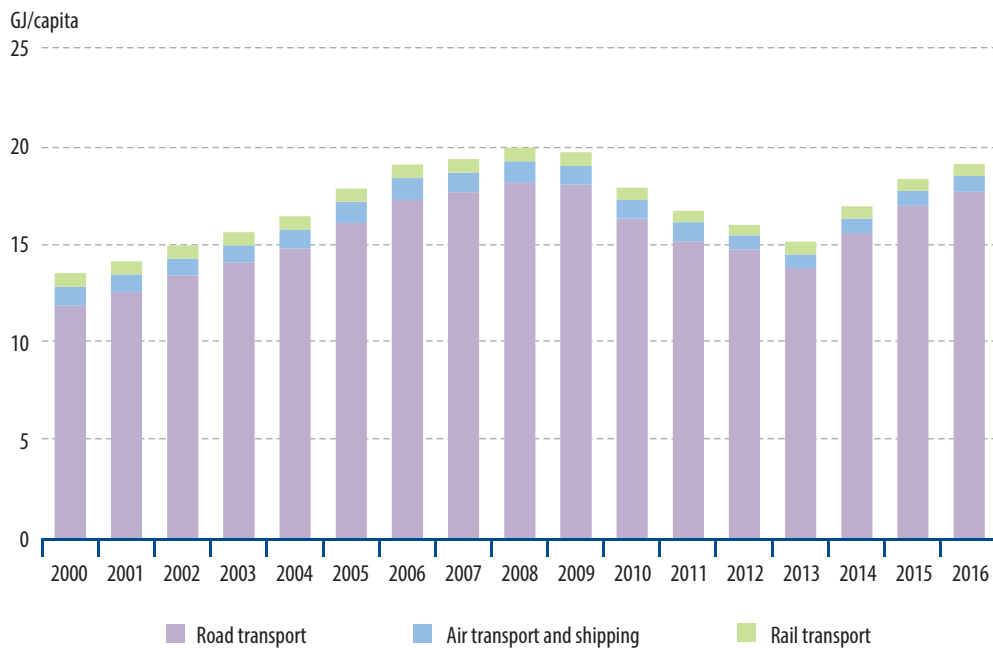
The specific energy use of transport has declined from 2009 to 2013 and has been *increasing since then, with road transport being the dominant mode of transport.*

In Hungary, the per capita energy consumption of transport increased steadily between 2000 and 2008 from 13.6 GJ to 20.0 GJ. The subsequent downward trend lasted until 2013, when the specific use was 15.2 GJ. Since then it has been rising again, reaching 19.1 GJ in 2016, 41% higher than in 2000, 6.7% higher than in 2010, and 4.2% below its 2008 peak. In terms of modes of transport, road transport plays a very dominant role, and its share has even increased since 2000, from 88% to 93%. The combined share of air transport and shipping in energy consumption decreased from 7.1% to 4.4% between 2000 and 2016 and of rail transport from 5.2% to 3.1%. The specific energy consumption of road transport increased by 49% during the period under review, while that of air transport and shipping decreased by 13% and that of rail transport by 16%.

International outlook In the EU28 average, the 'energy use-to-GDP ratio' of transport has been steadily declining since 2000, reaching 94% in 2016. Ireland, Luxembourg and Latvia achieved the highest improvement compared to the 2010 reference year, with 69, 78 and 79% respectively in 2016. Energy consumption of transport as a share of GDP increased most in Bulgaria, Lithuania and Croatia, with 109%, 103% and 102% respectively in 2016. Most EU countries (22 member states) have seen a decline in their energy use for transport in relation to GDP since 2010. Hungary's value is 0.3 percentage points lower (i.e. more favourable) than the EU28 average.
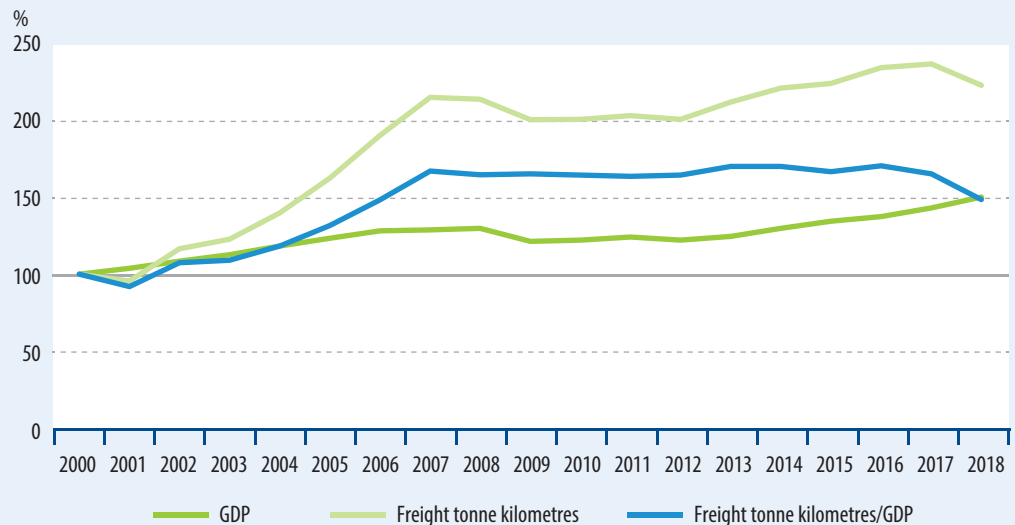
```

## Freight transport performance

Since 2000

Since 2017

**Figure 3.40.1  Freight transport performance in relation to GDP** (2000=100.0)



Legend: GDP — Freight tonne kilometres — Freight tonne kilometres/GDP

Left-axis country values:
SI 122.1, CZ 110.8, PL 110.6, HU 107.9, HR 106.1, DK 105.8, AT 105.7, BE 105.2, ES 102.3, LU 101.9, BG 101.3, SK 101.2, FI 98.9, NL 98.8, LT 97.6, EU28 97.5, DE 96.6, SE 94.2, FR 93.3, UK 91.5, PT 91.4, EL 85.8, RO 83.2, IT 81.5, LV 76.4, CY 74.3, IE 68.1, MT 67.9, EE 45.7

**!** *Freight transport performance relative to GDP significantly increased year by year in the early 2000s, was essentially unchanged between 2007 and 2017 and declined in 2018.*

**Definition** Freight transport performance relative to GDP (2000 = 100.0%) is the ratio of road, rail and waterborne freight transport per tonne kilometre (transport of one tonne of freight per kilometre) to GDP (volume index of GDP at 2000 average prices). Freight transport data were indexed for 2000.

International figures include the ratio of tonne-kilometres of inland transport to GDP (chain indexed volume index, 2005 exchange rate). Rail and inland waterway transport data refer to domestic transport ('territorial principle'), irrespective of the nationality of the vehicle or the vessel registered. Road haulage data includes both national and international performance of vehicles registered in the country.

The distribution indicator of freight transport includes road, rail and water freight data, measured in freight tonne kilometres (transport of one tonne of goods over one kilometre), in rail and water transport irrespective of the registered nationality of vehicles. Road haulage data includes both national and international performance of vehicles registered in the country.

*Freight transport performance as a percentage of GDP in the European Union, 2017 (2010=100.0), %*

**Relevance** By 2030, 30% of road freight transport over 300 km should be taken over by other modes of transport, such as rail or waterways, and by 2050 this percentage should grow to 50%, in line with the EU transport policy target approved in 2011.

According to the domestic strategy, the aim is to change the composition of transport and to switch to more environmentally friendly modes of transport in the medium and long term. In freight transport, instead of road transport, rail and waterborne transport can be facilitated by tariff formation that reflects better the environmental costs and by the creation of logistics centres, i.e. the organisation and coordination of the transport sub-sectors into a common system. The aim of railways is to use modern technologies and to increase accuracy and reliability.

**Analysis** From 2002, the Hungarian transport performance increased faster than GDP (volume index calculated at the average price of 2000), then reversed during the years of crisis. In 2009, the crisis resulted in a decline in both GDP and transport performance compared to the previous year. Freight transport performances again grew faster than GDP between 2012 and 2014 as well

**Figure 3.40.2   Distribution of goods transport by mode of transport**



> !   *Road freight transport dominates freight transport.*

as in 2016 and slower than GDP in 2015, 2017 and 2018, according to 2018 preliminary data. The trend of shifting from storage to flow-based production continued. Between 2000 and 2018, the average annual growth rate was 2.3% for GDP and 4.6% for freight transport.

In Hungary, road freight transport continues to dominate freight transport, with no significant shift towards more environmentally friendly transport modes. In 2018, road transport accounted for 75.6%, railways 21.2% and waterways 3.2% of freight transport tonne-kilometres.

Road freight transport was hit hardest by the crisis: its post-2004 upward trend reversed in 2009 to continue with a significant, 4.7%, performance drop in 2010, followed by a multi-year stagnation turning into growth in 2014, along with virtually no change in its share since 2010.

At the same time, the share of rail transport has generally declined since 2000, and has been characterized by slow growth and stagnation since its 2009 low (17.1%). Based on data from current EU member states, the share of domestic rail freight transport in 2005 was above the EU average, followed by a decline until 2009 and an increase until 2017.

The share of water freight transport decreased from 6.1% in 2004 to 3.2%. Its domestic share was slightly below the EU28 average, with an average of 0.7 percentage points between 2005 and 2016.

**International outlook** One of the operational objectives of the European Union's sustainable development strategy is to decouple economic development from the need for transport. This objective was achieved only during the economic recession. In times of economic growth, the volume of goods transport increased faster than GDP. This trend mainly applies to those Member States where GDP is below the EU28 average (e.g. Slovenia, Croatia, Hungary). In the EU, the ratio of freight transport performance (tonne-kilometre) to GDP increased slightly in the pre-crisis period and declined in 2008 and 2009. The 2010 to 2017 period saw alternating decreases and increases.

Between 2005 and 2017, the share of road freight transport slightly increased in the EU 28. The trend can be divided into three periods. Road freight transport increased from 75.6% to 77.0% between 2005 and 2009, then steadily declined to 74.6% by 2012, after which it reached 76.7% in 2017, with slight annual increases. Meanwhile, the share of rail and inland freight transport has moved in the opposite direction.

Summary tables (STADAT)
**4.6.3 National transport of goods by mode of transport**

*Passenger transport performance*

Since 2000

Since 2017

EL — 139.9

CY — 122.3

IT — 107.6
RO — 107.5
PT — 106.4
DK — 105.1
EE — 103.8
HR — 102.7
BG — 102.5
SI — 101.9
AT — 101.8
FR — 99.3

▶ **HU** — **96.0** ◀
▶ **EU28** — **95.4** ◀
DE — 94.6

LU — 91.7
ES — 91.0
LV — 90.6
FI — 89.3
UK — 88.9
BE — 88.0
SE — 87.6
MT — 85.7
NL — 85.6
CZ — 85.4

IE — 82.2

PL — 78.6

SK — 67.8

LT — 56.8

**Figure 3.41.1  Passenger transport performance in relation to GDP**   (2000=100.0)



**!**  *Between 2000 and 2016, the growth of passenger transport performance in Hungary was smaller than that of its economy.*

**Definition** Passenger transport performance is measured in passenger-kilometres (transportation of one passenger per kilometre), and GDP is a volume index of gross domestic product at 2000 prices. The indicator compares their growth rates with each other. Land passenger transport includes the performance data (passenger-kilometres) of domestic passenger cars, buses and trains.

The methodologies used by Member States for data collection are not harmonised at EU level.

**Relevance** Passenger transport is primarily based on passenger car use, with public transport playing only a secondary role. In the long term, taking into account the state of the roads and environmental considerations, the aim is to develop long-distance and local public transport, including railways.

**Analysis** Passenger transport performance was 87.8 billion passenger kilometres in 2018, 1.6% higher than a year earlier, and up 18.2% on the base year 2000. Looking at the base year 2000, the volume index of gross domestic product has increased by more than one and a half times over the past one and a half decades. The ratio of passenger transport performance to GDP volume change decreased by 21.4% between 2000 and 2018, indicating that the post-turn-of-the-millennium Hungarian economy structurally does not require an increase in domestic passenger transport performance equal to or higher than the growth of gross domestic product.

*Passenger transport performance in relation to GDP in the European Union, 2016*
*(2005=100.0), %*

**Figure 3.41.2** **Distribution of passenger transport performance (passenger-kilometres) by mode of transport**



Passenger vehicles | Bus | Rail

> ! *Car transport, which is the most polluting mode of transport, accounts for more than two thirds of passenger transport.*

**International outlook** In 2016, the proportion of completed rail traffic in Hungary was relatively high at 9.3% among passenger transport modes based on aggregate data for the 28 EU Member States. Within the EU28 (average: 7.7%), the highest proportions were in Austria (12.1%) and the Netherlands (11.0%). In Hungary, the share of passenger car traffic in domestic passenger transport increased by 7.3 percentage points from 62.1% to 69.4% between 2000 and 2016, but still well below the EU28 average (82.9%). The proportion of

bus transport in Hungary is almost two and a half times the EU average: in 2016, 21.3% of passenger kilometres travelled in Hungary came from bus transport, compared to an average of 9.4% in the EU28. The EU and its Member States have taken measures to improve the economic and environmental performance of all modes of transport, including modal shift from road to rail and waterways. Solutions include changing production and logistics processes, changing transport patterns and better interconnecting different transport modes.

Summary tables (STADAT)

**4.6.12 Interurban passenger transport by mode of transport**

**4.6.17 Urban passenger traffic in Hungary and Budapest by mode of transport**

*Rail transport as a proportion of total passenger transport in the European Union, 2016, %*

| | |
|---|---|
| AT | 12.1 |
| NL | 11.0 |
| FR | 9.7 |
| SK | 9.4 |
| ▶ HU, SE | 9.3 ◀ |
| CZ | 8.9 |
| DK, DE | 8.6 |
| ▶ EU28, BE a) | 7.7 ◀ |
| PL | 7.3 |
| ES | 6.6 |
| IT | 6.1 |
| FI b) | 5.6 |
| LU | 4.6 |
| PT, RO | 4.2 |
| LV | 3.4 |
| IE | 2.9 |
| HR | 2.7 |
| BG | 2.2 |
| EE, SI | 2.0 |
| EL, LT | 1.0 |

▶ a) Estimated data.
b) Preliminary data.

**4**

# *Economic resources*

### *In a snapshot*

**General economic indicators**

- The domestic economy started to follow a path of increase from 2013, its performance was 2.3% higher in 2016 and 4.1% higher in 2017 than in the previous year. The increase of the performance of our economy went on accelerating in 2018, it was 4.9% compared to one year earlier. Such a volume growth has been unparalleled since 2004.
- Gross fixed capital formation as a proportion of GDP has been higher in the national economy than the EU average since 2013 (except 2016). The growth was due to the intensity of gross fixed capital formation in both the government sector and sectors other than government. Gross fixed capital formation increased – with a rise of 1.3 percentage points – to 5.8% in the government sector and – with a growth of 1.6 percentage points – to 19.3% in sectors other than government in 2018.
- The debt ratio to GDP has been reduced continuously since 2012, it equalled 70.8% in 2018.
- R&D expenditure as a proportion of GDP lessened to 1.20% in 2016, however, it went up to 1.35% in 2017. A dynamic growth occurred in the business enterprise sector, which accounted for no less than nearly three-quarters of R&D expenditure from 2015. The domestic target is to raise the proportion of R&D expenditure at the level of the national economy to 1.8% by 2020.

**Employment**

- Employment rates for 20-64 year-olds stagnated after the turn of the millennium, then worsened during the crisis and expanded from 2011 to 74.4% by 2018.
- Overall, the gender pay gap narrowed between 1995 and 2016, then widened between 2014 and 2016. The pay gap was highest for people with higher education, at 32%.
- In 2019, there were 317 persons of retirement age per thousand people of working age. The old age dependency rate is expected to increase at an accelerated rate, peaking at 53.6% in 2062, i.e. at 536 people aged 65 and over per one thousand people of working age (15–64).

