Indicators of sustainable development for Hungary

2012

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for Hungary, 2012

Hungarian Central Statistical Office, 2013

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Nowadays, countless challenges and growing uncertainties must be faced, which are intended to be solved through enormous efforts by increasing economic development and competitiveness. At the same time, these processes are accompanied by environmental and social changes which affect the fate of the whole planet and bring further difficulties for the society. Climate change, environmental degradation, decreasing crop yields, growing inequalities between and within countries, increasing impoverishment, as well as social exclusion of poorer groups all belong to these changes. Furthermore, the changes of natural conditions involve risks in numerous fields of the environment, the society and the economy.

As a result of globalization, there are no more exclusively national affairs. Economy was the first which spanned the different social structures, and only a few could remain, even if partly, isolated from this. The expansion of economy was followed by the globalization of environmental and social problems as well, which necessitated establishing common rules.

By realizing the above, the cooperation aiming at the elaboration of multilateral environmental agreements started, and the report of the so-called Brundtland Commission was published in 1987 in this spirit under the aegis of the UNO. The report stated that environment and development were closely related to each other, but it did not explore the real reasons for environmental problems.

In respect of multilateral cooperation, the *United Nations Conference on Environment and Development* (UNCED), held in 1992 in Rio de Janeiro was an important turning point. In the course of its preparation, the concept of sustainable development was defined: **'Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.'** For this, the statements of the report titled *'Our common future'* served as a basis. Numerous important documents referring to sustainable development were adopted at the conference, such as *Agenda 21* (action plan for the 21st century), which is the comprehensive programme of sustainable development, the Rio Declaration containing the principles of sustainability, as well as the principles of sustainable forestry. At the conference, the Convention on Biological Diversity and the Framework Convention on Climate Change, called together Rio Conventions, were open for signature.

Sustainable development is a priority among the objectives of the European Union. Its aim is to improve the life quality and welfare of the present and the future generations by linking economic development, environmental protection and social justice. The *EU Sustainable Development Strategy, EU SDS 2006* describes how the EU can meet the challenges of sustainable development. An overall objective is to continuously improve the life quality of citizens of the member states through sustainable communities which effectively use resources and explore ecological and social innovation opportunities, and ensure at the same time the welfare, the protection of the environment and the social cohesion. To measure the results of sustainable development is an integral part of the EU SDS, and Eurostat compiles a monitoring report every two years on the basis of the *EU Sustainable Development Indicators (EU SDI)*.

Structure of the publication

In respect of its structure, the sustainable development indicator system in Hungary closely followed the system of Eurostat in the past years. However, our publication is broken down thematically instead of the problem-oriented approach preferred by the EU, which classifies the indicators by the branch policy they belong to. The indicators appear in the chapters and subchapters according to the topic they are part of. For example, the indicator *3. Greenhouse gas emission from transport* is included in the subchapter *Air,* while in the EU publication it appears in the subchapter *Sustainable transport.*

The publication consists of 3 parts, the chapters environment, society and economy include 17 subchapters. It is a change compared to the publication *Sustainable development indicators in Hungary* published in 2011 and presenting 149 indicators, that a considerable number of indicators have been merged, as a result of which 106 indicators are included in the present publication. The comparability with the EU indicator system and the previous publication of HCSO is ensured by the summary table at the end of the publication (page 208).

The indicators refer in general to the period after 1995, but some indicators span a different interval. In case of each indicator, keywords help the targeted search meeting users' demands. The sustainable development strategy of the European Union and the Europe 2020 strategy fixed exact target values for some indicators. Besides EU objectives, the latter document also formulates country-specific recommendations for the member states. These values are presented in the **Figures** and under **Relevance.**

A further novelty is that each indicator is analysed in a uniform structure. The part **Relevance** presents the relation of the indicator to sustainability. The part **Commentary** informs on domestic trends (on the data of the first figure in each case), while **International outlook** depicts the trends in the European Union. The 'thermometers' on the edge of the pages present the situation of the member states, and among them of Hungary, through comparative data. The part **Details** contains further dimensions of the indicator or further indicators connected to the subject. At the end of each section, **Definitions** help the better understanding of the indicator. The text after ! under the figures summarizes the most important message.

Further information is available in the **Stadat tables** of HCSO **(www.ksh.hu/stadat),** which are directly accessible from the electronic version of the publication. The data of figures and diagrams are also accessible related to the electronic publication.

Evaluation of indicators

The basic aim of indicators measuring sustainable development is to evaluate the trends. Knowing the tendencies enables decision-makers to create strategies, it may promote interventions and serve as a feedback on the tasks already completed. The volumes published earlier by HCSO did not contain the evaluation of the indicators, now we intend to fill this gap in the present publication.

It makes the evaluation more difficult that most indicators cover only one dimension of sustainability: e.g. a change which is favourable in respect of economy may be harmful to environment and vice versa. Increasing the sales of pesticides is against environmental aspects; however, it would be difficult to increase the performance of agriculture without them. On the other hand, the economy and the society have an interest just in the expansion of agriculture, since, along with its increasing performance, employment, food supply security, the population retaining capacity of rural areas and trade opportunities, etc. may increase as well.

In many cases, decreasing carbon dioxide emission is due to closing down heavy industrial factories. However, along with a decrease in soil degradation and air pollution, these processes may involve growing unemployment, impoverishment and long-lasting social problems.

The evaluation covers only the indicator in the first figure. As a matter of principle, the evaluation is based on year 2000 (or, in the lack of proper data, a later year) and the year of the last available data, according to the direction of changes between the beginning and the end of the period as follows:

- Favourable change with a positive effect on sustainability . . . .
- Unfavourable change with a negative effect on sustainability . . . .
- Slight change or uncertain trend, the effect of the change on
  sustainability cannot be determined . . . .

In some cases, a different evaluation is applied. Some indicators have been evaluated according to the Maastricht criteria, i.e. whether the indicator in Hungary corresponds to the target *(88. General government consolidated gross debt, 93. Consumer price index).* In case of some other indicators, a longer interval is evaluated, since the relation of the change to sustainability can be seen only in a longer run *(11. Annual mean surface temperature, 12. Amount of precipitation, 39. Dependency ratio).*

Although, when selecting indicators, we endeavoured to choose indicators which are assessable, some of them are of structural character and show distributions for the years with available data, thus the year by year changes cannot be presented (e.g. *22. Flood and inland inundation, 57. Structure of consumption).*

Furthermore, some indicators cannot be evaluated, since, although they are important to mention in respect of sustainability due to the subject they cover, the connection between the direction of changes and sustainability cannot be unambiguously determined based on data available at present (e.g. *42. International migration, 65. Tourism).*

AT	Austria
BE	Belgium
BG	Bulgaria
CY	Cyprus
CZ	Czech Republic
DE	Germany
DK	Denmark
EE	Estonia
EL	Greece
ES	Spain
EU-27	**European Union**
FI	Finland
FR	France
HU	**Hungary**
IE	Ireland
IT	Italy
LT	Lithuania
LU	Luxembourg
LV	Latvia
MT	Malta
NL	Nethetlands
PL	Poland
PT	Portugal
RO	Romania
SE	Sweden
SI	Slovenia
SK	Slovakia
UK	United Kingdom

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HUNGARIAN CENTRAL STATISTICAL OFFICE

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I. Environment

Summary

Though ecological sustainability, which determines society and through it the economy, has an outstanding significance, the goal of sustainable development is just to establish a complex management for the three subsystems.

The population explosion of the third world as well as the wasteful consumption habits of the developed world result in a gradually growing global need for food and energy. This process reduces the safety of the systems that provide drinking water and food and also makes the satisfaction of the growing energy need more problematic. The expanded industrial production and transport pollute the air, the soil and the water, furthermore, they contribute to the global climate change. The unfavourable change of the climate and the other detrimental human interventions may result in the destruction of the natural vegetation, the loss of habitats and the extinction of numerous animal species.

The present production system came into being in a relatively stable climate and ecosystem, therefore even the small change of these may trigger serious consequences for the social and economic systems.

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	15	Municipal sewage treatment	34	☼
	16	Biochemical oxygen demand of rivers	36	☼

Greenhouse gas (GHG) emissions

Keywords **greenhouse gas emissions, carbon dioxide (CO_2) emissions**

DK	142.2
SE	127.8
FI	125.2
LU	121.9
IE	116.7
BE	111.8
FR	110.7
NL	108.0
AT	106.7
DE	103.4
IT	103.1
UK	101.7
▶ EU-27	100.0 ◀
ES	97.4
GR	95.1
CY	89.4
PT	87.5
SI	83.5
EE	78.9
MT	78.0
CZ	76.7
LV	74.1
SK	72.4
LT	65.6
▶ HU	64.3 ◀
PL	60.1
RO	59.8
BG	51.0

Figure 1.1. **Greenhouse gas emissions** (1990=100.0)

CO_2 equivalents, %

Source: Eurostat.
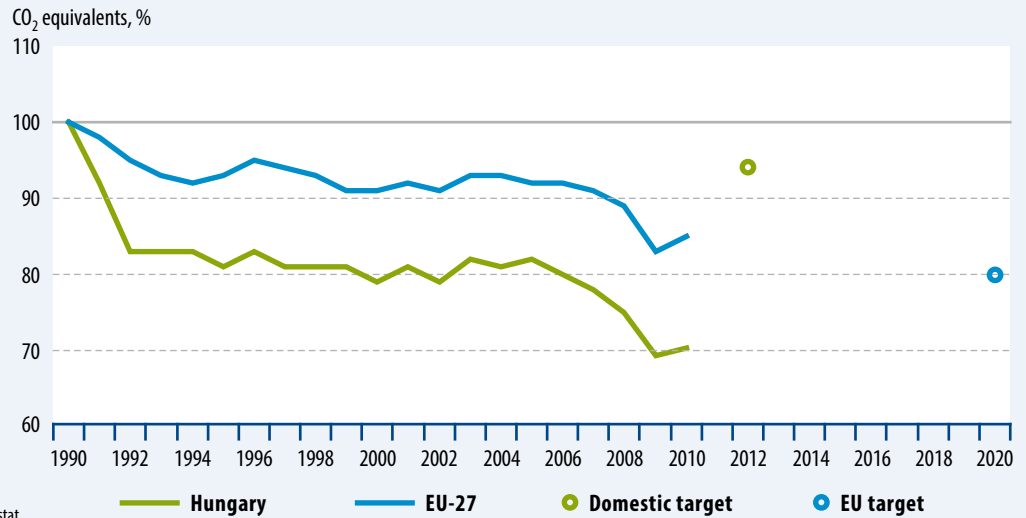
Hungary — EU-27 — ○ Domestic target — ⊙ EU target

! *In 2010 the GHG emissions of Hungary met both what Hungary undertook for 2012 and the EU target for 2020.*

Relevance One of the most important actions in the area of climate change is to regulate greenhouse gas (GHG) emissions. The reduction of greenhouse gas emissions should be achieved primarily by changes in energy consumption, construction patterns, transport needs and industrial activities. Reducing greenhouse gas emissions and preparing for changing weather and climatic impacts are important because of the following trends threatening sustainability and the underlying causes: climate change, declining environmental carrying capacity, the shrinking of the size of biologically active areas, endangered water reserves, bad consumer habits, poor health status, and pricing not reflecting the scarcity of natural resources.

The Sustainable Development Strategy of the European Union and the Europe 2020 Strategy aim at a 20% reduction in GHG emissions compared to 1990.

Commentary With the exception of Cyprus and Malta all Member States of the European Union have individual targets to reduce greenhouse gas emissions under the Kyoto Protocol. In accordance with Article 4 of the Kyoto Pro-

tocol (KP) the EU-15 agreed to a collective 8% reduction of its greenhouse gas emissions by 2008–2012 compared to 1990. Eastern European Member States have individual targets under the KP, with reduction requirements ranging from 6% to 8%. Hungary's own commitment is a 6% reduction in the emissions of six greenhouse gases in the average of 2008 to 2012 compared to base period (1990). The EU's emission trading system places economic pressure on economic actors to reduce greenhouse gas emissions.

In the two years after the regime change GHG emissions fell drastically in Hungary as a consequence of the reduction of heavy industry, and stagnated in the subsequent more than one decade. In 2005–2009 it was cut relatively substantially again, which can be attributed to the financial crisis in 2008 and the following economic crisis. Emissions slightly rose in 2010.

International outlook From the middle of the 1990s the GHG emissions of Hungary correlated with the trend of the later EU-27. After the crisis started, GHG emissions fell mostly in the Baltic countries and Romania, to less than the half of the 1990 level. The examined emissions

◀ *Greenhouse gas emissions in CO_2 equivalents in the European Union, 2010 (1990=100.0), %*

Figure 1.2.   Greenhouse gas emissions by industries

Thousand tonnes, CO_2 equivalents

Energy production   Transport   Industry   Agriculture   Other

Source: European Environmental Agency (EAA).

! *GHG emissions of the transport sector have increased significantly since the regime change, while those of industry have declined.*

increased the most significantly in Cyprus, Malta and Spain compared to the base year.

Details Total GHG emissions of the different economic branches in Hungary decreased from 97 thousand to 68 thousand tonnes of carbon dioxide equivalents from 1990 to 2010. All the examined sectors except transport could moderate their emissions. The latter branch contributed by 45% more to the GHG pollution in 2010 compared to 1990. 25% of the volume of GHG emissions originated from energy producing industries in 2010.

The global climate change is caused primarily by the extra carbon dioxide entering the atmosphere as a consequence of human activities. Carbon dioxide emissions per capita in Hungary correlated strongly with the average value of the EU-27, however, they reached only two-thirds of that in 2009.

Central elements of the preparation for changing climatic conditions, especially in agriculture and forestry, include tillage (soil has a substantial capacity for storing water and absorbing carbon dioxide), the creation of dual-purpose water regimes and forestation. In energy management, carbon dioxide emissions have to be reduced by improving energy effi-

ciency and by increased utilisation of non-fossil energy sources, while the flexibility of energy systems and the regulation of the systems should be enhanced. The tasks in transport include cutting carbon dioxide emissions, encouraging the use of more efficient means of transport that use less energy, spreading alternative fuels and motor vehicles using such fuels, and maintaining the state of the transport infrastructure under changing weather conditions.

Definitions

The greenhouse gas (GHG) emissions indicator shows the emissions of the six greenhouse gases (CO_2 – carbon dioxide, CH_4 – methane, N_2O – dinitrogen oxide, HFC – hydrofluorocarbons, PFC – perfluorocarbons and SF6 – sulphur hexafluoride), converted into CO_2 equivalents. In general, the base year is 1990 for non-fluorinated gases, and 1995 for fluorinated gases.

Carbon dioxide emissions per capita are a net indicator, i.e. it shows the volume of total carbon dioxide emissions from human activities minus the carbon absorption of forests per capita.

Stadat tables
5.3.2. Emission of greenhouse gases by industries

Greenhouse gas intensity of energy consumption

Keywords **greenhouse gas intensity, energy use**

BG	109.0
MT	105.3
LU	103.3
SI	97.7
UK	97.0
EL	95.5
NL	94.9
FI	94.3
ES	94.0
IT	93.9
RO	93.6
IE	93.5
DK	93.3
DE	93.2
EU-27	**93.0**
AT	92.6
LT	92.4
SE	91.9
PT	90.9
CY	90.3
PL	90.2
SK	90.1
EE	89.8
FR	89.4
BE	89.2
CZ	88.2
HU	**87.5**
LV	85.2

Figure 2.1. **Greenhouse gas intensity of energy consumption**
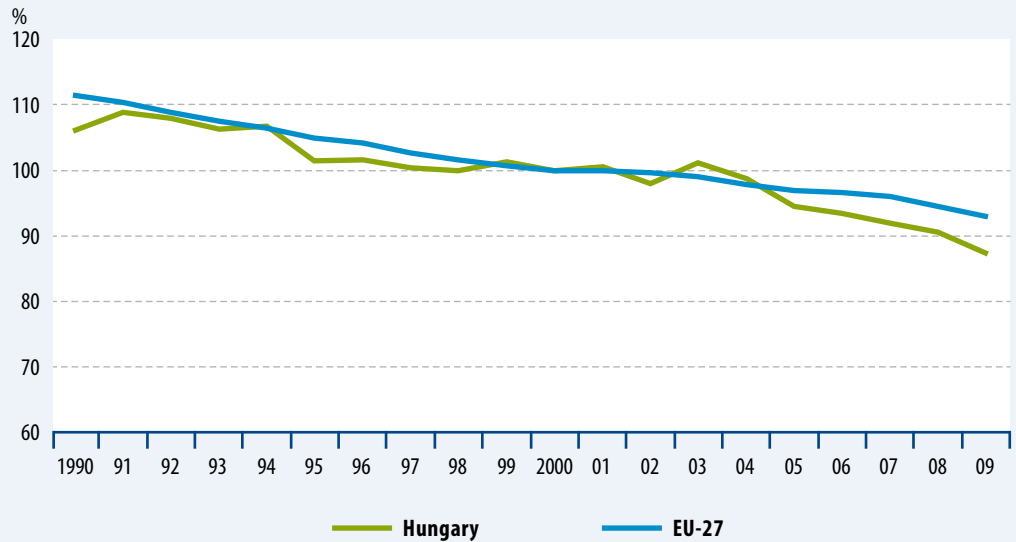
Source: Eurostat.

! *The greenhouse gas intensity of energy consumption closely correlates with the average of the EU–27 countries.*

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, however, it is also characteristic of the environment-consciousness of social and economic 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 greenhouse gas emissions and contributes to the decrease of greenhouse gas intensity of energy consumption. The emission of greenhouse gases can be regulated and reduced primarily by changes in energy use, construction patterns, transport needs and industrial activities. In the energy and transport sectors regulations and the corresponding pricing should have an encouraging impact. Such regulations include the EU's emission trading system, placing economic pressure on economic actors to reduce greenhouse gas emissions.

Commentary GHG emissions per unit of energy use are declining both in Hungary and in the European Union. In Hungary this is caused first of all by the economic re-structuring after the regime change and by the decrease of industrial production, but the increasing proportion of switching from solid fuels to gas and renewable energy sources and the growing environment-consciousness of social and economic actors also play a part. GHG emissions per unit of energy use in 2009 were the lowest in Hungary within the European Union compared to 2000.

International outlook In the 1990s and in the 2000s GHG emissions per unit of energy use continuously decreased in the European Union as well as in Hungary. Most of the EU countries reduced the value of this indicator from 2000 to 2009, except Bulgaria, Luxembourg and Malta.

Definition The greenhouse gas intensity of energy consumption is the ratio of greenhouse gas emissions of energy use to gross domestic energy use.

Greenhouse gas intensity of energy consumption in the European Union, 2009 (2000=100.0), %

Stadat tables
5.3.2. Emission of greenhouse gases by industries

Greenhouse gas emissions from transport

Keywords **transport, greenhouse gas emissions, road transport**

DE	154.7
IT	118.8
UK	118.5
ES	91.4
PL	48.8
NL	35.0
BE	24.3
EL	23.0
AT	22.5
SE	20.7
PT	18.9
CZ	17.4
RO	15.1
FI	13.6
DK	13.2
HU	**11.9**
IE	11.6
BG	7.9
SK	6.7
LU	6.3
SI	5.3
LT	4.6
LV	3.2
CY	2.3
EE	2.3
MT	0.6

Figure 3.1. **Greenhouse gas emissions from transport** (1990=100.0)

Source: Eurostat.

Hungary   EU-27

> **!** *As a consequence of the economic fall after the regime change, greenhouse gas emissions from transport in Hungary first declined, then rose dynamically between 1995 and 2008. The economic crisis caused the value of the indicator fall again from 2009.*

Relevance In addition to rationalising demand for transport, increasing proportions of environment-friendly, alternative modes of transport and fuels are to be introduced.

An objective for the renewed strategy of the EU (SDS) was that EU-15 countries reduce the emission of greenhouse gases (GHG) by 8% between 2008 and 2012 compared with the level of 1990. The EU wants to reduce GHG emissions from transport to around 80% of their 2008 level until 2030. Policy options for achieving these reductions include a combination of more stringent carbon dioxide emission standards for new means of transport as well as price discounts and tax allowances.

Commentary Greenhouse gas emissions from transport stagnated at a low level in Hungary between 1991 and 1995 compared to 1990, then they started to grow dynamically. Until 2008 emissions almost doubled compared to the previously mentioned 1991–1995 period, however,

emissions decreased significantly in 2009–2010. Transport is a more and more important emitter of greenhouse gases in Hungary, too: this sector accounted for only 8% of total emissions in 1990, compared with 18% in 2010. The proportion of GHG emissions from road transport remained lastingly above 90% within total transport sector both in Hungary and the EU in the examined period.

International outlook The proportion of transport rose significantly in the EU, too, in the above-mentioned period. This sector represented 14% of the total GHG emissions of the EU-27 in 1990 and was responsible for already one-fifth in 2010. GHG emissions from transport have more than doubled in Luxembourg, Ireland, the Czech Republic and Poland since 1990.

Definition Greenhouse gas emissions from transport show the trends of emissions from road transport, rail transport, inland navigation and domestic air transport.

Stadat tables
5.3.2. Emission of greenhouse gases by industries

Greenhouse gas emissions from transport in the European Union, 2010,
million tonnes of CO_2 equivalents

Emissions of acidifying compounds

Keywords **acidifying compounds, nitrogen oxide, sulphur dioxide, ammonia**

LT	102.4
FI	98.5
SI	96.0
SE	92.7
LV	90.5
RO	88.1
MT	87.1
SK	86.9
CZ	86.0
CY	85.2
DE	83.8
▶ HU ◀	80.1
AT	79.9
NL	79.8
IT	79.5
▶ EU-27 ◀	79.1
EL	76.8
BE	75.8
FR	75.6
BG	74.5
LU	74.4
PT	71.3
DK	71.1
UK	70.0
ES	69.5
IE	59.5

Figure 4.1. **Emissions of acidifying compounds** (2000=100.0)

SO$_2$ equivalents, %

Legend: **Sulphur dioxide** — **Nitrogen oxides** — **Ammonia**

Source: Hungarian Meteorological Service.

! *Sulphur dioxide emissions decreased markedly, mainly because of a decrease in the sulphur content of fuels and the lower proportion of heating by coal.*

Relevance The emission of substances causing acidification damages the ecosystem, especially the soil, forests and water reservoirs. Nitrogen oxides in the atmosphere, getting far from the originating source, are deposited, thus they play a role in acidification, eutrophication 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 and phosphates leaching into waters during ammonia emissions mainly account for the excess growth of algae.

Commentary To regulate their emission a number of laws were formulated including the Gothenburg Protocol of the Geneva Convention on Long-range Transboundary Air Pollution of 1979 (CLRTAP). EU member states made new commitments in connection with the Gothen-

burg Protocol in Geneva in May 2012. They agreed to cut emissions of sulphur dioxide, nitrogen oxides and ammonia by 59%, 42% and 6% respectively for the EU as a whole by 2020 and beyond compared to the level of emissions in 2005. Hungary committed to reduce emissions by 46%, 34% and 10% in case of sulphur dioxide, nitrogen oxides and ammonia respectively.

The quantity of emitted sulphur dioxide is decreasing. The main causes of the fall are a decrease in the sulphur content of fuels, the utilisation of desulphurisation equipment when using coal, furthermore, the lower proportion of heating by coal. Emissions of nitrogen oxides and ammonia essentially stagnated since 2000. With the nearly 89% decrease of sulphur dioxide emissions ammonia and nitrogen oxide emissions of the economy became more substantial factors of the acidification of the environment.

◀ *Emissions of nitrogen oxides in the European Union, 2010 (2005=100.0), %*

Figure 4.2. Emissions of acidifying compounds by sectors

Thousand tonnes of SO$_2$ equivalents

Legend:
- Agriculture, forestry and fishing
- Manufacturing
- Electricity, gas, steam and air-conditioning supply
- Transportation and storage
- Households

! *Emissions from electricity, gas, steam and air-conditioning supply decreased dramatically.*

International outlook Nitrogen oxides are the group of acidifying compounds emitted in the largest quantity in Hungary. The emissions of the EU-27 in 2010 were 79% compared to the base period of 2005, similarly to those of Hungary (80%). In the examined year the emissions of Lithuania, Estonia and Poland exceeded – although only slightly – the value observed in the base year. Ireland and Spain are in the most favourable position, where emissions have been cut by 40 and 30 percentage points respectively since 2005.

Details The aggregate SO$_2$ equivalents of acidifying gases emitted by the Hungarian economy declined dramatically, from 688 thousand tonnes in 2000 to 279 thousand tonnes in 2010. This decrease is principally due to technological changes in electricity, gas, steam and air conditioning supply.

Definition The indicator of emissions of acidifying compounds monitors the total annual emissions of nitrogen oxides from human activities, sulphur dioxide and ammonia.

Stadat tables
5.3.6. Emission of acidificators by industries

Emissions of ozone depleting compounds

Keywords **ozone depleting compounds, ozone, ozone shield, hydro-chloro-fluoro-carbons (HCFC), chloro-fluoro-carbons (CFC)**

Figure 5.1.   **Emissions of ozone depleting compounds**   (1995=100.0)

ODP equivalents, %

— HCFCs, total   — Methyl bromide
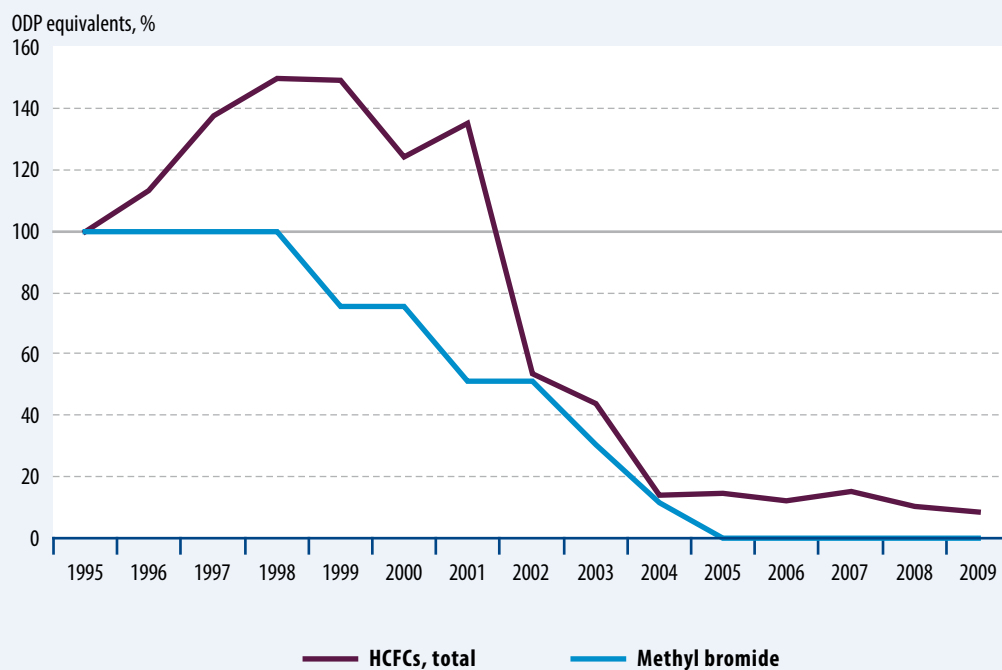
Source: Hungarian Meteorological Service.

!   *The use of ozone depleting substances is minimal nowadays.*

Relevance By filtering harmful ultraviolet rays the ozone shield has an important role in protecting the living world on our planet. As a result of the excess use of Freon and Halon (CFC, HCFC) in the past few years, however, the ozone shield has become considerably thinner.

Commentary Hydro-chloro-fluoro-carbons (HCFC), mainly used in cooling technology, were used in Hungary from 1992 as a "temporary substance" substituting chloro-fluoro-carbons (CFC). Since 1st January 2009 only regenerated HCFCs can be distributed and used, the purchase and application of newly produced ones are not allowed. Recycled HCFCs cannot be distributed, can only be used as refill, and cannot be applied for filling in case of new installations. Atmospheric lifetime and ozone depletion potential of HCFCs are generally lower than those of the substituted compounds, therefore they have a less harmful effect on the ozone layer, however, they have an impact on climate change.

The application of methyl bromide – used to disinfect soil and certain agricultural products and warehouses –, which has an approximately fifty times more harmful effect on the ozone layer than fluoro-carbons, was suspended in 2004.

The use of HCFCs reached its peak in 1998, and it has declined dramatically since then. The use of methyl bromide in 2004 was 8% of what was recorded ten years earlier.

Definition The indicator of the use of ozone depleting compounds shows the use of hydro-chloro-fluoro-carbons (HCFCs) and methyl bromide. The indicator of the use of hydro-chloro-fluoro-carbons or methyl bromide is an aggregated indicator: the sum of the products of the quantities and ozone depletion potentials of the different substances, calculated in ODP equivalents (ODP tonnes). The basis of the comparison is CFC-11, for which ODP=1.

Ozone precursors emissions from transport

Keywords **ozone precursors, transport**

| Figure 6.1. | **Ozone precursors emissions from transport** |

Thousand tonnes of NMVOC equivalents
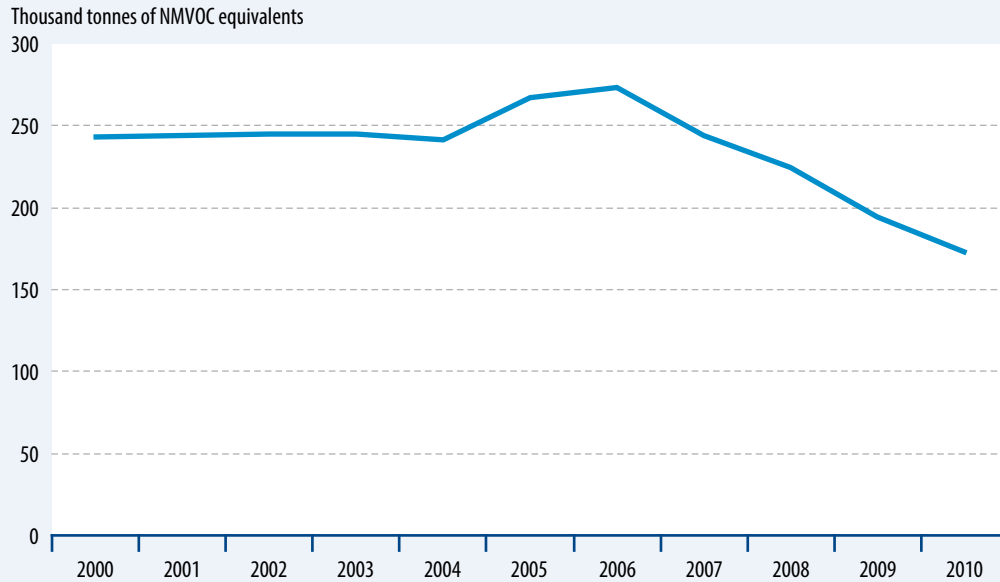
Source: Hungarian Meteorological Service.

! *Ozone precursors emissions from transport fell between 2007 and 2010.*

Relevance Tropospheric ozone is a substance harmful to health, a component of smog, which hits mostly cities. 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. These contribute to the formation of photochemical smog, especially in summer. It is a new recognition that NMVOCs are much more important precursors of surface ozone than methane.

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. Though cleaner vehicles and alternative fuels do not in 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 environ-

ment-friendly alternative modes of transport, using environment-friendly alternative fuels.

Commentary Ozone precursors emissions from transport essentially stagnated between 2000 and 2004. After that this figure rose until 2006, but since then it has continuously declined. In total ozone precursors emissions, the share of transport was around 50% in the examined period.

Definition This indicator shows trends of ozone precursors (nitrogen oxides, carbon monoxide, methane and non-methane volatile organic compounds /NMVOC/) emissions from transport.

Stadat tables
5.3.10. Emission of ozone precursors by industries

Population exposure to air pollution by ozone

Keywords **ozone concentration**

EL	8 557
EE	6 857
IT	5 530
ES	5 007
SK	4 959
AT	4 532
SI	4 497
▶ HU ◀	4 468
FR	3 988
CZ	3 917
PT	3 567
DE	3 435
▶ EU-27 ◀	3 316
BG	3 058
PL	2 814
LU	2 785
BE	2 401
FI	2 183
LT	2 069
DK	2 002
SE	1 536
RO	1 319
NL	1 260
LV	1 213
UK	834
IE	710

Figure 7.1. **Population exposure to air pollution by ozone**

Microgrammes/m³
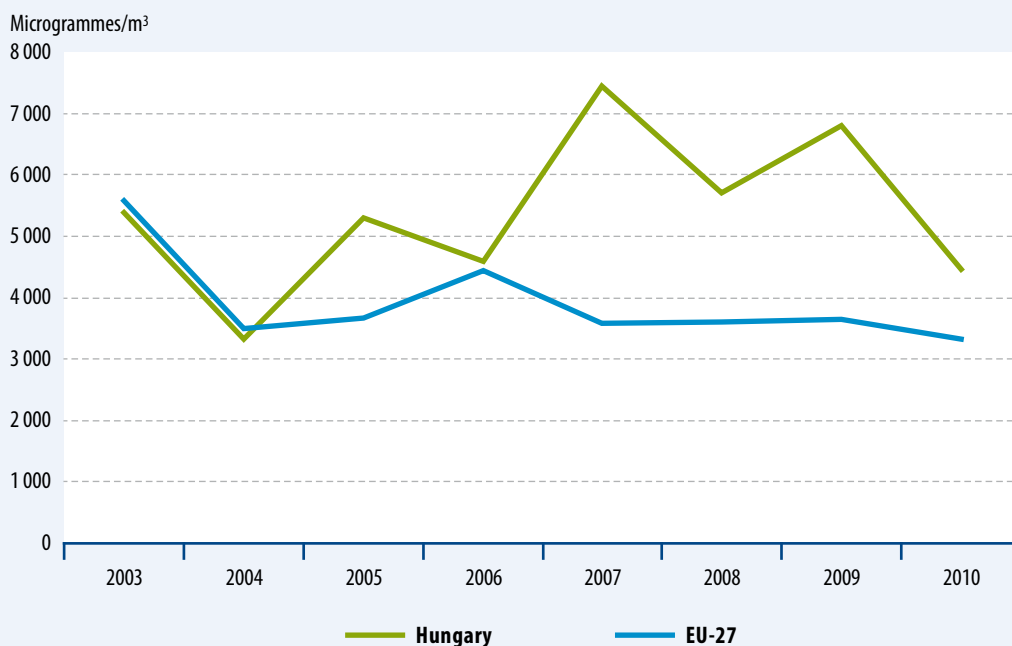
Source: Eurostat.