**Economic relations**

- Direct investment inflows to Hungary continued to grow between 2008 and 2014, followed by declines of 5.8% in 2015 and 2.7% in 2016. Nearly half of the stock of foreign investment was used in industrial sectors.
- Following the 2008 crisis, dividend exports increased to a peak of more than HUF 2,000 billion between 2009 and 2011, followed by a steady decline until 2014. The strong growth of 66% in 2015 was followed by a permanent decline until 2017, reaching HUF 1,203 billion.

| Chapter | Number | Indicator | Page | Evaluation of changes compared to past status | |
|---|---|---|---|---|---|
| | | | | Long term | Short term |
| **General economic indicators** | 4.1 | Gross domestic product (GDP) | 186 | ☀ | ☀ |
| | 4.2 | Gross national income (GNI) | 188 | ⛅ | ⛅ |
| | 4.3 | Gross fixed capital formation | 190 | ⛅ | 🌧 |
| | 4.4 | Gross savings rate | 192 | 🌧 | 🌧 |
| | 4.5 | Government gross debt as a proportion of GDP | 193 | 🌧 | ☀ |
| | 4.6 | Final consumption expenditure of general government | 195 | | |
| | 4.7 | Labour productivity | 197 | ☀ | ⛅ |
| | 4.8 | Active enterprises | 198 | ☀ | 🌧 |
| | 4.9 | Research and development expenditure, innovation | 200 | ⛅ | ⛅ |
| | 4.10 | Structure of consumption | 202 | | |
| | 4.11 | Consumer price index (inflation) | 205 | | |
| **Employment** | 4.12 | Economic activity | 208 | ☀ | ☀ |
| | 4.13 | Employment rate | 210 | ⛅ | ☀ |
| | 4.14 | Unemployment rate | 213 | ☀ | ☀ |
| | 4.15 | Long-term unemployment rate | 216 | ☀ | ☀ |
| | 4.16 | Average age at the time of leaving the labour market | 218 | ☀ | ⛅ |
| | 4.17 | Gender pay gap | 220 | ☀ | 🌧 |
| | 4.18 | Employment chance of young people | 222 | ⛅ | ☀ |
| | 4.19 | Old-age dependency ratio | 224 | 🌧 | 🌧 |
| **Economic relations** | 4.20 | Balance of the external trade in goods | 226 | ☀ | 🌧 |
| | 4.21 | Foreign direct investments | 228 | ☀ | ⛅ |
| | 4.22 | Income paid as dividends to the rest of the world | 229 | 🌧 | 🌧 |
| | 4.23 | Real effective exchange rate | 230 | 🌧 | 🌧 |

*Gross domestic product (GDP)*

**Since 2000**

**Since 2017**

**Figure 4.1.1  GDP per capita at average 2005 prices**



Thousand euros

Source: Eurostat.

Hungary    EU28

**!** *The growth trend of GDP per capita changed in nearly the same way as the EU average from 2000 and did not approximate that.*

**Definitions** Gross domestic product from production approach is the sum of the gross value added of resident producers (industries or institutional sectors), measured at basic prices, and taxes less subsidies on products, which cannot be divided among industries or sectors. GDP per capita is GDP at current prices divided by mid-year population.

**Relevance** The growth rate of GDP informs on the dynamism of the economy. An increase in the volume of GDP means that the society can generate additional economic resources to meet the growing economic needs of the present generation, and can realise investments or other social and environmental purposes, too, in view of higher returns in the future. Nevertheless, GDP per capita only gives a picture of the level of the economic development, rather than be considered as a comprehensive indicator of well-being. Growing production can generate environment pollution, health problems and an often implied increase in various expenditures which raises

GDP but does not contribute to an improving quality of life.

**Analysis** The volume of GDP increased by at least 3% in Hungary in every year between 1997 and 2006 compared to the previous year. The engine of the growth was mainly industry during this period. GDP rose slightly (0.4%) in 2007. As a consequence of the global economic crisis, GDP went down in 2009 for the first time after 1993, by 6.6% compared to 2008, however, due to the low base in the previous year, it grew again in 2010 (0.7%), which was followed by a 1.7% rise in 2011. The EU's economy stopped increasing in 2012. The unfavourable external environment as well as the decreasing performance of agriculture reduced Hungary's economic performance, owing to which GDP lessened by 1.6% in 2012 compared to the previous year. The domestic economy started to follow a path of increase from 2013, the volume of GDP was up by 2.1% in 2013, by 4.2% in 2014 and by 3.5% in 2015 compared to a year

*GDP per capita in the European Union, 2017,*
*purchasing power standard (PPS)*

| | |
|---|---|
| LU | 75 900 |
| IE | 54 300 |
| NL, DK | 38 400 |
| AT | 38 100 |
| DE | 37 100 |
| SE | 36 300 |
| BE | 35 000 |
| FI | 32 700 |
| UK | 31 700 |
| FR | 31 200 |
| **EU28** | **30 000** |
| MT | 29 300 |
| IT | 28 900 |
| ES | 27 600 |
| CZ | 26 900 |
| CY, SI | 25 500 |
| EE | 23 600 |
| LT | 23 500 |
| PT | 23 000 |
| SK | 22 900 |
| PL | 20 900 |
| **HU** | **20 300** |
| EL | 20 200 |
| LV | 20 000 |
| RO | 18 800 |
| HR | 18 500 |
| BG | 14 800 |

earlier. The largest contributor to GDP increase was manufacturing in 2014–2015. It was the performance in the manufacture of transport equipment and in the related supplier divisions that grew significantly within manufacturing. The performance of the economy was 2.3% higher in 2016 than in the previous year. The main contributor to GDP growth was market-based services in that year. The economy gained momentum in 2017, the increase became multi-factorial. Domestic demand continued to be a dominant factor of the growth of market services, at the same time industrial production went up more dynamically, and there was

a positive turn in construction as well. The increase of the performance of our economy went on accelerating in 2018, it was 4.9% compared to one year earlier. Such a volume growth has been unparalleled since 2004.

**International outlook** The economic performance of the European Union (EU28) rose by 2.0% in 2018 compared to a year earlier. The volume of GDP went up in all the Member States. The highest increases (exceeding even 5%) were recorded for Ireland, Malta and Poland, while the growth of the economic performance remained below the EU average in seven Member States.

Summary tables (STADAT)
**3.1.1 Value, volume and implicit price indices
of gross domestic product, annual data**
**3.1.2 Value of gross domestic product in HUF,
EUR, USD, and in purchasing power parity**
**3.1.3 Per capita gross domestic product (GDP)**
**3.1.4 Value and distribution of gross value
added by industries**
**3.1.5 Volume indices of gross value added
by industries**
**3.1.6 Contribution to GDP growth, calculated
from indices compared to corresponding
period of previous year**

## Gross national income (GNI)

**Since 2000**

**Since 2016**

**Figure 4.2.1  Gross national income and gross domestic product**



Thousand billion forints

%

Legend:
- GDP, thousand billion forints
- GNI, thousand billion forints
- GNI/GDP, %

+ Preliminary data.

**!**  *The ratio of GNI to GDP was the highest in 2016 following the turn of the millennium.*

**Definitions** Gross national income (GNI) is an indicator that can be calculated from GDP, it takes into account primary income received from and paid to the rest of the world. As opposed to gross domestic product, it does not include property income produced by foreign equity investors operating in Hungary and the income of non-resident employees in Hungary, however, it includes the income of Hungarian investors and employees received from the rest of the world, and the amount of the balance of subsidies received from and taxes paid to the European Union.

Primary income is the income which resident units receive by virtue of their direct participation in the production process, and the income receivable by the owner of a financial asset or a natural resource in return for providing funds to, or putting the natural resource at the disposal of, another institutional unit.

The compensation of employees is defined as the total remuneration, in cash or in kind, payable by an employer to an employee in return for work done by the latter during the accounting period.

Property income accrues when the owners of financial assets and natural resources put them at the disposal of other institutional units.

Interest is property income receivable by the owners of financial assets for putting them at the disposal of another institutional unit.

Dividends are a form of property income to which owners of shares become entitled as a result of, for example, placing funds at the disposal of corporations.

Reinvested earnings on foreign direct investment are equal to the operating surplus of a foreign direct investment enterprise plus any property incomes or current transfers receivable, minus any property incomes or current transfers payable, including actual remittances to foreign direct investors and any taxes payable on the income, wealth, etc. of the foreign direct investment enterprise.

**Relevance** The National Framework Strategy on Sustainable Development finds that the international exposure of Hungary's economy, its

dependence on foreign capital and raw materials is high, which is associated with substantial indebtedness towards the rest of the world. It is important to maintain an appropriate level of autonomy in economic policy decisions. The value of gross national income (GNI), as opposed to GDP, does not include property income produced by foreign equity investors in Hungary and the incomes of non-resident employees in Hungary, however, it includes the incomes of Hungarian investors and employees received from the rest of the world, and the amount of the balance of subsidies received from and taxes paid to the European Union.

**Analysis** The ratio of GNI to GDP decreased continuously, though with smaller fluctuations in the early 2000s. Over the complete time series, the lowest ratio (93.4%) was due to a growth in the balance of transaction items[1] by 2007. Following this, the gap between the two items, although fluctuating somewhat, showed a declining trend until 2013. Since our accession to the European Union the value of GNI approached GDP mostly the year when the balance of primary incomes was 0.8 billion forints. After a fall in 2014 and 2015, a strong growth was observed for 2016, which resulted in only 2.4 percentage points of difference between the analysed indicators.

The ratio of GNI to GDP is typically impacted mostly by property income. Out of transaction items, even the sum of the positive balances of compensation of employees and EU transfers does not offset the permanently negative balance of property income to an extent that it should stop the outflow of capital income from Hungary.

The balance of the compensation of employees was 137 billion forints in 2000 and 845 billion forints in 2017. A relatively spectacular break in the time series can be observed for 2009 (a decrease of 52%). There was a continuous increase in the balance, though at different rates, until 2016, then a fall of 89.3% was measured for 2017, which was largely owing to a decrease in the number of employed people working abroad.

The balance of property income was influenced by hectic changes in reinvested earnings, dividends and interest, which had a varied internal distribution, too. Unpredictability was proven, among others, by a rise of 1,120 billion forints from 2008 to 2009 and a decrease of 1,052 billion forints from 2013 to 2014 in the time series of reinvested earnings. The most significant change in dividends occurred in 2015, when they were reduced by 844 billion forints compared to the previous year. Interest was more balanced than the ones mentioned before, though a larger decline was recorded for this item as well for 2008 (303 billion forints).

Since our joining the European Union, the balance of EU transfers gradually increased until 2013 with a fall (5.2%) in 2010, then it showed a trend declining year by year from 2014. Its value was 377.8 billion forints in 2017.

---

[1] The sum of the balance of compensation of employees, taxes less subsidies on production and imports, and the balance of property incomes.

Summary tables (STADAT)
**3.1.9 Gross national income (GNI) of Hungary**

| | |
|---|---|
| SE | 25.9 |
| CZ | 25.6 |
| **HU** | **25.2** |
| EE, AT, FI | 23.9 |
| BE | 23.8 |
| IE | 23.4 |
| FR | 22.9 |
| LV | 22.6 |
| DK | 22.0 |
| DE | 21.2 |
| RO | 21.0 |
| SK | 20.9 |
| LT | 20.5 |
| **EU28** | **20.4** |
| NL | 20.3 |
| HR | 20.0 |
| ES | 19.4 |
| SI | 19.2 |
| CY | 19.1 |
| MT | 18.9 |
| BG | 18.8 |
| PL | 18.2 |
| IT | 17.8 |
| PT | 17.5 |
| UK | 16.9 |
| LU | 16.8 |
| EL | 11.1 |

*Gross fixed capital formation as a percentage of GDP, in the European Union, 2018,* %

## Gross fixed capital formation

Since 2000

Since 2017

**Figure 4.3.1   Gross fixed capital formation (GFCF) as a proportion of GDP**



*The proportion of gross fixed capital formation moved at a higher level than the EU average from 1995 to 2010, however, it varied more than the EU average from 2011.*

**Definition** Gross fixed capital formation (GFCF) covers the value of fixed assets purchased or own-produced in the accounting period, the addition to the value of existing tangible fixed assets, capital transfers in kind from abroad and the value of tangible fixed assets acquired through financial leasing. The proportion is the part of GDP that the national economy spends on gross fixed capital formation. The consumption of fixed capital stock in the reference period and the value of sorting out assets are not deducted from gross fixed capital formation, i.e. the latter indicates changes in national wealth due to gross fixed capital formation from the increases side. Gross fixed capital formation by government: the part of GDP that the government sector spends on gross fixed capital formation. Gross fixed capital formation by sectors other than government is the part of GDP that sectors other than government spend on gross fixed capital formation.

**Relevance** To increase natural, human and social capital it is indispensable to expand the economic (production) capital stock, which can solely be achieved through investments. The investments of – mainly domestic-owned – enterprises (non-governmental sector) are of outstanding significance even within this. The National Framework Strategy on Sustainable Development sets an objective to increase physical capital and replace the amortisation of public capital goods. It is an outstanding task to strengthen the stratum of entrepreneurs, gradually increase domestic capital investments and reduce our exposure to the rest of the world.

**Analysis** Gross fixed capital formation (GFCF) as a proportion of GDP was 21.8% in the national economy in 1995, compared with 21.0% in the EU. The proportion of GFCF was regularly 2–3 percentage points higher in Hungary than in the EU from 1996 to 2005. Following this, the two values – apart from the outstandingly large difference in 2009 – gradually approximated

**Figure 4.3.2  Gross fixed capital formation as a percentage of GDP, by sector**



| | |
|---|---|
| —— Hungary, government sector | —— EU28, government sector |
| —— Hungary, sectors other than government | —— EU28, sectors other than government |

**!**  *Gross fixed capital formation by the government sector shows higher swings than the EU average, following a fall in 2016, it grew again from 2017.*

each other, and from 2011 the EU indicator was already higher. The proportion for Hungary was higher again than the EU average from 2013 to 2018 (except for 2016). On the whole, an increase was observed in the proportion of GFCF until 2000, then fluctuations per periods of a few years in Hungary, while the rate of change was always within 0.5 percentage point, except for the growth from 2003 to 2007, in the EU.

The government sector's gross fixed capital formation as a proportion of GDP either went up or was cut in the examined period. Largely due to EU funds, a growing trend was observed in the value of the indicator from 2012 to 2015, gross fixed capital formation in 2015 was more than double the EU average, which was followed by a substantial fall in 2016 and another increase. The proportion of gross fixed capital formation by Hungary's government sector was higher and varied more than the EU average –

except for two years – all over the period under review. Gross fixed capital formation by sectors other than government was 21.2% in 1995. It varied between 18% and 22% until 2009, then decreased continuously and significantly until 2012, from which year a substantial growth was observed again (except for 2015).

**International outlook** Gross fixed capital formation as a proportion of GDP was the highest in Czechia, Sweden and Hungary in 2018. The lowest proportions were measured for Greece, the United Kingdom and Luxembourg. The EU average was 20.4%.

Summary tables (STADAT)
**3.1.31 Gross fixed capital formation**

## Gross savings rate

Since 2000

Since 2016

**Figure 4.4.1** **Gross household savings rate as a proportion of GDP**



| | |
|---|---|
| LU | 19.44 |
| SE | 18.47 |
| DE | 17.17 |
| NL | 16.27 |
| FR | 13.57 |
| AT | 13.24 |
| SI | 12.99 |
| ▶ HU[a] ◀ | **12.83** |
| CZ | 11.6 |
| BE | 11.3 |
| ▶ EU28 ◀ | **10.59** |
| IT | 10.53 |
| DK | 10.47 |
| EE | 10.44 |
| SK | 8.71 |
| IE | 8.17 |
| ES | 7.83 |
| UK | 6.74 |
| FI | 6.12 |
| LV | 5.18 |
| PT | 4.98 |
| BG | 4.86 |
| PL | 4.36 |
| LT | 0.16 |
| CY | −3.15 |

a) 2018.