! *Population exposure to air pollution by ozone is above the EU-27 average in Hungary.*

Relevance Ozone is a highly reactive gas, which causes serious health problems in the troposphere, 6–20 kilometres above ground, 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. Ozone formation is driven principally by emissions of nitrogen oxides (resulting from transport and combustion in industry) and volatile organic compounds (emitted from vegetation).

EU members made commitments for nitrogen oxides and volatile organic compounds in May 2012 in Geneva. The EU as a whole committed to reduce its emissions of nitrogen oxides by 42% and volatile organic compounds by 28% compared to the 2005 emission levels by 2020 and beyond. Hungary's commitment is a 34% reduction for nitrogen oxides and a 30% reduction for volatile organic compounds.

Commentary Because of the unpredictability of weather the indicator does not follow a trend, but Hungary's exposure is generally above the EU-27 average.

International outlook Population exposure to ozone emissions varies between countries, partly due to differences in climate and vegetation. In general, southern countries with higher summer temperatures show higher levels of exposure to ozone emissions than cooler northern countries. The effect of hotter summers in 2003 and 2006 is seen in higher EU-27 figures.

Details The data exceeding the target for ozone concentration in the air was more than 10% in Ajka, Kazincbarcika, Komló and Pécs as a percentage of the total value in Hungary in 2011.

Population exposure to air pollution by ozone in the European Union, 2010, microgrammes/m³

Figure 7.2. **Average ozone concentration in the air in certain settlements**

Microgrammes/m³

- **Budapest, Gilice tér**
- **Miskolc, Búza tér**
- **Debrecen, Kalotaszeg tér**
- **Pécs, Boszorkány utca**
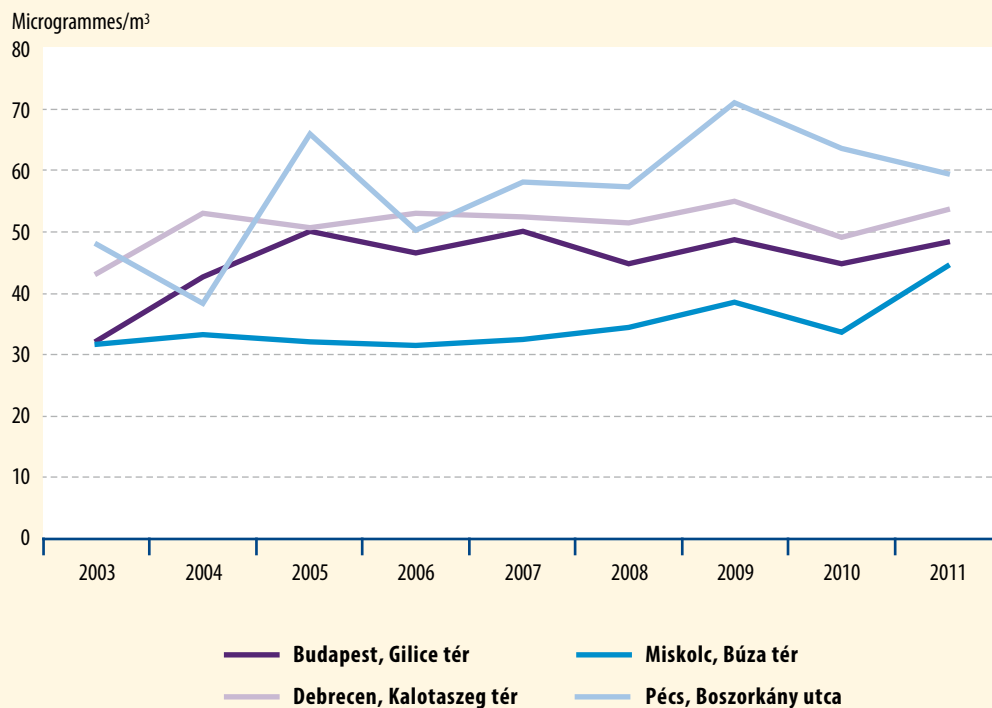
Source: Hungarian Meteorological Service.

! *Average ozone concentration in the air rises at the examined stations.*

Definition The indicator of population exposure to air pollution by ozone shows the mean ozone concentration measured at monitoring stations in different agglomerations day-time, during a maximum of 8 hours, weighted with the number of people living there, and exceeding a certain threshold.

Stadat tables
5.3.10. Emission of ozone precursors by industries
5.3.21. Concentrations of ozone (O$_3$) in the air according data of the automatic monitoring network

Particulate matter emissions

Keywords **particulate matter emissions, PM10**

| Figure 8.1. | **PM10 emissions** | (2000=100.0) |
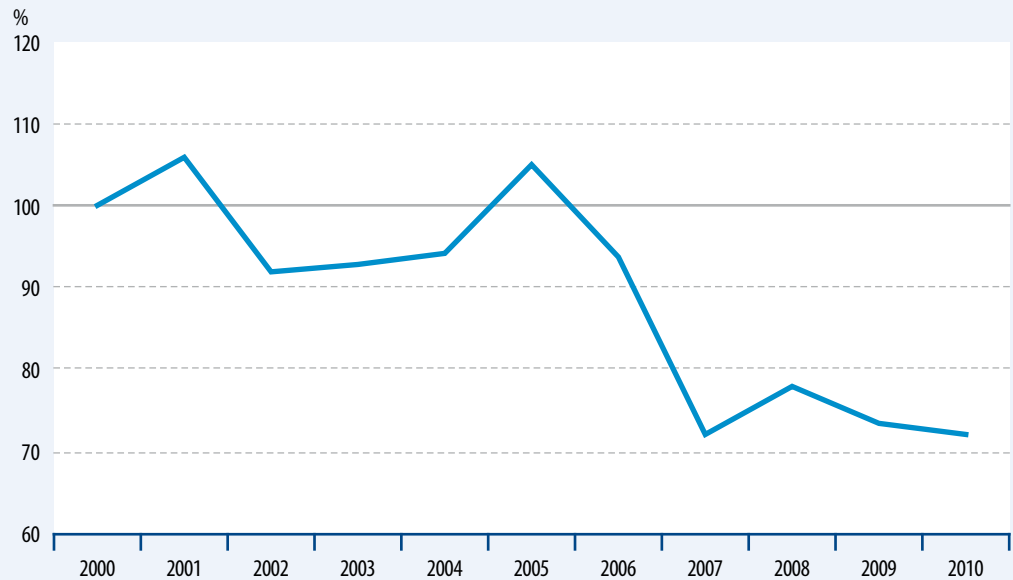
Source: Hungarian Meteorological Service.

! *PM10 emissions decline in Hungary, mainly because of lower emissions of pollutants from diesel oil and fuel oil.*

Relevance At a high level of sulphur dioxide concentration, in case of slow air motion and low temperature, particulate matters are the generators of winter smog. Increased attention to particles with a diameter of less than 10 micrometres (PM10) is due to their harmful effects on human health. Breathing in these substances plays a role in the formation of several serious heart and respiratory diseases (e.g. lung cancer).

Commentary Total PM10 emissions in Hungary from 2000 to 2010 were down by 28%, from 52 thousand tonnes to 38 thousand tonnes. The improvement was brought about primarily by lower emissions of pollutants from diesel oil and fuel oil use in agriculture as well as transportation and storage.

Details Between 2000 and 2010 the largest PM10 emitters were agriculture as well as transportation and storage. Particulate matter emissions in transport come from imperfect combustion, and are significant mainly in the case of diesel-powered motor vehicles. The wear of tyres and brakes also increases particulate matter emissions.

| Figure 8.2. | **PM10 emissions by industries and in households, 2000–2010** |

Thousand tonnes
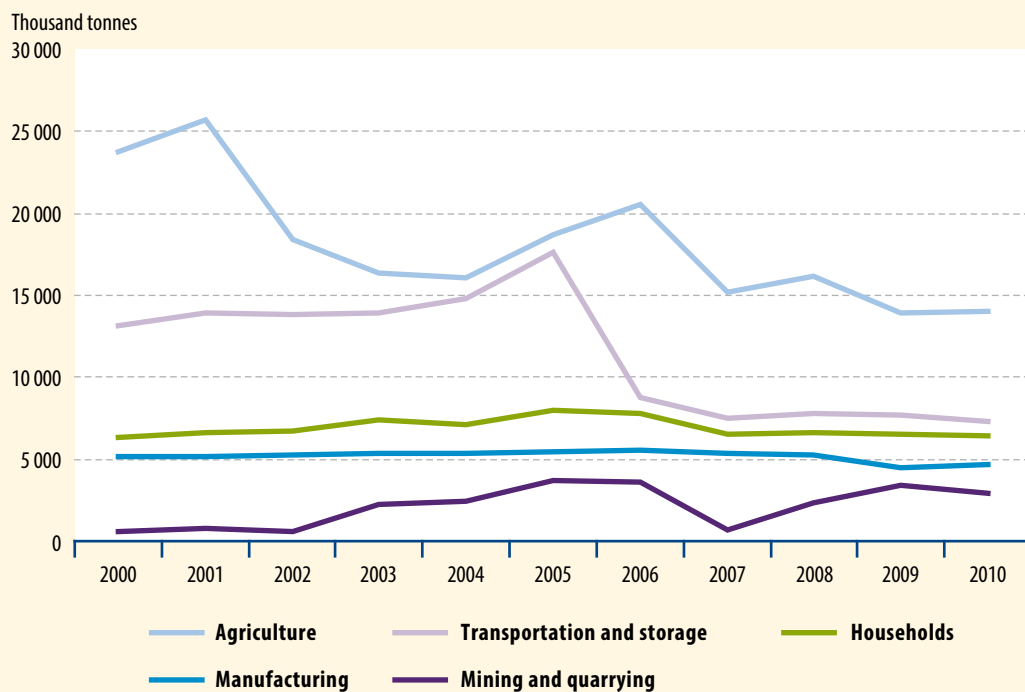
Source: Hungarian Meteorological Service.

! *The PM10 emissions of transportation and storage fell by 44% in the examined period.*

Definitions

The indicator of PM10 emissions shows the annual quantity of particulate matters – with a diameter of less than 10 micrometres – emissions from anthropogenic activities.

Transport is not an individual section according to NACE Rev. 2, and corresponds mostly to the section of transportation and storage.

Stadat tables
5.3.13. Emission of particulate matter with a diameter of less than 10 micrometres (PM10) by industries

Particulate matter emissions from transport

Keywords **particulate matter emissions, transport**

FR	92 208
IT	46 070
DE	40 154
ES	35 948
PL	32 902
UK	30 884
SE	12 746
FI	11 564
AT	8 623
NL	8 458
BE	8 428
CZ	8 383
PT	7 964
RO	7 441
▶ HU ◀	**6 556**
DK	4 311
IE	3 307
SK	2 565
LT	1 868
SI	1 819
BG	1 568
LV	1 472
MT	939
EE	789
CY	632

PM10 emissions from transport in the European Union, 2010, tonnes

Figure 9.1. **Particulate matter emissions from transport**

Thousand tonnes
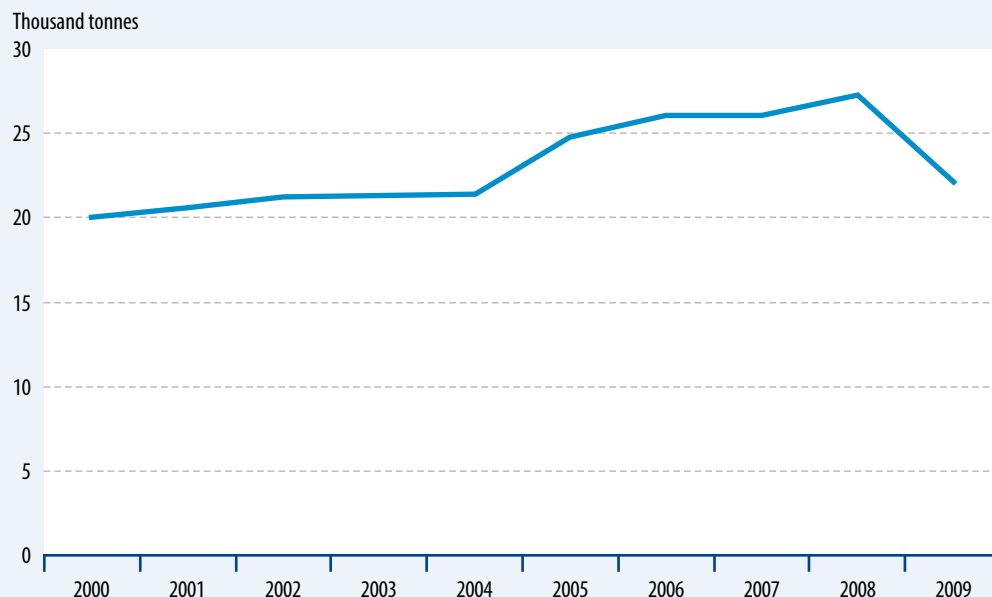
Source: Hungarian Meteorological Service.

! *Particulate matter emissions from transport grew between 2000 and 2008, but decreased considerably in 2009.*

Relevance At high level of sulphur dioxide concentration, in case of slow air motion and low temperature, particulate matters are the generators of winter smog.

Breathing in particulate matters with a diameter of less than 10 micrometres (PM10) plays a role in the formation of several serious heart and respiratory diseases (e.g. lung cancer). 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.

Commentary Particulate matter emissions from transport grew between 2000 and 2008, and decreased substantially in 2009. Particulate matter emissions stem from imperfect combustion, and are significant mainly in the case of diesel-powered motor vehicles. The wear of tyres and brakes also result in considerable particulate matter emissions.

International outlook Lower and lower quantities of PM10 emissions are recorded in road transport in EU-27 countries on average. The value of this indicator was 507 thousand tonnes in 2000, while it was reduced to 378 thousand tonnes by 2010. The decrease was induced by more and more rigorous emission standards for passenger cars and lorries, the spread of fuels with low sulphur content, and the growing introduction of diesel oxidation catalytic converters and diesel particulate filters.

Definition The indicator of particulate matter emissions from transport shows the annual quantity of total particulate matter emissions from transport.

Stadat tables
5.3.13.2. Emission of particulate matter with a diameter of less than 10 micrometres (PM10) by industries

Population exposure to air pollution by particulate matters

Keywords **air pollution by particulate matters, suspended particulate matter concentration, PM10**

| Figure 10.1. | **Population exposure to air pollution by particulate matters** |

Source: Eurostat.

! *Both the domestic figure and the average of EU-27 countries were higher in 2010 than the target set in the strategy of the Community.*

Relevance Fine particulates (PM10), i.e. particulates with a diameter of less than 10 micrometres, can be carried deep into the respiratory organs, where they can cause breathing problems and a worsening of the condition of people with heart and lung diseases. The main sources of particulate matter emissions in urban areas are diesel-powered vehicles, and industrial, household and other combustion. Natural sources include dust, sand and smoke from forest fires. As part of its Sustainable Development Strategy the EU set annual limit targets of 40 and 20 microgrammes of annual PM10 pollution per cubic metre for 2005 and 2010 respectively.

Commentary As a result of the nearly 30% drop of PM10 emissions after 2005, population exposure to air pollution by particulate matters improved significantly. The average exposure in Hungary was 39 microgrammes/m^3 in 2005, compared with only 31 microgrammes/m^3 in 2010.

International outlook Population was mostly exposed to air pollution by particulate matters in Bulgaria and Cyprus (48 microgrammes/m^3 each), and the least in Denmark (12 microgrammes/m^3), Estonia, Finland (13 microgrammes/m^3 each) and Sweden (14 microgrammes/m^3) in 2010. Severe summer heat waves, the hot, dry weather conditions in 2003 and 2006 led to the accumulation of pollutants.

Details Air pollution by suspended particulate matters (PM10) exceeded the limit value at most of the monitoring stations in 2011. The data exceeding the 24-hour limit value as a percentage of the total 24-hour data were above 30% in Miskolc, Pécs and Szeged.
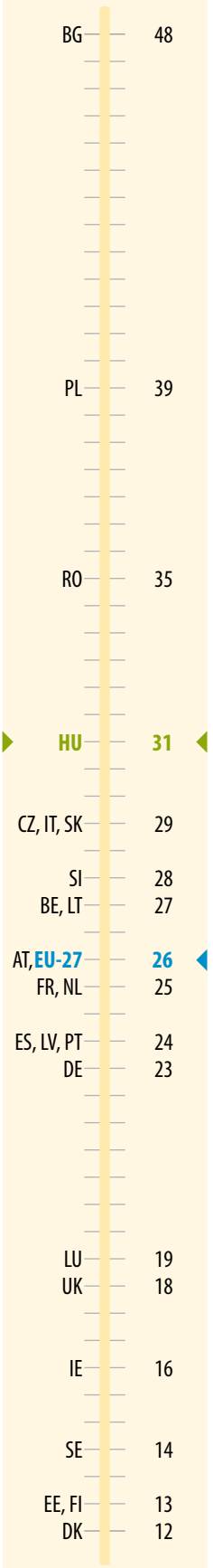
Population exposure to air pollution by particulate matters in the European Union, 2010,
microgrammes/m^3

10

BG	48
PL	39
RO	35
◀ HU ◀	31
CZ, IT, SK	29
SI	28
BE, LT	27
AT, EU-27 ◀	26
FR, NL	25
ES, LV, PT	24
DE	23
LU	19
UK	18
IE	16
SE	14
EE, FI	13
DK	12

Figure 10.2. **Average suspended particulate matter concentration in the air in certain settlements**

Microgrammes/m³
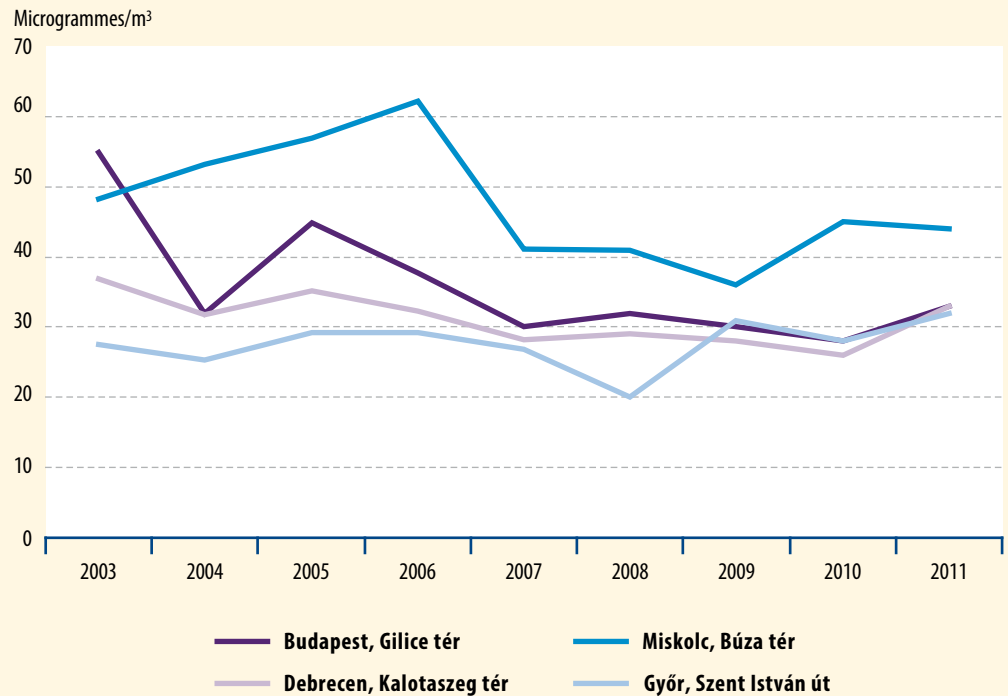
Source: Hungarian Meteorological Service.

! *The average suspended particulate matter concentration in the air is the highest in Miskolc.*

Definition The indicator of population exposure to air pollution by particulate matters shows the annual mean concentration of particulate matter emissions measured at monitoring stations in different agglomerations, weighted with the number of people living there.

Stadat tables

5.3.19. Pollution of the air by suspended particulates with a diameter of less than 10 micrometres (PM10) according to data of the automatic monitoring network

Annual mean surface temperature

Keywords **temperature, weather**

Figure 11.1. **Annual mean surface temperature in Budapest**
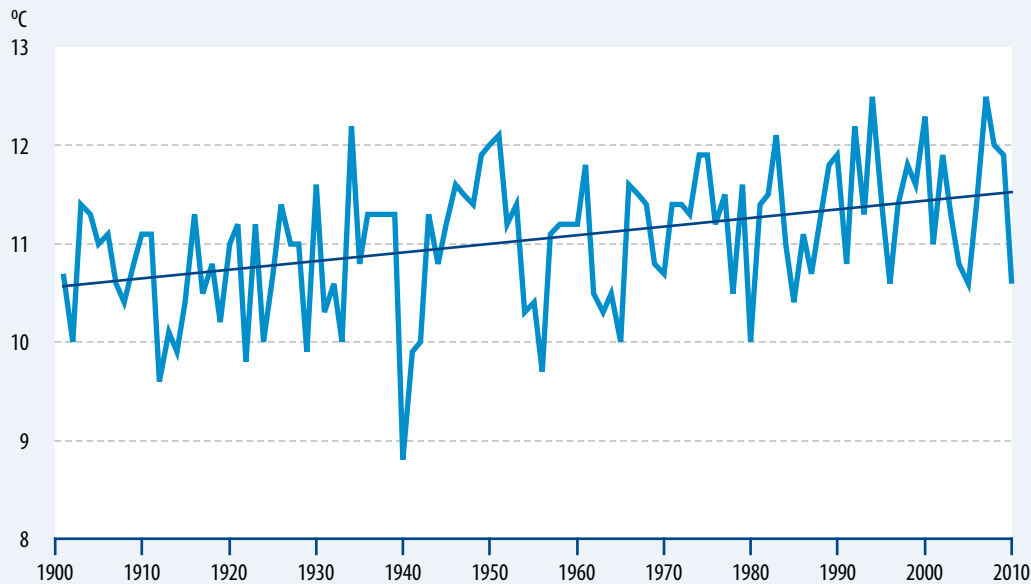
Source: Hungarian Meteorological Service.

! *Warming reached 1 degree Celsius in Budapest compared to 1900.*

Relevance One of the objectives of the EU is that the global mean surface temperature is not to rise by more than 2 degrees Celsius compared with the pre-industrial level. To meet this objective greenhouse gas emissions should be reduced dramatically. One of the priorities of sustainability in Hungary is also to combat climate change, which puts a high emphasis on reducing greenhouse gas emissions and starting to adapt to changing weather and climatic conditions.

Commentary Though the weather changed year by year over the time span of 110 years, the temperature rose continuously. According to the linear trend fitted to the series of annual mean temperatures in Budapest, warming reached 1 degree Celsius in the examined period due to the increasing effects of urbanisation. The highest temperature in Budapest was measured in 2007 (40.1 degrees Celsius). In spite of the volatility a general rise in temperature can be clearly seen in the last 30 years.

International outlook From the beginning of the 20th century to 2010 the global mean surface temperature rose by 0.74 degree Celsius. The rise is more intensive over land areas than over the oceans, which is true for the northern hemisphere too, more densely covered by land areas. Between 2001 and 2010 the average mean surface temperature on Earth was 0.46 degree Celsius higher than the mean measured for 1961–1990, making the decade the warmest ever recorded.

Definition The annual mean surface temperature is the average of the monthly mean surface temperatures of the 12 months (averages of daily mean surface temperatures).

Stadat tables
5.10.3. Extreme weather values
5.10.4. Main data of meteorological observation stations

Amount of precipitation

Keywords **precipitation, weather**

| Figure 12.1. | **Annual amount of precipitation in Budapest** |

Millimetres

Source: Hungarian Meteorological Service.
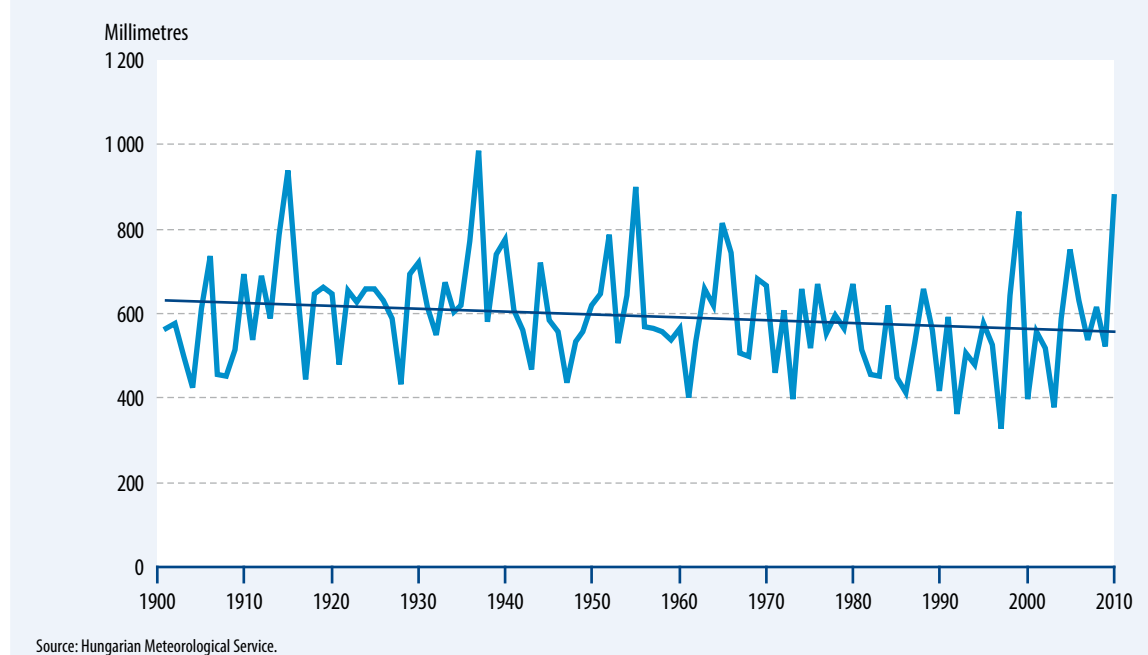
!　*In Budapest, the long time series of annual precipitation indicates a decrease.*

Relevance Combating climate change implies the rational planning of water management. In water management, preparations should be made principally for extreme hydro-meteorological events and extreme conditions of precipitation, which may lead to increased exposure to floods on the one hand and to droughts on the other. Flood safety must 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, to increase the quantity of water held back and to enhance water retaining capacities in the area of Hungary, furthermore, to ensure the high-level protection of water resources.

Commentary The most precipitation is in May and June, and the least in January and February. The quantity of precipitation varies from year to year, even three times more precipitation might fall in the wettest years than in the driest ones. The volatile annual amount of precipitation decreases, an average 0.7 millimetre less precipitation is year by year in Budapest. Between 1901

and 2011 the largest amount of precipitation was measured in 1937 (988 mm) and the smallest in 2011 (273 mm).

International outlook Drought and other weather extremities such as sudden rainfalls that could cause flood, are a substantial ecological and economic problem in a long term in the world. That is why it is crucial possibly for each country or area to have water management strategy.

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.

Stadat tables
5.10.3. Extreme weather values
5.10.4. Main data of meteorological observation stations

Number of heat days and freezing days

Keywords **heat days, freezing days, heat waves, weather**

Figure 13.1. **Number of heat days and freezing days in Budapest**

Days

Source: Hungarian Meteorological Service.

Freezing days   **Heat days**

! *The number of freezing days fell, while that of heat days increased during the examined period.*

Figure 13.2. **Number of days when there were heat waves in Budapest**
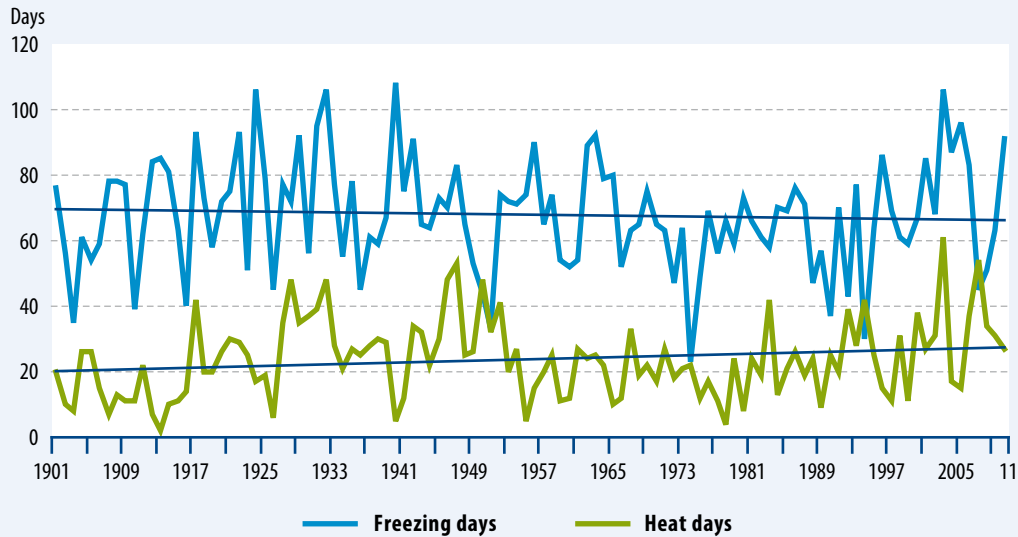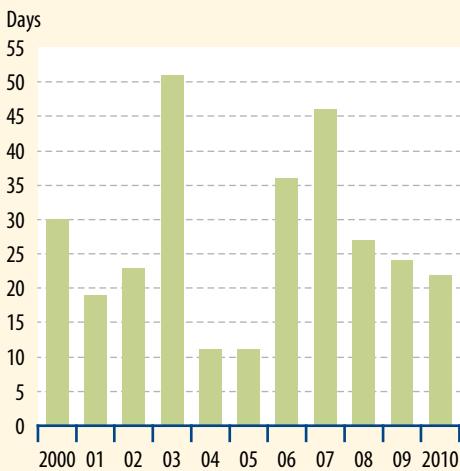
Days

Source: Hungarian Meteorological Service.

! *The number of days when there were heat waves fluctuated substantially.*

Relevance Changes in the number of freezing days and heat days are a major indicator 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 to extreme weather conditions.

Commentary Information from average mean surface temperature data is completed by the analysis of extreme temperatures (heat days and freezing days) and temporal range (heat waves). In the examined period the number of freezing days slightly declined and the number of heat days rose, although there were years that differed significantly from this.

Definitions

The days whose daily maximum temperature reaches 30 degrees Celsius are referred to as heat (hot) days.

In a heat wave at least three consecutive days are heat days.

A day is referred to as freezing day if the daily minimum temperature is below 0 degree Celsius.

Stadat tables
5.10.3. Extreme weather values
5.10.4. Main data of meteorological observation stations

Public water abstraction

Keywords **public water utility, water abstraction, surface and ground water**

| Figure 14.1. | **Per capita water abstraction of public utilities** |
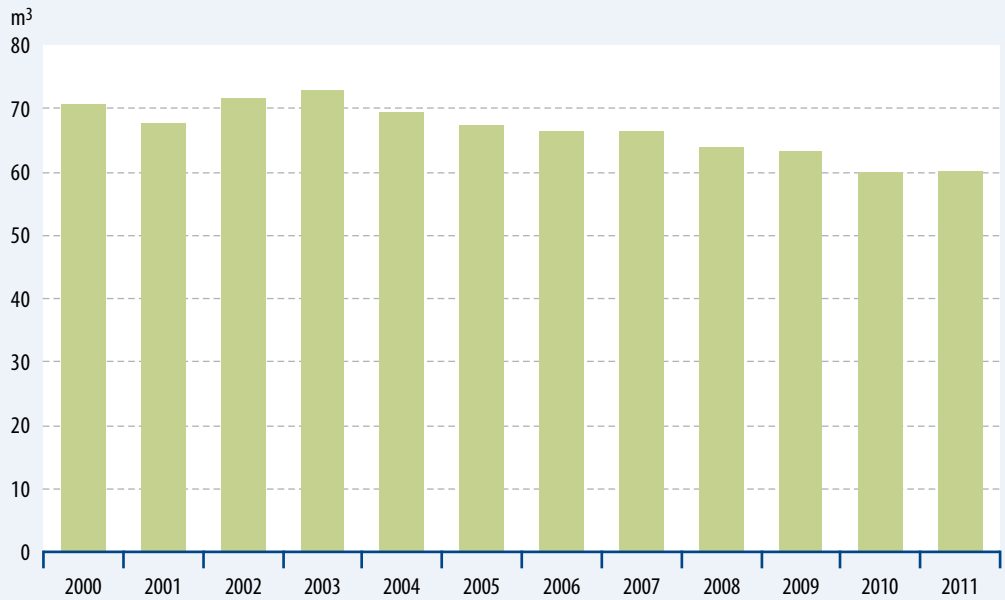
m³

In the chart (m³ per capita):
2000: 71, 2001: 68, 2002: 72, 2003: 73, 2004: 69, 2005: 67, 2006: 66, 2007: 66, 2008: 64, 2009: 63, 2010: 60, 2011: 60

! *In Hungary, the annual per capita water abstraction of public utilities gradually declines.*

Relevance The Sixth Environment Action Programme obliges the member states to ensure long-term sustainability in the proportion of water abstraction as well as emphasizes the importance of the water framework directive, which is to ensure coherent and sustainable water management in terms of quantity and quality. The Johannesburg Plan of Implementation draws the attention to the introduction of preventive and crisis management measures in the interest of sustainable water use and managing water shortages.

Sustainable water use makes it possible to preserve the current ground water levels, hence contributing to the preservation of the related ecosystems (e.g. wet habitats) and economic activities (e.g. agriculture).

The tools of catchment area management planning and stakeholder involvement are to ensure the good state of waters.

Commentary In Hungary, the annual per capita water abstraction of public utilities gradually declined (by 15%) between 2000 and 2011. It mainly resulted from the high water fees and, in case of sewered areas, from the high sewage fees.

International outlook In Hungary, the per capita volume (60m³/head in 2011) of water put into public water supply was in the second lowest fifth compared with the member states of the EU, which refers to water saving. Generally, this figure is lower in the new member states than in the old ones. These discrepancies may result from the different technologies of water abstraction, the availability of water and sewage facilities, the climatic conditions, the ownership of the waterworks (government/private), the significant role of private water abstraction (through a well), etc.

Per capita water abstraction of public utilities in the European Union, 2011, m³/capita

Country	Value
IT[a]	153
IE[b]	141
BG	129
ES[a]	127
UK[a]	113
SE[b]	98
FR[b]	91
LU	87
PT[a]	85
SI	81
FI[c]	77
EL[b], NL[a]	76
AT[a]	73
DK, RO	70
BE	68
CZ	64
DE[b]	62
HU	60
SK[b]	59
PL	54
EE	47
LT	39
MT	31
CY	24

a) 2008.
b) 2007.
c) 2005.

Figure 14.2. **Public water abstraction per capita by county, 2011**

m³/capita

	− 35.0
	35.1 − 45.0
	45.1 − 55.0
	55.1 − 65.0
	65.1 −
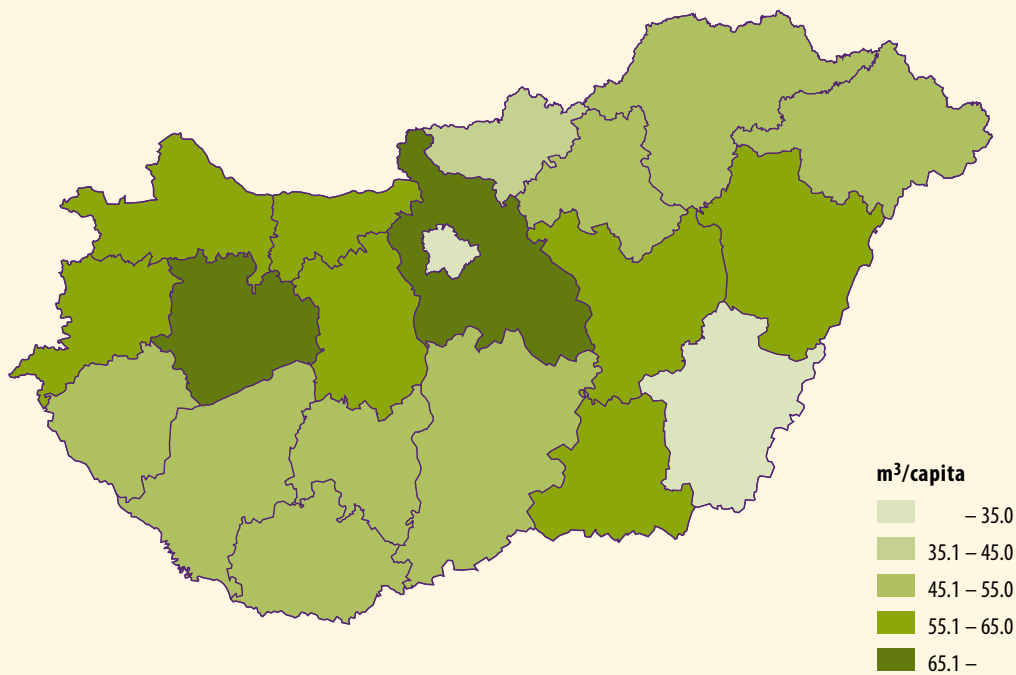
! *Public water abstraction per capita was the highest in Pest county (175 m³).*

Details On a county basis, the per-capita volume of water abstraction was outstandingly high at nearly 300% and 150% of the national average (60 m³) in Pest county and in Veszprem county respectively and very low in Budapest (1.93 m³) and Békés county (17.9 m³). Regional discrepancies result from the different technologies of water abstraction, the availability of water and sewage facilities as well as from private (free) water abstraction, which is especially significant in the Great Hungarian Plain.

Definition The indicator of annual per capita water abstraction of public utilities contains the volume of water abstracted from surface and groundwater bodies.

Stadat tables
5.4.2. Water abstraction and provision of public utilities (1990–)

Municipal sewage treatment

Keywords   **municipal sewage, public water utility, stages of sewage treatment**

Figure 15.1.	**Index of municipal sewage treatment**
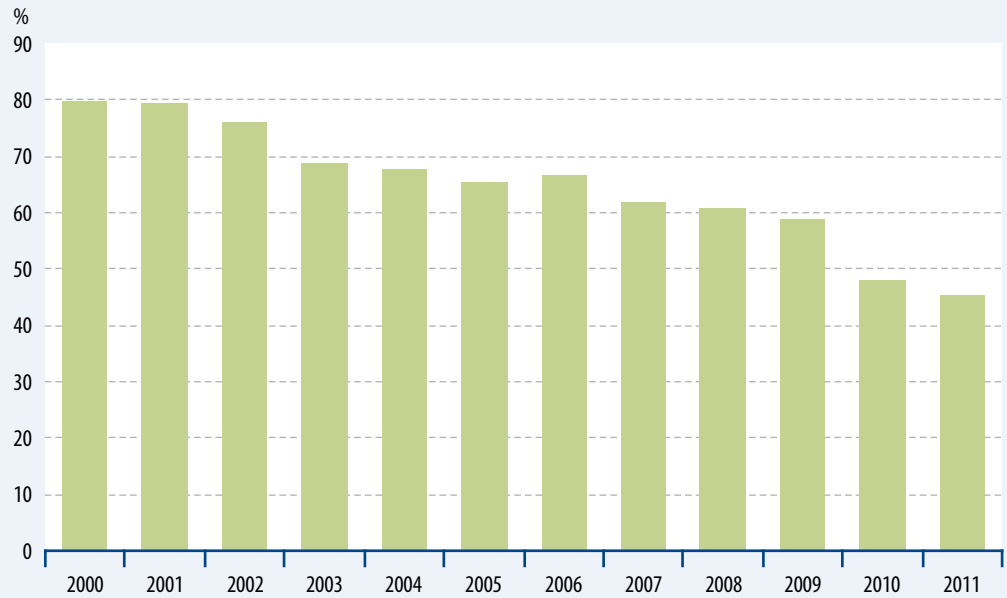
> **!**   *In Hungary, the municipal sewage treatment index significantly improved between 2000 and 2011.*

Relevance Public water utilities play an outstanding role in reducing freshwater pollution, preserving the quality of water assets as well as in protecting water bases through the professional operation of their sewage collection and treatment facilities.

Commentary In Hungary, the index of municipal sewage treatment decreased by 35 percentage points between 2000 and 2011 as a result of the installation of high-performance sewage treatment facilities (at least biological sewage treatment).

Details In terms of sewage treatment, Veszprém (23%) and Zala (30%) counties performed the best. During the previous years, the figure of Budapest (34%) significantly improved as a result of major sewage treatment investments,

but continued to be under the national average. The municipal sewage treatment index was the lowest in Bács-Kiskun (67%) and Csongrád counties (66%). There were significant differences at the county level mainly as a result of the following: the estimated proportion of homes connected to sewerage treatment plants with at least biological treatment was high in the regions of Western Transdanubia, Central Transdanubia and Central Hungary (78, 76 and 83% respectively), while the proportion of tertiary treatment was low in Southern Great Plain.

Definitions

The municipal sewage treatment index, which takes into account the efficiency of treatment, shows how developed the municipal sewage treatment is.

Figure 15.2. **Municipal sewage treatment index by county, 2011**

Per cent

- − 30.0
- 30.1 − 40.0
- 40.1 − 50.0
- 50.1 − 60.0
- 60.1 −
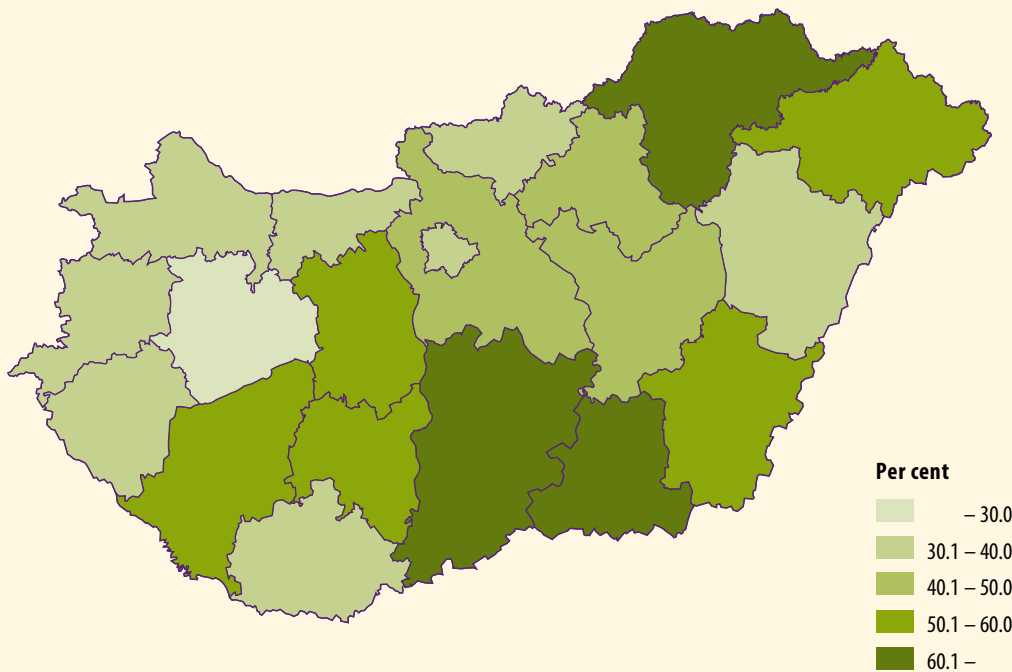
! *The index of municipal sewage treatment was the lowest in Veszprém county.*

The indicator on municipal wastewater treatment shows the efficiency of stages in wastewater treatment based on average weighting factors developed by Eurostat: untreated wastewater: 1.00; only primary (mechanical) treatment: 0.86; secondary (biological) treatment: 0.49; tertiary treatment 0.00. An index on municipal wastewater treatment is 100% if there is no wastewater treatment; and 0% if all municipal wastewaters are purified by tertiary treatment.

Stadat tables
5.4.3. Municipal sewage collection and treatment (1990−)

Biochemical oxygen demand of rivers

Keywords **biochemical oxygen demand, water quality, surface water, rivers**

| Figure 16.1. | **Changes in the biochemical oxygen demands (BOD$_5$) in the Danube** |

Milligrammes/litre
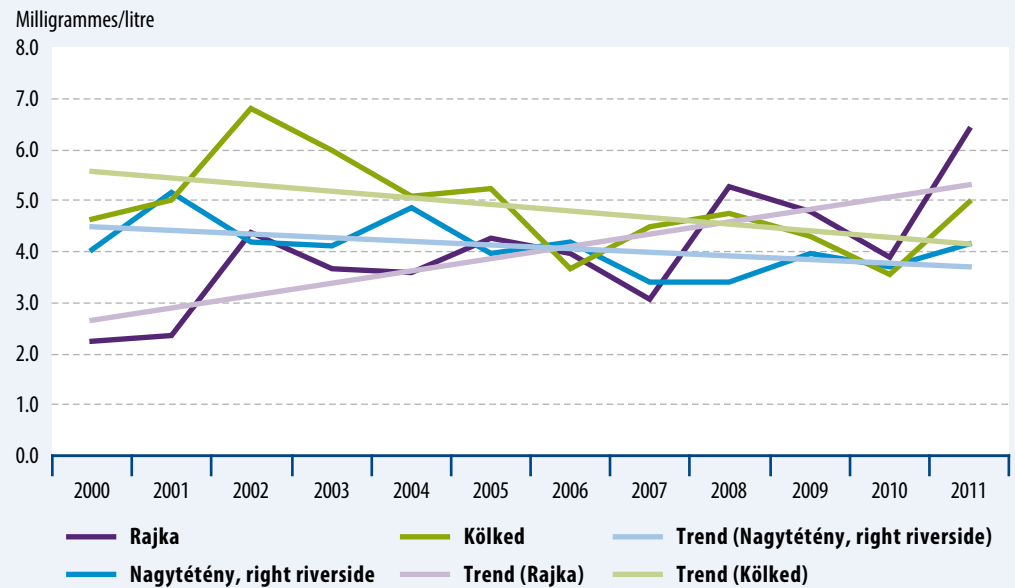
Source: National Environment Protection System (OKIR) – database.

! *Sampling done at Nagytétény (through-flow point) and Kölked (outflow point) indicates a decline in the BOD$_5$ values.*

Relevance Human sewage discharge exerts a direct impact on the quality of surface waters and rivers. Better cleaning technologies and treatment methods as well as a decline in water use are needed to reduce the impact on the environment.

Commentary The water quality of the Danube at Rajka, Nagytétény and Kölked is characterized with data measured by environmental protection authorities. Based on the classification of the Hungarian Standard MSZ 12749:1993 and the BOD$_5$ figure, the water quality of the Danube was in water quality class III (acceptable) at Rajka, and in water quality class II (good) at Nagytétény and Kölked in 2011.

The water quality was better at Nagytétény as a result of sewage treatment investments and a decline in water use and sewage discharge in Budapest.

International outlook Based on the non-full scale EU data of 2008 on BOD$_5$ figures in rivers, the most polluted rivers were in Romania and

Cyprus, while the cleanest ones in Slovenia and Austria. Hungary was at the end of the mid-range (2.87 milligrammes/litre).

Details The water quality of the Tisza River was classified on the basis of data measured at Tiszabecs, Szolnok and Tiszaliget. According to the above mentioned, BOD$_5$ based standard the water quality of the Tisza was in water quality class II (good) at Tiszabecs and in water quality class I (excellent) at Szolnok and Tiszaliget in 2011.

The water quality of the Drava River was classified on the basis of data measured at Barcs and Drávaszabolcs. According to the BOD$_5$ based MSZ standard the water quality of the Drava was in water quality class I (excellent) at Barcs and Drávaszabolcs in 2011.

Definitions

This indicator is to show the quality of water at the given river section based on BOD$_5$ figures of the 90 percentile measured in the given year.

Biochemical oxygen demand of rivers in the European Union, 2008, milligrammes/litre

Country	Value
RO	4.5
CY	4.3
EL	3.9
BE	3.8
LT	3.6
BG	3.3
IT	3.2
PL	3.2
CZ, HU	2.9
PT	2.8
ES	2.7
SK	2.5
DE	2.2
LU	2.1
UK	1.7
LV	1.5
FR	1.4
NL	1.2
DK	1.2
IE	1.1
AT	1.1
SI	0.9

Figure 16.2.   **Changes in the biochemical oxygen demands (BOD$_5$) in the Tisza**
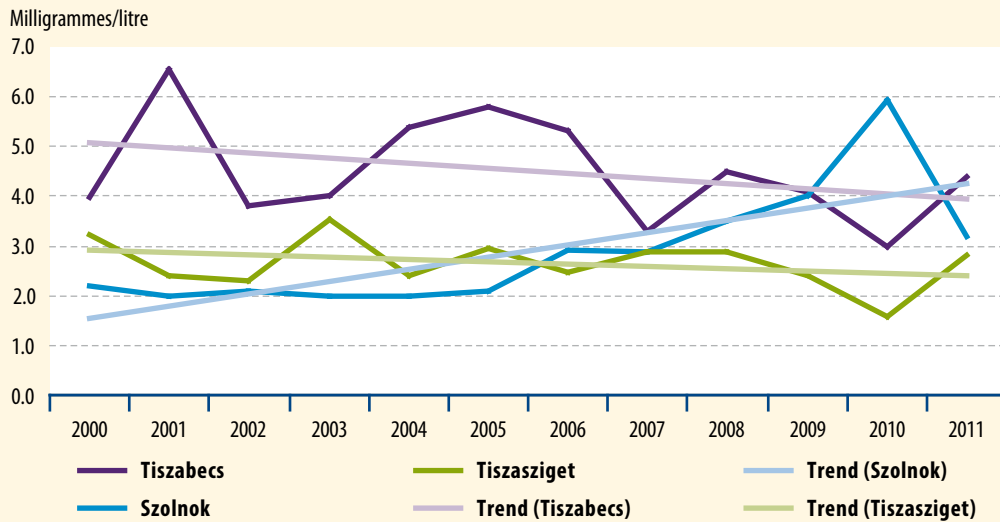
Milligrammes/litre

Legend:
- **Tiszabecs**
- **Szolnok**
- **Tiszasziget**
- **Trend (Tiszabecs)**
- **Trend (Szolnok)**
- **Trend (Tiszasziget)**

Source: National Environment Protection System (OKIR) – database.

> **!** *The water quality of the Tisza was in the first two water quality classes in line with the measurement points.*

Figure 16.3.   **Changes in the biochemical oxygen demands (BOD$_5$) in the Dráva**
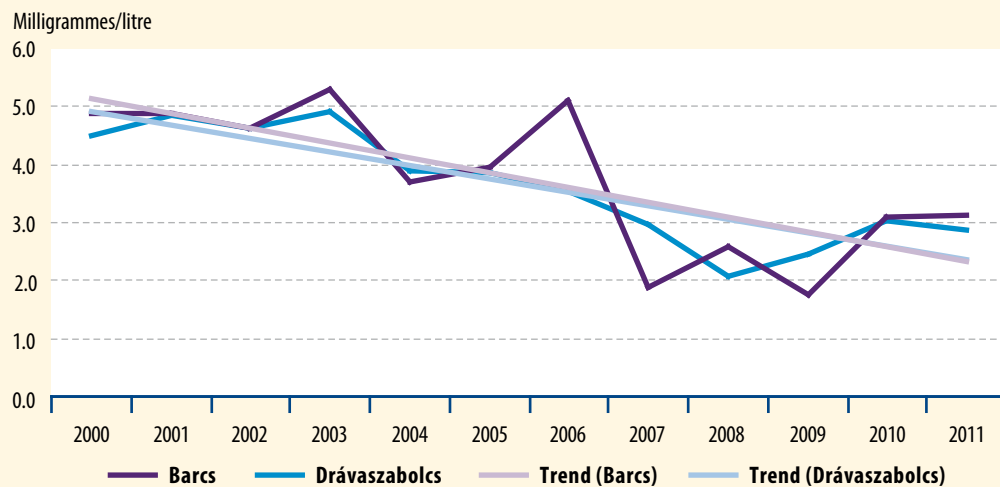
Milligrammes/litre

Legend:
- **Barcs**
- **Drávaszabolcs**
- **Trend (Barcs)**
- **Trend (Drávaszabolcs)**

Source: National Environment Protection System (OKIR) – database.

> **!** *The water quality of the Drava River is excellent.*

Biochemical oxygen demand or B.O.D is the amount of dissolved oxygen needed by aerobic biological organisms in a body of water to break down organic material present in a given water sample. The lower the value the better the quality of the river water.

Water classes are as follows:
class I.: excellent water,

class II.: good water,
class III.: acceptable water,
class IV.: polluted water,
class V.: heavily polluted water.

Stadat tables
5.4.4. The typical water quality values of the rivers in Hungary (1995–)

Change in land use

Keywords **change in land use, land use, proportion of built-up areas, agricultural production**

| Figure 17.1. | **Inner areas** |
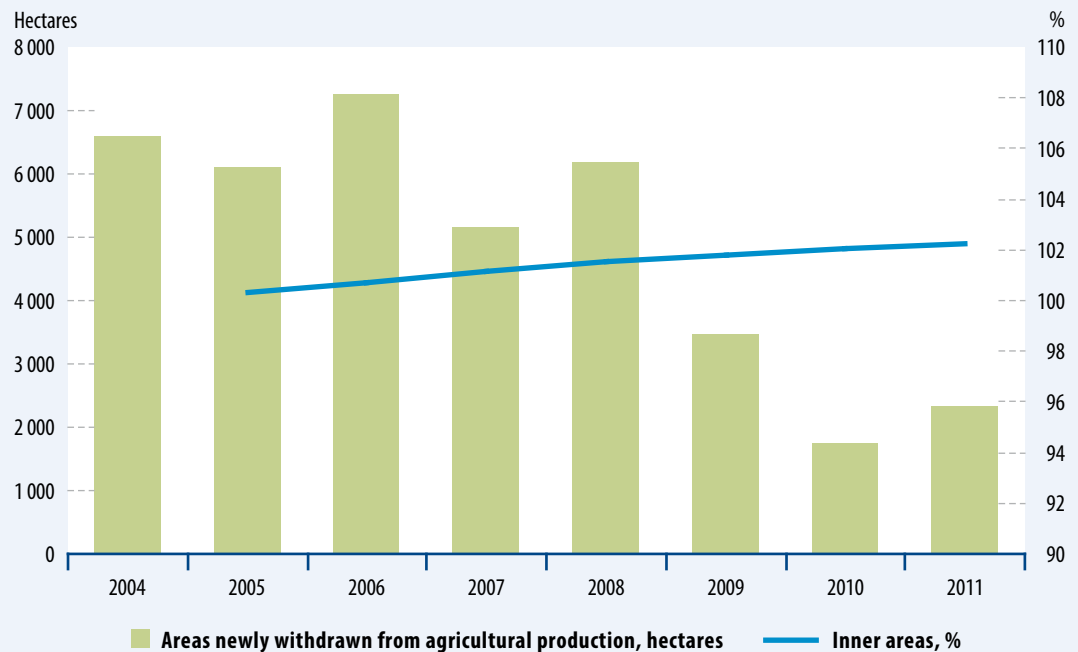
Source: Institute of Geodesy, Cartography and Remote Sensing.

! *In Hungary the size of inner areas grows year by year, while the size of land areas permitted to be permanently withdrawn yearly from agricultural production decreased markedly after 2008.*

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

Commentary The size of inner areas grew almost linearly in the past decade. Between 2004 and 2008 a relatively large area was permanently withdrawn from agricultural production, mainly for the purposes of industry and mining as well as road and railway constructions. The size of such areas was substantially decreasing from 2009, totalling 2322 hectares in 2011.

Proportion of inner areas in the European Union, 2009 (share of services and residential buildings), %

International outlook In 2009, land surface use and cover were surveyed in 23 countries of the European Union in the frame of the LUCAS survey (Land Use/Cover Area frame Statistical survey). Cyprus and Malta were not covered by the survey because of their small size, while Romania and Bulgaria were surveyed later. According to the results there is agricultural production on more than 40% and forestry on almost 30% of the area of the EU, and over 10% of the land is residential, commercial or industrial areas. The proportion of services and residential buildings is the highest in the Netherlands and Belgium, and the lowest in Spain.

Details In 2011, 57% of the area of Hungary was agricultural area, a large part (81%) of which was arable land. The size of forest areas and uncultivated land areas was almost the same, 21% each, of the area of the country.

NL	25.2
BE	19.1
UK	12.6
SE	12.6
DK	11.7
EE	11.1
DE	9.2
SK	8.4
FI	8.0
FR	7.7
IT	7.6
HU	7.1
IE	6.7
CZ	6.6
AT	5.9
PL	5.4
SI	5.0
LU	4.9
LT	4.6
EL	3.8
PT	3.8
LV	3.7
ES	3.3

Figure 17.2. **Distribution of land use, 2011**
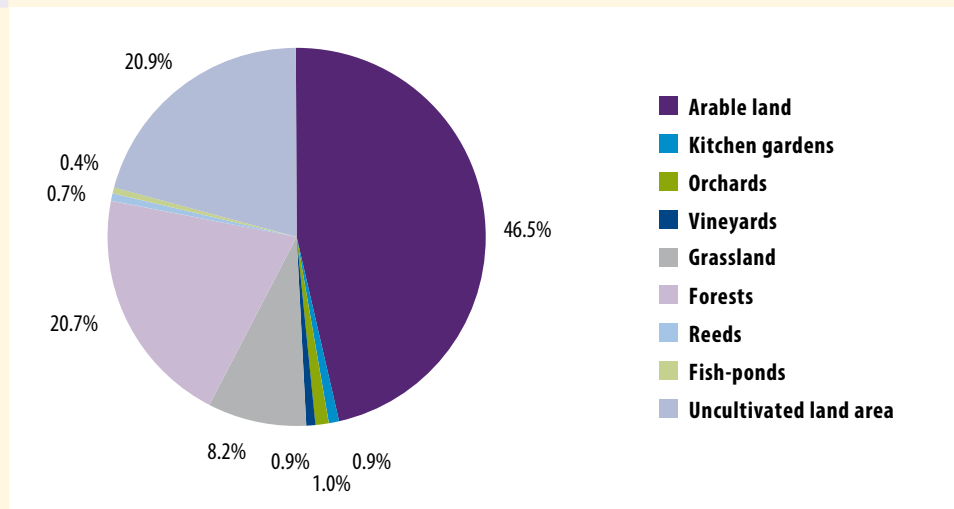
57% of the area of the country is agricultural area.

The share of agricultural area was over 60% in Northern and Southern Great Plain, while the proportion of forest areas was the highest in Northern Hungary (30%). The share of uncultivated land areas was the highest in Central Hungary (25%).

Definition The proportion of inner areas is the quotient of the size of inner areas and the total area of the country.

Stadat tables
6.4.1.1. Land area by land use category, 31 May (2000–)

Sales of fertilizers

Keywords **sales of fertilizers, fertilizer, nutrient, nitrate, ground-water**

| Figure 18.1. | **Volume of active ingredients in fertilizers per hectare of agricultural area** |

Kilogrammes
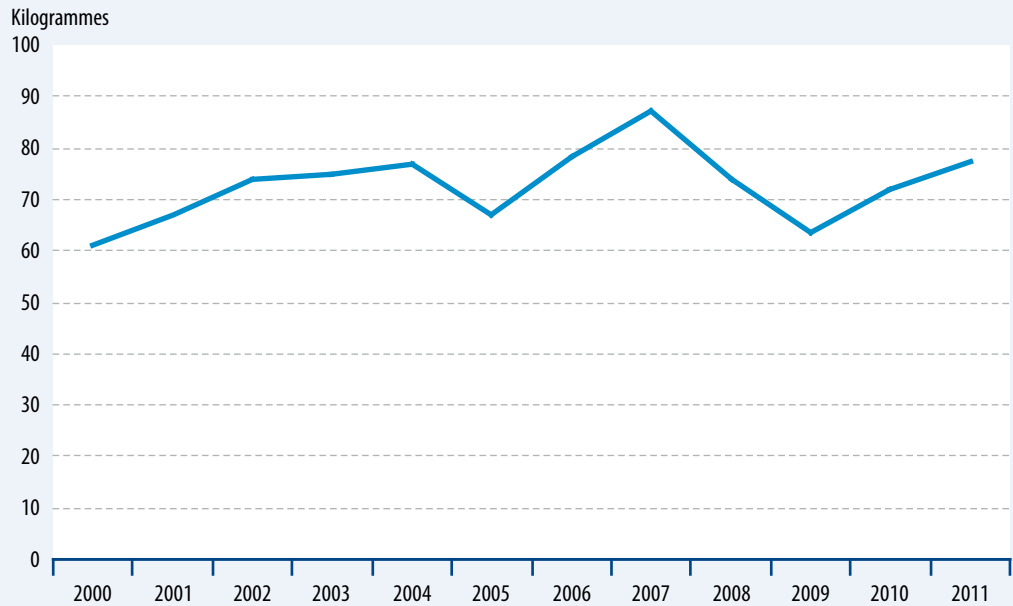
Source: Research Institute of Agricultural Economics.

! *Following a fall of 15% in 2008, active ingredients in fertilizers per hectare started to grow again in the past few years.*

Relevance Nitrogen in fertilizers oxidized into nitrate causes the acidification of the soil and also leaches into deeper soil layers causing the groundwater's nitrate level to rise. It results in the eutrophication of surface waters, and may cause poisoning in drinking water. When producing fertilizers containing nitrogen, substantial volumes of greenhouse gases are emitted to the air.

Commentary In Hungary the volume of fertilizers sold grew almost continuously until 2007, and has fallen considerably since then. Nitrogen fertilization predominates in Hungary, producers primarily reduce the quantity of active ingredients of phosphate and potassium in case of having financial difficulties. The share of nitrogen of total content of active ingredients was 73% in 2011.

International outlook According to the estimation of Fertilizer Europe, the European organisation of fertilizer producers, the quantity of active

Active ingredients in fertilizers per hectare of agricultural area in the European Union, 2010, kilogrammes/hectare

ingredients per hectare of agricultural area is the highest in the Netherlands and Germany (147 kilogrammes/hectare and 134 kilogrammes/hectare respectively), and the lowest in Portugal and Romania (30 kilogrammes/heactare each). The value for Hungary is estimated at 55 kilogrammes per hectare.

Definitions

The quantity of active ingredients in fertilizers per hectare is the quotient of sold quantity (N, P_2O_5, K_2O) and agricultural area.

Eurostat figures are the quotient of sold quantity (N, P, K), as estimated based on calculations of Fertilizer Europe, and the agricultural area of a particular member state. It could only be calculated in cases where both data were available for the particular country.

Stadat tables
4.1.5. Quantity of sold fertilizers (active ingredients) (2000–)
6.4.1.2. Manure and fertilizer application, irrigation (2004–)

NL	146.7
DE	134.4
FR	102.4
IE	100.1
DK	89.3
SI	88.8
CZ	87.7
FI	84.6
UK	78.1
EL	72.3
CY	71.0
LT	70.8
SE	67.7
IT	62.1
HU	**54.8**
SK	52.2
EE	49.7
BG	44.8
AT	42.2
LV	35.4
RO	30.3
PT	29.8

Sales of pesticides

Keywords **sales of pesticides, food safety, food production, agri-environmental measures**

| Figure 19.1. | **Quantity of pesticides sold by groups of pesticides** |

Thousand tonnes

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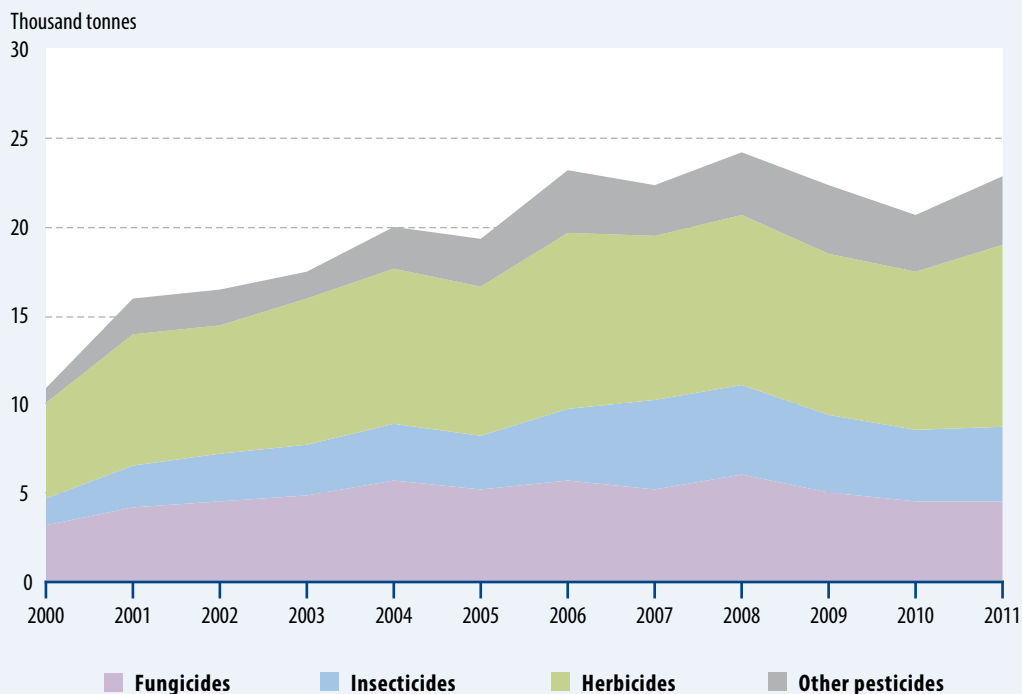
Source: Research Institute of Agricultural Economics.

> **!** *After a two-year decline following 2008, the quantity of sold pesticides increased again in Hungary in 2011, showing the tendency of a long-term rise.*

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. These can get to the food chain, the eco-system, the soil and waters, where they can also accumulate and cause serious damage. One of the priority areas of the environmental action programme of the EU is to reduce the health and environmental risk of pesticide use as well as to elaborate a relevant strategy for the sustainable use of pesticides.

Commentary Although the quantity of pesticides sold in Hungary fell by 15% between 2008 and 2010, the sold quantity doubled even so in 2000–2011. 44% of the quantity of pesticides sold to agricultural producers was herbicides in 2011.

Definition The indicator of sales of pesticides shows the sales of pesticide producing and distributing enterprises, expressed in tonnes. In Hungary sales figures are considered as use, since the latter is not covered by data collection for statistical purposes.