**!** *The Hungarian household savings rate was typically below the EU average between 2000 and 2012, however, exceeded the EU average from 2013.*

**Definition** Gross household savings rate shows the percentage of disposable income – completed with the adjustment for the change in the net equity of private pension funds – in a given period that households accumulate in financial assets or capital goods for the satisfaction of their later needs. The remaining part of disposable income is spent on consumption, i.e. on the satisfaction of needs arising in the given period.

**Relevance** By applying the prevailing savings rate one can define the available economic resources that can be mobilised to raise productive, natural, human and social capital, improving the wellbeing of future generations. The National Framework Strategy on Sustainable Development recommends that families treat and transmit financial consciousness, the importance of savings as a value so that, among others, Hungary, developing in a sustainable manner, should be less sensitive in the future to financial crises.

**Analysis** The gross household savings rate in Hungary in the 23 years following 1994 was the highest in 1995 (19%), which was cut continuously

*Gross household savings rate in the European Union, 2016,* %

from 1995 to 2003, i.e. households accumulated a declining proportion of their income. The value of the indicator fell to 8.5% by 2003. The willingness to save grew again from 2004 to reach 13.4% in 2006, thus surpassing the average for EU Member States (which was 11% in 2006). The value of the indicator went down to 9.0% in the next two years, then increased again between 2009 and 2012. The savings rate fell to 10.8% in 2012, being slightly below the EU28 average (11.1%), however, it was higher than the average rate for EU Member States every year from 2013: the value of the indicator was 11.7% for Hungary in 2017, compared with the EU average of 9.6%.

**International outlook** The average savings rate for the 28 Member States of the European Union seems to be quite stable, its value was around 10–12% in the years covered. However, the results were different for the different member countries: the highest figures were recorded for Luxembourg (19.4%) and Sweden (18.5%) in 2016, as opposed to which Lithuania (0.2%) and Cyprus (−3.2%) were at the bottom of the ranking, with values much below the average.

## *Government gross debt as a proportion of GDP*

Since 2000

Since 2017

**Figure 4.5.1   General government sector's consolidated gross debt as a proportion of GDP**



| Hungary | EU28 | Maastricht criterion |

**4.5**

| | |
|---|---|
| EL | 181.1 |
| IT | 132.2 |
| PT | 121.5 |
| CY | 102.5 |
| BE | 102.0 |
| FR | 98.4 |
| ES | 97.1 |
| UK | 86.8 |
| ▶ **EU28** | **80.0** ◀ |
| HR | 74.6 |
| AT | 73.8 |
| ▶ **HU** | **70.8** ◀ |
| SI | 70.1 |
| IE | 64.8 |
| DE | 60.9 |
| FI | 58.9 |
| NL | 52.4 |
| SK, PL | 48.9 |
| MT | 46.0 |
| SE | 38.8 |
| LV | 35.9 |
| RO | 35.0 |
| LT | 34.2 |
| DK | 34.1 |
| CZ | 32.7 |
| BG | 22.6 |
| LU | 21.4 |
| EE | 8.4 |

! *The ratio of government debt to GDP rose continuously in Hungary between 2002 and 2011 and was cut following that.*

**Definition** The general government sector's consolidated gross debt consists of three main components: cash and deposits, debt securities and short- and long-term loans. It does not include financial relations within general government. It is gross, the sector's claims cannot be deducted from debt.

**Relevance** The general government sector's consolidated gross debt is one of the criteria laid down in the Maastricht Treaty, which have to be met in order to enter the euro area. According to this, government debt must not exceed 60% of gross domestic product, and if it exceeds that then it has to be decreased and converged to this threshold to a sufficient extent and at a sufficient rate. The National Framework Strategy on Sustainable Development lays down that in setting up the budget general government has significant responsibility for the sustainability of domestic economic capital.

**Analysis** Government debt as a proportion of GDP decreased continuously and substantially in Hungary in the second half of the 1990s and reached its minimum of 51.9% in 2001, which was 8 percentage points below the Maastricht threshold. Following this, its value climbed with a continuous rise to 80.5% in 2011. (The indicator exceeded again 60% in 2005). The debt ratio has been reduced continuously again since 2012, it equalled 70.8% in 2018.

Per capita debt – at prices of 2018 – reached its minimum of 1.5 million forints in 2001, however, it started to increase again in 2002. It surpassed 2 million forints in 2005 and reached 2.6 million forints in 2011. Debt per capita was around 2.4 million forints in 2012. It rose again from 2013, to 3.1 million forints in 2018.

*General government sector's consolidated gross debt as a percentage of GDP, in the European Union, 2018, %*

Figure 4.5.2    **General government sector's consolidated gross forint and foreign currency debt per capita, at 2018 prices**



**!** *It is again the proportion of forint-denominated debt that grew within the debt stock from 2012.*

As for the composition, forint debt was dominant back in the first half of the 1990s, foreign currency debt not reaching even 10%. This changed by 1997, when foreign currency debt reached 41%, which went down continuously until 2003, when it was 25%. The proportion of foreign currency debt started to grow again in 2004, which lasted until 2011, when foreign currency debt made up over the half of debt. The proportion of foreign currency debt decreased again in the subsequent seven years, to 23% by the end of 2018. The forint exchange rate plays an important role in calculating foreign currency debt.

**International outlook** The average debt ratio of the member states of the European Union went up in the period of 2010–2014, the value of the indicator climbing from 79.0% to 86.6%. It has steadily decreased since 2015, to 80.0% in 2018. The government gross debt to GDP ratio was the highest in Greece (181.1%), Italy (132.2%) and Portugal (121.5%) out of EU Member States in 2018. The indicator for Hungary (70.8%) remained 9 percentage points below the average for the 28 Member States. The lowest values of the debt ratio were measured in Estonia (8.4%), Luxembourg (21.4%) and Bulgaria (22.6%).

## Final consumption expenditure of general government

**Figure 4.6.1** **Final consumption expenditure of general government by COFOG function**



Billion forints

Legend:
- General public services
- Defence
- Public order and safety
- Economic affairs
- Environmental protection
- Housing and community amenities
- Health
- Recreation, culture and religion
- Education
- Social protection

**!** *Out of the ten COFOG divisions, health and education had the highest proportions of the final consumption expenditure of general government.*

**Definitions** The final consumption expenditure of general government includes two categories of expenditure: 1) the value of goods and services produced by general government itself other than own-account capital formation, market output and payments for non-market output, 2) general government expenditure on the purchase of goods and services that are produced by market producers and are supplied to households, for their own final consumption, in an unchanged form, as social transfers in kind. This includes the case when general government merely pays for goods and services but they are provided to households directly by the sellers. Final consumption expenditure can be classified into the following divisions according to the classification of the functions of government (COFOG): general public services, defence, public order and safety, economic affairs, environmental protection, housing and community amenities, health,

recreation, culture and religion, education and social protection. The indicator was examined to present the average of 17 years (2001–2017), since the EU28 average was available for this period. The data for Hungary were available for no less than the period of 1995–2017.

**Relevance** Final consumption expenditure consists of expenditure incurred by resident institutional units on goods or services that are used for the direct satisfaction of individual needs or wants or the collective needs of members of the community. The indicator referred to as final consumption expenditure of general government shows – broken down by COFOG function – consumption expenditure on the different functions of government.

**Analysis** It was final consumption expenditure on health (22.7%) and education (19.7%) that represented the highest proportions within the general government sector in Hungary over 17 years (2001–2017) on average. General public services accounted for 17.4%, economic affairs for 11.9%, public order and safety for 9.0%, social protection for 7.4% and defence for 5.1% of the final consumption expenditure of general government. The lowest proportions of the final consumption expenditure of general government were recorded for recreation, culture and religion (4.1%), housing and community amenities (1.7%) and environmental protection (1.0%).

**International outlook** It was final consumption expenditure on health (30.4%) and education (19.3%) that was the highest in the general government sector in the 28 Member States of the European Union over 17 years (2001–2017) on average. The order of the remaining COFOG divisions was as follows: social protection (12.1%), general public services (9.5%), public order and safety (7.8%), economic affairs (7.5%), defence (6.6%), recreation, culture and religion (3.1%), environmental protection (1.9%) and housing and community amenities (1.8%).

## *Labour productivity*

**Since 2000** ☼

**Since 2017** ⛅

**Figure 4.7.1 Labour productivity**

Million forints/people[a]



a) At current prices of 2010.

Real labour productivity, million forints/people

Real labour productivity, % (2010=100.0)

**!** *Labour productivity rose significantly after the turn of the millennium, however, it practically stagnated between 2010 and 2016 and increased between 2017 and 2018.*

**Definition** Real labour productivity is the value of gross domestic product (GDP) at the prices of 2010 divided by the number of employed people; it shows GDP – in forints – per employed person. In the number of employed people no difference is made between people in full-time employment and those with part-time jobs.

**Relevance** The rise in labour productivity contributes to improving the competitiveness of the economy, which is a key objective in the Europe 2020 strategy. According to the strategy, the European Union must increase its competitiveness against its global trade partners and competitors. Because of Hungary's economic openness and its marked dependence on global trends, it is important to improve productivity and competitiveness.

**Analysis** Real labour productivity rose slightly between 2010 and 2016 and somewhat more intensively in 2017 and 2018. GDP per employed person was 6.86 million forints on average in 2010. After a slight fluctuation the value changed to 7.23 million forints/person in 2018. There

was an increasing trend after the turn of the millennium, which was broken as an effect of the crisis, and practically no change has occurred since 2010. This moderate growth in efficiency, however, took place along with a significant rise in economic performance: GDP was up by 23.1% and the number of 15–64-year-old employed people by 16.8% from 2010 to 2018.

**International outlook** Some member countries achieved substantial results in raising productivity between 2010 and 2018, such as Romania, which has achieved a growth of 42.7% in productivity since 2010. The figure for Ireland increased by over 45%, and the Baltic States were successful as well in raising labour productivity. Real labour productivity grew at a rate exceeding Hungary's among Central and Eastern European countries too. The indicator deteriorated in Greece, facing structural economic difficulties, and Italy out of the 28 countries between 2010 and 2018.

***Real labour productivity in the European Union, 2018,** % (2010=100.0)*

**4.7**

| | |
|---|---|
| IE | 145.8 |
| RO | 142.7 |
| LV | 124.7 |
| PL | 123.8 |
| BG | 122.9 |
| LT | 121.0 |
| EE | 114.1 |
| SK | 112.8 |
| CZ | 111.4 |
| MT | 110.5 |
| SI | 109.0 |
| ES | 106.6 |
| ▶ EU28 ◀ | 106.5 |
| DK | 106.2 |
| FR | 105.7 |
| ▶ DE, HU ◀ | 105.5 |
| NL | 105.4 |
| SE | 105.1 |
| UK | 105.0 |
| AT | 103.6 |
| BE | 103.1 |
| FI | 102.8 |
| CY | 102.1 |
| PT | 101.5 |
| IT | 98.4 |
| LU | 98.1 |
| EL | 94.2 |

*Active enterprises*

Since 2000

Since 2016

**Figure 4.8.1  Number of active business partnerships by staff size category**



Thousands

0–2    3–4    5–9    10–19    20–49    50–249    250 or more people employed

! *The rise in the number of active business partnerships starting in 2000 stopped in 2011, their number has decreased since then.*

**Definitions** The number of active enterprises shows the number of registered – legally existing – enterprises performing economic activities in a particular year. Every enterprise that had sales revenue or employed people in a particular year is considered to be active. Registered units: legally existing units in administrative registers at the time of the survey, having a tax number, including those under bankruptcy, liquidation, dissolution or compulsory strike-off proceedings at the particular time.

**Relevance** In the economy of Hungary both large multi-national enterprises and small- and medium-sized domestic enterprises are present. To reinforce the latter and enhance their competitiveness on both the domestic and the external market are important objectives. The effect of the global economic crisis was perceived even by foreign-owned multinational enterprises, and small- and medium-sized enterprises became more vulnerable as well. Nevertheless, small- and medium-sized domestic enterprises continue to account for the largest part of employment. According to the National Framework Strategy on Sustainable Development, developments that help start-up enterprises strengthen need to be

realised. A further important task is to reduce administrative costs burdening enterprises, which are a significant burden on SMEs due to the complexity and permanent changes of rules. The framework strategy lays down that enterprises mostly contribute to creating values and strengthening the economic capital with their mere operation, and their independent responsibility taking can further improve the sustainability of domestic economic resources. Favouring domestic suppliers and first of all local production systems, furthermore, strengthening local and regional economic relations result in the long term in a larger proportion of the value added thus produced enriching people living in Hungary.

**Analysis** The vast majority of business partnerships are small enterprises in Hungary – similarly to most of the member countries of the European Union. Broken down by staff size category 98% of active business partnerships were small enterprises in 2000, having less than 50 employed people. Within this, the proportion of micro enterprises, employing fewer than 10 people, was 89%. The share of medium-sized enterprises, having 50–249 employed people, was 2.0% and that of large enterprises, employing 250 or more people, 0.4%.

**Figure 4.8.2** **Number of registered business partnerships and proportion of those under bankruptcy, liquidation or dissolution proceedings**



Thousands ... %

— Business partnerships, thousands — Proportion of those under bankruptcy, liquidation or dissolution proceedings, %

> **!** *The proportion of business partnerships facing cessation rose from 2008 as a consequence of the crisis, it has decreased since 2015 and was 0.8 percentage point higher in 2018 than in 2000.*

These proportions shifted slightly to the advantage of small enterprises between 2000 and 2017, their proportion was 0.8 percentage point higher in 2017 than the start value, the proportion of medium-sized enterprises shrank by 0.6 percentage point and that of large enterprises by 0.1 percentage point.

The number of registered business partnerships rose year by year until 2011, however, it has decreased continuously since 2014. The growth exceeded 42% between 2000 and 2014, their number was 521 thousand in 2018. The rate of rise ranged between 4% and 5% in the years of start (2000–2004). Following the crisis, the expansion was around 3%. Compared with this, the especially high rise in 2008 (5.7%) can be explained first of all by legislative changes. When starting an enterprise the simplicity of foundation, the amount of capital required for registration and the degree of responsibility are essential aspects. The number of private limited liability companies rose significantly owing to the substantial reduction in the year 2007 of the equity capital required for their foundation. A decrease of 2–4% was typical between 2013 and 2018, which can be explained by legal amendments tightening up rules on company foundation to restrict the potential abuses on the one hand, and higher company registration charges on the other hand. Further legal amendments also had an impact: the new Civil Code, which entered into effect on 15 March 2015, obliged private limited liability companies to raise their equity capital to 3 million forints. The law granted a delay of two years for raising equity capital from the date of entry

into effect, which was extended by an additional year in 2016, but that became immediately due if the articles of association were modified. Private limited liability companies not raising their equity capital were to be transformed into limited or general partnerships. The number of registered business partnerships was 411.5 thousand in 2000, 6.9% were under bankruptcy, liquidation or dissolution proceedings. The number of business partnerships was 27% higher in 2018 than in 2000, meanwhile, the proportion of those under bankruptcy, liquidation, dissolution or compulsory strike-off proceedings increased to 7.7%. A court of registration rules to start compulsory strike-off proceedings if it declares – acting in its competence of legality supervision – the company wound up, if the company did not conclude its dissolution within three years, if the company did not implement change-over to the general rules of dissolution, or if there are grounds for the termination of the company without succession, and dissolution proceedings cannot be conducted. Data on compulsory strike-off proceedings are available from 2014. In 2018 somewhat more than the half of business partnerships were terminated because of compulsory strike-off, 20% each due to liquidation and dissolution and 3.4% with succession.