Nutrient balance

Keywords **nutrient balance, soil, nutrient, nitrate, eutrophication, groundwater**

NL	188
CY	122
MT	120
BE	118
DK	95
UK	93
DE	92
LU	89
CZ	86
PL	63
FI	54
SE	53
IE	50
FR	49
EU-27	**48**
SI	47
LT	36
ES	35
IT, AT	33
EE	29
SK	28
BG	18
LV	16
EL	15
PT	12
RO	4
HU	**−18**

Figure 20.1. **Nitrogen balance per hectare of agricultural area**
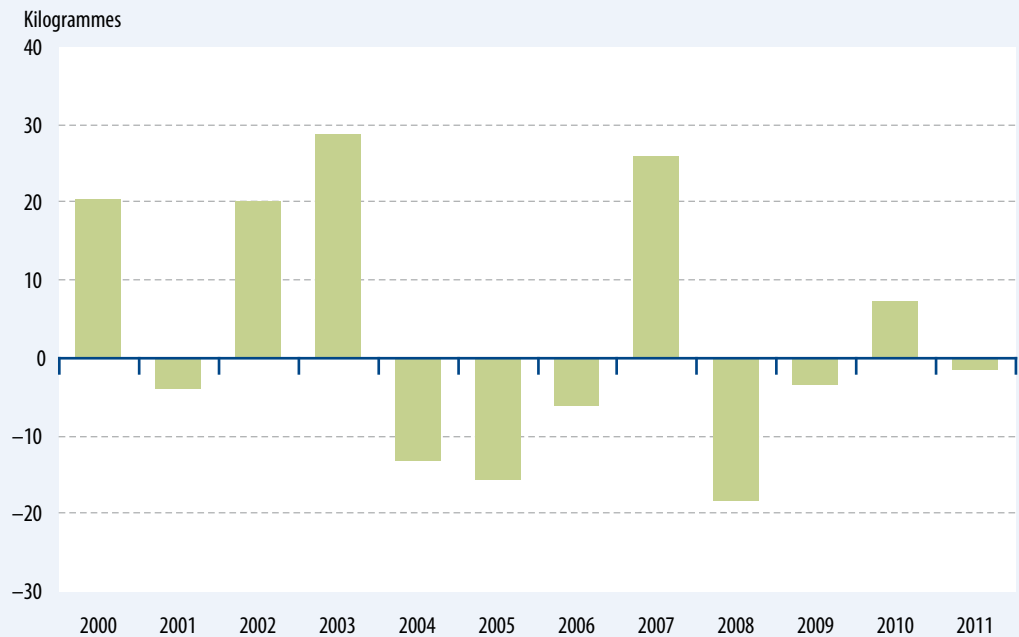
! *The nitrogen balance was −2 kilogrammes in 2011.*

Relevance Nutrient balances demonstrate the changes in the nutrient content of the soil as well as the cycle of major mineral substances vital for crops. A permanently and significantly positive nutrient balance results in a high risk of nutrient leaching and of the water contamination as a consequence. A long-term negative balance indicates potential problems of sustaining the applied agricultural methods. Nutrient intake in line with soil type and status is important since too much nitrogen leaching into standing waters may cause eutrophication. The application of inorganic fertilizers and organic manure may result in the emission of nitrogen dioxide and atmospheric ammonia load.

Commentary According to data calculated based on the Eurostat/OECD methodology the quantity of input was about the same in Hungary in 2000–2011. The quantity of fertilizers' nitrogen input into the soil slightly grew, while the quantity of manure's nitrogen input – following the development in the number of livestock – decreased. The nitrogen balance varied mainly as a function of crop output from the area.

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. In general, however, the quantity of nitrogen input in Hungary can be considered lower than the EU average, while active ingredients in the crop output exceeds the average. As a consequence, the balance here is much less favourable compared to the rest of the member states, and both nitrogen and phosphorus balances were the lowest in Hungary in 2008. The nitrogen balance was the highest in the Netherlands, Cyprus, Malta and Belgium, while the highest phosphorus balance was in Cyprus and Malta.

Nitrogen balance per hectare of agricultural area in the European Union, 2008, kilogrammes/hectare
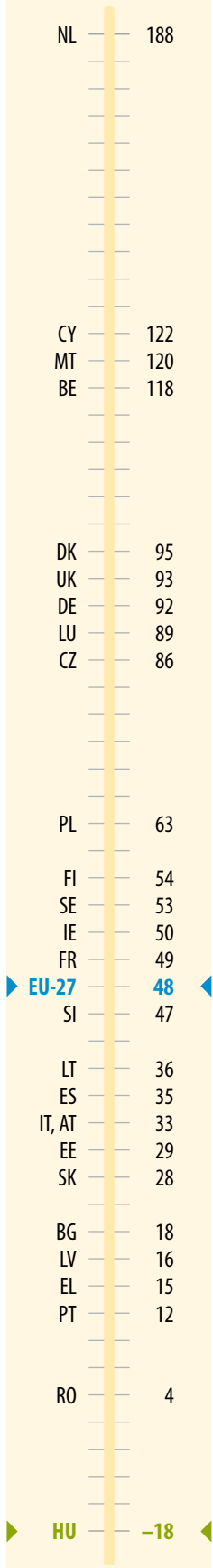
Figure 20.2. **Phosphorus balance per hectare of agricultural area**
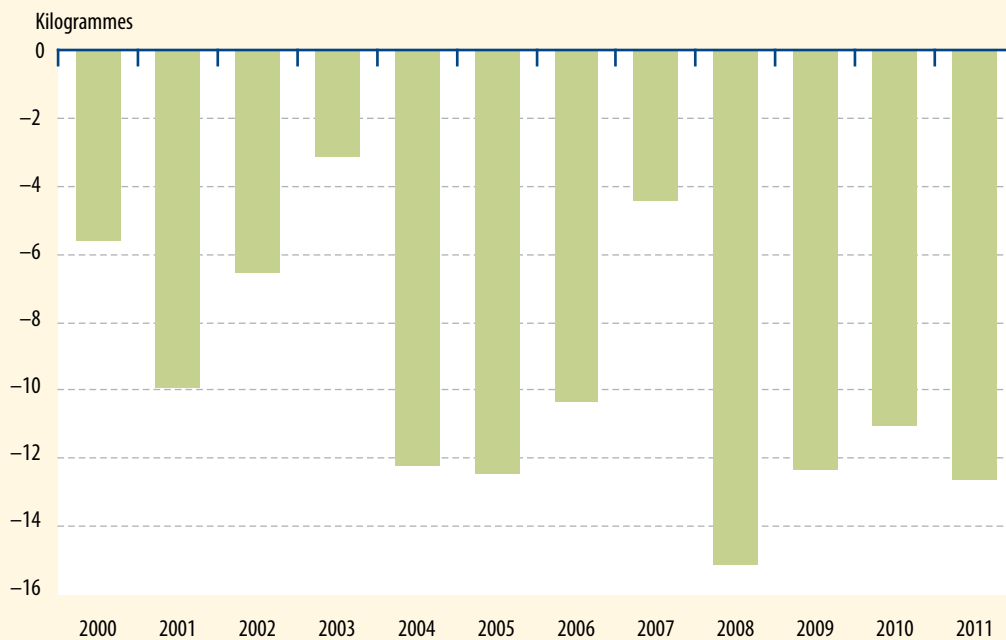
Kilogrammes

> ! *The phosphorus balance was −13 kilogrammes in 2011.*

Details 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 all years between 2000 and 2011 in Hungary, which may threaten already the sustainability of production.

Definition Nutrient balances are the difference between nutrient input by applying fertilizers and manures and in other ways and nutrient output due to crop output. A major component of the input side of the balance is the nutrient input of fertilizers. The output side is determined by the quantity of production, which depends significantly among others on weather conditions in the particular year.
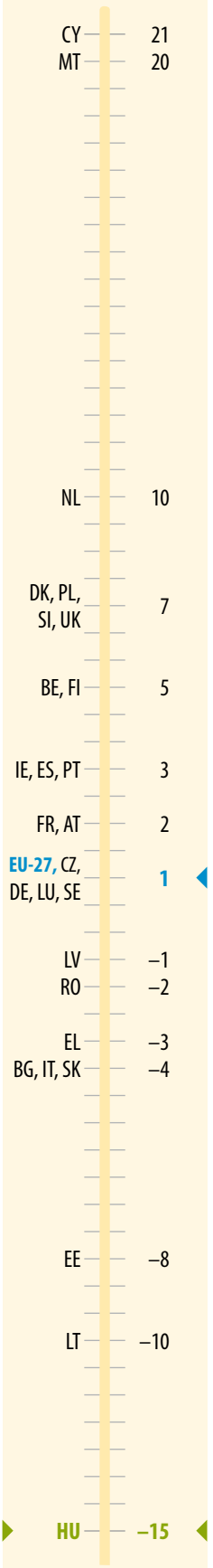
CY	21
MT	20
NL	10
DK, PL, SI, UK	7
BE, FI	5
IE, ES, PT	3
FR, AT	2
EU-27, CZ, DE, LU, SE	**1**
LV	−1
RO	−2
EL	−3
BG, IT, SK	−4
EE	−8
LT	−10
HU	**−15**

Phosphorus balance per hectare of agricultural area in the European Union, 2008, kilogrammes/hectare

Livestock density

Keywords **livestock density, nitrate pollution, greenhouse gas emissions**

| Figure 21.1. | **Livestock units per hundred hectares of agricultural area** |
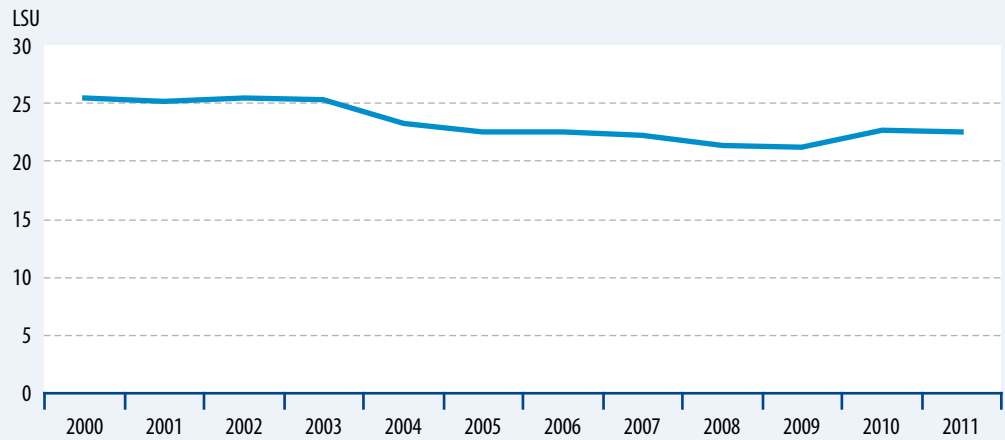
! *In 2011 the number of livestock units per one hundred hectares of agricultural area was 22.5.*

Relevance Intensive livestock rearing – especially in case of pig and poultry production – is the main source of farmyard manure, and, together with the excess use of fertilizers, is a key component of potential nutrient surpluses. These nutrient surpluses make a remarkable pressure on aquatic systems. In Hungary, however, often nutrient deficits are observed instead because of the decrease of livestock and the low level of fertilizer use. In addition, the number of cattle and other livestock has a significant influence on greenhouse gas concentration and other harmful emissions from agriculture.

Commentary Following the dramatic fall after 1990, livestock density per one hundred hectares of agricultural area was essentially unchanged between 1995 and 2003 (25–26), since then the value of the indicator has fallen almost continuously, in 2011 there were 22.5 livestock units per one hundred hectares. This was caused by a sudden drop in the stock of pigs and a slow but continuous decrease of the cattle stock, resulting from the lack of competitiveness and a fall in profitability.

International outlook The results of the farm structure survey conducted in 2007 reveal that

Livestock density in the European Union, 2007, livestock units*/hundred hectares

livestock density was the highest in Malta, the Netherlands and Belgium, and the lowest in Latvia and Estonia. The value of the indicator for Hungary was 28% lower than the EU-27 average because of the permanently declining livestock in the last decade.

Definitions

The value of the livestock density indicator shows the number of livestock (LSU – livestock unit) per one hundred hectares of agricultural area. LSU is an equivalent of total livestock, used for the aggregation of animals of different ages and sexes of various animal species. The livestock unit for Hungary was calculated taking into account the following animal species: cattle, pigs, sheep, horses and poultry.

The indicator of the European Union contains goat and rabbit stocks in addition to cattle, pig, sheep, horse and poultry stocks, furthermore, includes an index number different from that applied in the practice in Hungary.

Stadat tables
4.1.20. Livestock, December (1995–)
6.4.1.18. Cattle, 1 December (2000–)
6.4.1.19. Pigs, 1 December (2000–)
6.4.1.20. Sheep, 1 December (2000–)
6.4.1.21. Chickens, hens, cocks, 1 December (2000–)

MT	480
NL	335
BE	275
DK	172
CY	168
IE	142
LU	122
SI	113
DE	106
UK	86
FR	82
EU-27	**78**
IT, AT	77
PL	72
EL	64
CZ, PT	58
ES, SE	57
HU	**56**
FI	50
RO	43
BG	40
LT	39
SK	38
EE	35
LV	28

* Livestock calculations by HCSO are not identical with the methodology applied by Eurostat, which uses index numbers differing by animal species and takes into account goat and rabbit stocks, too.

Floods and inland inundation

Keywords **flood, inland inundation**

Figure 22.1.	Areas exposed to floods, 2010

Floodplain
Main flood protection line

Source: National Institute for Environment.
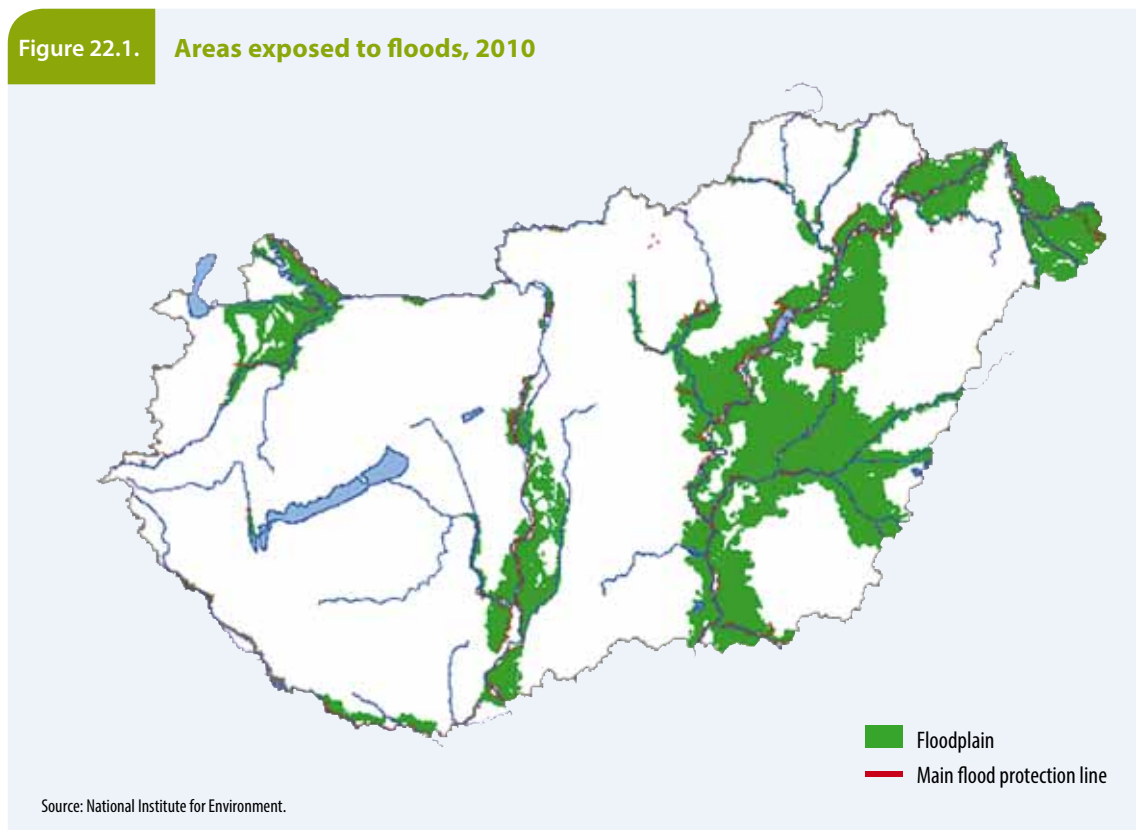
! *In Hungary an area of over 20,000 km² is exposed to floods.*

Relevance Due to its location, relief and climate conditions, 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. Floods in early spring are caused by runoff from snowmelt, while floods in early summer are the consequences of maximum precipitation at the beginning of summer.

Nearly the half of Hungary is plain area (44,500 km²), with endorheic lowlands having a significant share. More than 20,000 km² are exposed to floods, of which 5,610 km² belong to the river basin of River Danube, and 15,641 km² to the river basin of River Tisza.

Commentary In Hungary the protection from floods and inland inundation has an over 150-year-old tradition. An about 4200-km-long flood protection 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 river beds). In floods a substantial part of water should be led into reservoirs, and this reserved water should be used for irrigation in droughts.

Details 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 of area for 2–4 months per year on average. One of the weaknesses of regional water management is that habitat conditions are taken into account to a limited extent, and that the harmony of water resources, weather extremities, agriculture, area use and landscape ecology is not ensured.

Figure 22.2.   **Areas exposed to inland inundation, 2010**

High-risk areas
Medium-risk areas
Low-risk areas
Border of inland inundation areas
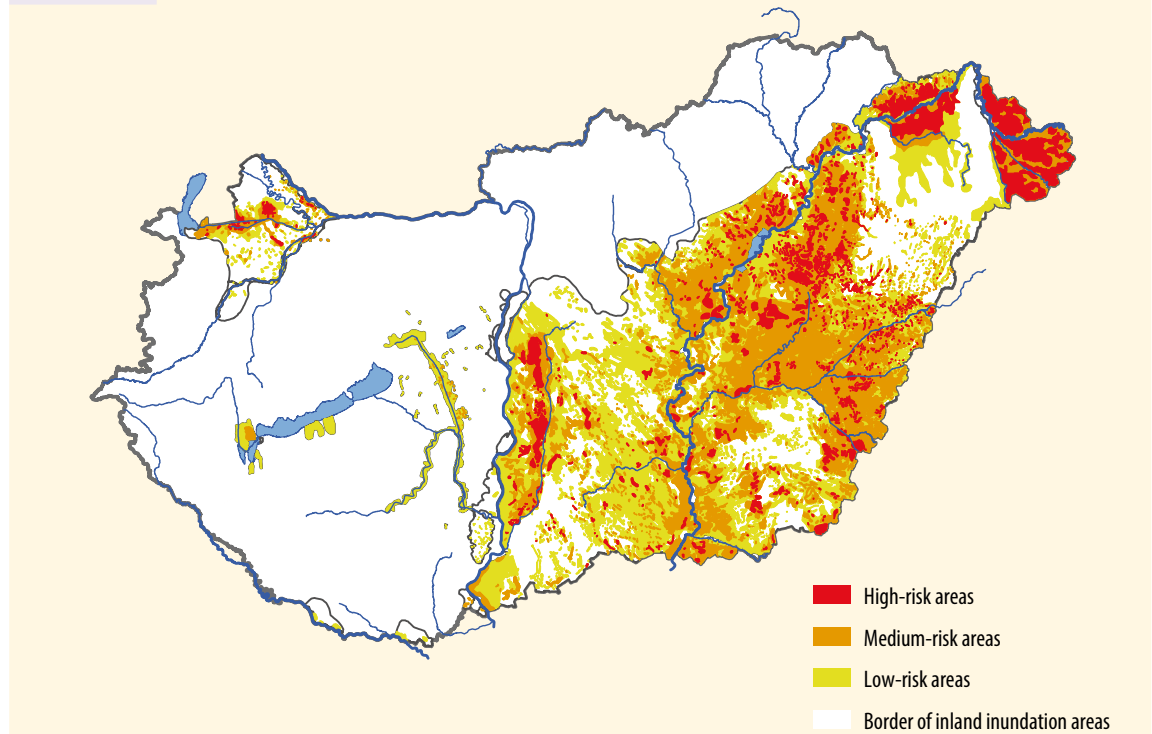
Source: National Institute for Environment.

! *Around 60% of lowlands in Hungary are exposed periodically to inland inundation year by year.*

Definitions

Flood: water exceeding the edge of or exiting the mean-stage bed of a river or watercourse.

Inland inundation: it 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, precipitation activity, but it can also be a result of a high level of groundwater, when groundwater exits onto the surface.

Areas exposed to drought

Keywords **drought, Pálfai drought index (PDI)**

| Figure 23.1. | **Proportion of areas exposed to drought, in years of severe drought** |
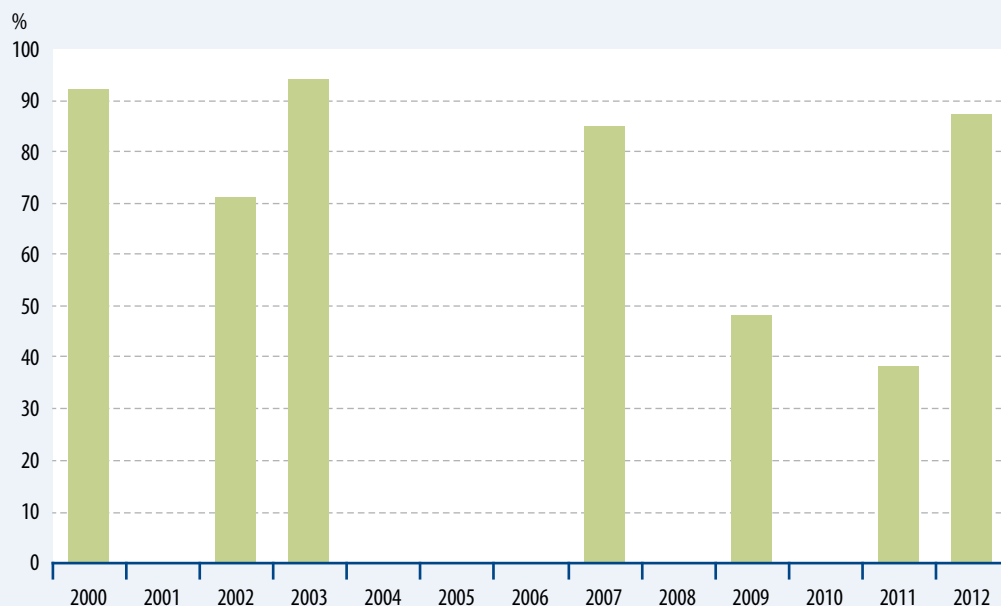
Source: Environmental Protection and Water Management Research Institute (VITUKI).

! *In 2012, 87% of the area of Hungary was exposed to drought.*

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 drought 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, furthermore, areas under protection, and so society itself, occasionally suffer severe damage.

Commentary The proportion of areas exposed to drought often significantly exceeded 50% in Hungary in 2000–2012. 2000, 2003, 2007 and 2012 were years of severe drought. This was the consequence of extreme heat, the lack of precipitation, and the combination of the two. From April to August 2012 the drought extended to the whole territory of Hungary. At the western and northern border of the country the drought reached only light or moderate levels, but some 75% of the area of the country saw considerable, severe or extremely severe levels.

| Figure 23.2. | **Territorial distribution of drought index (PDI) values, 2012** |

14	Extremely severe
12	Severe
10	Considerable
8	Moderate
6	Light
4	
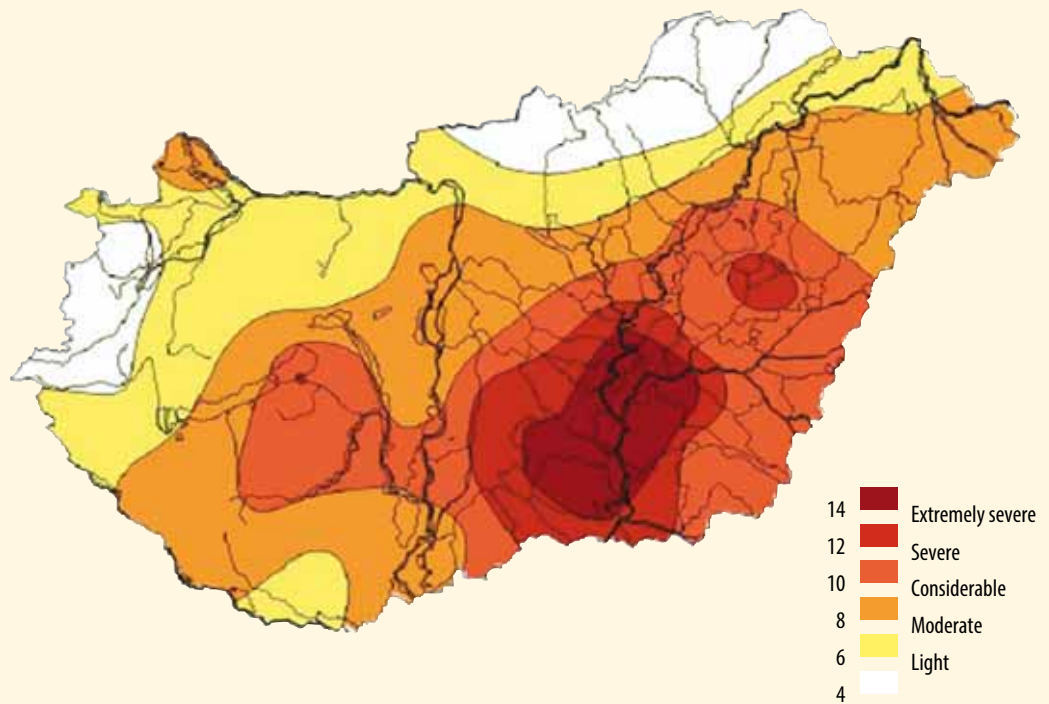
Source: Environmental Protection and Water Management Research Institute (VITUKI).

!   *The central part of the Great Plain was exposed to the most severe drought.*

Definitions

The size of areas exposed to drought is determined by the Pálfai drought index (PDI). This index is the quotient of mean temperatures in the period between April and August and the weighted precipitation amount of the period between October and August. The index takes into account the number of hot days, the length of period with low precipitation, the depth of groundwater, and the water demand of agricultural plants, changing over time.

Areas not exposed to drought are those where the PDI is under 6°C/100 millimetres; areas exposed to extreme drought are those where the PDI is above 12°C/100 millimetres.

Stadat tables
5.6.2. Areas exposed to drought (1985–2012)

Ecological farming

Keywords **ecological farming, organic farming**

| Figure 24.1. | **Areas under ecological farming as a share of agricultural area** |
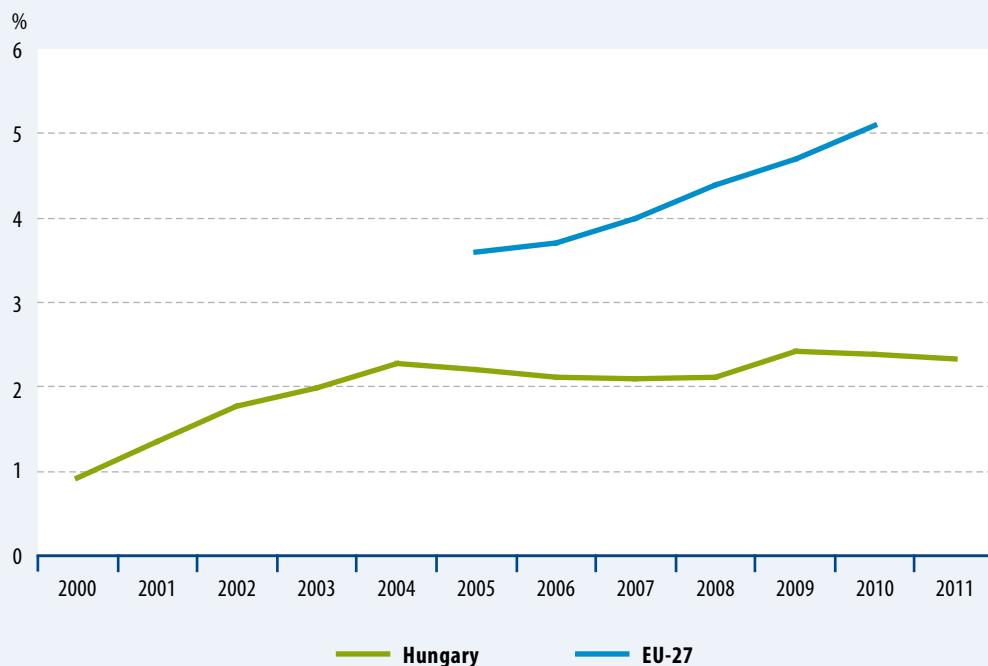
The share of areas under ecological farming was 2.3% of agricultural area in 2011.

Relevance Organic farming is a production method governed by EU regulations, 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 and that agriculture has a substantial impact on the state of natural environment, the national concept of transition to sustainability aims to put Hungary at the top of the EU rankings.

Commentary Areas under organic farming in Hungary were 124 thousand hectares in 2011. Between 2000 and 2011, areas under ecological farming grew by nearly 132%.

While the proportion of areas under organic farming has been permanently extended in the EU since 2005, it has been stagnating in Hungary, though with slight fluctuations.

International outlook The share of areas under ecological farming was 2.4% of agricultural area in Hungary in 2010, which was below the EU average of 5.1%. The proportion of areas under organic farming was the highest in Austria (17.2%), and it was above 10% in Sweden, Estonia as well as the Czech Republic. It was the lowest in Malta (0.2%) and Bulgaria (0.5%).

Definition Ecological farming is a production method governed by EU regulations, laying high emphasis on protecting the environment, within which the soil, surface and sub-surface water reserves, and promoting biodiversity and food safety.

Stadat tables
5.6.1. Organic farming (2005–2011)

Areas under ecological farming as a share of agricultural area in the European Union, 2010, %

AT	17.2
SE	14.3
EE	12.8
CZ	12.4
LV	9.2
SK	9.1
IT	8.6
EL	8.4
FI	7.4
ES	6.7
SI	6.4
DK	6.1
DE	5.9
PT	5.8
LT	5.2
EU-27	5.1
UK	4.1
BE	3.6
PL	3.3
FR	2.9
CY, LU	2.8
NL	2.5
HU	2.4
RO	1.3
IE	1.1
BG	0.5
MT	0.2

Proportion of areas subject to agri-environmental measures

Keywords **agri-environmental measures, common agricultural policy (CAP), rural development**

| Figure 25.1. | **Areas receiving agri-environmental support as a proportion of agricultural area** |
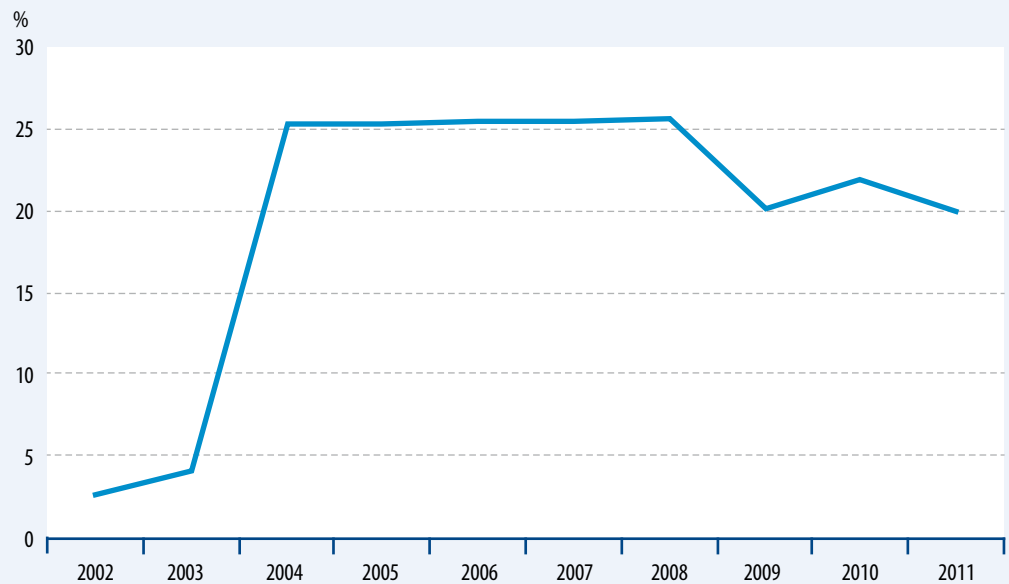
Source: Agricultural and Rural Development Agency.

! *The proportion of areas participating in agri-environmental programmes was around 20% in Hungary in the last few years.*

Relevance Since the reform of the Common Agricultural Policy (CAP) in 1999, agri-environmental measures are 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. The main goals of the measures are to protect soil and nature, to promote food safety, to support animal husbandry, and landscape management as well as changes in land use.

Commentary The measures are a five-year programme, where farmers can enrol in the year when the programme is started. Agri-environmental measures started from 2009, implemented within the framework of the "New Hungary" Rural Development Programme, comprise higher-level objectives, developed especially towards quality, covering a smaller area in proportional terms compared to the period of 2004–2009. In 2011, 20% of the agricultural area was subject to agri-environmental measures.

International outlook In the European Union an area of 38.5 million hectares, 21% of the agricultural area was subject to agri-environmental measures in 2009, when the new rural development programme was started. This proportion was higher in case of older member states: 25% on average for the EU-15 and 10% on average in case of the 12 newly acceded countries. Agri-environmental support was applied for for more than two-thirds of the agricultural area in four member states: Luxembourg (92%), Finland (91%), Sweden (82%) and Austria (70%).

Definitions

The indicator is the quotient of areas subject to agri-environmental programmes and total agricultural area.

Farmers undertaking agri-environmental obligations for five years on a voluntary basis or for ten years in case of grass establishment for the purpose of environment protection are eligible for support in the frame of these measures. The support covers lost revenues and the extra costs of meeting requirements.

Changes in the population of farmland birds

Keywords **biodiversity, agri-environmental measures, bird species**

| Figure 26.1. | **Change in the population of farmland birds** | (2000=100.0) |
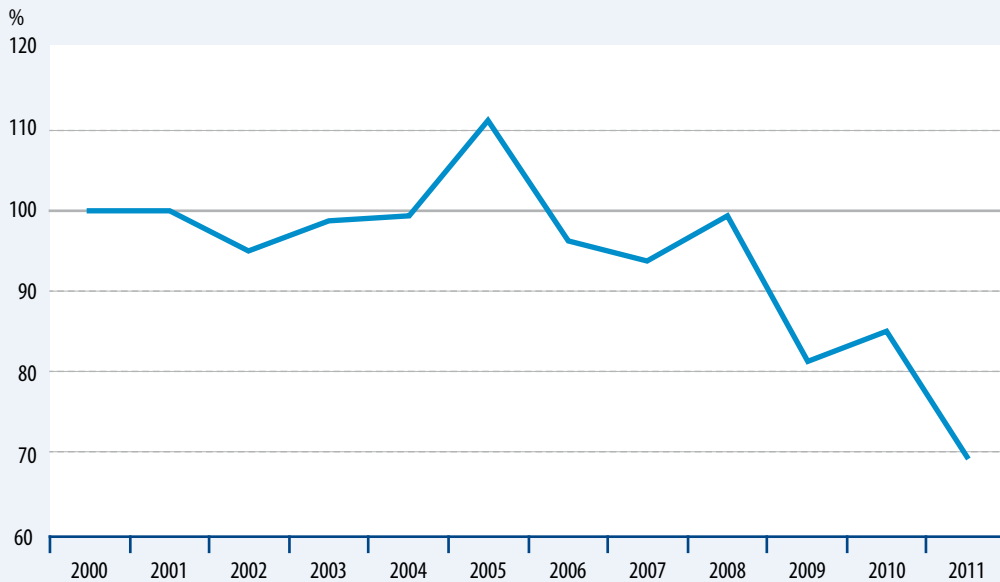
Source: MME / BirdLife Hungary – Monitoring Centre.

! *The population of farmland birds saw no significant change until 2005, then started to decrease.*

Relevance In Hungary, the program of monitoring 'everyday' birds, managed by the Hungarian Birdlife (MME), has been providing data on changes in the population of farmland birds since 1999. The survey covers 2% of the country's area in every year. This indicator is an aggregated index based on the results of the programme monitoring such widespread bird species, which live and reproduce in farmland habitats. It reflects the state of farmland habitats as well as the sustainability of farming.

Commentary Concerning the majority of the monitored species, the index remained stagnant until 2005, and then showed a declining tendency in the last years. In 2011, it hit an all-time low.

International outlook According to figures (covering 37 species) based on other methodologies and published by the Eurostat, the population of farmland birds was on the rise in Hungary and stood at 105% in 2008 compared with the base figure of 2000. The average of the union was 93%, the highest figures were recorded in Lithuania and Finland, while the lowest ones in Germany and Austria.

Definition The value of the index shows how the population of farmland birds changes.

LV	115.2
FI	107.6
► **HU**	**105.3** ◄
PL	99.3
CZ	97.3
FR	96.2
► **EU-27**	**93.3** ◄
IE	92.4
NL	92.3
BE	90.8
SE	86.4
ES	84.2
UK	83.4
DK	79.2
AT	77.4
DE	75.7
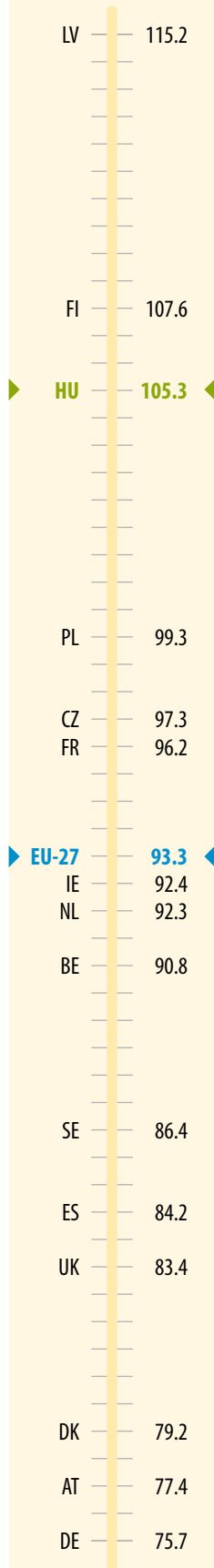
Change in the population of farmland birds in the European Union, 2008 (2000=100.0), % ►

Natural vegetation assets of Hungary

Keywords **natural assets, plant invasion in mesothropic wet meadows**

Figure 27.1. **Natural vegetation assets of the micro-regions, 2003–2007**
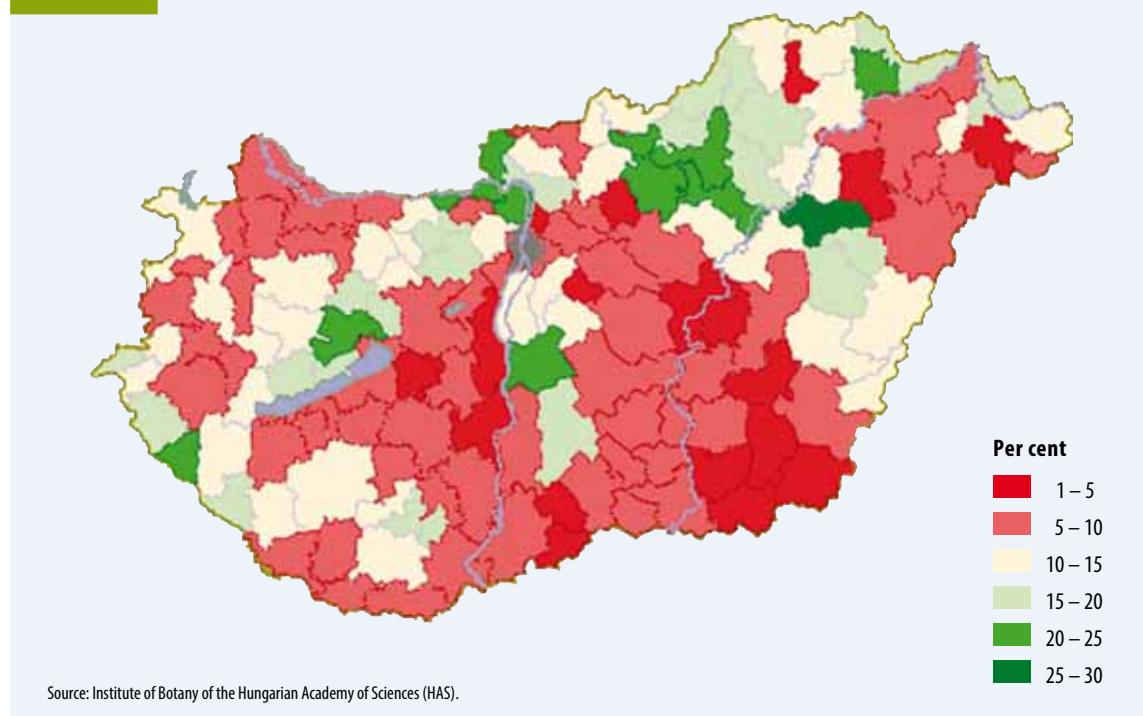
Per cent

- 1 – 5
- 5 – 10
- 10 – 15
- 15 – 20
- 20 – 25
- 25 – 30

Source: Institute of Botany of the Hungarian Academy of Sciences (HAS).

! *The more forested and more natural mountain areas, as well as the large protected areas of the Hortobágy salt steppes and the Kiskunság sand dunes can be characterized by relatively high NVA values.*

Relevance Habitats with the largest natural assets are the most important in preserving 'site ecological health', i.e. ecological operational ability for any domestic sites. Natural vegetation assets (NVA) characterize the landscape based on the naturalness (vegetation condition) of the different habitat patches. This evaluation reflects the capability of the landscape to supply fundamental ecosystem services for the society, which are economically highly significant yet hard to evaluate in monetary terms. The natural and quasi-natural areas contribute more to the supply of such services, as e.g. regulating runoff regimes, soil formation, erosion control, pollination or maintaining biological diversity, than the degraded, anthropogenetic areas.

Commentary The different regions of Hungary can be characterized by considerably different NVA (natural vegetation asset) values, due to the differences in historical and actual land use patterns. The higher the NVA index in a land-

scape unit, the area is larger and has more natural vegetation. Our national NVA index is nearly 10%, with the highest index values (28%) occurring in the Balmazújváros and the lowest index values (0.9%) in the Mezőkovácsháza micro regions. The more forested and more natural mountain areas, as well as the large protected areas of the Hortobágy salt steppes and the Kiskunság sand dunes can be characterized by relatively high NVA values. As opposed to this, the value of this index is quite low in the major part of the country, especially where intensive agriculture plays a near exclusive role in land use (e.g. lowland loess plateaus).

Details In Hungary, our natural vegetation heritage is highly endangered. On the one hand, changes in cultivation types (ploughing, mining, creating artificial lakes, classifying as a garden), modes of using grasslands and woodlands (overuse, forest management with an industrial character, game damage, in other cases the end of

Figure 27.2.   Plant invasion in mesothropic wet meadows, 2008

Source: Institute of Botany of the Hungarian Academy of Sciences (HAS).

Per cent	
	– 5
	5 – 25
	25 – 50
	50 – 75
	75 –
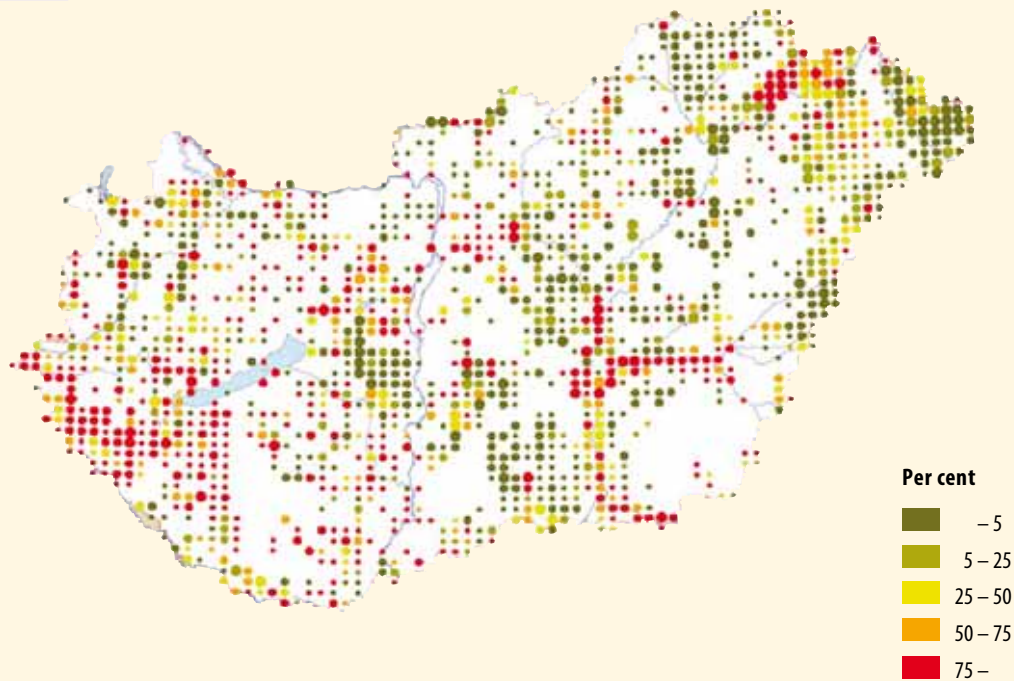
! *As a result of their spontaneous invasion, the proportion of non-indigenous species increases in the biomass of vegetation, while the diversity of indigenous species declines.*

traditional farming) and in lowlands the changes in groundwater hydrology endanger the vegetation. At the same time, during the last two or three decades a spontaneous invasion of non-indigenous species (e.g. black locust /Robinia pseudoacacia/, goldenrod species /Solidago spp./, milkweed /Asclepias syriaca./, false indigo / Amorpha fruticosa/) became one of the most important risk factors. With their mass invasion, these species oppress the native ones, thus these Asian and North-American species account for an increasing proportion in the biomass of vegetation, while the diversity of indigenous species declines.

Definition The natural vegetation assets (NVA) index provides a general overview of the ecological state of an area, as a percentage distribution. Published data are originating from the database of the Hungarian national vegetation mapping (MÉTA project), performed between 2003 and 2007.

Protected natural areas

Keywords **protected natural areas, national park, landscape protection area, nature protection area, NATURA 2000**

| Figure 28.1. | **Protected areas of national significance** |

Thousand hectares

National park Landscape protection area Nature protection area
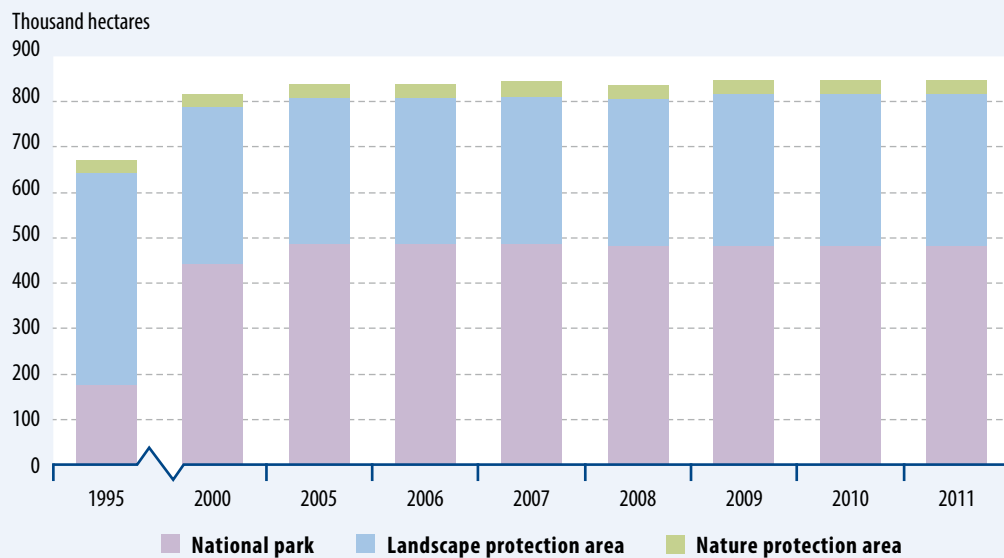
Source: Ministry of Agriculture and Rural Development.

> **!** *In 2011, a total of 847 thousand hectares were under the protection of specific pieces of legislation in Hungary.*

Relevance The success of preserving the natural environment depends on whether the population acknowledges the value of biodiversity and understands the complex interactions among the nature, society and economy as well as is ready and able to choose such lifestyle and consumer habits that are not resulting in the destruction of the still operating natural systems. Strengthening environmental awareness, facilitating the process of understanding and encouraging people to adopt a sustainable way of life are crucial requirements.

Legal protection of plant species became possible in the middle of the '70s in Hungary. There are two types of nature protection by law. On the one hand, certain plant and animal species may be protected. Another possibility is to ensure the territorial protection of the ecosystem in the so called protected natural areas (e.g. national parks, landscape protection areas, nature conservation areas and natural monuments).

Commentary 57% of the protected areas are national parks. Compared with the previous years there was no change in the number (10) and total area (482.6 thousand hectares) of national parks, which represented the most complex category of nature protection areas. Inside the national parks, highly protected natural areas had a total of 90.2 thousand hectares in 2011. Landscape protection areas accounted for a proportion of 40%, while the respective figure was slightly over 3% in case of nature protection areas as a result of a small decrease after a longer trend of growth until 2008, which resulted from their reclassification as landscape protection areas. In the areas of landscape protection and nature protection there was also a drop in the proportion of highly protected areas.

105 animal and 36 plant species as well as 46 habitat types were identified in the designated Natura 2000 areas. There were 56 special areas of bird protection with 1.4 million hectares to protect the indigenous bird species of European significance as well as those bird species, which migrate through the country in great masses. The number of special areas of nature conservation was 479, while their area was more than 1.4 million hectares largely overlapping the special areas of bird protection. The mentioned areas accounted

Suitability of areas designated by the EU Habitat Directive in the European Union, 2010, %

BE, DK, EL, NL, LU, UK, SE	100
FI, FR, DE, IT, ES	99
EE, MT	98
LV	95
BG, IE	94
AT, EU-27, PT	89
HU	86
RO	82
PL	78
SK, SI	74
LT	66
CZ	60
CY	40

Figure 28.2. **Distribution of protected species, 2011**

- Mushrooms, lichens
- Plants
- Invertebrates
- Vertebrates
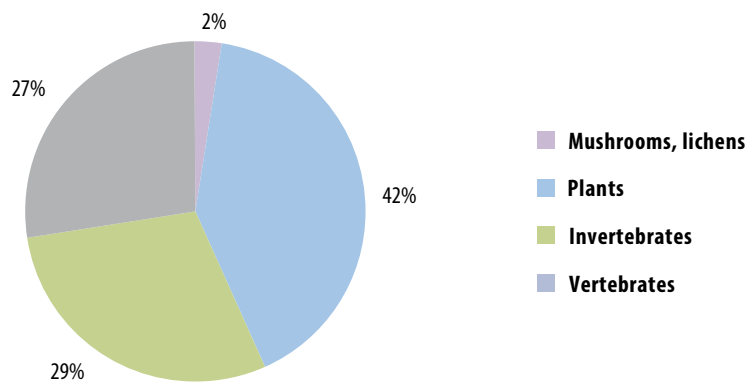
! *42% of protected species are plants.*

for a total of 1 million 995 thousand hectares, 39% of which incorporated existing protected areas.

International outlook Hungary has forests, grasslands, and wetland habitats that are highly valuable by European standards, along with major geological values and rich agro-biodiversity (e.g. indigenous Hungarian livestock varieties, traditional crop varieties, and the related wild species). Preserving these - and in the case of the natural flora, creating seed banks - is an important and urgent task, which is assisted by providing legal protection, encouraging economic stakeholders and the owners of areas of natural value as well as the development of sustainable land use.

With the accession of Hungary, the group of regions was supplemented with the Pannon Region covering the whole territory of Hungary, where 86% of areas protected by the EU Habitat directive are the part of the ecological network serving the protection of wild plant and animal species and natural habitat types (NATURA 2000 area).

In the sense of the EU Habitat directive, the areas (disregarding some exceptions) designated by the older member states are suitable to cover 98-100% all habitat types as well as plant and animal species of community significance being in the area of the given country. Of the newly accessed states, Malta and Estonia are the most prepared (98%), while Cyprus and the Czech Republic had the lowest levels of coverage (40% and 60% respectively).

Details The major part of the more than 43 thousand animal species in Hungary, around 40,000

species, is arthropods. Of vertebrates, in Hungary 83 species are fish, 18 amphibian, 15 reptilian, 373 bird and 83 mammal species.

In line with the international practice, most of the mammal species are protected by a separate law. Of 482 protected vertebrate species 105 are strictly protected.

Definitions

National park: such a landscape with no significant change in its natural endowments where the presence of plant and animal species, geomorphologic features and the whole of these have a special significance from the point of view of science, public education and recreation.

Landscape protection area: an area or piece of landscape to preserve and maintain natural assets as well as favourable natural endowments.

Nature protection area: an area to preserve and maintain nature protection values as well as a cave with its surface areas.

The NATURA 2000 network involves areas designated on the basis of the two directives of nature protection of the European Union (special areas of bird protection designated in line with the EEC directive 79/409 on the conservation of wild birds as well as special areas of nature protection designated in line with EEC directive 43/92).

Stadat tables
5.2.2. Protected natural areas (1991–2012)
5.2.3. Natural values protected (1991–2012)

Population of indigenous trees

Keywords **population of tree species, population of indigenous tree species**

Figure 29.1.   **Proportion of indigenous tree species**

Thousand hectares

Source: National Food Chain Safety Office, Forestry directorate.

!   *In 2011, areas covered with indigenous tree species accounted for 63% of the Hungarian forests.*

Relevance Non-indigenous species were frequently planted to replace the felled natural forests, which resulted in harmful long-term effects. E.g., pine-needle litter changes the soil structure, premature death of these forests results in a barren land, which is not suitable to restore the natural forest because of altered soil conditions. Similar developments were caused by Robinia trees as well, because they fully deplete the soil and produce an insignificant amount of mould. As a consequence of these, one of the main tasks of the domestic nature conservation and forest management is to protect native communities and forests being in line with climatic conditions, i.e. to protect the plant and animal population of forests as well. Proper forest management as well as afforestation are other important conservation goals. A fundamental requirement of afforestation and renewal is to approximate the characteristics of native tree communities. Semi-natural environment contributes to the survival of animal populations of the community.

Commentary In Hungary, a total of around 1.9 million hectares is covered by forests, while native species accounted for around 1.2 million hectares. The proportion of native trees is 63%, these forests are similar to the natural tree communities. Over the last ten years, the area of native forests increased by 58 thousand hectares, but their proportion decreased by 2% from 65% in 2000.

Details The growing stock was 362 million m^3 in Hungary, 77% of which was made up by tree species belonging to the zone of the deciduous forests of the temperate zone. Of the indigenous species, oaks and beeches had an outstanding significance, while, of the introduced, acclimatized tree species, – whose invasion mainly resulted from their fast growth and xerophilous features – poplar and Robinia trees were significant.

Concerning the growing stock of the deciduous tree species, the tree species group of

Figure 29.2. **Growing stock of tree species, 2011**

Species	million m³
Oak	~84
Robinia	~49
Turkey oak	~46
Beech	~39
Scots Pine	~35
Other hardwood deciduous	~19
Hornbeam	~17
Poplar	~16
Aspen	~13
European black pine	~11
Alder	~10
Other softwood deciduous	~8
Other coniferous	~7
Willow	~5
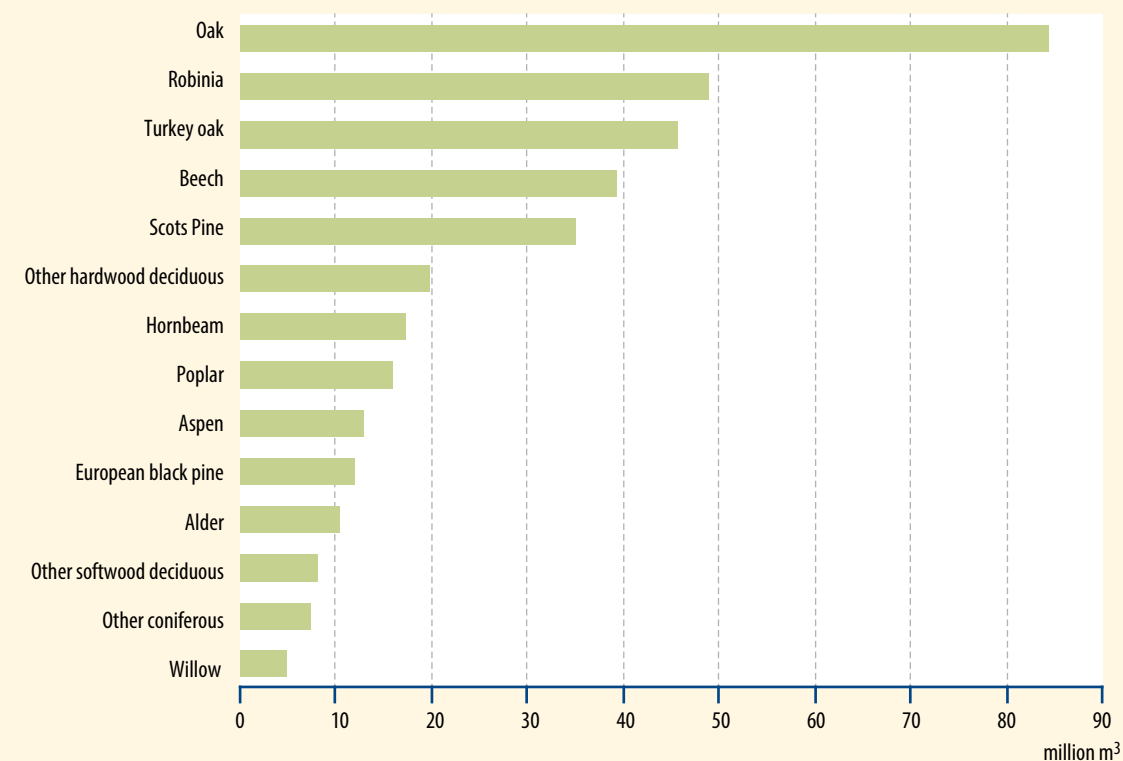
Source: National Food Chain Safety Office, Forestry directorate.

! *In terms of the size of the domestic tree population, the indigenous oak trees and the non-indigenous robinia trees were ranked first and second respectively.*

oaks had an outstanding proportion of 23%, while the respective figures were 13% and 11% for turkey oak and beech trees respectively. Non-native tree species accounted for 23% of the growing stock, of which the proportion of Robinia and conifer trees was 14% and 5.3% respectively.

Definitions

Those species are called native species, which are natural elements in native tree communities. In Hungary, the most common native tree species are: pendunculate and sessile oak, turkey oak, beech, hornbeam, domestic poplar.

The most common non-native species are: Austrian pine, Norway spruce, Robinia and Hybrid poplar.

Net annual increment and felling

Keywords **timber extraction ratio, net annual increment, growing stock**

SE	85.5
SK	74.8
LT	73.2
NL	69.6
FI	69.5
LV	68.4
▶ EU-27 ◀	**59.3**
▶ HU ◀	**55.6**
FR	55.3
PL	55.0
EE	52.0
DE	49.8
UK	47.8
RO	46.0
SI	44.0
BG	40.8
LU	38.3
DK	35.5
IT	26.4
CY	16.0

Figure 30.1.   **Changes in the ratio of timber extraction**
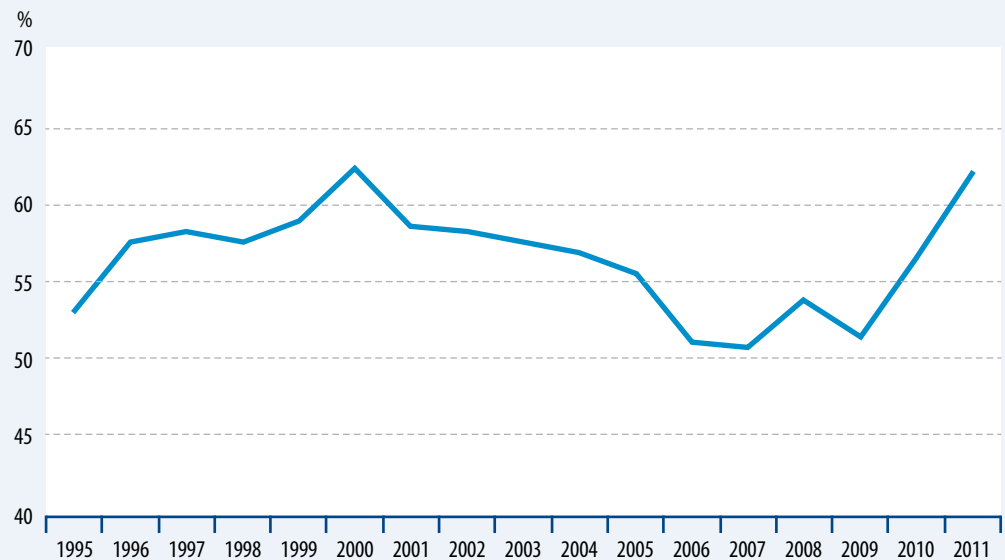
Source: National Food Chain Safety Office, Forestry directorate.

!   *In 2011, timber extraction accounted for 62% of the annual net increment; the last three years saw a significant increase in this proportion.*

Relevance From the point of view of environment protection, sustainable forest management plays an outstanding role, since global deforestation had a 20% share in the rise of the atmospheric CO_2 levels, which are one of the main drivers of global climate change. The sustainable growth of forests is ensured if the annual net increment is greater than the volume of timber extraction.

According to the basic principles accepted in 1992 during the Environment and Development Conference in Rio de Janeiro, Hungary and the other European states are obliged to ensure the maintenance of the livability of forest ecosystems, the preservation of biodiversity as well as the operation and development of their socio-economic functions. In Hungary, timber extrac-

tion can be implemented only on the basis of the act on forests and forest protection taking into account the points of view of sustainable forest management in compliance with the prescriptions laid down by the forest plan.

Commentary From the middle of the 1990s to the first post-millennium years, the ratio of timber extraction varied around 60%, and then gradually decreased. It bottomed out in the 2006-2009 period at slightly over 50%. A slump in timber extraction was in the background of this. During the last two years, the ratio of timber extraction significantly increased as a result of a boom in biomass based energy production; it stood at 62% in 2011.
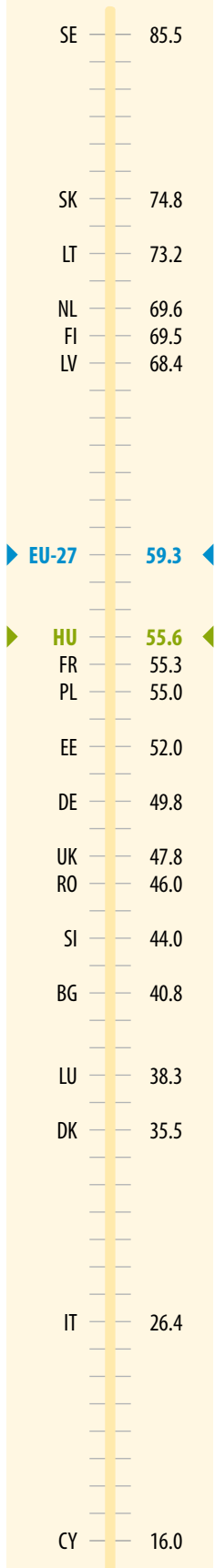
◀ *Timber extraction ratio in the European Union, 2005, %*

Figure 30.2. **Changes in net annual increment and felling**
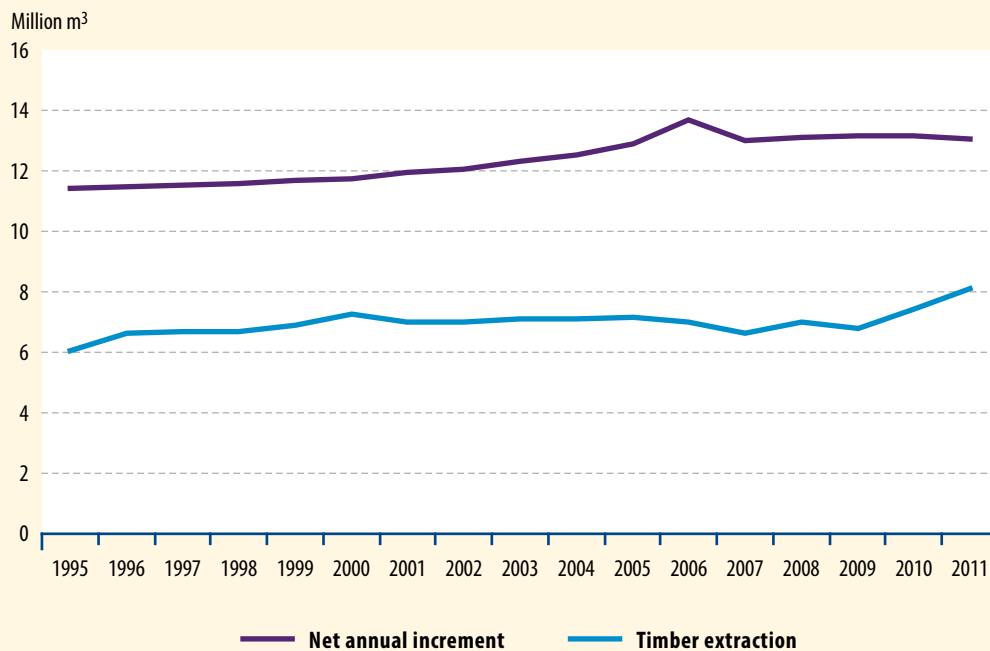
Million m³

Source: National Food Chain Safety Office, Forestry directorate.

! *Hungary had a growing stock of 362 million m³.*

International outlook Managed forests with the purpose of wood production accounted for three quarters of the EU-27 forests. In general terms, we can say that the volume of timber extraction is lower than that of annual net increment in the European countries. In the union, the average ratio of timber extraction was 59%: the highest figures were in Sweden (86%), and Belgium (85%), while the lowest ones in Cyprus (16%) and Italy (26%).

Details The annual average volume of timber production gradually increased between 1995 and 2007; however, after 2007 it varied around 13 million m³. This figure was 14% higher than in 1995.

In Hungary, the volume of annual wood production increased from 6 million m³ to 8 million m³ in the post-1995 period. In 2010 and 2011, the volume of timber production increased by an annual average of 650 thousand m³.

Definitions This indicator shows whether the annual average volume of felled trees would be replaced by new increment.

The ratio of timber extraction shows how new increment replaces the annual volume of felled timber. The annual volume of increment is an annual average calculated on the basis of all increments in the previous ten years.

Stadat tables
5.1.2. Distribution of stocked forest area by tree species and age-group, 1 January (2000–)
5.1.3 Logging by tree species (1996–)

Defoliation

Keywords **health conditions of forests, defoliation**

CZ	51.1			
LU	41.7			
BG	36.9			
FR	35.6			
SK	31.1			
PT	31.0			
IT, UK	30.5			
SI	29.5			
DE	27.6			
BE	23.9			
▶ EU-27	**22.9**	◀		
ES	21.7			
RO	21.3			
PL	20.1			
CY	20.0			
NL	19.1			
SE	18.9			
LV	14.5			
▶ HU	**14.4**	◀		
AT	12.2			
LT	11.6			
FI	9.5			
IE	7.4			
DK	7.2			
EE	6.2			

Figure 31.1. **Health conditions of the forests by defoliation**

Healthy ■ **Slightly damaged** ■ **Moderately damaged** ■ **Seriously damaged** ■ **Dead**
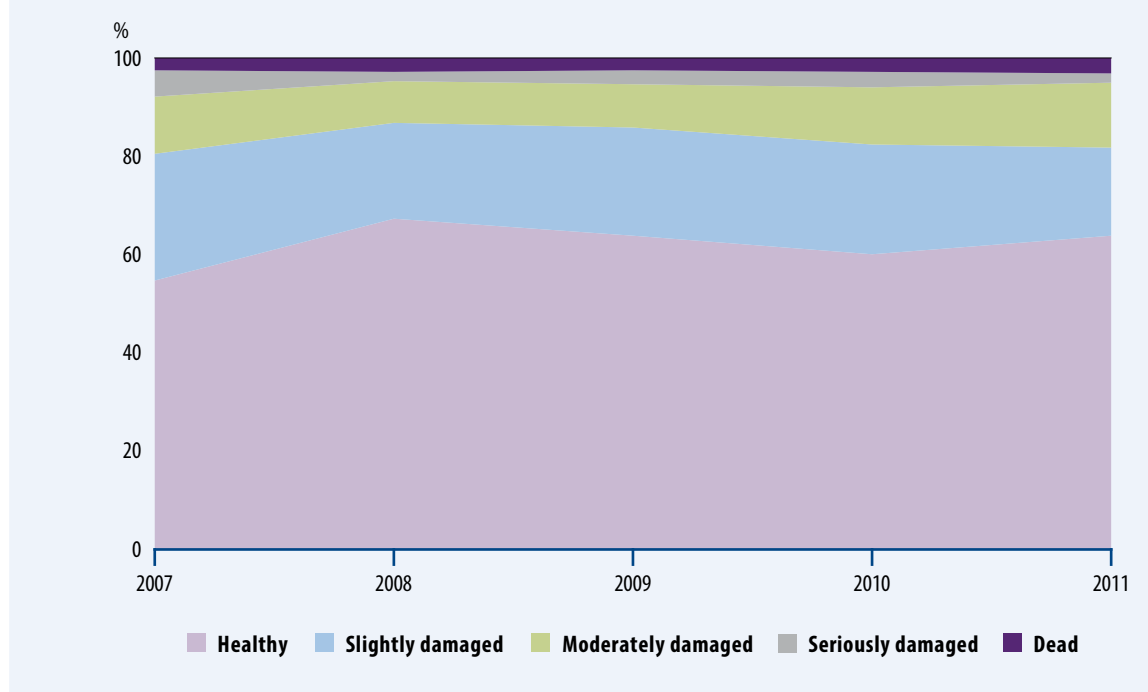
Source: National Food Chain Safety Office, Forestry directorate.