Summary tables (STADAT)
**3.2 Business units and non-profit organizations, annual performances and expenses of enterprises**

| | |
|---|---|
| SE | 3.40 |
| AT | 3.16 |
| DK | 3.05 |
| DE | 3.02 |
| FI | 2.76 |
| BE | 2.58 |
| FR | 2.19 |
| **EU28** | **2.06** |
| NL | 1.99 |
| SI | 1.86 |
| CZ | 1.79 |
| UK | 1.66 |
| IT, **HU** | **1.35** |
| PT | 1.33 |
| EE | 1.29 |
| LU | 1.26 |
| ES | 1.20 |
| EL | 1.13 |
| IE | 1.05 |
| PL | 1.03 |
| LT | 0.89 |
| SK | 0.88 |
| HR | 0.86 |
| BG | 0.75 |
| CY | 0.56 |
| MT | 0.54 |
| LV | 0.51 |
| RO | 0.50 |

*Research and development expenditure as a percentage of GDP, in the European Union, 2017,* %

## Research and development expenditure, innovation

Since 2000

Since 2016

**Figure 4.9.1   Research and development expenditure as a percentage of GDP**



Legend: Hungary — EU28 — National target — EU target

!   *Though R&D expenditure as a proportion of GDP grew compared to 2000, it remained slightly below the path of growth aimed at.*

**Definitions** The most widespread indicator used to measure and internationally compare research and development expenditure and R&D activities expresses the amount of R&D expenditure as a percentage of GDP. R&D expenditure is equal to the total amount of current R&D costs and R&D capital expenditure, not including VAT, coming from whatever domestic or foreign sources and irrespective of whether the financial source was originally assigned for research, development or any other purpose. Research and experimental development comprise creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications.

Innovation  is the implementation of a new or significantly improved product (good or service) or process, a new marketing method or a new organizational method, in business practices, workplace organization or external relations. Sales revenue from innovation expresses the sales of products new to the enterprise or new to the market as a proportion of the total sales revenue of enterprises.

**Relevance** The Europe 2020 Strategy set as a top priority that R&D expenditure should reach 3% of GDP on average in the EU by 2020. The proportion of R&D expenditure in Europe is lower than the figures for the most significant global competitors, above all the United States of America and Japan, which is primarily due to the low level of investments by enterprises. European countries should improve their conditions for investments by the business enterprise sector in R&D. The National Framework Strategy on Sustainable Development considers it necessary to increase expenditure on innovation, and makes a recommendation to the government, according to which by supporting corporate R&D&I (research and development and innovation) the government can contribute not only to the sustainability of environment but also to the development of domestic small- and medium-sized enterprises. This enhances the competitive advantage of domestic enterprises, which has advantageous effects in respect of the rest of the national capital as well.

**Analysis** Research and development expenditure in Hungary was below 1% of GDP between 1993 and 2008. A change can be perceived from 2009, since when this value has exceeded 1%. R&D expenditure as a proportion of GDP was the

**Figure 4.9.2   Research and development expenditure as a percentage of GDP, by sector**



Business enterprise sector    Government sector    Higher education sector    Not allocated to sectors

+ Preliminary data.

**!**  *The R&D expenditure of the business enterprise sector rose more or less continuously.*

**Figure 4.9.3**  **Sales revenue from innovation, as a proportion of total sales revenue of business enterprises**



Hungary    EU28

a) EU28, 2016: Data not including the figure for Denmark, calculated by HCSO.

**!**  *The proportion of sales revenue from innovation fluctuated in Hungary, the growth in 2014 was followed by a decrease again in 2016.*

highest in 2013 (1.39%), compared with less in the next years, down to 1.20% in 2016, however, increasing to 1.35% in 2017. A dynamic growth occurred in the business enterprise sector, which accounted for no less than nearly three-quarters of R&D expenditure from 2015, while mostly stagnation was observed for higher education and government sectors. The national target is to raise the proportion of R&D expenditure at the level of the national economy to 1.8% by 2020.

**International outlook** R&D expenditure as a proportion of GDP averaged 2.06% in the EU28 in 2017 according to preliminary data. The value exceeded 3% in Sweden, Austria, Denmark and Germany, states spending traditionally much on researches. By contrast, the expenditure was the lowest in Romania, at 0.5%.

Summary tables (STADAT)
**3.4.1 Main ratios of research, development and innovation**
**3.4.2 R&D units and R&D staff number**
**3.4.3 R&D expenditure**
**3.4.4 Total R&D expenditure by financial source**
**3.4.5 Number of publications of R&D units**
**3.4.6 Patent activity**
**6.3.4.1 Data of R&D units**

*Sales revenue from innovation, as a proportion of total sales revenue of business enterprises, in the European Union, 2014–2016, %*

| | |
|---|---|
| SK | 0.20 |
| ES | 0.19 |
| | |
| IE, EL | 0.17 |
| | |
| BE, UK | 0.16 |
| | |
| LT | 0.15 |
| | |
| DE | 0.14 |
| | |
| ▶ EU28 a) ◀ | 0.13 |
| CZ, AT | |
| | |
| IT, CY | 0.12 |
| | |
| FI, EE | 0.11 |
| | |
| NL, FR, PT | 0.10 |
| | |
| SE, SI | 0.09 |
| | |
| ▶ HU, MT, HR, LV ◀ | 0.08 |
| | |
| PL, BG | 0.06 |
| | |
| LU, RO | 0.05 |

a) Data not including the figure for Denmark, calculated by HCSO.

## Structure of consumption

**Figure 4.10.1   Annual consumption expenditure per capita**



Thousand forints

Legend:
- Food and non-alcoholic beverages
- Alcoholic beverages and tobacco
- Clothing and footwear
- Housing, water, electricity, gas and other fuels
- Furnishings, household equipment and routine household maintenance
- Health
- Transport
- Communication
- Culture and recreation
- Education
- Food service activities and accommodation
- Miscellaneous goods and services

> **!** *Personal expenditure per capita amounted to 1,106 thousand forints in 2017, which was 8.2% higher at current prices and 5.7% more in real terms than in the previous year. Consumption grew by 25.1% in real terms between 2010 and 2017.*

**Definitions** Household concept in household statistics: a community of persons who – irrespective of kinship – form a common income and/or consumption unit, sharing partly or completely the current costs of their living. Students living temporarily far from their household and people working far from their household are considered in the household budget and living conditions survey as belonging to the household in cases when mostly the observed household looks after them, and in the case of the latter if they basically contribute with their income to household expenditure.

Quantities of food: weight, excluding packaging, and number of food items consumed in households, collected in the appropriate unit of measurement (kilograms, litres, and number).

Own-produced consumption: consumption of food items, beverages of firewood produced (grown) on/in own or leased land, gardens or household plot and not sold on the market, either produced in own household or received as a gift from other households.

Household consumption expenditure in Hungary includes purchased and own-produced consumption as well. The inclusion or exclusion of this latter, however, differs in the member states, though, in effect, this influences the level of consumption in merely a few countries including Hungary.

PPS (*purchasing power standard*) – as a fictitious currency unit – allows at an artificial exchange rate for the purchase of the same quantity of goods and services in all countries in a particular period, taking into account different prices in different countries.

**Relevance** The indicator provides a real picture of the expenditure of households and so, indirectly, of the living standards of the persons living in them. The indicator shows the proportion of income that households spend to satisfy needs considered

**Figure 4.10.2   Distribution of consumption expenditure per capita**

**2010**

**2017**



- Food and non-alcoholic beverages
- Housing, water, electricity, gas and other fuels
- Transport
- Communication
- Culture and recreation
- Health
- Other (total of food service activities and accommodation, clothing and footwear, furnishings, household equipment and routine household maintenance, alcoholic beverages and tobacco, education, and miscellaneous goods and services)

> **!**
>
> *Housing expenditure as a proportion of consumption decreased by 5.2 percentage points between 2010 and 2017, in parallel, the proportion of expenditure on food items was up by 1.9 percentage points, as a result of which their weight in consumption turned: housing represented the largest proportion of household expenditure in 2010, compared with food items in 2017.*

as basic ones or living needs, and the proportion spent in addition on other 'welfare' activities promoting e.g. their recreation or intellectual development. The National Framework Strategy on Sustainable Development aims in its vision at a sustainable society in which people respect nature, our natural values, and local communities recognise their opportunities arising from the natural resources available to them and organize their production, energy use and consumption based on this.

**Analysis** Hungary's economy basically increased in the period between 2010 and 2017. The consumption of households grew from 772.4 thousand forints to 1,106 thousand forints, 1.4-fold during this period, which was an increase of 25.1% in real terms. The 2008 crisis – in which the indebtedness of households had an outstanding role – still had an impact at the beginning of the 2010s, because of which household consumption stagnated or decreased until 2012. Following this, however – in an already more favourable socio-economic environment –, consumer confidence started

to strengthen, and the level of consumption went up year by year. Household expenditure, moderate earlier on, rose by already around 7% in real terms between 2013 and 2015. The trend continued in 2017 as well, along with a 2.4% rise in consumer prices, when total personal expenditure per capita amounted to 1,106 thousand forints, which was a growth of 8.2% at current prices and of 5.7% in real terms compared to a year earlier and an expansion of 25.1% in real terms compared to 2010.

The living standards of households are clearly shown by expenditure as well as the change in its internal structure. Out of needs considered as basic ones three product groups are highlighted in the following: food items, housing expenditure and transport expenditure, which have a key role in consumption models, since their proportion within total consumption refers to the degree of freedom with which a household can decide in satisfying its additional needs. The higher living standards a household has, the lower the proportion of these items in its expenditure.

In the years following 2010, expenditure on electricity, gas and other fuels rose at a

rate exceeding the average price change in the beginning, when housing expenditure made up the largest part of expenditure. However, the price of electricity, gas and other fuels started to decrease significantly from 2013 – substantially in 2013 and 2014, by around 10% in both years –, and decreasing prices lowered the overhead costs of households, too. After expenditure on housing, water, electricity, gas and other fuels became more moderate, the structure of consumption expenditure changed as well. The largest proportion of household consumption was already represented by amounts spent on food and non-alcoholic beverages from 2014. Due to favourable changes, the share of the three basic items of expenditure, food items, housing and transport, went down continuously in expenditure from 2013, from 60.4% in 2012 to 56.4% in 2017.

**International outlook** Household expenditure in purchasing power standard was 25.0 thousand PPS on average in the 28 member states of the European Union in 2010, the same value for Hungary was 13.5 thousand PPS, 54% of the EU average. Bulgaria (9,334 PPS) and Romania (9,623 PPS) were at the bottom of the ranking, where households spent 37.3% and 38.5%, respectively, and Luxembourg (45.2 thousand PPS) and Cyprus (44.6 thousand PPS) were in the first two places, where households spent 180.6% and 178.4%, respectively, of the EU average, 3.3 times as much as in Hungary. The differences between the member states were significant not only in consumption expenditure but also in its structure, which can be ascribed to socio-economic specificities. The most essential item was expenditure on housing, water, electricity, gas and other fuels (28.4%), and expenditure on

food and non-alcoholic beverages (15.1%) was in the second place in the member countries of the EU28. According to Engel's law, the richer a country or a household, the smaller its food expenditure as a proportion of total expenditure, and the poorer it is, the higher this proportion. The data confirm this relationship, since food expenditure as a proportion of total expenditure was the lowest in more developed regions such as Luxembourg (8.8%), the Netherlands (10.0%) and Germany (11.6%), and the highest in Romania (31.5%) and Bulgaria (29.3%). Expenditure on food and non-alcoholic beverages in Hungary accounted for 18.6% of consumption, which value was 3.5 percentage points higher than the EU average.

Housing expenditure in the member countries of the EU amounted to 7,107 PPS on average, 28.4% of total expenditure, households spent the least on this purpose in Malta (2,147 PPS) and the most in Luxembourg (15.3 thousand PPS) in absolute terms. Expenditure on housing, water, electricity, gas and other fuels as a proportion of total expenditure was the lowest in Malta (20.3 percentage points less) compared with the average of the 28 Member States of the EU, and was the highest in Hungary (10.9 percentage points more) compared with it.

In addition to different levels of income, the marked role of the state, or the lack of it, also has an impact on expenditure in the case of a few items. Due to the outstanding role of the state in education, for example, households in Sweden spent merely 6 PPS, only 2.2% of the EU average, on education, compared with Cyprus, where owing to the lack of subsidies the same value was 1,522 PPS, six times the EU average. 98 PPS, 36.7% of the EU average, was spent on it in Hungary.

Summary tables (STADAT)
**2.2.3.4 Annual per capita expenditure by COICOP, income deciles, regions and type of settlements**

**Consumer price index (inflation)**

**Figure 4.11.1  Consumer price index**                                    (previous year=100.0)



> **!**  *Consumer prices rose by 2.8% on average in 2018 compared to the previous year. Prices increased at a higher annual rate for the last time in 2012, then by 5.7% on average.*

**Definitions**  The consumer price index is an indicator measuring the monthly average change in the consumer prices of goods purchased and services used by households. The harmonised index of consumer prices (HICP) is a consumer price index reflecting EU recommendations, aimed to ensure international comparison across the member countries of the European Union.

**Relevance**  Inflation causes serious damage if it is high and fluctuates. Price instability is disadvantageous to the economy, consumers as well as business enterprises. If the inflation rate fluctuates, i.e. the change in prices differs significantly from time to time, it may result in uncertainty. Because of fluctuating and unpredictable rates of inflation it is more difficult for consumers and enterprises to plan in the long term, the level of savings may decline, so market efficiency deteriorates. When preparing for the introduction of the euro, EU Member States need to meet the convergence criteria laid down in the Maastricht Treaty. In accordance with one of the criteria, the inflation rate of the different Member States shall not surpass the inflation rate of the three best performing EU Member States by more than 1.5 percentage points.

**Analysis**  In the past two decades, inflation was the highest in the years following the regime change. The annual rate of increase of consumer prices decelerated continuously from the second half of the 1990s, and the rate of annual inflation fell below 10% in 2000 for the first time after a long period. Although due to the change of VAT and excise duty this trend was temporarily interrupted in 2004, it continued in 2005 and inflation fell to 3.6%. There was a further acceleration in 2006, predominantly as a consequence of the change in VAT and other taxes on products. Consumer prices rose at a considerably higher rate in 2007 than in previous years, by 8.0%, which stemmed from official measures introduced at the beginning of the year as well as a higher rate of food price rise compared to previous years. The rate of the annual increase of prices decelerated somewhat further in 2008 and 2009, however, this trend stopped in 2010, when the rate of price rise reached 4.9%. One of the most important factors of this price rise was the increase of excise duty from 1 January, in addition, the impact of the relatively high price rise of motor fuels was also observed. Prices rose at a lower rate in 2011

*Harmonised index of consumer prices (HICP) in the European Union, 2018 (previous year=100.0), %*

| | |
|---|---|
| RO | 104.1 |
| EE | 103.4 |
| **HU** | **102.9** |
| LV, BG | 102.6 |
| LT, UK, SK | 102.5 |
| BE | 102.3 |
| AT, FR | 102.1 |
| CZ, LU, SE | 102.0 |
| **EU28,** DE, SI | **101.9** |
| ES, MT | 101.7 |
| NL, HR | 101.6 |
| PT, PL, IT, FI | 101.2 |
| EL, CY | 100.8 |
| DK, IE | 100.7 |

**Figure 4.11.2** **Consumer price index in selected main groups** (previous year=100.0)



Food · Electricity, gas and other fuels for households · Other goods, incl. motor fuels and lubricants · Services

> **!** *The evolution of the consumer price index was dominated by changes in the price of food, tobacco products and motor fuels in 2018, too.*

than in the previous year, by an average 3.9% over a year. Prices were up by 5.7% in 2012, at a higher pace than in the previous year, which was caused predominantly by the increase of VAT at the beginning of the year, excise duty increases and a relatively marked rise in motor fuel prices. Consumer prices rose by 1.7% on average in 2013 compared to the previous year, mainly as a result of official and government measures in the field of prices. In this respect, consumer prices were mostly influenced by price measures reducing utility costs, affecting housing expenditure (district heating, electricity, natural gas, butane and propane gas, water charges and sewage disposal charges, refuse collection, sewer pumping, chimney-sweeping), the introduction of financial transaction duty and the increase of excise duty and margin on tobacco products. Consumer prices were lowered by 0.2% on average in 2014 compared to the previous year, which was mainly due to additional price measures reducing utility costs (natural gas, electricity, district heating), as well as the regulation of payment services (free cash withdrawal). Consumer prices as a whole decreased in 2015 – similarly to 2014 –, by an average 0.1% compared to the previous year, however, were slightly up on the whole in 2016, by 0.4% on average compared to the previous year. Consumer prices went up by 2.4% in 2017

year on year, more substantially than as seen in earlier years, by way of a relatively marked increase in the prices of alcoholic beverages and tobacco products as well as motor fuels and food compared to earlier years.