! *The proportion of healthy forests in Hungary was 64% in 2011.*

Relevance During the previous decades, the whole area of Europe saw an increase in forest damages and a drop in the stability of forest ecosystems. Environment pollution was in the background of this unfavourable process. The state of the foliage is a suitable indicator for the health condition of forests and trees. The accumulation of atmospheric pollutants as well as the climate change induced extreme weather conditions (mainly droughts) and the related insect and fungus invasions are among the hypothetical reasons of defoliation and tinted foliage.

Commentary In Hungary, a 4x4 km plot system to monitor the health status of forests is operated in the complex programme for forest protection, which is part of the European forest protection monitoring program. Since 1988 the health state of trees has been monitored on more than one thousand points by Hungarian experts, mainly on the basis of symptoms of foliage. In the past half decade as a whole, along with smaller fluctuations, no significant change could be seen in the proportion of healthy forests. Deciduous forests, except for oaks and Robinias, are typically in good shape.

In 2011, based on sampling results, among the trees 64% showed no symptoms, 18% were endangered (slightly damaged), 13% were moderately, 2% seriously damaged, while 3% were dead. All in all, we can say that there was a damage reduction from 45% to 36% in the past five years. Within this, the population of endangered (slightly damaged) trees saw an increase of 8 percentage points.

From the point of view of significant damage (pathological state indicated by a rate of defoliation of over 25%), the most affected deciduous

◀ *Forest trees damaged by defoliation in the European Union, 2006,* %

trees were oaks (28%), robinias (26%), while the most affected conifers were Austrian pines (35%). Least affected were turkey oaks (5.3%) and other soft leaved trees (6.8%).

International outlook In the last 15-20 years, Europe saw a rise in forest damages and a drop in forest stability. Change in the state of the foliage was one of the components of the processes taking place in forest ecosystems. In the 27 member states of the present EU, the proportion of trees being in the categories of moderately, severely defoliated as well as dead decreased from 26% to 23% between 1993 and 2006. Within this, from the point of view of defoliation, the health conditions of forests varied in a wide range by member states. In 2006, the healthiest forests were in the Baltic States, Scandinavia, as well as in Ireland, Austria and Hungary. The proportion of trees affected by defoliation was the highest in the Czech Republic (51%) and Luxemburg (42%). The tree population of the forests and other wooded areas in the southern areas of the continent also were in a worse shape.

Definition In the monitoring system, defoliation is the loss of leaves compared with the ideal foliation in a given place of production. Damage stages do not include loss of leaves resulting from an identifiable event (for example from breaking or eating).

Stadat tables
5.1.5. Health conditions of the forests (1990–2011)

Municipal solid waste

Keywords **municipal solid waste, waste**

CY	760
LU	678
DK	673
IE	636
NL	595
AT, MT	591
DE	583
ES	535
FR	532
IT	531
UK	521
PT	514
▶ EU-27 ◀	502
FI	470
BE	466
SE	465
EL	457
SL	422
▶ HU ◀	413
BG	410
LT	381
RO	365
SK	333
CZ	317
PL	315
EE	311
LV	304

Figure 32.1. **Municipal solid waste per capita**

Kilogrammes/capita

— Hungary   — EU-27
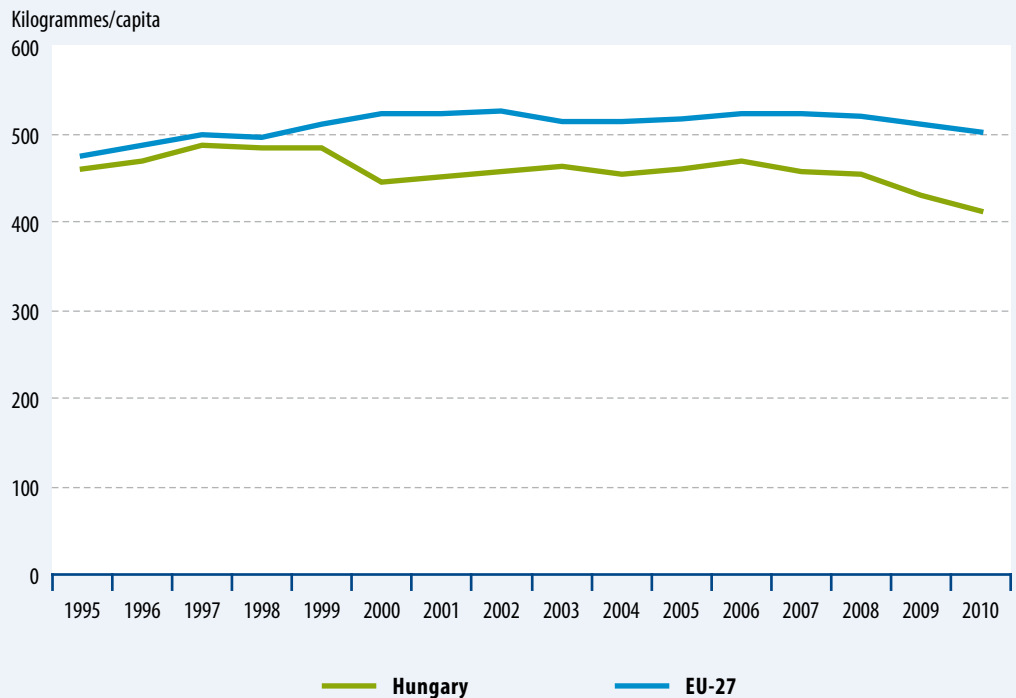
Source: Eurostat.

! *In Hungary, the per capita volume of municipal solid waste has continued to decrease since 2007.*

Relevance The purpose of waste management is to reduce waste generation through more efficient raw material use and a higher rate of recycling. Waste generation may also be reduced by assisting the coordination of economic activities along with material and energy flows: material and energy waste output from one production process should be the input for another industrial process (hence eliminating the concept of waste). It is important that the policies and other measures (e.g. designing logistics parks) should be aligned with this industrial, ecological approach.

Commentary In Hungary, there was no significant change in the per capita volume of municipal solid waste between 2000 and 2007. It significantly decreased after 2008, partly as a result of the crisis induced consumption slump, reaching 413 kg in 2010.

International outlook Hungary's per capita volume of municipal solid waste was below the average of the EU-27. After 2000, similar processes were seen in the union as in Hungary. Of the member states, the Western European countries were in a worse state. The consumer habits were different in the new member states (in the Central and Eastern European countries) than in Western Europe, thus the per capita volume of municipal solid waste was lower than in the richer member states. Latvia had the lowest figure, 26% less than that of Hungary. Cyprus was in the worst state with a figure 46% higher than that of Hungary.

Details Compared with the national average, solid waste utilities collected the most municipal solid waste per capita in Budapest as well as in Győr-Moson-Sopron county, mainly because of the high proportion of waste material collect-

Per capita municipal solid waste in the European Union, 2010, kilogrammes/capita

Figure 32.2. **Per capita volume of municipal solid waste based on public utility data in the counties of Hungary, 2010**

Per cent

	− 90.0
	90.1 – 100.0
	100.1 – 110.0
	110.1 – 120.0
	120.1 –

! *Five Transdanubian counties and Budapest outperformed the national average.*

ed from other institutions (public institutions, shops). More waste was collected in the western counties than in the eastern ones.

Definitions

The indicator of the per capita volume of municipal solid waste shows the per capita volume of waste collected by or on behalf of local authorities.

Mixed or selectively collected household waste, bulky item wastes, institutional, commercial as well as office wastes (which are similar to the household wastes) are classified as municipal solid waste.

Stadat tables
5.5. Waste statistics
6.5. Environment

Packaging waste

Keywords **packaging waste, waste, waste recovery**

IE	218.1
FR	190.3
DE	183.8
LU	183.3
IT	180.5
UK	174.5
ES, PT	161.7
EU-27	**153.1**
NL	153
SE	152.7
BE	152.1
AT	139.1
DK	125.6
FI	122.5
MT	122.1
EE	120.6
SI	101.5
CY	99.7
PL	99.1
HU	**97.6**
EL	89.3
CZ	85.3
LV	82.6
LT	78.1
SK	73
RO	46.5
BG	40.1

Figure 33.1.   Packaging waste per capita

Kilogrammes/capita
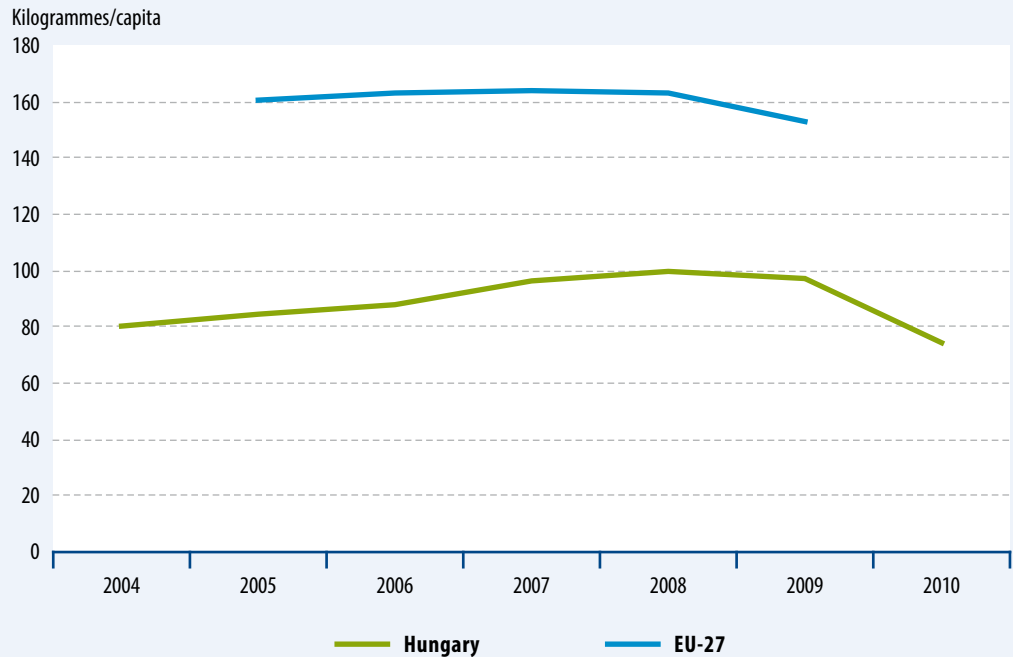
Source: Eurostat.

!   *The per capita volume of packaging waste has decreased by 7.7% since 2004.*

Relevance The purpose of waste management is to reduce waste generation through more efficient raw material use and a higher rate of recycling. As for packaging materials, directive 2005/20/EC on packaging and packaging waste set a recovery target value of 60% by 2012 with a recycling rate of at least 55%. The rate of recycling should be at least 60% among paper and glass packaging materials, 50% among metals, 22.5% among plastics, and 15% among wooden packaging materials.

Commentary In Hungary, the per capita volume of packaging waste increased between 2004 and 2009, and then sharply turned down as a result of the crisis induced consumption slump to 74 kilogrammes/capita in 2010. Following a similar trend, the average of the EU-27 varied around a much higher figure of 160 kg per capita. In Hungary, it is possible to facilitate the reduction of packaging waste generation by applying production fees.

International outlook In Hungary, the per capita volume of packaging waste was below the average of the EU-27. Bulgaria performed the best with 50% of our figure and Ireland performed the worst with over 200% of our figure.

Details In Hungary, the recycling rate of packaging wastes, disregarding slight declines in two years, has continued to grow. The average of EU-27 followed a similar path. Denmark, the Benelux countries, Germany and Austria reported the best ratios (at over 90%), while Cyprus and Malta the worst ones (at below 45%).

Definitions

The indicator of the per capita packaging waste shows the per capita volume of the generated packaging waste.

Package is any kind of packaging material, tool as well as product in which products, goods are wrapped or packed with the purpose

Per capita packaging waste in the European Union, 2009, kilogrammes/capita

Figure 33.2. **Changes in the rate of recycling of packaging wastes**

Source: Eurostat.

! *In Hungary, the recovery rate of packaging wastes increased by 10 percentage points on 2004.*

of preservation, processing, transport, grouping and offering. In line with government decree 94/2002, the total volume of packaging materials that are no longer needed, no longer reused and are thrown away are regarded as wastes.

Modes of municipal waste treatment

Keywords **waste treatment, recycling, incineration, disposal, waste**

AT	69.8
DE	61.8
BE	61.8
NL	60.7
SE	49.8
LU	46.8
DK	42.3
SI	41.2
▶ EU-27	39.6 ◀
UK	39.1
IE	38.8
FR	34.9
IT	34.1
ES	33.1
FI	32.8
PL	25.6
EE	23.8
CY	19.8
▶ HU	19.6 ◀
PT	18.8
EL	18.3
CZ	16.6
MT	13.7
LV	9.4
SK	8.9
LT	5.4
RO	1.3
BG	0.0

Figure 34.1. **The proportion of recycled and composted municipal solid waste**

Source: Eurostat.

> **!** *The proportion of recycled and composted municipal solid waste has continued to rise since 2005; however, it significantly lagged behind the EU average.*

Relevance From the point of view of sustainability, it is important to strengthen reuse and recycling as well as to establish secondary raw material markets. The waste output should be reused and recycled. More durable consumer goods should be produced to facilitate recycling along with the negative discrimination of non-reusable products. In the interest of recycling, recycling technologies and secondary raw material markets should be promoted mainly through consumer price subsidies as well as production tax incentives.

Commentary In Hungary, the proportion of recycled and composted municipal solid waste has risen since 2005, mainly as a result of the expansion of waste sorting. Civic amenity sites and collection points were established to facilitate waste sorting along with direct household waste collection services in more and more settlements. From the point of view of environment protection, recycling is the most important mode of treatment as waste recovery reduces the impact on the environment.

International outlook The EU follows a similar trend: the proportion of recycled and composted municipal solid wastes has increased since 2004.

In the EU, the proportion of recycled waste is low in the Central and Eastern European countries. Austria reported the highest figure (70%), while there was no such mode of treatment in Bulgaria.

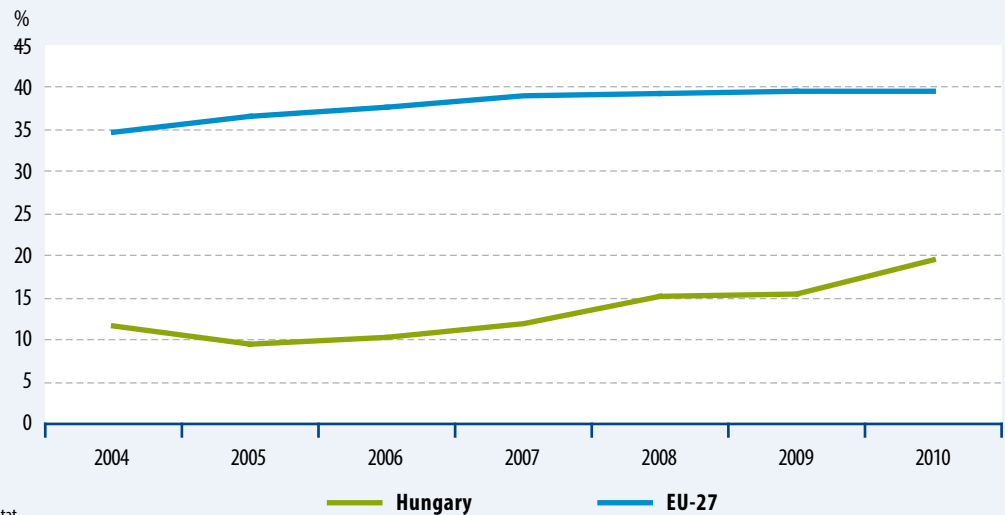**Details** As in Hungary, the average proportion of incinerated municipal solid waste has risen in the EU since 2004. However, the proportion of landfilling has declined for years both in Hungary and in the union. Concerning incineration, Hungary lagged behind the EU average with a figure of less than half of that in 2010, while the opposite was true for landfilling, where Hungary's figure was double than the EU average in 2010.

Comparing the distribution of the three forms of treatment, it is apparent that landfill, which is the least environment friendly form of waste treatment, is the most common process of treatment in Hungary, mainly because it is cheaper than incineration or recycling. The disadvantages of landfill are the leaching of nutri-

Recycling rate of municipal solid waste in the European Union, 2010, %

Figure 34.2.   **Proportion of incinerated and landfilled wastes**

Legend:
- Hungary – incinerated
- Hungary – landfilled
- EU-27 – incinerated
- EU-27 – landfilled

! *In Hungary, a 7% rise was seen in the proportion of waste incineration.*

ents, heavy metals and other toxic compounds, the emissions of greenhouse gases, the loss of valuable land space and increased road transport. Landfill is harmful to air, soil and water, and is detrimental for human beings, as well as the flora and the fauna. Incineration is a more environmentally friendly treatment method than landfill, because it makes possible to recover energy and reduce waste volumes. On the other hand, it may lead to the emission of toxic gases such as dioxins, to the production of ashes, and to water pollution from gas cleaning.

Definitions

The indicator on municipal waste treatment shows the ratio of recyclable, incinerable and disposable wastes to all generated municipal solid wastes.

Recycling is the reprocessing of waste material in the production and supply processes. The incineration of waste is the thermal treatment of waste in an incineration or co-incineration plant. The disposal of waste in conformity with determined legal requirements and technical safety prescriptions is qualified as landfilling.

Stadat tables
5.5. Waste statistics
6.5. Environment

Generation of hazardous wastes

Keywords **hazardous wastes, waste**

| Figure 35.1. | **Changes in the volume of hazardous wastes** |

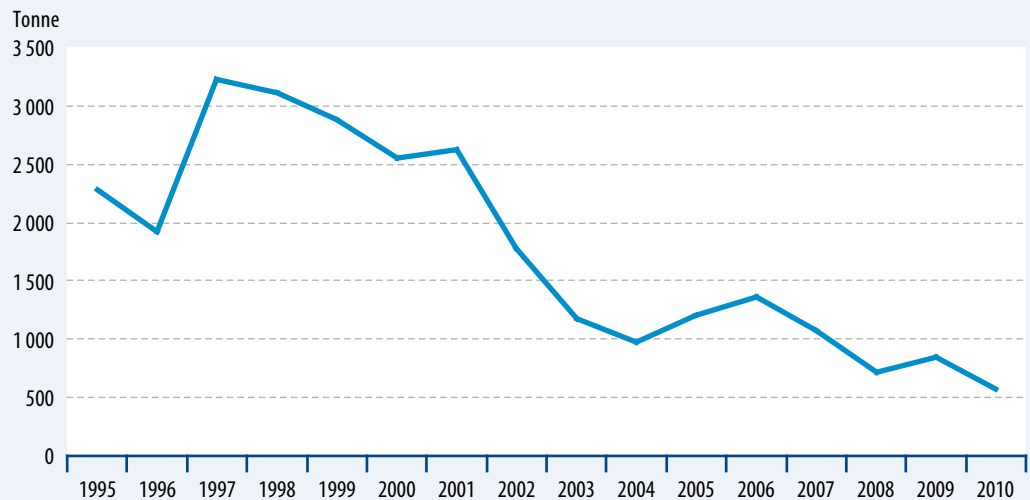| EE | 38.5 |
BE	12.2
PT	9.2
DE	6.0
CZ	5.9
NL	4.7
SK	4.6
BG	4.6
LV	4.5
HU	4.0
EU-27	3.7
IT	3.7
MT	3.7
FR	3.2
IE	3.1
SI	3.0
DK	2.8
FI	2.6
ES	2.4
SE	2.4
AT	2.4
UK	2.2
LU	2.1
LT	1.8
CY	1.3
PL	1.0
EL	0.4
RO	0.3

! *By 2010, the volume of hazardous wastes decreased to one fifth of the highest figure of 1997.*

Relevance Sustainability requires the environmentally sound treatment of waste that cannot be recovered. Environmental and social damage caused by waste that cannot be recovered must be minimised. The size of land required for waste disposal must be reduced and the integration of waste in the natural environment (decomposition, lithogenesis) must be improved. Waste should be treated locally, as much as possible. With a view to balanced spatial development it is important that less advanced areas should be protected from being turned into the more developed regions' waste dumps.

Commentary The slag of certain power plants was classified as hazardous waste, resulting in a sharp increase in the volume of hazardous wastes in 1997. Although the decreasing tendency of the last decade mainly resulted from a fall in production, there were methodological changes as well. According to the European Waste Catalogue, applied in the records from 2002, several types of waste (e.g. those of animal origin, medical wastes) have not been qualified as hazardous waste. In certain years (2005, 2006), when hazardous wastes included polluted

soil originating from remediation activities, interruptions were observed in this decrease.

International outlook The ratio of hazardous wastes to all generated wastes was outstandingly high in Estonia (38%), mainly due to the section of electricity, gas, steam and air-conditioning supply. The volume of hazardous wastes from construction and demolition was significant in Belgium, where this indicator stood at 12% in 2008. Hungary's figure was near average, while this ratio was the lowest in Romania and Greece.

Details The monitored period saw changes in the composition of hazardous wastes by solidity, but solid hazardous wastes accounted for the highest proportion in each year

In Hungary, the presence of mining and the chemical industry resulted in above average hazardous waste generation in certain regions. In 2009, Southern Transdanubia generated the least of them, while Central Transdanubia the most.

Definition A waste is classified as hazardous if it or its any component or transformation prod-

Ratio of hazardous wastes to all wastes generated in the European Union, 2008, %

Figure 35.2. **The distribution of hazardous wastes by solidity**

Solid   Mud   Fluid and gaseous
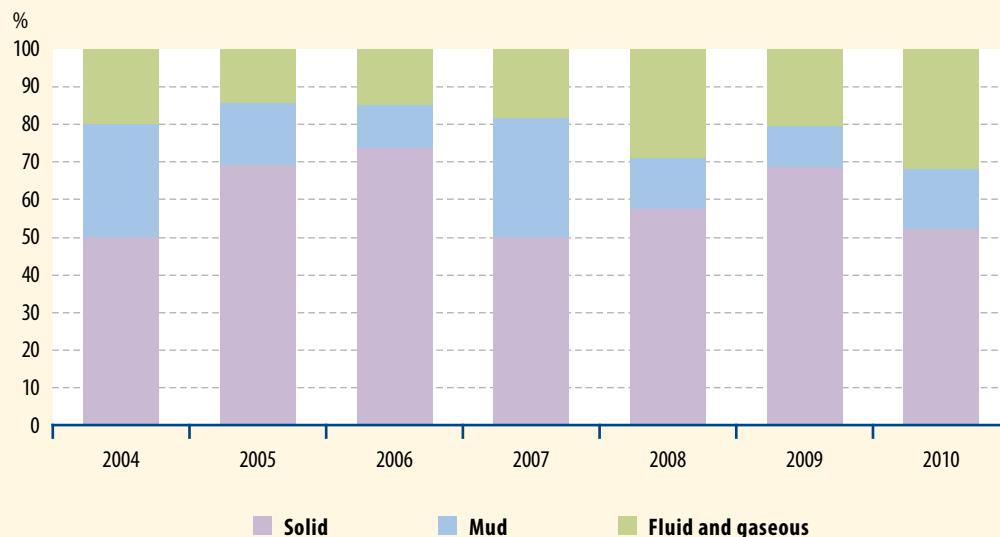
> **!** *There were year-on-year changes in the distribution of hazardous wastes by solidity. The proportion of solid wastes was the highest.*

Figure 35.3. **The volume of newly generated hazardous wastes and their ratio to all wastes by region, 2009**

Volume, tonne

140

Proportion, %

– 2.5
2.51 – 5.0
5.01 – 7.5
7.51 –
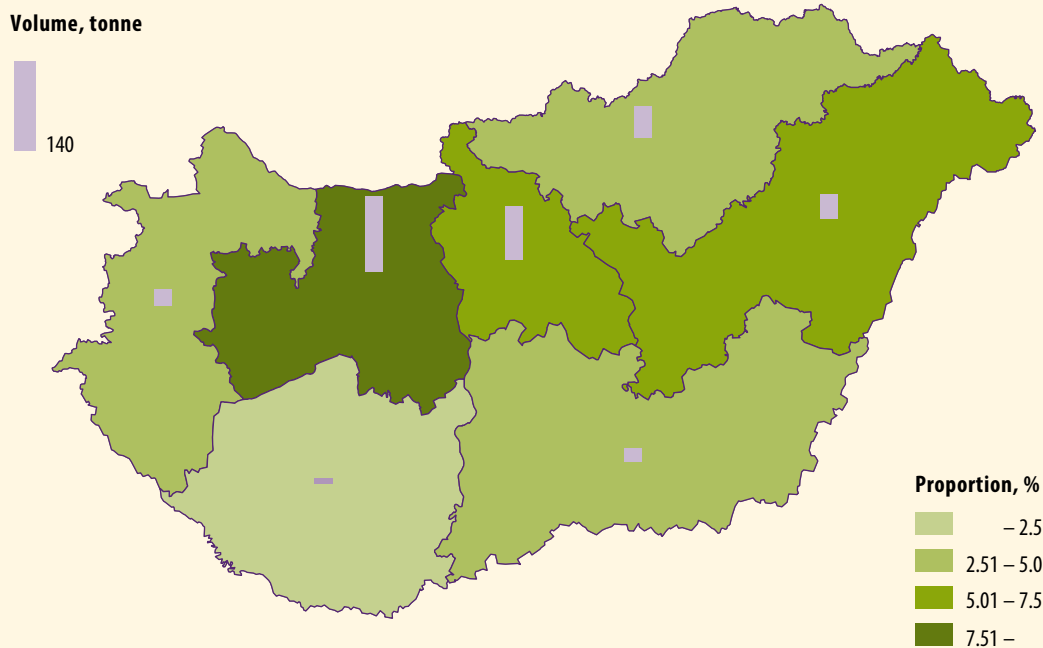
> **!** *The proportion of hazardous wastes was the highest in the region of Central Transdanubia (nearly 10%).*

uct has a risk characteristic determined by Act XLIII of 2000 on Waste Management and the hazardous component is present in such concentration which is hazardous to the living world, human health and to any element of the environment as well as in case of its non-appropriate storing and handling it has a damaging impact.

Stadat tables
5.5. Waste management

Proportion of environmental taxes

Keywords **environmental taxes, energy taxes, transport taxes, pollution taxes, resource taxes**

Figure 36.1. **The ratio of environmental taxes to all taxes as well as to the GDP**

BG	—	10.7
NL	—	10.3
SI	—	9.6
MT	—	9.2
LV	—	8.8
EE	—	8.7
DK	—	8.4
IE	—	8.4
CY	—	8.2
PL	—	8.1
PT	—	7.9
EL	—	7.8
RO	—	7.5
UK	—	7.4
HU	—	**7.1**
CZ	—	7.1
LT	—	6.9
SK	—	6.7
FI	—	6.6
LU	—	6.4
EU-27	—	**6.2**
IT	—	6.1
SE	—	6.0
DE	—	5.8
AT	—	5.6
ES	—	5.2
BE	—	4.7
FR	—	4.2

Environmental taxes/all taxes — Environmental taxes/GDP

! *By 2010, the ratio of environmental taxes to all taxes decreased by 0.5 percentage point on 2005. Their ratio to GDP was relatively stable.*

Relevance This indicator is a tool of outstanding importance to measure how the tax systems become greener, i.e. how the goal of enhancing the proportion of taxes on environment degradation as well as on actual and potential environmental pollution gains ground in the tax system as a whole.

Commentary There has been no significant change in the ratio of environmental taxes to GDP since 2005 (around 2.7-2.8%). However, their ratio to all taxes saw a slight drop from over 7.5% in 2005-2006 to around 7% in the following years.

International outlook Among the member states of the European Union, the ratio of environmental taxes to all taxes was the highest in Bulgaria (over 11%) and the lowest in France (4.2%). Based on the domestic ratio, Hungary is in the mid-range of the union with a figure of around 7%, which is nearly 1% higher than the average of the EU-27.
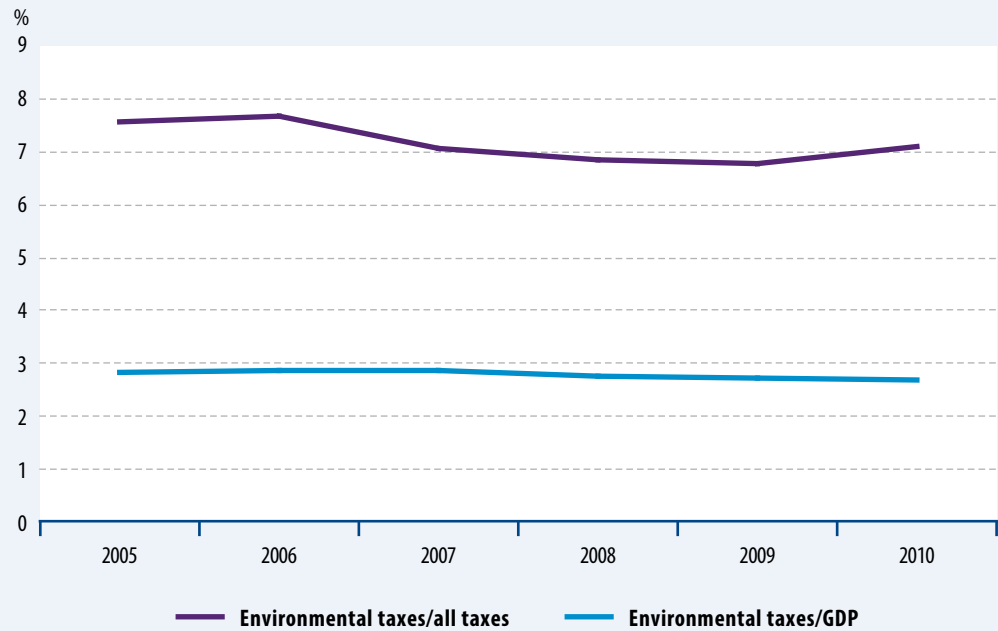
Details In Hungary, similarly to the Member States of the EU, the proportion of taxes levied on energy is the highest, it was 76% in 2005 and 78% in 2010. The largest part of this comes from the revenue tax on fuel.

Definitions

In line with the definitions of OECD and Eurostat, such types of taxes are called environmental taxes whose tax base is a physical unit (or a proxy of it) that has a proven specific negative impact on the environment. This indicator shows the ratio of environmental taxes (all types of taxes regarded as environmental taxes in line with the common methodology of OECD/Eurostat) to all taxes (including social security contributions) as well as to GDP.

In most European countries the classification of environmental taxes is based on the OECD-Eurostat terminology in which four subsets are distinguished: energy taxes (including

The ratio of environmental taxes to all taxes in the European Union, 2010, %

Figure 36.2. **Grouping of environmental taxes by type of tax**

Billion HUF

Energy taxes ■ Pollution taxes ■ Resource taxes ■ Transport/traffic taxes

! *Energy taxes accounted for more than three quarters of all environmental taxes.*

the carbon dioxide tax), transport taxes, pollution taxes and resources taxes.

The energy tax is a tax on fossil fuels used in power plants as well as in road, air, etc. transport (so the petrol tax is classified as an environmental tax not as a transport tax). Of transport taxes, the different kinds of vehicle taxes are typical of Hungary. As a third category, pollution taxes are on air and water pollution, waste generation and noise. In Hungary, the different environmental protection product fees can be classified here. The so called 'resource taxes' are to be paid on the use of the different natural resources. In Hungary the land use contribution might be included in this group.

Stadat tables
5.9.4. Environmental taxes (2005–2010)

Environmental protection expenditures

Keywords **environmental protection expenditures, current expenditures, environmental protection investments, investments**

| Figure 37.1. | Ratio of environmental protection investments to all investments |

> **!** *In 2010, the ratio of environmental investments of the national economy to all investments was 1.1 percentage point lower than in 2005.*

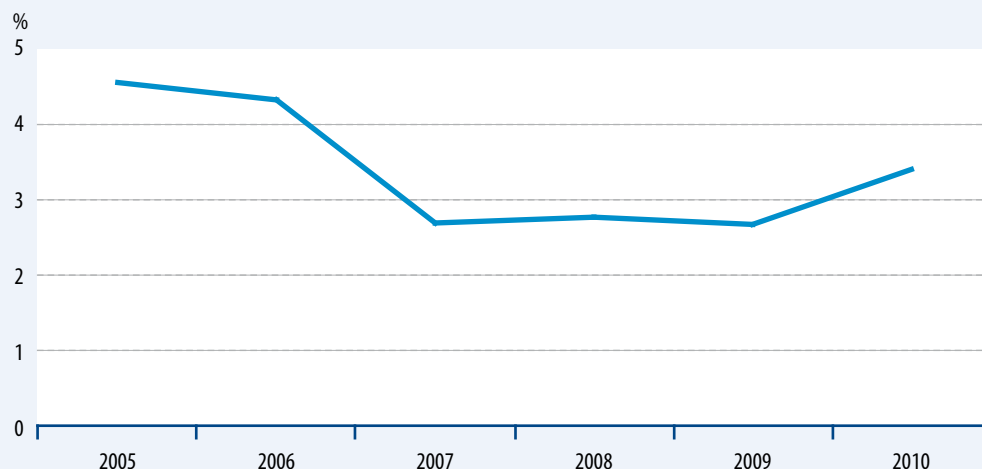**Relevance** The fundamental goal of the environmental protection investments is to improve the state of the environment, to prevent future damages as well as to minimize detrimental effects.

Commentary At current prices, the value of environmental investments was HUF 203 billion in 2005 and HUF 153 billion in 2010, a 38 percentage points slump at constant prices. The investments as a whole fell by 18 percentage points in the national economy.

International outlook Among the member states of EU-27, the environmental protection investments of the public administration was the highest in Lithuania and Slovenia (being higher than 0.5% of the GDP) and the lowest in Sweden, Slovakia and Latvia (0.03%). The Hungarian figure (0.1%) was slightly lower than the average of the EU-27 (0.15%).

Details Until 2006, there was a rise in environmental investments, which was followed by an ongoing decline until 2009. In 2010, sewage treatment, waste treatment as well as soil and groundwater protection accounted for around 41%, 21% and 10% respectively of the environmental investments in the national economy. Among economic sections, economic units of the public administration had the most significant share (47%) in all environment protection investments in 2010. It was followed by business units classified into the section of water supply, sewerage, waste management and remediation (23%).

Definitions

All investments with the primary aim of preventing, reducing and eliminating environment pollution or any other environmental degradation are regarded as environment protection investments. These investments are to tackle some environmental tasks, and are clearly and directly related to the implementation of the given task of environment protection.

Internal current environmental expenditures include internal current expenditures aiming at the reduction of emissions to the environment.

Environment protection investments of the public administration as a percentage of the GDP in the European Union, 2009, %

Country	Value
LT	0.80
SI	0.76
IE	0.38
NL, PL	0.32
BG, MT, RO	0.30
EL	0.23
IT	0.22
CZ	0.19
EU-27	0.15
UK	0.14
ES, PT	0.13
EE, FR	0.12
DE	0.11
BE, CY, HU	0.10
DK	0.08
FI	0.07
AT	0.05
LU	0.04
LV, SK, SE	0.03

Figure 37.2. **Environmental investments by area of environment**

Billion HUF

Legend:
- Air protection
- Sewage treatment
- Waste treatment
- Soil and groundwater protection
- Other
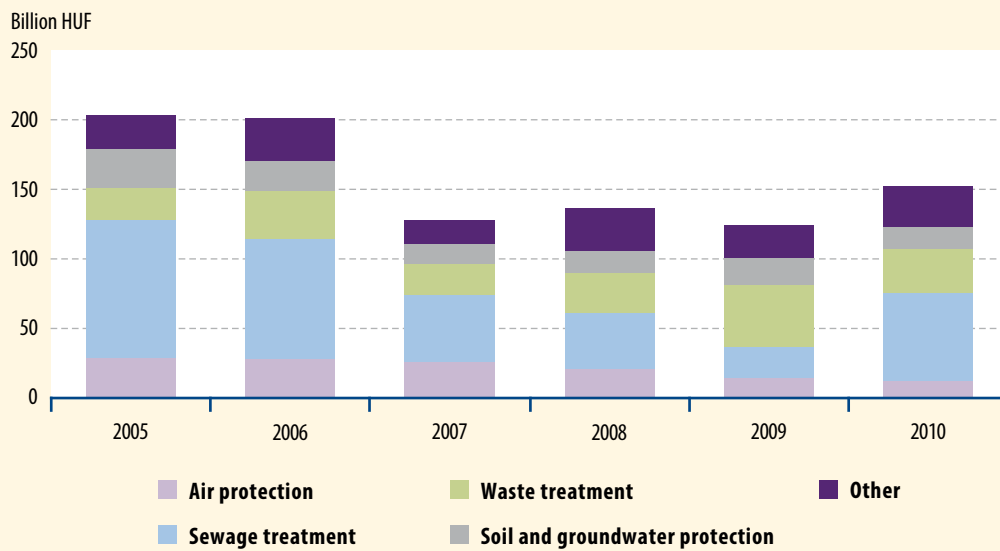
! *The proportion of sewage treatment investments significantly decreased compared with that of the other areas of environment protection.*

Figure 37.3. **Intra-organizational environmental expenditures by environmental area**

Billion HUF

Legend:
- Sewage treatment
- Waste treatment
- Other
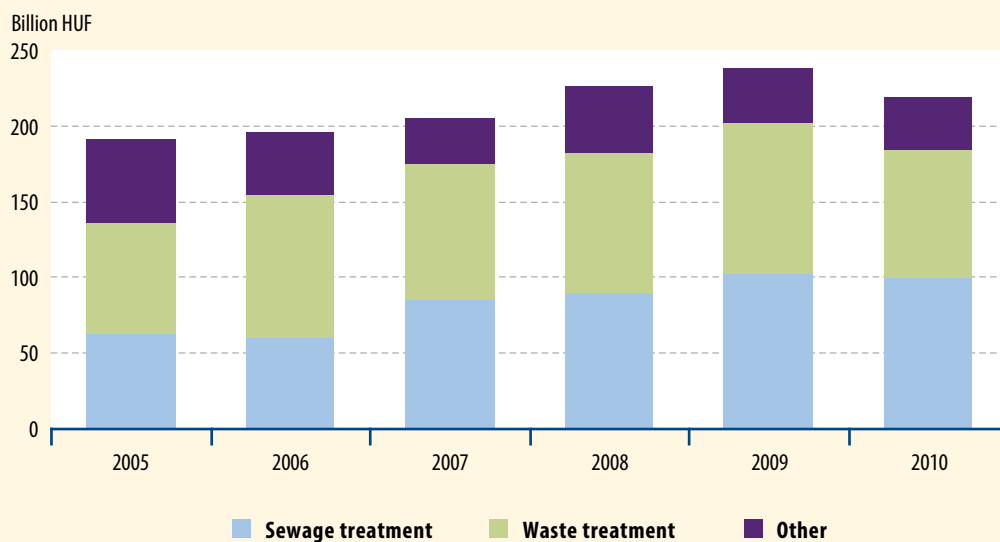
! *Year-to-year, there have been only slight changes in the proportion of the three main environmental areas in case of intra-organizational environmental expenditures.*

Stadat tables
5.9.1. Environmental protection investments by purpose (2005–)
5.9.2. Environmental protection investments by branch of industry (2005–)
5.9.3. Internal current environmental expenditures (2002–)

Eco-labelled products

Keywords **environment friendly products**

Figure 38.1. **Eco-labelled products by product group**

Pieces

Construction products ■ Packaging materials ■ Chemicals ■ Other
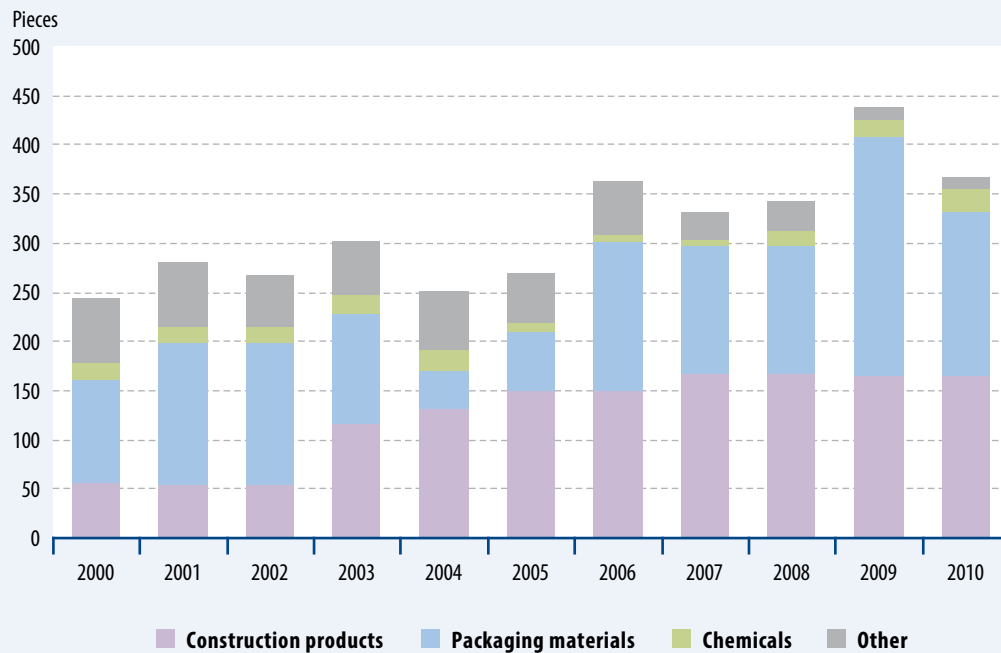
Source: Hungarian Eco-labelling Organisation.

! *Between 2000 and 2010, all in all, there was a 1.5–fold increase in the number of eco–labelled products.*

Relevance On 9th September 1993, the Hungarian Government decided about the establishment of a compliance certification system to differentiate environment-friendly products. In line with this – ahead of the politically and economically similar countries – the then Ministry of Environment and Regional Development established the Hungarian Eco-labelling Organisation to set up and co-ordinate a qualification-certification system.

The aim of the environment friendly qualification and certification is to strengthen environment-consciousness, to encourage producers and distributors to introduce more environment friendly products and services as well as to inform consumers about the qualified products and services.

Commentary The number of eco-labelled products rose by 80% in Hungary from 2000 to 2009. The most important product groups were construction products, packaging materials and

electrical appliances in the observed period. By 2010, there was a significant drop in the number of eco-labelled packaging materials, within this in that of biodegradable one-off plastic packaging materials.

Definition The indicator of eco-labelled products shows the number of eco-labelled products registered in Hungary, broken down by major product groups.

II.

Society

II. Society
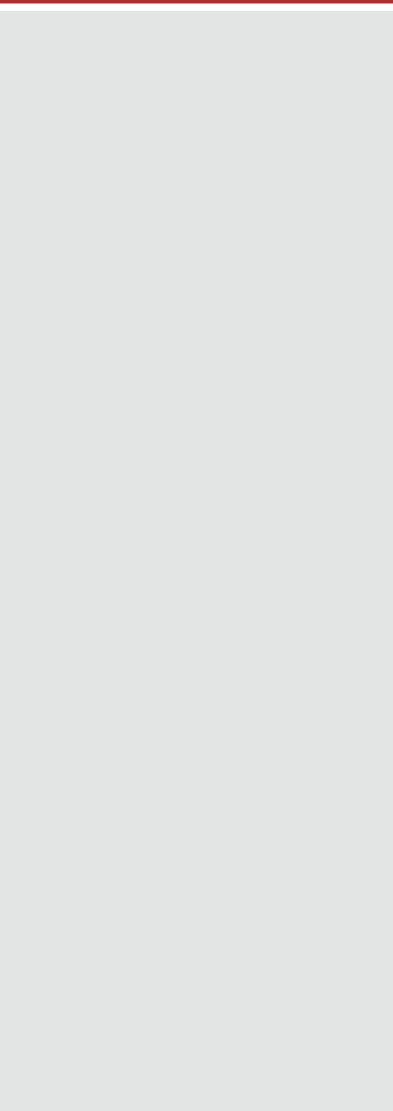
Summary

Some parts of the world are still in the phase of population explosion, while others struggle with accelerating ageing and population decline. These both entail problems in employment, health and education. Despite all efforts, the eradication of poverty is still on the agenda not only in the developing world but in the Western countries and so in Hungary as well. The consumption needs of the society are continuously growing, which put a heavy burden on our resources.

The steady development and the global spread of production systems changed social processes as well, thus increasing the socio-economic inequalities existing on international and national level and the impoverishment of certain groups. The regional restructuring, urbanization and concentration, as well as the entailing changes in occupation and lifestyle accelerated so much that problems seeming to be unmanageable appear in the rural and the overcrowded urban areas. The population retaining ability of rural areas is decreasing, which results in a narrower and narrower range of services there. On the other hand, the urban population swells, their energy use, waste production and the burden on the environment increase, thus exploiting disproportionately the existing resources. Urbanization is usually coupled with high motorization level as well, which further increases environmental pollution.

Hungary is no exception in respect of low fertility and ageing population being characteristic of the major part of Europe. Due to this unfavourable process, the sustainability of social provision systems may be endangered as well.

Chapter	Number	Indicator	Page	
Demography	39	Dependency ratio	78	
	40	Total fertility rate	81	
	41	Internal migration	83	
	42	International migration	86	
	43	Rate of urban population	88	
Employment	44	Economic activity	89	
	45	Employment rate	91	
	46	Atypical employment	94	
	47	Unemployment rate	97	
	48	Long-term unemployment rate	100	
	49	Average age at the time of leaving the labour market	101	
	50	Gender pay gap	102	
Living conditions	51	At-risk-of-poverty rate	104	
	52	Relative at-risk-of-poverty rate	107	
	53	Inequality of income distribution	108	
	54	Rate of persons living in jobless households	109	
	55	Gross debt-to-income ratio of households	111	
	56	Proportion of flats with no bathroom	112	

Chapter	Number	Indicator	Page	
Consumption	57	Structure of consumption	114	
	58	Nutrient and food consumption	116	
	59	Retail trade	118	☀
	60	Utility services	120	☀
	61	Residential water consumption from public water supply	122	☀
	62	Household electricity consumption	124	⛅
	63	Internet use	126	☀
	64	Passenger car fleet	128	
	65	Tourism	130	
Health	66	Life expectancy	132	☀
	67	Perceived health	135	☀
	68	Chronic diseases in the population	137	🌧
	69	Failed medical examinations due to financial reasons	140	☀
	70	Percentage rate of smokers	141	☀
	71	Alcohol consumption	143	
	72	Suicide death rate	144	☀
	73	Death rate by major causes of death	146	
	74	Standardized mortality ratio (SMR)	148	
Education	75	Persons with low educational attainment	150	☀
	76	Low reading literacy performance of pupils	151	☀
	77	Early school leavers	152	☀
	78	Disadvantaged (D) and multi-disadvantaged (MD) students	153	☁
	79	Computer skills of individuals	155	☀
	80	Life-long learning	157	⛅
	81	Capacity of kindergartens and infant nurseries	158	
Social relations	82	Civil society organisations	160	☀
	83	E-government availability	162	

Dependency ratio

Keywords **total dependency ratio, dependency ratios, age distribution, age pyramid**

Figure 39.1. **Total dependency ratio (compared to population aged 20–59 years)**
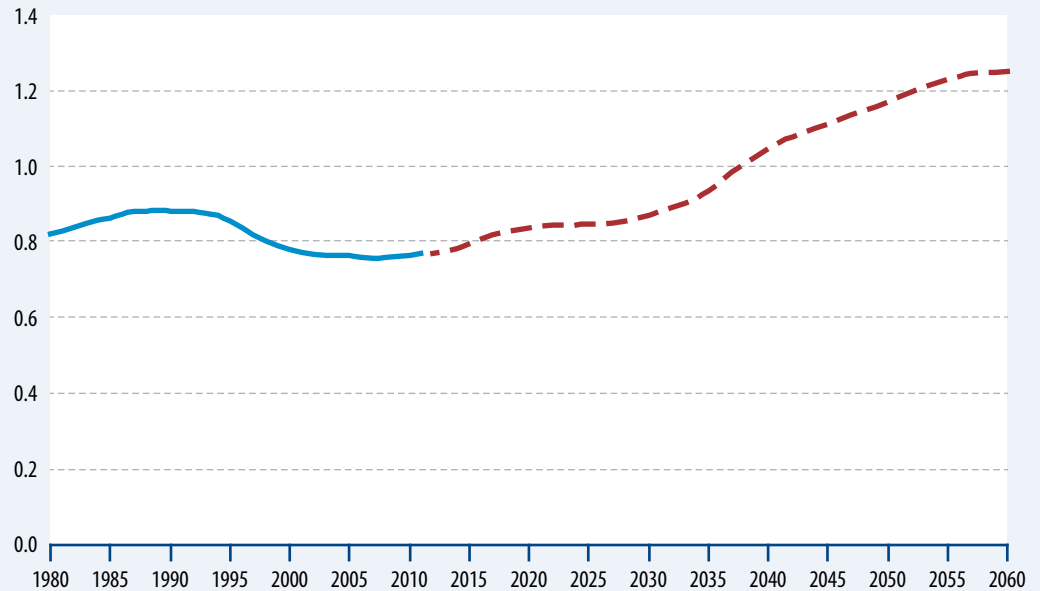
Source: HCSO Demographic Research Institute.

! *After the nadir in 2007, the value of the indicator began to grow.*

Relevance The dependency ratios are the most important indicators to illustrate the changes in the age distribution of the population. The value of the indicator is influenced in the long run by fertility, mortality and migration. The general trend in the historic change of the dependency ratio is a decrease from a high level due to the decline in the number of births, followed by a rise from a low level because of shifting life expectancy. This latter trend develops nowadays – especially in developed countries – and makes 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 seems to be necessary in this process to ensure the sustainability of population development.

Commentary At the beginning of 1980, the dependency ratio was 0.819 in Hungary, i.e. there were 819 persons out of working age (aged 0–19 years and 60 years and older) per thousand persons of working age (aged 20–59 years). The fertility fall in the 1990s reduced the indicator value to under 0.8, and the lowest value was observed in 2007 (0.753). This was at the same time the bottom of a long-term trend, since projections predict a continuous and significant rise in the future. The value of the dependency ratio is expected to be around 1.3 in 2060 and about 1.4 in 2100 according to the baseline variant of population projections.

Details When calculating dependency ratios, three main age groups are distinguished, and their proportion to each other shows the ageing of the society clearly, as well as the dependency conditions of each age group and projects the socio-economic impacts of changes. The three distinguished age groups are children (0–14

Figure 39.2.   Dependency ratios
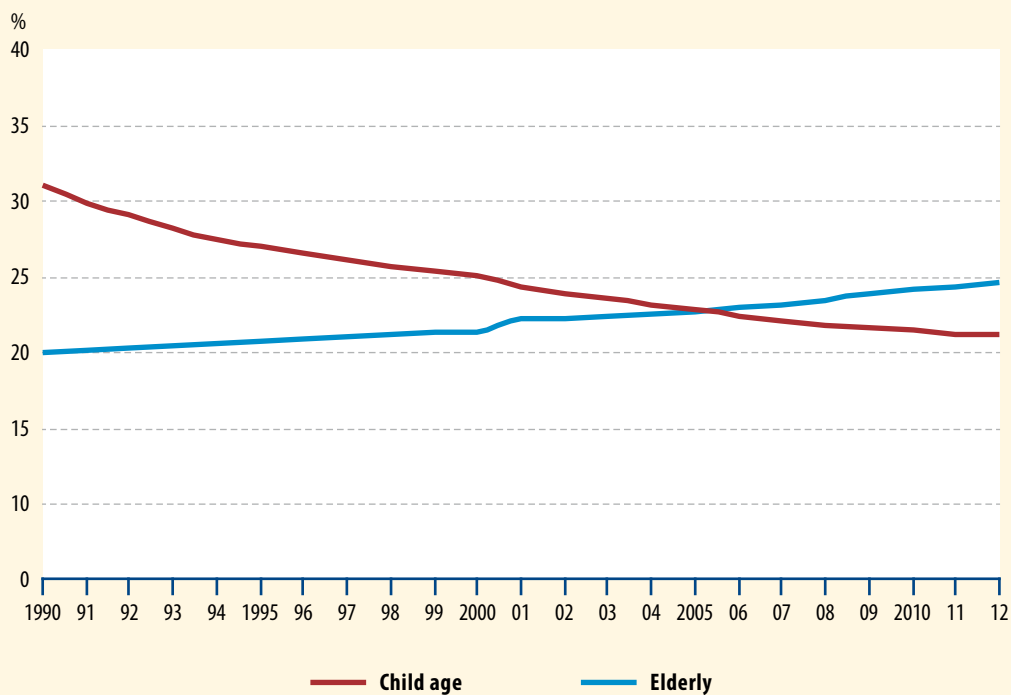
> **!** *The ratio of the 0–15 age group is steadily decreasing, while that of the 65+ age group is consistently increasing.*

year-old), adults or active aged (15–64 year-old) and elderly people (65 year-old or older). On the basis of these three large age groups, it is possible to compose four dependency (supportive) indicators.

The proportion of children compared to the active aged population steadily decreased over the past decades. The pace of the decline accelerated in the 1990s. While one fifth of the population was in child age in 1990, nowadays their ratio is below 15%. In parallel with this, the proportion of elderly people continuously increased from 13% to nearly 17%. The ageing process is indicated by the fact that the number of elderly people has exceeded the number of children since 2006. Meanwhile, the ratio of working age (15-64 years) population increased from 66 percent to 69 percent over the last more than twenty years, and the child and elderly population combined ratio also decreased relative to the working age population. Thus, even if slightly, the demographic dependency burden on the working age population decreased. Concerning the gender rate of population, the number of females per thousand males has increased

from 1081 to 1104 since 1990. While there are 941 girls per thousand boys in the children age group due to the surplus of boys at birth, the mortality difference between the two genders generates a significant surplus of females in the elderly population. The surplus of females begins at the age of 46 and further increases in parallel with age. On 1 January 2012, there were already 1,728 females per thousand males in the age group 65+.

The structure of population is very well represented by the age-pyramid that illustrates the number of men and women by age. The reason for the positive changes in the proportion of active and inactive aged people is that the greater number of generations born in the mid-1970s entered into working age over the past twenty years, and the similarly numerous generations born in the mid-1950s are still in working age. In parallel, the number of births declined more steeply than the number of elderly people increased. As the number of active aged people is still high, it gives chance to take the advantages of the change of age structure. When the 1950s-born generations reach the

Figure 39.3. **Age structure of the population, 1 January 2012**

Male | Female | Age group

Age group
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

Male surplus

Female surplus

500 400 300 200 100 0

0 100 200 300 400 500

Thousand population

Thousand population
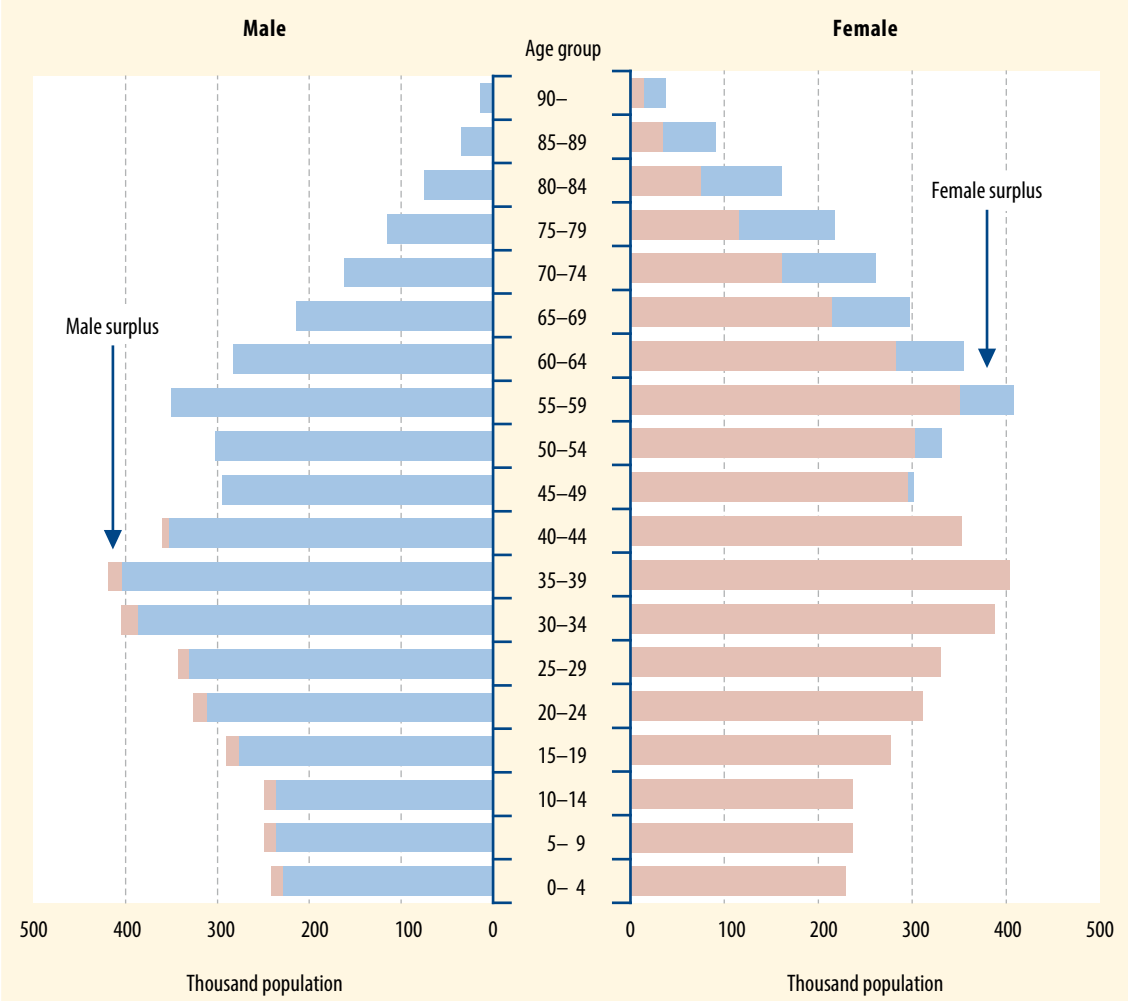
! *The bottom of the age–pyramid is 'slimmer' due to the decrease in the number of live births, the proportion of genders shifts from 46 years of age in favour of women.*

age of retirement, the number of elderly people will increase rapidly and this will place an increasing burden on the shrinking working age population in the near future.

Definitions

The dependency ratios are defined as ratios of persons of young and old ages to the population of working age. The dependency ratio expresses the support burden per person of working age.

The child age dependency ratio: the child population (0-14 years) as a percentage of the population aged 15-64.

The old-age dependency ratio: the elderly population (65 years and older) as a percentage of the population aged 15-64.

The dependent population ratio (dependency rate): the child and elderly population as a percentage of the population aged 15-64.

Stadat tables
1.1. Population, vital events
6.1.2. Resident population by age group, 1 January
6.1.6. Dependency ratios, ageing index, 1 January

Total fertility rate

Keywords total fertility rate, live births, childbearing, fertility, reproduction

Figure 40.1. **Total fertility rate**
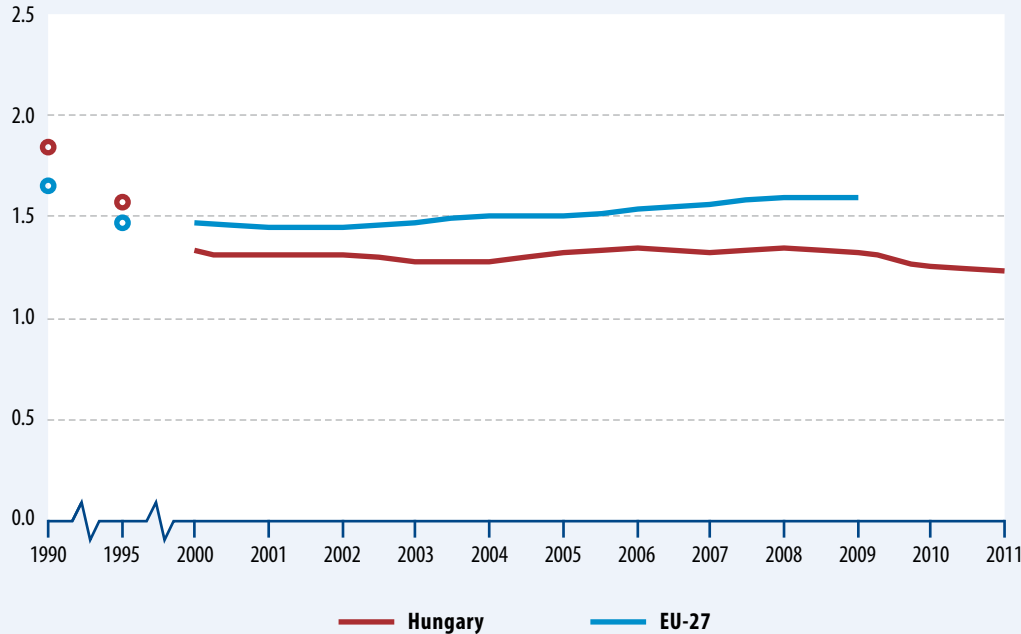
Source: Eurostat, WHO.

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

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 which will lead to the relative fall in the size of the working age population in the future. Fertility rate near the replacement level 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 environment and resource base.

Commentary The 1990s were characterized by a strong reduction in fertility which was followed by a unsteady low-level fertility rate after the turn of the millennium. Total fertility rates fell from 1.84 to 1.24 between 1990 and 2011, which was a historical nadir in the story of the Hungarian live birth statistics. The value of the indicator fluctuated in the range between 1.24 and 1.35 between 2000 and 2011. In 1990, the fertility was by nearly 13 percent, while in 2011 by 41 percent below the replacement level. The low fertility level can be explained by the postponement of childbearing 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 childbearing in their lifetime but they will more probably bear fewer children than originally envisaged. A fertility pattern evolved in the society influences the childbearing behaviour of the younger growing-up generations as well.

International outlook In EU-27, the total fertility rate increased steadily between 2002 and 2008, from 1.45 to 1.6. The rising trend stopped in 2009, and afterwards a slight de-

IE	2.07
FR	2.00
SE, UK	1.94
FI	1.86
BE, DK	1.84
NL	1.79
EE	1.62
▶ EU-27	1.59 ◀
BG	1.57
LT, LU	1.55
SI	1.53
EL	1.52
CY	1.51
CZ	1.49
MT	1.43
IT, SK	1.41
PL	1.40
AT, ES	1.39
RO	1.38
DE	1.36
▶ HU, PT	1.32 ◀
LV	1.31
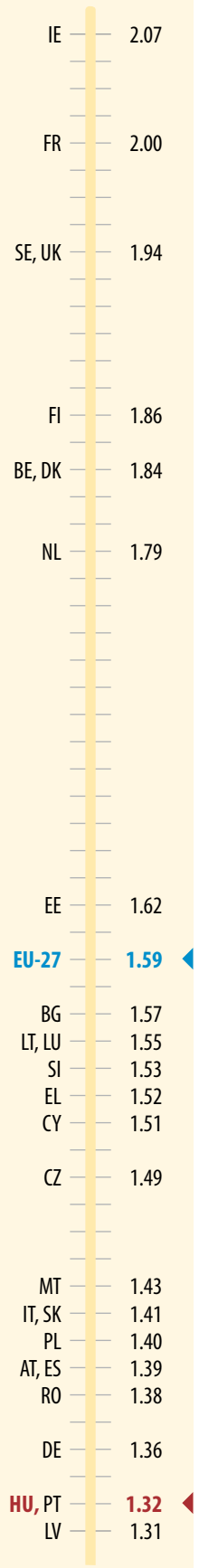
Total fertility rate in the European Union, 2009, number of children per women ▶

Figure 40.2.   **Total fertility rate by regions, 2011**
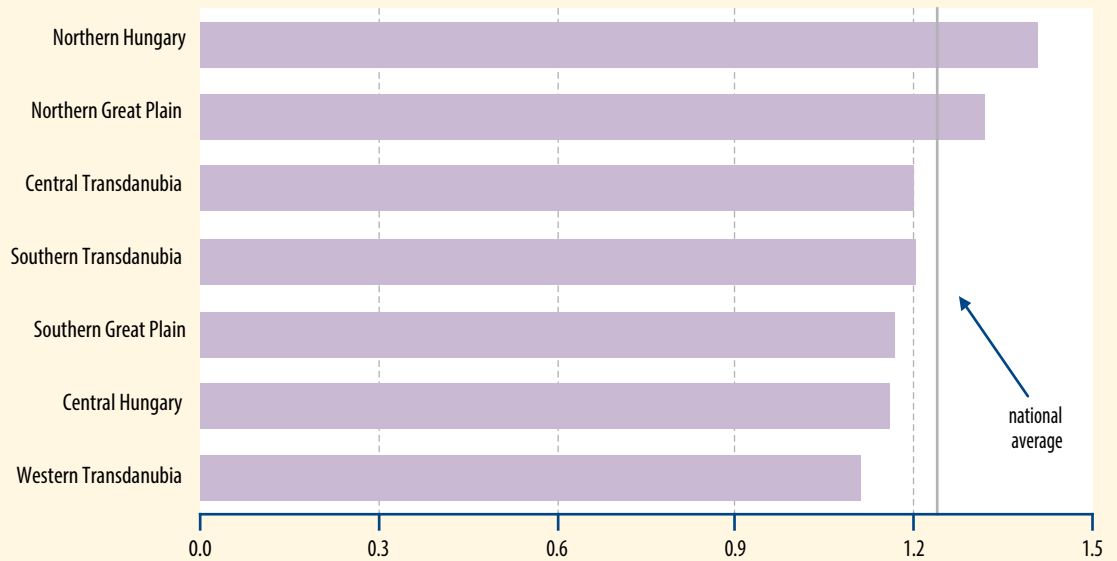
> ! *The difference between the fertility of the Western and the Eastern parts of the country is considerable.*

crease appeared, and the indicator (1.59) was by 24 percent below the replacement level. In 2009, Latvia (1.31), Hungary (1.32) and Portugal (1.32) had the lowest fertility rate, while it was the highest in Ireland (2.07), France (2.0) and the United Kingdom (1.94). The differences between countries are influenced among others by labour market features, cultural factors and the different social care systems.

Details In 2011, even the region with the highest fertility did not reach the level of the region which had the lowest fertility in 1990. In 1990, the fertility rate was the lowest in Central Hungary (1.58), while it was the highest in Northern Hungary approaching the replacement level (2.08). In 2011, Northern Hungary still had the highest value (1.41), while fertility was the lowest in Western Transdanubia (1.11). The fertility rates in Northern Hungary and Northern Great Plain were significantly above the national average, while in the other regions they were below it. The differences between the territorial units of the country slightly increased over the past period. The region with the lowest fertility is by around 45 percent while the top fertility region is by more than 37 percent below the replacement level.

Definition Total fertility rate expresses the average number of children that would be born alive to a woman during her lifetime if she were to pass through her childbearing 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.