Prices rose in all main groups of consumption except for consumer durables in 2018, and the rate of increase accelerated significantly in almost all main groups. According to the national consumer price index the highest price rise (of 5.6%) in 2018 was recorded for alcoholic beverages and tobacco products, within which it was the price of tobacco products that went up the most (8.1%), because of the increase of excise duty in several steps. The price of food, representing a large weight in consumption, accounting for about a quarter of the consumer basket, increased by 4.2% on average, within which significant price rises were measured for eggs (11.9%), the group of seasonal food items (10.1%), butter and butter cream (9.7%), pasta products (9.1%), flour (6.6%), bread (5.2%) and rolls (5.0%) over a year. However, sugar cost 18.6% less for consumers. As a result of the reduction of the VAT rate on fish, edible offal of swine and restaurant services to 5% on 1 January, fish prices were cut by 0.2% and the price of edible offal by 3.2% on average over the year as a whole, however, VAT reduction did not already have an impact on restaurant services at the end

of the year (they became 5.7% more expensive on average over the year).

In the case of other goods – pharmaceutical products, motor fuels, as well as housing, household and body care articles and goods for recreation and education – the prices went up significantly, too, by 3.8% on average over the year. Among the groups representing the largest weight within this, motor fuels became 7.9% more expensive – primarily due to a high rate of increase in petroleum prices –, while pharmaceutical products cost 2.4% more for consumers. Excise duty, making up a substantial part of motor fuel prices, changed in April 2017 for the last time in the case of petrol and diesel oil, which resulted from a provision in the new Excise Duty Act adopted in June 2016 (excise duty on motor fuels is dependent on the world market price of petroleum).

Services prices were up by 1.6%, within which above-average increases were observed in the price of repairs and maintenance of dwellings (8.4%), recreational services (6.5%), rent (5.1%), repairs and maintenance of vehicles (4.3%), postal services (3.2%) as well as cultural, educational and entertainment services (2.5%). However, telephone and internet services prices were cut by 5.6%, which was influenced by the reduction of the VAT rate on internet services on 1 January. The price of electricity, gas and other fuels for households increased by 1.4% over a year, within which the price of major utility costs items (electricity, natural gas, district heating) was unchanged, but 12.2% more was paid for firewood and 8.4% more for butane and propane gas. The price of clothing and footwear went up by 0.5% compared to 2017.

Consumers paid 0.4% less on average for consumer durables, within which the price of second-hand passenger cars and that of durable goods for recreation (computers, cameras, telephones, television sets) fell primarily, by 8.5% and 4.0%, respectively. However, new passenger cars became 4.3% and motorcycles 2.0% more expensive.

**International outlook** Based on the harmonised index of consumer prices, prices went up by 1.9% on average in the 28 Member States of the European Union in 2018, following an increase of 1.7% in 2017. Prices rose in all Member States in 2018, at the highest rate, by 4.1% in Romania and at the lowest rate in Denmark and Ireland (by 0.7% in each).

According to the classification of individual consumption by purpose (COICOP), the highest price rise (of 3.8%) was recorded for alcoholic beverages and tobacco products in the EU in 2018 (transport was at the top in the preceding year). Inflation accelerated at the highest pace in this group, the price index there was 1.4 percentage points higher than in 2017.

Above-average increases were measured in the price of transport (3.5%), housing, water, electricity, gas and other fuels for households (2.5%) and restaurants and hotels (2.3%), similarly to 2017. The rate of price increase slightly decelerated in the case of food and non-alcoholic beverages, from 2.1% in 2017 to 1.9% in 2018. 1.3% more was spent on recreation, 1.1% more on health, 0.9% more on miscellaneous goods, 0.6% more on furnishings, household equipment and routine maintenance and 0.1% more on clothing and footwear than a year earlier.

Consumers paid (0.8%) less solely for telecommunications services in 2018, similarly to the previous year.

Summary tables (STADAT)
**3.6.1 Time series of consumer price indices**
**3.6.2 Harmonised consumer price indices**
**3.6.5 Consumer price indices by detailed**
     **groups of expenditure**

*Economic activity*

| | |
|---|---|
| SE | 82.9 |
| NL | 80.3 |
| DK | 79.4 |
| EE | 79.1 |
| DE | 78.6 |
| FI, UK | 77.9 |
| LV | 77.7 |
| LT | 77.3 |
| AT | 76.8 |
| CZ | 76.6 |
| PT | 75.1 |
| CY, SI | 75.0 |
| MT | 74.2 |
| ▶ EU28, ES | **73.7** ◀ |
| IE | 72.9 |
| SK | 72.4 |
| ▶ FR, **HU** | **71.9** ◀ |
| BG | 71.5 |
| LU | 71.1 |
| PL | 70.1 |
| BE | 68.6 |
| EL | 68.2 |
| RO | 67.8 |
| HR | 66.3 |
| IT | 65.6 |

**Figure 4.12.1   Proportion of economically active population aged 15–64**



Legend: Hungary, men · Hungary, women · EU28, men · EU28, women

> **!** *Compared to the EU28 average, our gap in activity rates has narrowed, with both men and women improving their economic activity rates in recent years.*

**Definition** Economically active people are those who are present in the labour market as employed or unemployed persons. Economically inactive people are those who did not work or did not have a regular income-earning job during the reference week and were not looking for a job or were looking for a job but could not start working. This includes, among others, passive unemployed people who want to work but do not try to find a job, considering their job opportunities unfavourable.

**Relevance** Increasing labour market participation is key to improving social cohesion and integrating marginalized social groups. One element of this is to increase employment, the other to increase the labour market activity of the unemployed and to involve some inactive groups in job searching. The most important indicator of economic activity is the proportion within the population aged 15–64.

**Analysis** In Hungary, after the change of the political system, the number of the employed decreased significantly due to the economic recession. Only a part of those who lost their jobs

*Proportion of economically active population aged 15–64 in the European Union, 2018,* %

appeared on the labour market as unemployed, with the remainder increasing the number of inactive people. Thus, the number and ratio of economically active people continued to decline until the second half of the 1990s, reaching a nadir in 1997, followed by a slow rise (fluctuating due to setbacks). High levels of inactivity have become a feature of Hungary since the early 2000s. The adverse effects of the global economic crisis that began at the end of 2008 did not spare Hungary, and with the fall in employment due to mass layoffs, the number of unemployed increased. In the two years following the outbreak of the crisis, the size of the labour market did not change, although as a result it was restructured, but inactivity did not increase further. Employment rates have improved since 2011. The number of employed has increased steadily over the past seven years, with the number of unemployed beginning to decline clearly from 2013, showing some phase lag. Within the unemployed, it was mainly the group of disadvantaged job seekers that increased especially, which was mainly addressed by the expansion of public work programs. Trends in activity rates for men and women after the crisis are slightly different, with women showing an increase since 2009, while men have seen a clear rise since 2011.

**Figure 4.12.2 Proportion of economically active population aged 15–64 by county, 2018**



%

| | |
|---|---|
| | −69.0 |
| | 69.1–71.0 |
| | 71.1–73.0 |
| | 73.1– |

Source: Hungary – Labour Force Survey of the HCSO.

**!** *There are significant regional differences in the country with highest activity rates in Budapest and Vas county (75.4% and 75.1%) and the lowest in Somogy county (65%).*

In 2018, the activity rate in the 15-64 age group was 79.1% for men and 64.9 for women. This represents an increase of 3.8 percentage points for men and 2.7 percentage points for women compared to 2015.

Following the change of regime, the difference in economic activity between regions remained below 10 percentage points until the mid-1990s, followed by a fluctuation of around 10% until the turn of the millennium, and persistently above 10 per cent figures after the turn of the millennium until 2014. The best-performing region was the Budapest region both in 2015 and 2018, with activity rates of 72.9% and 75.4%, respectively. The worst performing region in 2015 was Northern Hungary (64.7%) and in 2018 Southern Transdanubia (68.4%). The difference between the best (Budapest) and worst performing (Northern Hungary) regions was the smallest (8.3 percentage points) in 2015. By 2018, this difference had dropped to 7.1 percentage points, with South Transdanubia having the lowest value. Since 2015, the activity rate has increased for each region. In 2018, Budapest (75.4%) had the highest economic activity, with Vas county (75.1%) having the highest value among the counties, ahead of Győr-Moson-

Sopron (74.7%) and Zala county (73.7%). Somogy county had the lowest activity rate of 65%, 2.4 percentage points below Tolna county. Following the outbreak of the crisis, the largest improvements since 2009 occurred in Hajdú-Bihar and Szabolcs-Szatmár-Bereg counties, with the proportion of economically active people increasing by about 16 percentage points in both counties.

**International outlook** Hungary lags behind the European Union in terms of economic activity. Our deviation from the average ranged between 9 and 10 percentage points following the outbreak of the crisis. In 2018, Member States averaged 73.7%, with Hungary at 71.9% showing an upward trend, albeit still ranked below average. Significant improvement can be seen compared to 2015, with our then 4 percentage point lag being reduced to 1.8 percentage points by 2018. In 2018, Sweden (82.9%) had the best activity rate and Italy (65.6%) the worst.

Summary tables (STADAT)
**2.1 Labour market**

**Employment rate**

Since 2000

Since 2017

| | |
|---|---|
| SE | 82.6 |
| CZ, DE | 79.9 |
| EE | 79.5 |
| NL | 79.2 |
| UK | 78.7 |
| DK | 78.2 |
| LT | 77.8 |
| LV | 76.8 |
| FI | 76.3 |
| AT | 76.2 |
| PT, SI | 75.4 |
| MT | 75.0 |
| ▶ HU ◀ | **74.4** |
| IE | 74.1 |
| CY | 73.9 |
| ▶ EU28 ◀ | **73.1** |
| BG, SK | 72.4 |
| PL | 72.2 |
| LU | 72.1 |
| FR | 71.3 |
| RO | 69.9 |
| BE | 69.7 |
| ES | 67.0 |
| HR | 65.2 |
| IT | 63.0 |
| EL | 59.5 |

*Employment rate of people aged 20–64 in the European Union, 2018, %*

**Figure 4.13.1  Changes in the employment rate of people aged 20–64**



Legend: Hungary, men — Hungary, women — EU28, men — EU28, women

! *After the turn of the millennium, the employment rate of 20-64 year olds stagnated, then worsened during the crisis, but from 2011 there was a steady increase in employment.*

**Definition** Employment rate represents the percentage of employed people aged 20–64 within the same age group. Persons in employment are those who have worked and earned an income for at least one hour during the reference period (the so-called reference week, Monday to Sunday), or have been away from work temporarily (due to holidays, sickness, etc.).

**Relevance** The value of human resources is essentially determined by the ability to work. Increasing employment and improving the labour market position of disadvantaged groups are important tools for combatting poverty and reducing inequalities. Programs to reduce social exclusion need to broaden the scope of those who can be included in employment and to improve employment. However, employment not only enhances income security but also reinforces social inclusion through the establishment and development of social capital. The Europe 2020 employment targets are being monitored in the 20–64 age group, for which the European Union has set a 75% target for 2020. Therefore, we examine the development of this indicator in this age group.

**Analysis** In the two and a half decades under review, labour market participation and thus employment were influenced by changes in social welfare systems, education and demographic processes in addition to economic changes. In the 1990s, large numbers of the formerly active population became unemployed or took advantage of the opportunities offered by early retirement and withdrew from the labour market. The labour market participation of younger people has been fundamentally reshaped by the vertical and horizontal expansion of education – that is, a lengthening learning cycle and increasing enrolment – and the shrinking labour supply, which has been reflected in a significant decline in the employment rate of those under 25 in particular. Since the end of the 1990s, the slow but steady rise in the retirement age has kept the older population active longer, leading to a spectacular rise in employment. In 2012, restricting early retirement entitlements and revising the invalidity benefits reinforced this process, redirecting a significant inactive population back into the labour market.

As a result of the economic shock following the change of regime, employment dropped dramatically until 1997, when only 57.8% of the population aged 20–64 belonged to

**Figure 4.13.2  Employment rate of 20–64 year olds by highest level of education**



| Hungary, with primary education | Hungary, with secondary education | Hungary, with tertiary education |
| EU28, with primary education | EU28, with secondary education | EU28, with tertiary education |

> **!** *Hungarian indicators have significantly improved in all three levels of education in recent years, and the gap with the EU average has essentially disappeared.*

the employed population. Subsequently, employment increased slowly and then stagnated from the early 2000s to 2007. As a result of the economic crisis, employment decreased significantly by more than 2 percentage points, reaching its lowest point in 2010, when the employment rate was 59.9%. In 2011, a slight recovery was already noticeable, but we saw a spectacular growth only from 2012. In 2012 and 2013, the value of the rate increased by 1.2 and 1.4 percentage points, respectively, and in 2015 it was 2.2 percentage points higher than one year earlier. In 2016, a further increase of 2.6 percentage points resulted in a value of 71.5%. The improving trend continued, but the rate of employment growth slowed down to 1.8 percentage points in 2017 and 1.1 percentage points in 2018, reaching a level of 74.4%.

The extension of public work programs starting in 2009 has greatly contributed to employment growth and thus to a significant improvement in the indicator. A steep change has been observed since 2012, in line with the increasing use of this employment policy instrument and the fact that in Hungary the social assistance system is linked to participation in public work programs. The number of public workers has multiplied compared to the pre-crisis years and reached its highest level in 2016, when on average 217 thousand 20–64 year-olds were public workers. In 2018, the average number of public workers was

147 thousand, 32% less than in 2016 and 23% less than last year. The number of those employed in local units abroad has been steadily increasing year after year after our accession to the EU. Following the opening of the labour market in Austria and Germany in 2011, it rose to 115 thousand in 2016 as a result of a slightly more dynamic growth. Subsequently, a slow decline can be observed, with 108 thousand people in 2017 and 103 thousand in 2018 – 2.4% of the employed population aged 20–64 – saying they work abroad.

Job finding opportunities are significantly influenced by educational attainment. People with low educational attainment (up to 8 grades in primary school) were hit hardest by the post-transition employment decline. Differences in employment rates between primary and tertiary graduates have increased significantly. In the early 1990s, the employment rate of tertiary-level graduates was twice as high as that of primary-level graduates, which continued to increase until the mid-2000s. The launch of public work programs has improved this situation, as these programs are primarily aimed at the group of low-skilled people. In 2009, only 5.4% of low-skilled workers worked as public workers, while between 2014 and 2015, nearly three-quarters of their employment rate increase was due to the expansion of public work programs. Public work programs reached their highest-ever share in 2016, when about 22.3% of

Figure 4.13.3 **Employment rate by county, 2018**



%
- −66.0
- 66.1–71.0
- 71.1–74.0
- 74.1–76.0
- 76.1–

> **!** *Regional disparities continued to exist: Budapest, Pest, Western and Central Transdanubia were among the better-performing regions, while Southern Transdanubia, Northern Hungary and the Northern Great Plain were disadvantaged in terms of employment. Southern Great Plain seems to be catching up with the better-performing regions with an improvement of 7.2 percentage points (compared to 2015).*

the low-skilled worked in this form. Although this was followed by a 2 percentage points decline in 2017 and a decrease of around 6 percentage points in 2018, the employment rate continues to increase. The low-skilled continue to have the least favourable opportunities on the labour market, are mostly employed on fixed-term contracts and through public work programs. Their employment in international comparison is good, as in recent years, the gap compared to the EU28 average has declined significantly in the 20-64 age group, from the previous nearly 20 percentage points to just 0.4 percentage point. The employment rate of people with secondary and tertiary education is even better, as it has been above the EU average since 2016, by 1.5 and 0.6 percentage points, respectively, in 2018.

Regional differences in employment have traditionally been significant. The most prominent fracture line extends along Western-Transdanubia (77.9%), Budapest (77.3%), Pest (76.3%) and Central Transdanubia (75.9%), sharply separating this more favourable area from the other, employment-disadvantaged, part of the country. In 2018, the most disadvantaged regions were Southern Transdanubia, Northern

Hungary and Northern Great Plain. In 2015, even Southern Great Plain, seeming to be catching up in 2018 (74.3%), also belonged to this group. Regional differences in employment decreased from 2017 to 2018. The gap between the regions with the best (Western Transdanubia: 77.9%) and worst (Southern Transdanubia: 69.4%) figures was 8.5 percentage points in 2018. However, 2018 saw a 5.3 percentage points higher employment rate in the most backward region than the 2015 low (Northern Great Plain: 64.1%).

**International outlook** Hungarian employment rate is currently above the EU average. Looking at the 20–64 age group, it can be seen that in 2004 our country was characterized by a lower than EU average employment rate, the gap widened and peaked in the years around the crisis (at 8.9 percentage points). Subsequently, the employment rate in Hungary increased above the EU average. As a result, the employment rate has been steadily approaching the EU average since 2010, and has remained above it since 2016.

Summary tables (STADAT)
**2.1 Labour market**
**6.2 Society**

## *Unemployment rate*

Since 2000

Since 2017

**Figure 4.14.1  Changes in the unemployment rate of 15–74 year-olds**



Hungary — EU28

> **!** *The unemployment rate in Hungary increased steadily from the early 2000s to 2010, followed by a smaller decline and from 2013 onwards a greater decline.*

**Definition** Unemployed: a person who has not been working the given week and has no job that he has been temporarily away from, actively sought work during the four weeks prior to the interview, was available at the time of the interview, meaning he could start working within two weeks if he was offered a suitable job, or; has already found a job where he will start working within 90 days. The unemployment rate is the ratio of the unemployed to the economically active (those who are present in the labour market, i.e. the employed and the unemployed).

**Relevance** The risk of social exclusion and poverty is more likely to affect the social groups in which people are unable to find work due to lack of jobs or having no skills and competences relevant to employment as well as no appropriate qualifications. These disadvantages vary considerably from one area to another and are concentrated mainly in the northeast and southwestern regions of the country. These groups are unable to catch up without strengthening social cohesion and improving their labour market position. Encouraging and supporting young people to work and gain work experience to support their future employment is also key to sustainable development.

**Analysis** Mass unemployment appeared in Hungary in the early 1990s. It peaked in 1993, when the unemployment rate was 12%, according to Labour Force Survey data. The decline then lasted until 2001, when only 5.7% of the economically active population aged 15-74 were considered unemployed. From 2002, a long-term process started, with the unemployment rate rising gradually and steadily. The economic crisis unfolding in the autumn of 2008 significantly impacted the labour market, with the number and rate of unemployed increasing significantly as a result of closures and redundancies. The unemployment rate was consistently high between 2009 and 2013, peaking above 10% in 2010 (at 11.2%). From 2014, favourable labour market developments were seen along with increasing employment and declining unemployment rates. 2015 saw significantly lower levels, at 6.8%, than in the period immediately preceding the crisis, with rates falling further in the following three years hitting an all-time low, at 3.7%, in 2018.

*Unemployment rate of 15–74 year-olds in the European Union, 2018,* %

| | |
|---|---|
| EL | 19.3 |
| ES | 15.3 |
| IT | 10.6 |
| FR | 9.1 |
| HR | 8.5 |
| CY | 8.4 |
| LV, FI | 7.4 |
| PT | 7.1 |
| **EU28** | **6.8** |
| SK | 6.5 |
| SE | 6.3 |
| LT | 6.2 |
| BE | 6 |
| IE | 5.8 |
| LU | 5.6 |
| EE | 5.4 |
| BG | 5.2 |
| SI | 5.1 |
| DK | 5 |
| AT | 4.9 |
| RO | 4.2 |
| UK | 4 |
| PL | 3.9 |
| NL | 3.8 |
| **HU**, MT | **3.7** |
| DE | 3.4 |
| CZ | 2.2 |

**Figure 4.14.2   Unemployment rate by age-group**



15–24 year-olds    25–29 year-olds    55–59 year-olds    15–74 year-olds

**!** *Over the long term, the unemployment rate is the highest among the youngest 15–24 year–olds, but has fallen by half over the last 4 years.*

In the 1990s, men were more affected by unemployment than women. 2000 saw a 1.4 percentage point gender gap, which disappeared by 2004, when both genders had a 6.1% rate. Subsequently, the unemployment rate for women rose faster than that for men, and for women, as in the European Union in general, was higher than for men. As a result of the economic crisis that unfolded in autumn 2008, which resulted in more male-dominated jobs being lost than women-dominated ones, male unemployment exceeded that of women. 2013 saw a rebalancing again, and the rates for both sexes have improved at a similar rate in recent years. Young people are more likely to be unemployed than their older counterparts. The unemployment rate for the 15–24 and 25–29 age-groups was above the national average throughout the period under review, with the unemployment rate for the 15–24 age-group being between 2 and 2.5 times higher. Increasing youth unemployment rate is primarily related to their significantly declining economic activity (labour market presence as employed and unemployed), which is due to their longer secondary and expanding tertiary education. Young unemployed people are mostly from unskilled, uneducated groups, i.e. from those who enter the labour market at a disadvantage compared to their better educated counterparts, who may already have work experience and to those being in older age-groups. As a result of the

economic crisis, one in four economically active people aged 15–24 was unemployed in 2009, which increased to a two-decade high at 28.2% by 2012. Since then, due to favourable labour market developments, the age-specific rate has fallen by 18 percentage points, to 10.2% in 2018. Public work and measures to help people get their first job have also played a part in the positive development of youth unemployment. 25–29 year-olds had a 14.2% unemployment rate in 2010, the highest in this age-group over the period under review, falling to 4.4% in 2018, thus approaching the national average. Territorial dimensions show significant disparities. Declining unemployment (as a sign of recovery from the crisis) was most pronounced in 2011 in the more developed area of northern Transdanubia, where crisis-hit industries began to recover. In 2012 and 2013, the unemployment rate dropped significantly in two disadvantaged regions (Southern Transdanubia and Northern Hungary), by 2.8 to 3.5 percentage points, respectively. Starting in 2014, each region experienced a significant decline in connection, inter alia, with the expansion of public work programs. However, regional disparities in unemployment persisted while the labour market situation improved, with the unemployment rate being the lowest in Western Transdanubia (2.0%) and the highest in the Northern Great Plain (6.6%) in 2018.

**Figure 4.14.3** **Unemployment rate by county, 2018**



%

| | |
|---|---|
| | −2.4 |
| | 2.5–2.9 |
| | 3.0–4.9 |
| | 5.0–6.4 |
| | 6.5– |

**!** *In 2018 the lowest unemployment rate was measured in Győr-Moson-Sopron (1.4%) and the highest in Szabolcs-Szatmár-Bereg county (8.8%), the traditional territorial division remained unchanged.*

**International outlook** Changes in the unemployment rate reflect well the impact of the global economic crisis on the labour market and its recovery. While in 2010 Hungary's unemployment rate was 1.6 percentage points above the EU average, it was 0.6 percentage point lower in 2013 and 3.1 percentage points lower in 2018. Hungary ranked third among EU member states in 2018 with the same rate as Malta, at 3.7%, and ranked 18th in 2012. Unemployment is the highest in Greece and Spain, with 19.3% and 15.3%, respectively. Unemployment rates were lowest in Czechia (2.2%) and Germany (3.4%), and were below 5% in six other countries: Austria, Romania, the United Kingdom, Poland, the Netherlands and Malta.

Summary tables (STADAT)
**2.1.15 Number of unemployed persons by age-group and sex**
**2.1.16.1 Unemployed persons by industry of previous workplace and by sex – NACE Rev. 1.1**
**2.1.16.2 Unemployed persons by industry of previous workplace and by sex – NACE Rev. 2**
**2.1.17.1 Unemployed persons by major occupational groups – HSCO'93**
**2.1.17.2 Unemployed persons by major occupational groups – HSCO'08**
**2.1.18 Unemployed persons by status in employment**
**2.1.19 Unemployed persons by length of job search**
**2.1.20 Unemployed persons by highest educational qualification and sex**
**2.1.21 Number of unemployed persons by reason for leave of their previous workplace by sex**
**2.1.22 Number of unemployed persons by type of employment sought, by sex**
**2.1.23 Unemployment rate by age-group and sex**
**2.1.24 Unemployment rate by highest educational qualification and sex**
**6.2.1.6 Number of unemployed persons**
**6.2.1.11 Unemployment rate**

**4.15**

| EL | 13.6 |

| ES | 6.4 |
| IT | 6.2 |

| SK | 4.0 |
| FR | 3.8 |
| HR | 3.4 |
| PT, LV | 3.1 |
| BG, | |
| **EU28** | **3.0** |
| BE | 2.9 |
| CY | 2.7 |
| SI | 2.2 |
| IE | 2.1 |
| LT | 2.0 |
| RO | 1.8 |
| FI | 1.6 |
| AT, DE | |
| **HU** | **14** |
| LU, NL | |
| EE | 1.3 |
| SE | 1.2 |
| DK, UK | 1.1 |
| PL, MT | 1.0 |
| CZ | 0.7 |

*Long-term unemployment rate*

Since 2000

Since 2017

**Figure 4.15.1   Changes in long-term unemployment rates by sex**



Hungary, men ─── Hungary, women ─── EU28, men ─── EU28, women

> **!** *After peaking in 2010, the long–term unemployment rate continued to decline, reaching its lowest level in 2018 over the last two decades.*

**Definition** Long-term unemployed people are a special group of unemployed people who have been actively seeking employment for at least 12 months, and the very long-term unemployed, for at least 24 months. This indicator shows the proportion of the long-term unemployed within the economically active population (those who are present in the labour market, i.e. the employed and the unemployed).

**Relevance** One of the priorities of sustainable development is improving social cohesion and, at the same time, improving employment. As the time spent in unemployment increases, the opportunities of employment deteriorate and the risk of poverty and exclusion increases. Therefore, targeted programs and personalized services should be offered to enable the (re-) integration of the unemployed, especially the

*Long-term unemployment rate in the European Union, 2018, %*

long-term unemployed, into the labour market and to achieve the goal of an inclusive society in the spirit of sustainable development.

**Analysis** Many people became unemployed during the transition to a market economy following the change of regime. Some of them appeared in the labour market as active job seekers, but the unfavourable economic situation did not allow them to find a job. For many, this meant a period of unemployment of more than one or two years, becoming long-term and very long-term unemployed. The long-term unemployment rate increased until 1996 (5.3%), followed by a slow decline to 2.5% by 2003. The crisis has given another boost to this unfavourable phenomenon, not only the number of unemployed has risen rapidly, but also the time spent looking for a job. Long-term unemployment rate rose to 5.6% in 2010, but fell to pre-crisis levels (3.1%) in 2015, and by 4.2 percentage points to the lowest level (1.4%) in the last two decades by 2018. The rates

for men and women since 2003 have been nearly the same in both value and trend. In 2018, 41% of the unemployed have been looking for a job for a year or more, a significant improvement over previous years' values of around 50%. The average time spent by the unemployed to find a job also shows a downward trend, with 15.7 months in 2018.

**International outlook** After 2008, as the crisis deepened, long-term unemployment rates increased in both Hungary and the European Union. However, while the upward trend in Hungary seemed to be reversed during 2011 and 2012, the proportion of long-term job seekers in the EU continued to increase. In the period 2008-2012, the Hungarian value was higher than the average rate in the member states of the Union, but from 2013 it has fallen slightly below the EU average, then its value gradually halved. Hungary ranked 8th in the EU with 1.4% in 2018, with the same rate as other four member states; while in 2010 it was 19th. Rates vary considerably across Member States. The highest long-term unemployment rate in 2018 was in Greece (13.6%), while in the best-performing Czechia it was 12.9 percentage points lower, at 0.7%.

Summary tables (STADAT)
**2.1.19 Unemployed persons by length of job search**

*Average age at the time of leaving the labour market*    **Since 2000**

**Since 2017**

**Figure 4.16.1**    **Average age of old-age and old-age-type retirement by year of granting the pension**

Years



Source: Hungarian State Treasury (until 31 October National Chief Directorate for Pension Fund).

**!** *The average retirement age increased in case of both sexes. In 2017 the female average age decreased slightly; however, in 2018 the earlier tendency continued.*

**Definition** The available data provide only indirect information on the exit from the labour market, namely, they inform on one of the typical ways of leaving the labour market for masses, i.e. on retirement. The 2012-2013 data also include the benefits under retirement age introduced in 2012, partly in order to provide more accurate results in respect of leaving the labour market and partly for comparability with the previous period.

**Relevance** In order to minimise the increasing pension burdens, efforts should be made for the population of working age to continue to work longer. Accordingly, increasing the retirement age to 65 years was among the objectives of the European Union for 2010. The preservation of the social integration of the elderly is indicated as a target in the National Framework Strategy on Sustainable Development of Hungary. This, among others, aims to strengthen the importance of income arising from assets and work for old people. The government can promote this with programmes aiming to increase the employment and enterprises of old people.

**Analysis** In the 2010s, changes in average retirement age were determined by the restriction of early retirement opportunity in 2012, the introduction of retirement opportunity after 40 years of entitlement time for women in 2011, and the increase in the retirement age since 2014.

As a result of the above processes, the average retirement age for men has been showing an upward tendency since 2010. Due to the elimination of the early retirement opportunity, this process has accelerated since 2012. Since 2014 the increase in the average age has been determined by the raising of the retirement age, and as a result, both men and women born in 1953 reached the old-age retirement age at the age of 63, in 2016. The age limit keeps increasing; persons born in 1954 reached the old-age retirement age in the second half of 2017 and in the first half of 2018.

The vast majority of men can retire the earliest possible after reaching the retirement age, and only few are entitled to old-age type allowances prior to this age. Therefore, their average retirement age is increasing further: since 2012 the

average age of men receiving old-age allowances has generally exceeded the retirement age limit to a small extent. However, the early retirement allowances slightly decrease the average age, so in 2018 it equalled the retirement age limit.

In case of women, the increase in the average retirement age was lower, with only an insignificant increase compared to 2010 and to a more considerable extent since 2011 (2.7 life years). The reason for this was the single effect owing to the pension provision allocated on the basis of 40 years of entitlement time: the average retirement age of women decreased by more than 2 life years. Since its introduction in 2011, the new old-age type allowance has been specified on this title for 60% of the women entitled.

*Gender pay gap*

**Since 2000**

**Since 2015**

| | |
|---|---|
| EE | 25.3 |
| CZ | 21.8 |
| DE | 21.5 |
| UK | 21.0 |
| AT | 20.1 |
| SK | 19.0 |
| PT | 17.5 |
| FI | 17.4 |
| LV | 17.0 |
| **EU28** | **16.2** |
| NL | 15.6 |
| FR | 15.2 |
| DK | 15.0 |
| LT, BG | 14.4 |
| ES | 14.2 |
| **HU** | **14.0** |
| CY | 13.9 |
| SE | 13.3 |
| MT | 11.0 |
| SI | 7.8 |
| PL | 7.2 |
| BE | 6.1 |
| LU | 5.5 |
| IT | 5.3 |
| RO | 5.2 |

***Gender pay gap in the European Union, 2016,** %*

**Figure 4.17.1   Gender pay gap calculated on the basis of full-timers' monthly wages**



Source: National Labour Office.

**!**  *The difference between the wages of men and women has primarily been showing a downward trend with some fluctuations in the last two decades.*

**Definition** Calculation practice of the gender pay gap in Hungary: it shows the percentage difference between the average gross monthly earnings of full-time female and male employees. Within the national economy, enterprises with at least 5 employees, the entire public sector, as well as selected non-profit organizations are taken into account to determine the value of the index.

Gender pay gap (GPG) in the European Union: the difference between the average gross hourly earnings of men and women as a percentage of the average gross hourly earnings of men in organizations with at least 10 employees of the national economy, except for the agriculture and public administration sectors.

**Relevance** Indicators measuring the difference between male and female earnings are important from the point of view of evaluating equal opportunities. The principle of 'equal wage for equal job' is not only enforced by the Hungarian labour and equality laws (*The Labour Code*, equality act), but it is also an acquis in the European Union and one of the sustainable development objectives of the UNO.

**Analysis** The gender pay gap essentially showed a downward trend between 1995 and 2016. Various reasons can be adduced for the difference between men and women, and only a part of them derive from discrimination. There are no generally accepted standards for measuring the effect of discrimination in the Hungarian and international statistical practice, and that is the reason for using a complex indicator expressing the joint effect of different factors. In the most wide-spread practice in Hungary, the percentage difference is calculated on the basis of monthly gross earnings of full-time employees. Its extent largely depends on the economic sector in which the male and female employees work, since the structures of jobs in the NACE sections are considerably different and a considerable difference can be observed according to the occupations, too. In 2016 the average earnings

of women was a bit higher than that of men in mining, the building industry, transportation and storage. In these sectors most employees are men and perform manual work providing lower earnings, while women tend to have non-manual jobs providing higher earnings. Although the earnings advantage of men can clearly be seen in agriculture and water management, it is minimal partly because of the above reasons. Women have to face the largest disadvantage in the sectors of financial service, art and entertainment.

It can also be established that the gross earnings of women working at smaller enterprises is far closer to that of men than at larger enterprises. Educational attainment is another considerable wage-influencing factor, and although women tend to have higher qualifications, their earnings differs most from that of men among the individuals with tertiary education with a pay gap of 32%. The differences measured along occupations correlating well with the specialisation of the qualification are also significant; the earnings disadvantage of women is the largest in the case of occupations requiring the individual application of tertiary level qualifications (27%) and managers (25%).

In Hungary, an important wage-influencing factor is whether an employee works in the competitive sector or in the public sector. In the public sector, two-thirds of employees are females. The 6 percentage-point fall of GPG in 2002 was largely affected by the one-time wage supplement of civil servants and public employees paid in the second half of 2001, because it affected more female employees than males, who mainly work in the competitive sector. 2008 was the last year when the basic remuneration rose and a 13th-month salary was paid, resulting in an increase in the gender pay gap later. The wages of healthcare workers were raised in several steps between 2013 and 2017 and the wages of teachers in 2013-2014, which improved the situation of women. In these fields wages continued to rise in 2015; however, the pay rise in the field of law enforcement increased the gender pay gap because of the dominance of male workers. After a downward tendency, the 13% pay gap measured in 2014 grew to 16% in 2015 and 17% in 2016.

**International outlook** The computation practice of the Gender Pay Gap (GPG) differs in the European Union and in Hungary. Each country measures the differences in the hourly wages and salaries; therefore, GPG can relate to part-time workers, too. At the same time, wages and salaries exclude irregular payments, so overtime hours or gender differences in premiums do not cause bias. The GPG calculated in this way indicates that the tendency has been improving in Hungary over the past years. In Hungary the value of this indicator was 14%, lower than the 16% value of the EU in 2016, which ranked Hungary in the midfield.

## 4.18

### Employment chance of young people

Since 2006

Since 2017

**Figure 4.18.1    Employment rate of 20–34 year-old recent graduates**



*In Hungary, the employment rate of recent graduates is higher than the EU average.*

**Definition** This indicator is defined as the percentage of the 20–34 year-old population that are employed, successfully completed their secondary or tertiary education and left the education system 1–3 years before the survey.

**Relevance** One of the objectives of the EU strategy entitled *Education and Training 2020* is that 82% of 20–34 year-old young people completing secondary or tertiary education 1–3 years before the survey have a job.

**Analysis** In Hungary the employment rate of young people was about 80% during the years preceding the crisis, followed by a downward tendency from 2008 and a nadir in 2012 (73.3%). Then the employment opportunities of the 20–34 year-old recent graduates improved considerably: in 2014 it already exceeded the EU average, and in 2016 it reached 85%, exceeding the target value set by 2020. The value of the indicator kept increasing and reached 87.5% by 2018.

*Employment rate of recent graduates aged 20–34, 2018, %*

According to the data of 2018, the employment rate of recent graduates exceeded the EU target value set by 2020 and the EU average of 2018 in each region in Hungary.

The employment rate of recent graduates shows differences between men and women. In 21 Member states of the EU28, the employment indicator of young men is higher than that of young women. The largest difference was measured in Slovakia and Czechia, with 15.8 and 12.6 percentage points lower employment chances for women than for men, respectively. In Hungary the employment chances of the relevant men are 8.2 percentage points higher.

Except for Slovakia, it is true for all EU Member States that young people with higher educational attainment have a better chance of getting a job in the labour market than young people with secondary educational attainment. While in Slovakia the employment rate of young graduates with secondary educational attainment exceeds that of young graduates with higher educational attainment, in Romania and Belgium the difference is more than 20 percentage points in favour of young graduates with higher educational attainment. In Hungary

**Figure 4.18.2    Employment rate of 20–34 year-old recent graduates by region, 2018**



%

| | |
|---|---|
| | – 82.9 |
| | 83.0 – 85.9 |
| | 86.0 – 88.9 |
| | 89.0 – |

**!**  *The employment rate of recent graduates is higher than the 2020 target in each region.*

the difference is 7.5 percentage points, which means that the chances of fresh graduates with secondary and higher educational attainment are a bit more well-balanced than those shown by the 8.7 percentage-point difference calculated for the EU average.

**International outlook** Considering the EU average, the employment rate of fresh graduates had been growing at a satisfying rate until the year of the crisis, reaching the target value of 82% in 2008. The value of the indicator was showing a downward tendency until 2013 (75.4%); however, there has been an increasing tendency since then. In 2018 the EU average value was 81.6%. According to the data of 2018, 17 Member States have already managed to exceed the 82% reference value set by 2020. The most favourable situation was measured in Malta (94.8%), Germany (92.1%) and the Netherlands (92.0%), while the lowest values were recorded in Greece (55.3%) and Italy (56.5%).

## Old-age dependency ratio

Since 2000

Since 2016

**Figure 4.19.1** **Old-age dependency ratio*** (65 year-olds and older population as a percentage of the population aged 15–64 years)



\* The dashed line signals the projection data.
Source of data: 1990-2016 HCSO, from 2017 the HCSO Demographic Research Institute, according to the baseline variant of population projections (Projection database).

**!** *Since 1990, the value of the indicator has been increasing slowly but evenly. According to the population projections, this ratio will be increasing until 2063 and then it will start to decrease slowly.*

| | |
|---|---|
| IT | 35.2 |
| FI | 34.2 |
| EL | 34.1 |
| PT | 33.3 |
| DE | 32.8 |
| BG | 32.5 |
| SE | 31.7 |
| FR | 31.6 |
| LV | 31.4 |
| HR | 30.7 |
| EE | 30.6 |
| ▶ EU28 ◀ | 30.5 |
| DK, LT | 30.1 |
| SI, CZ | 29.6 |
| ES | 29.2 |
| BE | 29.1 |
| NL | 29.0 |
| UK | 28.6 |
| ▶ HU ◀ | 28.5 |
| MT | 28.0 |
| AT | 27.9 |
| RO | 27.5 |
| PL | 25.3 |
| CY | 23.4 |
| SK | 22.5 |
| IE | 21.2 |
| LU | 20.6 |

◀ *Dependency ratio of people aged over 65 in the European Union, 2018,* %

**Definition** Old-age dependency ratio: the elderly population (65 year-olds and older) as a percentage of the population aged 15–64. The dependent population ratio (dependency ratio): the child (0–14 year-olds) and old (65 year-olds and older) population as a percentage of the population aged 15–64. Ageing index: the elderly population (65 year-olds and older) as a percentage of the child population (0–14 year-olds).

**Relevance** The lengthening of life expectancy implies that the number of elderly people is increasing in modern societies, including Hungary. Their number and proportion within the population tends to grow, so a larger and larger burden is being placed on the social care systems. The incomes and expenditures of the welfare state are basically determined by the rules of welfare programmes as well as the demographic and labour market processes in the long term. Any governmental measures that increase the proportion of the economically active population within the population in the long term – e.g. by the rise of fertility, the improvement of the immigration balance of active-age persons, or the increasing of healthy life expectancy – improve the balance of life career financing. In the labour market the measures enhancing employment and work productivity in the long run also contribute to sustainability. The old-age dependency ratio does not consider the number and proportion of

child-age population but indicates the current situation of ageing.

**Analysis** In Hungary the old-age dependency ratio increased from 20% in 1990 to 29.3% in 2019, which means that there were 293 persons aged 65 years or older per thousand active-age population (15-64 years old) on 1 January 2019. The proportion is worse if it is projected only to the individuals of actually active age, i.e. the population aged 20 years and more. In 2019 there were 317 persons of retiring age per thousand persons of working age. Compared to the previous period, the old-age dependency ratio is expected to continuously increase at an accelerating pace, and its estimated value will be 53.6% in 2062 according to the current base version of the population projection, which means that there will be 536 dependent persons aged 65 years and older per thousand working-age population (15–64 years old). Following this, this proportion is expected to fall to 52.2% until 2070.

The permanent and continuous decline of the population gives cause for an alarm in itself; however, it is taking place simultaneously with the ageing of the population, which implies unfavourable proportional changes in the age groups of the child-age / youth, adult and old-age population. One of the basic but positive reasons for the ageing of the population is that more and more individuals of the generations reach the old age or live in the old age for a longer time. As a result, the age structure of the population is shifting towards

**Figure 4.19.2** **Ageing index*** (65 year-olds and older population as a percentage of the child population aged 0–14 years)



\* The dashed line signals the projection data.
Source: 1990-2016 HCSO, from 2017 the HCSO Demographic Research Institute, according to the baseline variant of population projections (Projection database).

**!** *There are considerable differences between men and women in the ageing index. The ageing index is higher among women.*

the elderly people, which increases the average age of the given population.

The proportion of the old-aged people within the population has been increasing continuously from 13.2% to 19.4% since 1990. The ageing process of the population can clearly be seen by the fact that since 2006 there have been more old-aged than child-aged individuals. In the meantime, the proportion of the active-age population grew from 66.2% in 1990 to 68.9% in 2007; however, it has continuously been declining since then: to 66.1% by 2019. If there are fewer persons of active age per one old-aged person, then the burden of supporting the elderly people increases compared to the number of 15–64 year-old population.

The ageing index is an indicator that measures the ratio of the elderly people to the child-aged people and expresses the long-term demographic prospects the most. Its value has been growing continuously and dynamically since 1990: on 1 January 1990 there were only 64 old-aged persons per 100 child-aged persons, while this figure was already 133 on 1 January 2019.

The growth of the indicator rate has been unbroken over the past decades, and this trend does not seem to change in the near future based on the present age composition. The ageing index is expected to increase dynamically in the following period, to 153 by 2030, about 210 by 2060, and then it probably will stop increasing. This latter means that the number of elderly people will be more than twice as many as the number of children. Considerable differences can be observed in the ageing index between men and women. On 1 January 2019, there were 170 old-aged women per 100 female children, i.e. more than 1.5 times more, while male children were still in a majority compared to old-aged males: there were 98 old-aged persons per 100 male children. The reason for this is the unfavourable, lower life expectancy of men compared to women.

**International outlook** In 2018 the old-age dependency ratio expressing the dependency rate of persons aged 65 years and older totalled 30.5% in the European Union. Agedness has considerably different extents in the EU Member States, although it is generally high, which is typical of the developed countries. Values over the average can be observed in Italy, Finland and Greece, where low fertility and a high life expectancy can be expected, while at present the old-age dependency ratio is the lowest in Luxemburg, Ireland and Slovakia. Temporarily, Hungary belonged to the countries in a more favourable situation with its value of 28.5% in 2018. According to the projections of Eurostat, the old-age dependency ratio is expected to grow continuously and evenly in the European Union until 2060, with a value over 50% (51.6%) in 2060, which means that there will only be two working-age persons per one old-aged person. In the Member States this proportion is expected to fluctuate between 42 and 68%. According to the estimations, Greece, Latvia, Portugal, Poland and Lithuania will be in the most unfavourable situation in 2060, with values over 64%, while Sweden, France, the United Kingdom and Belgium will be in the most favourable situation, with values below 44%.

Summary tables (STADAT)
**1.1 Population, vital events**
**6.1.2 Resident population by age group,**
**1 January**
**6.1.6 Dependency ratio, ageing index, 1 January**

*Balance of the external trade in goods*

**Since 1997**

**Since 2017**

**Figure 4.20.1  Balance of the external trade in goods**



> **!** *The balance of the external trade improved after the EU adherence, and it is characterised by a significant asset volume following the economic crisis.*

**Definition** The balance of the external trade in goods shows the difference in value between export and import and represents the trade balance. The relative balance of the external trade is the ratio between the balance and the export in goods, it expresses the relative size of the assets and liabilities in external trade.

**Relevance** The indicator shows the difference in value between export and import trade, as well as the trade balance (or the lack of it). The balance of the external trade in goods is a major component of the GDP and the balance of the current account.  It shows the country's international presence, the stability of its international relations and through the achieved results the sustainability of its economic performance and implicitly the social outcomes of it (e.g. employment rate linked to export market).

**Analysis** Following the onset of the 2008 economic crisis the balance of the external trade

visibly improved alongside the stagnation then decline of domestic consumption. From 2009 on the country's balance of external trade closed with an ever growing surplus year after year. The main reasons of the balance improvement are the decrease in consumption-related import, the increase in export of auto-industry products by capacity developments in communications then in domestic car factories. In 2011 the balance value surpassed 7 billion EUR, the volume of surplus expressed in export percentage came close to 9%. From 2015 onward the balance exceeded the 8 billion EUR threshold. A continuous year-by-year increase in import and export may be observed. Increase in export surpassed by 1.5 percentage points that of import in 2015. The balance of the external trade reached its peak in 2016 by a 9.7 billion EUR value. The growth of import in 2017 – in parallel with a significant increase in population's consumption and investments – was 2.9% higher than that of export, as a result the balance of the external trade in goods fell back

**Figure 4.20.2   Changes in the European Union's (EU28) balance of the external trade**

Billion EUR



> **!**  *The balance of the external trade in goods of the European Union improved after the world economic crisis and showed a surplus in 2013, however it closed with a deficit in 2018.*

to 8 billion EUR. In 2016 we transacted 80% of export and 78% of import with European Union countries. This proportion did not change for export in 2017, for import it declined to 77%. In 2018 the growth rate of import exceeded that of export by 3.1 percentage points. In consequence the balance of external trade in goods decreased by 2.5 billion EUR compared with the previous year.

**International outlook** Our most important trading partner, the European Union carried a significant deficit even before the economic crisis, a trend intensified by the crisis. The 134 billion EUR deficit of 2005 reached its negative peak by 2008 with a 276 billion EUR value. Thereafter the deficit continuously decreased up to 2012, to

114 billion EUR. In 2013, for the first time after a long period the balance of the external trade of the European Union closed with profit. In the 2013-2017 period a more modest surplus than the previous deficits characterised the external trade in goods of the EU. Assets in 2016 – by a slightly declining external trade – fell almost by half compared to the previous year. In 2017 external trade dynamically increased but the growth rate of import (9.0%) slightly surpassed that of the export (8.0%). In consequence the modest surplus further weakened, it amounted to 21 billion EUR. This trend continued to a lesser degree in 2018: imports registered a growth of 7%, exports 4%, resulting in liabilities of 25 billion EUR.

Summary tables (STADAT)
**3.5 External trade**

*Foreign direct investments*      **Since 2008**

**Since 2016**

**Figure 4.21.1**   **The foreign direct investments position in Hungary by industries**



Billion HUF

| | Manufacturing | | Professional, scientific and technical activities | | Financial and insurance activities |
| --- | --- | --- | --- | --- | --- |
| | Wholesale and retail trade; repair of motor vehicles and motorcycles | | Other service activities | | Other |

**!**   *Manufacturing is the dominant industry of foreign direct investments in Hungary in 2017*

**Definition** A foreign direct investment enterprise is an incorporated or unincorporated enterprise in which an investor resident in another economy owns 10% or more of the ordinary shares or voting power in an incorporated enterprise, or the equivalent for an unincorporated enterprise. Foreign direct investment in Hungary (net debt) consists of equity and debt instruments. Data of Special Purpose Entities are excluded.

**Relevance** The free movement of capital plays an important role in world economic trends. Foreign direct capital investments have played a dominant role in the restructuring of Hungary's economy since the regime change, contributing significantly to the increase of productivity, the creation of new workplaces, the modernisation of technology and the improvement of export capacities. As found in the Framework strategy, the international exposure of Hungary's economy, its dependence on foreign capital and raw materials is high, which is associated with substantial indebtedness to the rest of the world.

**Analysis** Between 2008 (HUF 16.5 thousand billion) and 2017 (HUF 23.5 thousand billion) the amount of foreign direct investment position in Hungary (equity, debt instruments), increased continuously until 2014, though with a variable intensity.

A slight fall of 2.6% and 1.0% occurred by 2016 and 2017.

Manufacturing was typically the most attractive industry for foreign direct investors between 2008 and 2014. From 2011 professional, scientific and technical activities constituted also a substantial share (20-26%) of the total investments. The further industries influenced nearly the same share by the foreign direct investments over the years, although by a less significant share, in many cases by only 1-2%.

The FDI of foreign direct investment enterprises decreased by 240 billion HUF in 2017 compared to 2016. Nearly the half of the stock of foreign investments was in the industry. This proportion is due to the 3.0 billion increase of the manufacturing, representing a significant 43% part of all investments. The second largest industry out of foreign direct investments was the wholesale and retail trade; repair of motor vehicles and motorcycles (11%). The previously very active professional, scientific and technical activities merely accounted for 6.9% of the total investments.

Summary tables (STADAT)
**3.1.39.2 Number of foreign direct investment enterprises in Hungary by industries – BPM6**
**3.1.40.2 FDI of foreign direct investment enterprises in Hungary by industries – BPM6**

**Income paid as dividends to the rest of the world**

**Since 2000**

**Since 2016**

**Figure 4.22.1   Income paid as dividends to the rest of the world**

Billion HUF



+ Preliminary data.

> **!**  *Income paid as dividends to the rest of the world significantly increased after 2005, and remained at nearly the same level between 2009 and 2011. A continuous declining trend was observed between 2012 and 2014. Following the major increase by 66% in 2015 the value of the indicator has been decreasing continuously.*

**Definition** Dividends are a form of property income to which owners of shares become entitled as a result of, for example, placing funds at the disposal of corporations. A special purpose entity (SPE) or special purpose vehicle (SPV) is usually a limited company or a limited partnership, created to fulfil narrow, specific or temporary objectives and to isolate a financial risk, a specific taxation or a regulatory risk.

**Relevance** According to the Framework strategy the international exposure of the Hungarian economy, its dependence on foreign capital and raw materials is high, which is associated with substantial indebtedness to the rest of the world. Therefore it is an outstanding task to strengthen the stratum of entrepreneurs, to gradually increase domestic capital investments and to reduce our exposure to the rest of the world. Income paid as dividends to the rest of the world is a kind of property income received by the non-resident owners of Hungarian enterprises and paid to the rest of the world, to which they

become entitled as a result of placing funds at the disposal of enterprises. From 2006, special purpose entities (SPEs), recorded in the system of national accounts, have a significant impact on property income paid to the rest of the world.

**Analysis** From 1995 (45.5 billion HUF) to 2005 (667 billion HUF) the amount of dividends paid abroad increased more than fourteen times. In 2006 (1428 billion HUF) as a result of recording SPEs there was an increase in dividends which has been unparalleled to date. As a consequence, the level of the studied item shifted, moved to a higher level and reached a peak of more than 2 thousand billion HUF between 2009 and 2011. Until 2014 a continuous decrease was observed. The major increase by 66% in 2015 was followed by a permanent decrease until 2017, up to the 1203 billion HUF level.

| | |
|---|---|
| EE | 115.67 |
| LT | 109.62 |
| LV | 107.77 |
| AT | 105.24 |
| BE | 103.79 |
| FI | 102.87 |
| SK | 102.68 |
| LU | 102.07 |
| UK | 101.85 |
| CZ | 101.43 |
| SI | 100.68 |
| NL | 100.37 |
| DE | 100.26 |
| MT | 99.98 |
| IT | 99.38 |
| HR | 99.26 |
| PT | 99.25 |
| BG | 98.94 |
| ES | 98.91 |
| RO | 98.76 |
| ▶ EU28 ◀ | 97.88 |
| FR | 97.86 |
| DK | 97.55 |
| EL | 94.87 |
| PL | 94.86 |
| CY | 93.43 |
| ▶ HU ◀ | 92.57 |
| SE | 91.46 |
| IE | 90.99 |

*Real effective exchange rate index in the European Union, 2018, % (2010=100,0)*

## *Real effective exchange rate*

**Since 2000**

**Since 2017**

**Figure 4.23.1  Real effective exchange rate**  (2010=100.0)



The real effective exchange rate of Hungary decreased by almost 18 percentage points between 2008 and 2015. Following the slight increase of 2015–2016 the competitiveness of the country improved somewhat. (The decrease of the index indicates an improvement in competitiveness.)

**Definition** International price competitiveness shows a country's international market advantage or disadvantage derived from prices – or expenses from the aspect of demand – in its external trade in comparison with its primary competitors. Its assessment is allowed by the real effective exchange rate (REER), which is calculated here by the correction of the Nominal effective exchange rate (NEER) with the consumer price index. Based on trade intensity NEER forms a weighted basket out of 42 trading partners' (EU28, Australia, Canada, United States, Japan, Norway, New Zealand, Mexico, Switzerland, and Turkey, Russia, China, Brazil, South Korea, and Hong Kong) currencies and compares its exchange rate with the currency of the country in question. In case the exchange rate of the currency decreases in comparison with the basket then the country's competitiveness improves as export will be cheaper while import more expensive, shifting the balance of payments in positive direction. The nominal exchange rate change of the currency is

only one aspect of competitiveness, that is why the correction of NEER with the consumer price index is needed. As long as a nominal exchange rate decrease is accompanied by a growing inflation at trading partners or if domestic expenses rise, the domestic and foreign products' prices expressed in the same currency will remain unchanged, so these should be considered as well.

**Relevance** International price competitiveness has primarily – among the sustainability indicators – an influence on changes of indicators on economic resources. It has a direct impact on changes in GDP and an indirect one on changes in national debt and employment rate. The sustainable national resources management – besides offering higher living standards for current generations and making the nation more resilient against regional or global environmental or economic crises – it also contributes to the long-term competitiveness of the Hungarian nation.

**Analysis** The index increased considerably in Hungary, by 56%, from 1995 to 2008 (with a temporary decrease in 2006). Improvement started after 2008, however, it is primarily the significant exchange rate depreciation of the HUF that stands behind the positive change. Our currency's exchange rate against the examined 42 countries' currencies (NEER) depreciated by almost 21% between 2005 and 2015. In 2016 and 2017 in parallel with an increase in the consumer price index, the exchange rate index slightly grew, meaning the country's competitiveness decreased in these years. There was a moderate improvement, however, in 2018. Hungary's REER index (92.57) is below the European Union average, so its competitiveness surpasses the member countries' average.

**International outlook** Our country' performance regarding the changes of price competitiveness index has been showing similarities, since the beginning of the 2000s, with the EU28 average. Compared to the 2010 year's basis the largest exchange rate index increase in external trade occurred in the Baltic states, closely related to the Russian market, which faced the negative effects – from their point of view – of the depreciation of the rouble starting in 2014. The most favourable change took place in Ireland, where up to 2015 a significant decrease in labour costs in comparison with the 2010 level, stood behind the growth; this compensated the continuous, but slight consumer price index increase. From 2015 on labour costs started to increase as well. On the other hand, the depreciation of the euro against the US dollar and the British pound lasting up until 2015 increased the competitiveness of Ireland compared to its external trading partners. Its REER index has increased modestly since 2015. The United Kingdom and Cyprus also deviated significantly from the EU average since 2010. The turning point was in both countries 2015, when the REER index started to decrease seriously in the United Kingdom up until 2017, while in Cyprus started to increase sharply causing by this the worsening of its competitiveness.

The only EU member country, except Hungary, able to improve its competitiveness from 2017 to 2018 was Sweden. In 2018 the REER index grew in all other EU countries, bringing about the severe worsening of the average by 2018 (from 93.1 to 97.9).

# 1 Human resources

| Chapter | Number | Indicator | Type of evaluation |
|---|---|---|---|
| **Demography** | 1.1 | Dependency ratio | 3 |
| | 1.2 | Total fertility rate | 2 |
| | 1.3 | Internal migration | – |
| | 1.4 | International migration | – |
| **Living conditions** | 1.5 | At-risk-of poverty rate | 3 |
| | 1.6 | Severe material deprivation | 3 |
| | 1.7 | People living in jobless households | 3 |
| | 1.8 | Equipment of dwellings | 3 |
| | 1.9 | Satisfaction with living environment | 3 |
| **Health** | 1.10 | Life expectancy | 3 |
| | 1.11 | Self-perceived health | 3 |
| | 1.12 | Hypertension – chronic diseases | 3 |
| | 1.13 | Physician-patient consultations | 3 |
| | 1.14 | Smoking | 3 |
| | 1.15 | Alcohol consumption | 3 |
| | 1.16 | Suicide | 3 |
| | 1.17 | Death rate by major causes of death | 3 |
| | 1.18 | Standardised mortality ratio | 3 |
| **Education** | 1.19 | Educational attainment | 3 |
| | 1.20 | School competences | 3 |
| | 1.21 | Leaving education | 1 |
| | 1.22 | Disadvantaged (D) and multiply disadvantaged (MD) children | 3 |
| | 1.23 | Digital skills | 3 |
| | 1.24 | Foreign language skills | 3 |
| | 1.25 | Lifelong learning | 3 |
| | 1.26 | Education expenditures of governmnet as a proportion of GDP | 3 |

*\* A detailed description of the types can be found in the 'Evaluation of indicators' section of the Introduction (page 6).*

# *2 Social resources*

| Chapter | Number | Indicator | Type of evaluation |
|---|---|---|---|
| **Financial security** | 2.1 | Risk of poverty | 3 |
| | 2.2 | Income inequality | 3 |
| | 2.3 | Financial situation of households | 3 |
| | 2.4 | Financial sense of security | 3 |
| | 2.5 | Self employed persons – atypical epmloyment | 3 |
| | 2.6 | Placement options for children in kindergartens and infant nurseriess | 3 |
| **Trust** | 2.7 | General trust | 3 |
| | 2.8 | Network of personal connections | 3 |
| | 2.9 | The population's trust in the legal system | 3 |
| **Social activity** | 2.10 | Nonprofit organizations | 3 |
| | 2.11 | Voluntary work | 3 |
| | 2.12 | Turnout in parliamentary elections | 3 |
| | 2.13 | Availability of e-government | 3 |

# 3 Natural resources

| Chapter | Number | Indicator | Type of evaluation |
|---|---|---|---|
| **Air** | 3.1 | Greenhouse gas emissions | 3 |
| | 3.2 | Greenhouse gas intensity of energy consumption | 3 |
| | 3.3 | Emissions of acidifying air pollutants | 3 |
| | 3.4 | Ozone precursors emissions | 3 |
| | 3.5 | Particulate matter pollution | 3 |
| **Climate** | 3.6 | Annual mean temperature | 3 |
| | 3.7 | Amount of precipitation | 3 |
| | 3.8 | Number of heat days and freezing days | 3 |
| | 3.9 | Areas exposed to drought | – |
| **Water** | 3.10 | Public water abstraction | 3 |
| | 3.11 | Residential water consumption from public water supply | 3 |
| | 3.12 | Municipal wastewater treatment | 3 |
| | 3.13 | Public water utility gap | 3 |
| | 3.14 | Biochemical oxygen demand of rivers | 3 |
| **Land** | 3.15 | Biologically inactive areas | 3 |
| | 3.16 | Sales of fertilisers | 3 |
| | 3.17 | Sales of pesticides | 3 |
| | 3.18 | Nutrient balance | 2 |
| | 3.19 | Livestock density | 3 |
| | 3.20 | Floods and inland inundation | – |
| | 3.21 | Organic farming | 3 |
| | 3.22 | Areas subject to agri-environmental measures | 3 |
| **Wildlife** | 3.23 | Changes in farmland bird population | 3 |
| | 3.24 | Protected natural areas | 3 |
| | 3.25 | Native tree species | 3 |
| | 3.26 | Logging and annual increment | 3 |
| | 3.27 | Forest health and pathology | 3 |
| **Waste and material flow** | 3.28 | Wasted generated | 3 |
| | 3.29 | Waste treatment | 3 |
| | 3.30 | Packaking waste | 3 |
| | 3.31 | Resource productivity | 3 |
| **Environmental management** | 3.32 | Environmental taxes | 3 |
| | 3.33 | Implicit energy tax | 3 |
| | 3.34 | Environmental expenditures | 3 |
| **Energy** | 3.35 | Energy import dependency | 3 |
| | 3.36 | Energy intensity | 3 |
| | 3.37 | Renewable energy sources | 1 |
| | 3.38 | Households energy consumption | 3 |
| | 3.39 | Energy use in transport | 3 |
| **Transport** | 3.40 | Freight transport performance | 3 |
| | 3.41 | Passenger transport performance | 3 |

# *4 Economic resources*

| Chapter | Number | Indicator | Type of evaluation |
|---------|--------|-----------|:------------------:|
| **General economic indicators** | 4.1 | Gross domestic product (GDP) | 3 |
| | 4.2 | Gross national income (GNI) | 3 |
| | 4.3 | Gross fixed capital formation | 3 |
| | 4.4 | Gross savings rate | 3 |
| | 4.5 | Government gross debt as a proportion of GDP | 2 |
| | 4.6 | Final consumption expenditure of general government | – |
| | 4.7 | Labour productivity | 3 |
| | 4.8 | Active enterprises | 3 |
| | 4.9 | Research and development expenditure, innovation | 1 |
| | 4.10 | Structure of consumption | – |
| | 4.11 | Consumer price index (inflation) | 2 |
| **Employment** | 4.12 | Economic activity | 3 |
| | 4.13 | Employment rate | 1 |
| | 4.14 | Unemployment rate | 3 |
| | 4.15 | Long-term unemployment rate | 3 |
| | 4.16 | Average age at the time of leaving the labour market | 3 |
| | 4.17 | Gender pay gap | 3 |
| | 4.18 | Employment chance of young people | 1 |
| | 4.19 | Old-age dependency ratio | 3 |
| **Economic relations** | 4.20 | Balance of the external trade in goods | 3 |
| | 4.21 | Foreign direct investments | 3 |
| | 4.22 | Income paid as dividends to the rest of the world | 3 |
| | 4.23 | Real effective exchange rate | 3 |

## Index