Stadat tables
1.1. Population, vital events

Internal migration

Keywords internal migration, permanent and temporary migration, balance of migration, migration

| Figure 41.1. | **Internal migration by type of migration per thousand population** |
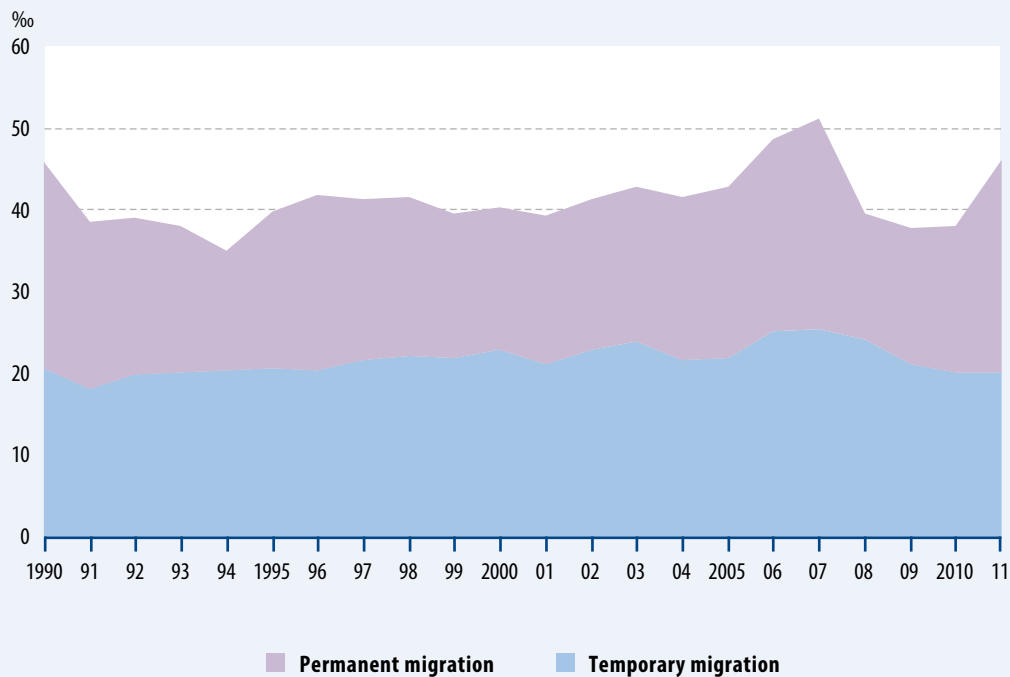
! *The slowly but steadily ascending trend of internal migration having started after 1994 came to a halt in 2008. Temporary migration considerably dropped and then it increased again in 2011, which can be attributed to administrative changes.*

Relevance The level of participation in migration and the migration balance – which can be positive or negative - show whether a region is a winner or a loser of internal migration, is a target area or a point of departure. Internal migration has a considerable effect on the age structure and human capital of a region, the highly qualified labour force generally moves to economically more developed regions.

Commentary After 2005, internal migration was primarily influenced by changes due to administrative reasons affecting temporary migration. After the peak in 2008, the level of internal migration dropped almost to the level of the 1994 nadir over two years, then in 2011 a significant increase occurred. The ‚U' shape pattern of migration in the period after 2008 is due to the changes of temporary migration, since permanent migration is characterized by a steady and smaller decrease.

Details Contrary to the constantly varying trend of temporary migration, the number of changes of permanent residence was generally higher and more constant in the last two decades. Temporary migration exceeded the permanent one only at the beginning of the 1990s, at the time of the peak in 2007 and in 2011.

The steadily ascending trend of permanent migrations came to a halt in 2007, and the level of 201 thousand reached by 2011 is the lowest value in the last 20 years after the nadir in 1991. The decline of 55 thousand in the number of dwelling registrations during the last four years is exceptional considering the last 35 years. The last decrease of similar extent (44 thousand) occurred between 1988 and 1991.

Concerning temporary migrations, the change in the legal background had a considerable effect on recent data. The significant, more than 100 thousand decline in 2008, as well as the fact that the number of people changing

Figure 41.2. **Balance of internal migration per thousand population by counties, 1990–2011**

Per mille

■	– (–3.00)
■	–2.99 – (–1.50)
■	–1.49 – 0.00
■	0.01 – 1.50
■	1.51 –
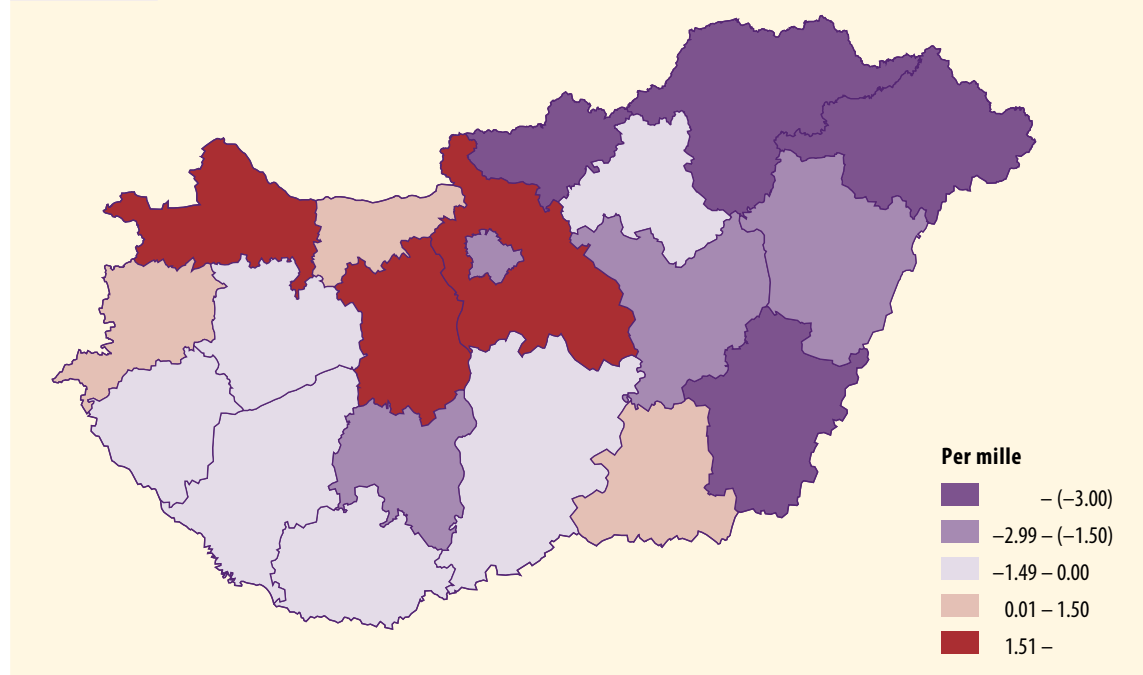
! *Internal migration is invariably directing from east to west.*

registered place of stay exceeded 260 thousand again in 2011 can be attributed to this change.

During the last 20 years, Pest county's migration balance was exceptionally high among counties. The majority of counties are characterized by out-migration. The population preserving capability is the worst in the eastern, economically undeveloped counties (Borsod-Abaúj-Zemplén, Szabolcs-Szatmár, Nógrád, Békés counties). Only Csongrád county had a positive internal migration difference among the counties on the east side of the Danube. Budapest is in a special situation: the balance of internal migration for Budapest was positive between 1990 and 1992, while the following period until the year 2006 was characterised by emigration because of suburbanization. From 2007, the tendency of Budapest has turned over again and its migration balance is positive.

Definitions

Internal migration follows the spatial, geographical movement of the population within the country, based on the registration system of home addresses.

Permanent migration: the change in the place of residence when the migrant leaving his/her place of residence indicates a dwelling in another settlement as another place of residence.

Temporary migration: the change in the place of dwelling crossing municipal boundaries when the migrant maintaining the place of residence changes a dwelling and indicates a new dwelling as a place of stay, as well 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 registering with a permanent or temporary character and temporary re-migrants to the given administrative unit and the number of persons registering with a permanent or temporary character and temporary re-migrants to another administrative unit from the given administrative unit.

Figure 41.3. **Balance of internal migration per thousand population by settlement types, 1990–2011**

‰

— Budapest   — Towns   — Settlements
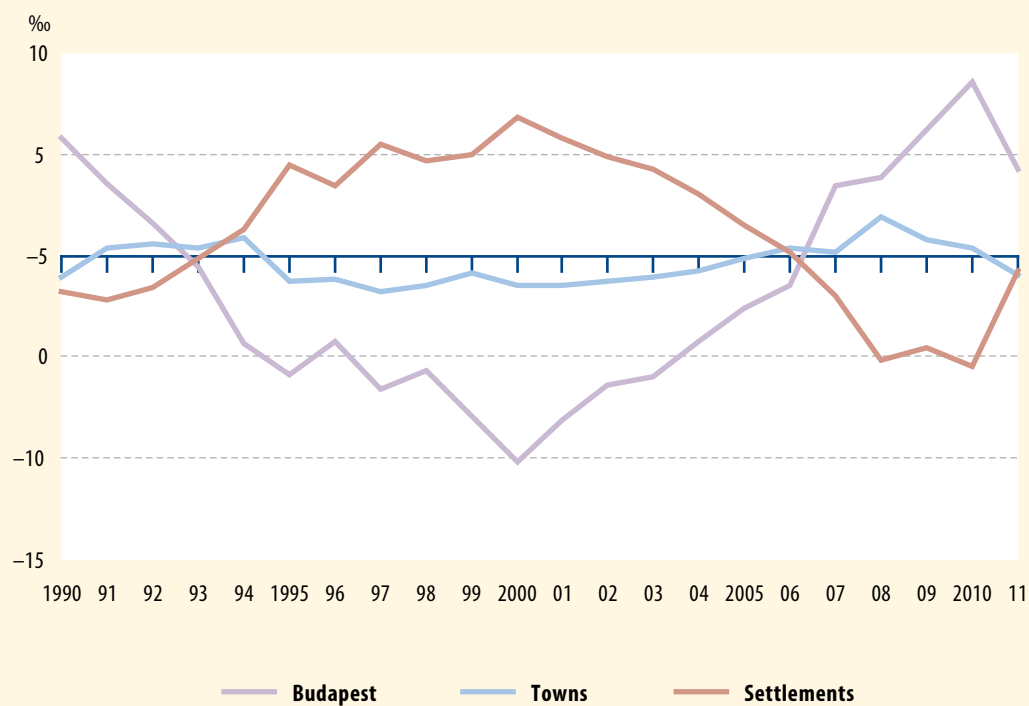
! *After a long period of out-migration, the balance of migration of the capital became positive again.*

Stadat tables
1.5. Internal migration
6.1.4. Vital events (2001–)
6.1.5. Main rates in vital events (2001–)

International migration

Keywords international migration, foreign citizen, citizenship, migration

LU	431.2
CY	199.8
LV	170.3
EE	157.5
ES	122.5
AT	108.1
BE	105.7
DE	88.1
EL	84.5
IE	80.7
IT	75.4
UK	71.8
▶ EU-27	66.3 ◀
SE	66.1
DK	62.2
FR	58.8
MT	48.8
PT	42.1
NL	40.4
SI	40.4
CZ	39.6
FI	31.0
▶ HU	21.0 ◀
SK	12.5
LT	10.3
BG	5.3
RO[a)]	1.5
PL	1.2

a) 2009.

Figure 42.1. **Rate of foreign citizens per thousand population**
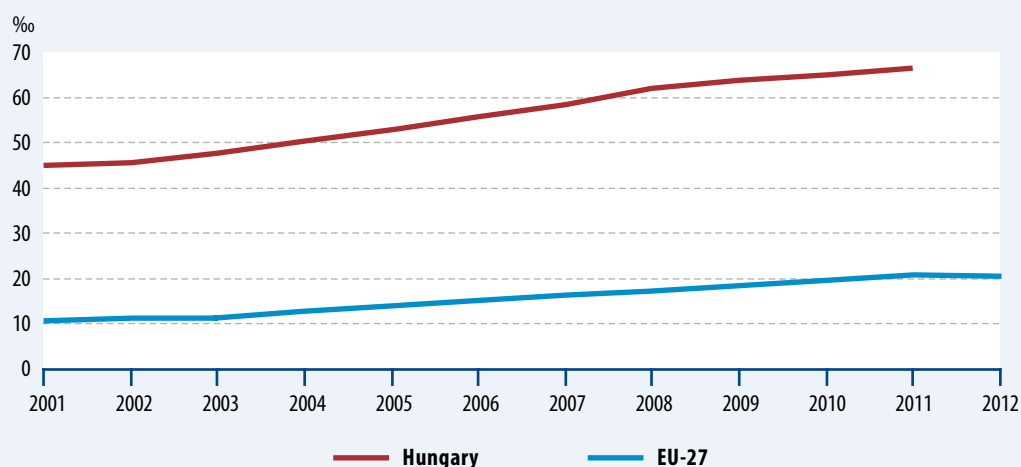
Source: Eurostat.

! *The rate of foreign citizens living in Hungary is constantly growing.*

Relevance The issue of international migration has a great importance both in European and national policies. Migration causes significant changes in the distribution of population and has an impact on the sending and the receiving countries' economic and social situation. Migration to receiving countries helps the replacement of the population and the labour force, while in sending countries emigration is a possible driving force to population decline. In most of the EU member states, immigration can be one of the possible solutions to offset the ageing of the population, however, this may cause new tensions.

Commentary In Hungary, the number of foreign citizens with residence or settlement permit was 205 thousand on 1 January 2012, which is almost twice as high as in 2001. In parallel with this, the proportion of foreign citizens in the population has also increased; their number per thousand population grew from 11 in 2001 to 21.

The majority of foreigners living in Hungary are from Europe (83%), particularly from Romania, Ukraine, Serbia and, among the EU-15 countries, from Germany. 13% of foreigners came from Asia, particularly from China and Vietnam and another 2% arrive from the USA and Canada.

International outlook Compared to most of the EU member states, the proportion of foreign citizens in Hungary is considered to be low, despite the fact that their number is constantly rising. In the 27 member states of the European Union, altogether 33 million foreign citizens live; this means 66 immigrants per thousand people as opposed to 21 in Hungary. Among the EU-27 countries, the proportion of foreign population is lower only in Slovakia, Lithuania, Bulgaria, Romania and Poland.

Details Most of the foreign citizens live in Central Hungary, primarily in Budapest. The 84 thousand foreigners living in the capital account for 48 per mille of the respective population, while the 29 thousand foreigners in Pest county represent 23 per mille of the county's population. Apart from Central Hungary, the rate of foreigners is the highest in Csongrád county, where 27 foreigners live per thousand population. The rate is the lowest in Northern Hungary, Borsod-Abaúj-Zemplén county, where the number of foreigners per thousand population is only 6.

Foreign citizens per thousand population in the European Union, 2011

Figure 42.2. **Number of foreign citizens residing in Hungary per thousand population by counties, 1 January 2012**

Per mille

	– 10.0
	10.1 – 15.0
	15.1 – 20.0
	20.1 – 25.0
	25.1 –

! *The regional distribution of foreigners is uneven, their proportion is the highest in Central Hungary.*

Figure 42.3. **Age distribution of the total population and foreign citizens, 1 January 2012**

■ **0–14 year-old** ■ **15–29 year-old** ■ **30–59 year-old** ■ **60 year-old and older**

! *Among foreign citizens, the ratio of people in active age is higher than in the total population.*

The age distribution of foreign citizens is more favourable in respect of sustainable development than that of the total population, since more than 75 percent of foreigners are in the economically active age group between 15 and 59 years, while among the total population this value is only about two thirds.

Definition International migration means the movement of the population between countries.

The number of foreign citizens residing in the country per thousand inhabitants shows the proportion of foreigners within the total population.

Stadat tables
1.6. Foreign citizens residing in Hungary by continents, countries and sex, 1 January (1995–2012)

Rate of urban population

Keywords **urban population, resident population, rural area, non-rural area**

BE	97.5
DK	86.9
FR	85.8
LU	85.4
SE	85.2
FI	83.7
NL	83.2
UK	79.6
EE	77.4
DE	73.9
► EU-27 ◄	73.9
CZ	73.4
BG	73.1
CY	70.5
EE	69.5
► HU ◄	69.5
IT	68.4
LV	67.7
AT	67.7
LT	67.1
IE	62.2
EL	61.4
PT	61.1
PL	60.9
SK	54.7
RO	52.8
SI	49.9

Rate of urban population in the European Union, 2011, %

Figure 43.1. Resident population in rural and non-rural areas (1990=100.0)
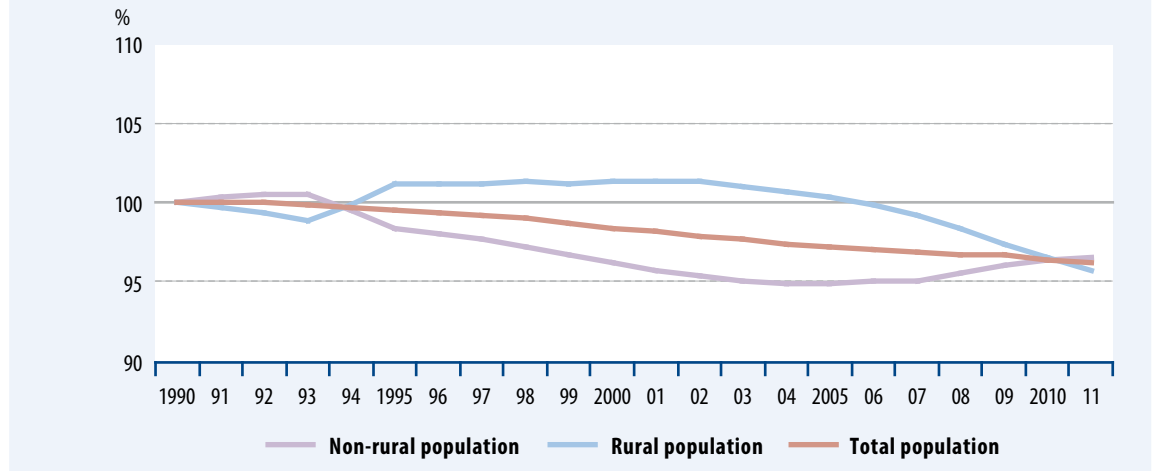
Rural and non-rural resident population decreased to nearly the same extent between 1990 and 2011.

Relevance Urbanization, the increase in the number of towns and in their population is a global phenomenon. Rural development programmes strengthening the population preserving capacity of rural areas are intended to moderate the harmful effects of urbanization.

Commentary In the year following the regime change, the total population of Hungary was 10,373,988, 56% of whom lived in non-rural areas. As opposed to the stagnation of the number of rural population until 2003, non-rural population began to decrease already in 1993. This was mainly due to the suburbanization and the population decrease caused by the lower birth rates in Budapest and settlements with more than 50,000 population. In 2005, the trend turned over, and the number of non-rural population grew by 94 thousand over six years, 90% of which occurred in towns with population between 10,000 and 50,000.

There are three factors in the background of the about 5% decrease in rural population between 2003 and 2011: the negative labour market trends in the economic section agriculture, forestry and fishing resulting in an 80 thousand fall in the number of people employed here after the turn of the millennium, the lower birth rates,

as well as the lower average age resulting from worse living conditions.

The proportion of the non-rural population was 56% in 2011 in Hungary, 0.2 percentage point higher than in 1990.

International outlook According to a UN report applying other methodology than the Hungarian one, the proportion of urban population in EU-27 countries was 74% in 2011. At the end of the ranking were the Central and Eastern European countries, only 50% of the population of Slovenia and 53% of that of Romania are considered urban. In the most urbanized countries (Belgium and Malta) more than 90% of the population live in towns. In Hungary, this rate is 70%, and it is projected to reach 75% by 2025.

Definitions

The rate of urban population shows the proportion of population living in non-rural areas within the total population.

Rural regions contain settlements with a population density not exceeding 120 persons/km² or having less than 10,000 inhabitants are considered rural areas, excluding the settlements of the Budapest agglomeration, but including the outskirt areas of non-rural settlements having more than 2% of total population living in outskirt territories.

Economic activity

Figure 44.1. **Economically active persons as a percentage of population aged 15–64**

Source: Eurostat.

> **!** *The development of the economic activity in Hungary shows only a slight increase even in the long run.*

Relevance Social cohesion is one of the bases of sustainability. Extension of labour market participation is essential in respect of improving social cohesion and reintegrating disadvantaged social groups. One of the elements of this is the expansion of employment and the other is the increase of the labour market activity of jobless people, involvement of inactive groups into job seeking. The major indicator of economic activity is the rate of economically active persons within the population aged 15–64.

Commentary In Hungary, after the transition, a large decrease occurred in the number of the employed due to the economic recession. Only a part of persons having lost their jobs became unemployed, the others left the labour market as inactive persons. The number and ratio of the economically active population continually diminished until the mid-1990s. The rate reached the lowest value in 1997 followed by a slow (in-

terrupted by some drops) increase. So, the high level of inactivity has become characteristic in Hungary, the labour market demand was not able to absorb those in working age, who permanently were excluded, or found another living source and withdrew from the labour market voluntarily. The harmful effects of the global economic crisis beginning at the end of 2008 did not even spare Hungary, in parallel with the decrease of employment due to mass layoffs, the number of jobless people increased. The size of the labour market did not change, due to the crisis the labour market restructured, but inactivity remained the same.

International outlook Regarding economic activity, Hungary is significantly lagging behind the average of the European Union, observing both the EU-15 and the EU-27 countries. The difference has been permanently around 9–10 percentage points.

Rate of economically active population aged 15–64 in the European Union, 2011, % ▶

SE, DK	80.2
NL	78.4
DE	77.2
UK	75.7
AT	75.3
FI	74.9
EE	74.7
PT	74.1
ES	73.7
CY	73.5
LV	72.8
LT	72
▶ **EU-27**	**71.2** ◀
CZ	70.5
FR	70.4
SI	70.3
IE	69.2
SK	68.9
LU	67.9
EL	67.7
BE	66.7
PL	66.1
BG	66
RO	63.3
▶ **HU**	**62.7** ◀
IT	62.2
MT	61.6

Figure 44.2.   **Economically active persons as a percentage of population aged 15–64 by counties, 2011**

%
	– 50.0
	50.1 – 52.0
	52.1 – 54.0
	54.1 – 56.0
	56.1 –
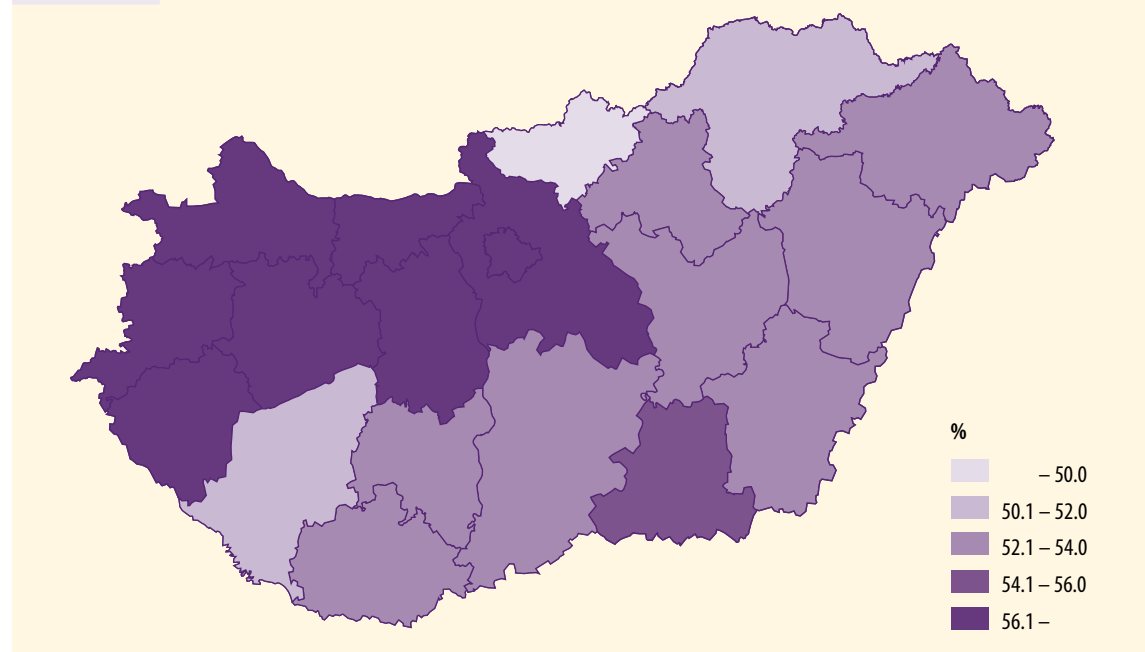
!   *The difference is striking between the Western and Eastern regions of the country.*

Details After the transition, regional differences dramatically increased peaking in the years around 2000: the gap between the regions having the best (Western Transdanubia) and the worst (Northern Great Plain) values exceeded 20 percentage points. Since that time, the values have been converging which was enhanced by the effect of the crisis (by activating inactive groups) and the introduction of labour market policies stimulating labour market participation.

In 2011, the difference between the best rate of Central Hungary and the lowest one in Northern Hungary was some 8 percentage points. The East-West difference is considerable, the capital city is followed by Komárom-Esztergom, Veszprém, Vas and Fejér counties in the ranking, while Békés, Szabolcs-Szatmár-Bereg, Borsod-Abaúj-Zemplén, Somogy (the only county from Transdanubia) and Nógrád counties are the last in ranking.

Economically inactive persons are those who did not work in the reference week, did not have regular income from work and did not even seek a job, or searched for one but would not have been able to start working. Among others passive unemployed belong here who would like to find a job, but as they deem their chances unfavourable, they do not even seek one actively.

Definitions

Economically active persons are those who are present in the labour market as employed or unemployed.

Stadat tables
2.1. Labour market

Employment rate

Keywords **employment rate, employment**

| Figure 45.1. | **Employment rate of the population aged 15–74** |

Hungary – men
Hungary – women
Hungary
EU-27 – men
EU-27 – women
Domestic and EU target
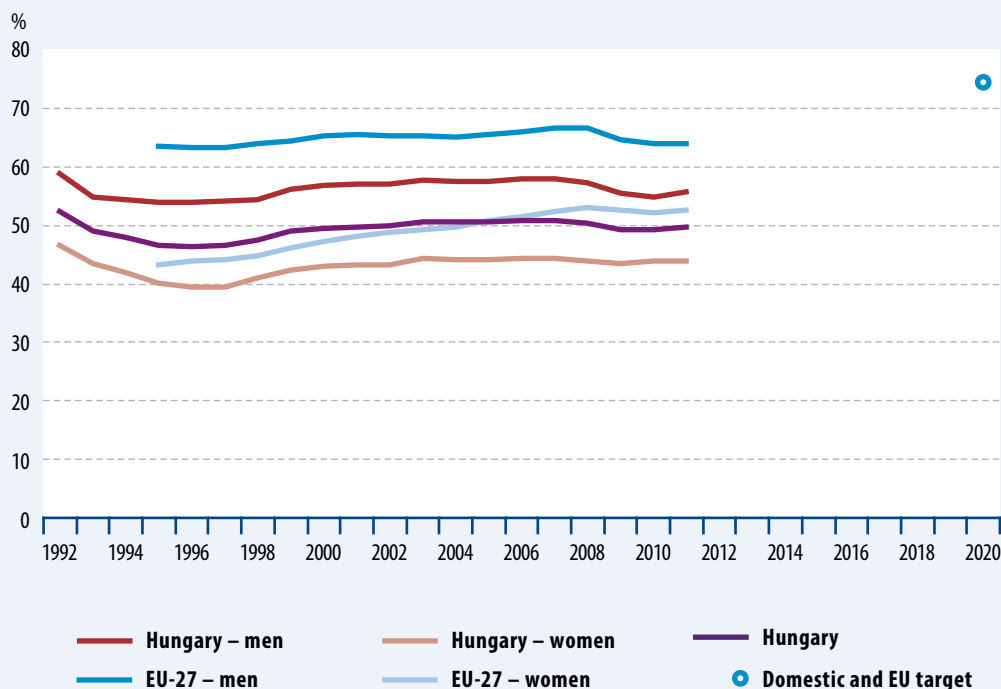
Source: Eurostat.

> **!** *The employment rate having been stagnant since 2003 was set back by the crisis, our lagging behind the EU average continues to be considerable.*

Relevance The expansion of employment is one of the criteria of economic sustainability. Furthermore, the value of human resources is determined by the ability to work, while performing work has an effect on the development of human resources. The increase of employment and the improvement of labour market positions of disadvantaged social groups are important tools to combat poverty and diminish inequalities in life chances. Jobless people have to cope with the risk of social exclusion, since joblessness usually results in not only the decline of their income, but the reduction of their social relations as well. The Europe 2020 strategy targeted to raise the average employment rate of the EU to 75% by 2020. In this respect, the member states formulated their own targets as well; Hungary approved the value defined by the EU. However, the target of the EU refers to the population aged 20–64, while the indicator presented in this publication covers the age group 15–74. In 2011, the employment rate in Hungary was 61% according to the former and 50% according to the latter coverage.

Commentary Because of the economic shock following the regime change, the level of employment decreased dramatically until 1996. The labour force survey measured the lowest level of employment in 1996, when 46% of the population aged 15– 74 and 52% of those aged 15–64 were employed. Subsequently, the rate of employment increased at a slow pace and practically stagnated from 2003, but the value for the population aged 15–64 was not higher than

Employment rate of the population aged 15–64 in the European Union, 2011, % ▶

NL	74.9
DK	73.1
DE	72.5
AT	72.1
UK	69.5
FI	69
CY	68.1
CZ	65.7
EE	65.1
LU	64.6
SI	64.4
▶ **EU-27**	**64.3** ◀
PT	64.2
FR	63.9
BE	61.9
LV	61.8
LT	60.7
PL	59.7
SL	59.5
IE	59.2
BG, RO	58.5
ES	57.7
MT	57.6
IT	56.9
▶ **HU**	**55.8** ◀
EL	55.6

45
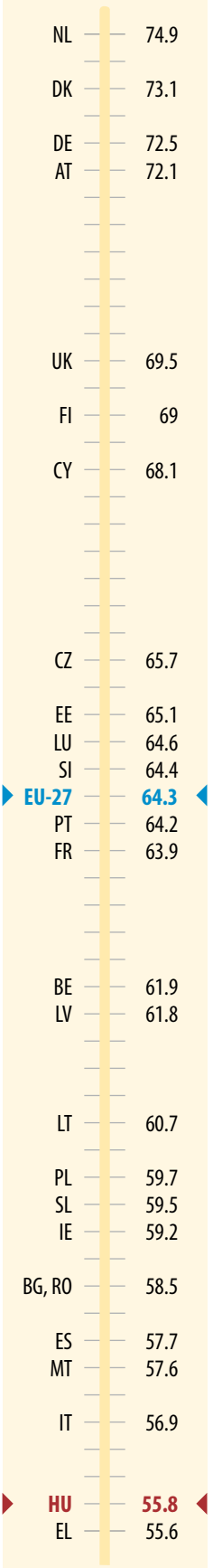
Figure 45.2.   **Employment rate by highest educational attainment**
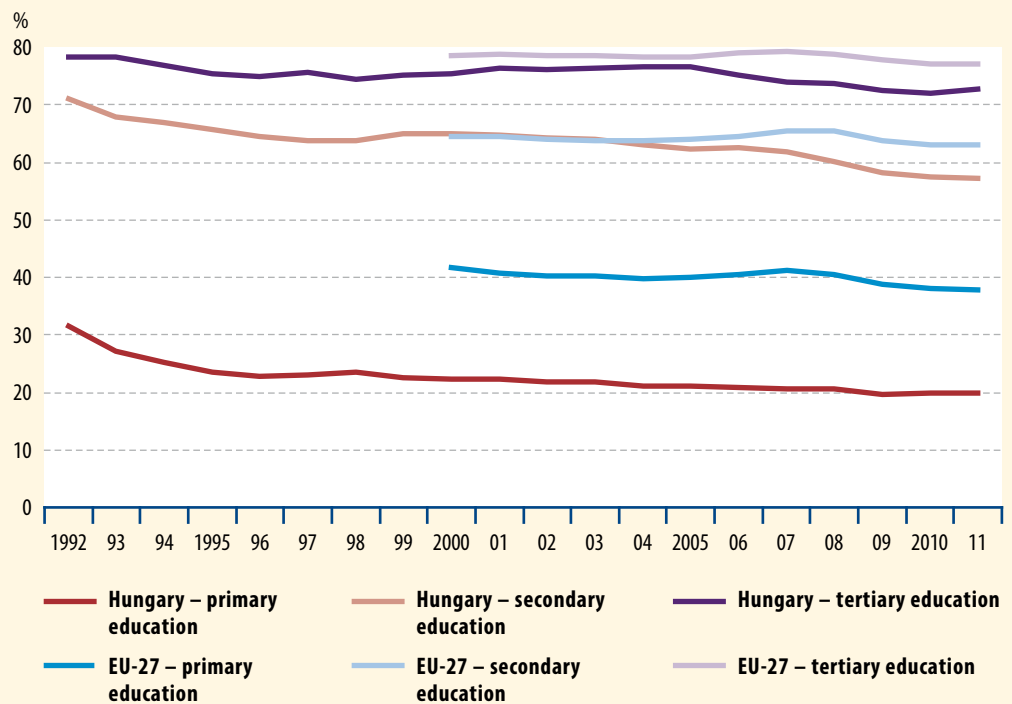
> **!** *In the last few years, the employment rate in Hungary deteriorated in case of each of the three groups of educational attainment compared to both previous Hungarian data and the EU average.*

57% even in the best years. The economic crisis following the financial one caused a substantial, nearly 2 percentage points fall in employment.

International outlook The employment rate is significantly different from the EU average. As opposed to stagnant Hungarian data, the average of the EU-27 has increased by 2 percentage points since 2000. The difference between the average of the EU-27 and Hungary has continuously increased from 2004 and peaked in the years around the crisis. In 2011, the rate in the Netherlands having been in the best position exceeded the one in Hungary, ranked second to last after Greece, by 19 percentage points.

Details For men, after the lowest level in 1996 (54%), the rate grew continuously but slowly and by 2006 it reached 58%, then it started to fall due to the economic crisis. The nadir was in 2010, since, due to the crisis, a large number of jobs were terminated in industrial branches employing mostly men. The employment rate

of men already increased in 2011. For women, after the nadir, the employment rate started to increase, so while in 1996 employment rate of women was 14 percentage points lower than that of men, the difference between the two rates was only 13 percentage points in 2005. By 2011, the difference diminished further to 12 percentage points, since in the service sector, employing the majority of women, the recession started later and was less strong.

The chances to find a job are considerably influenced by the level of education completed. Although the employment rates decreased in case of people with primary, secondary and tertiary educational attainment alike compared to 1992, the first year of the Labour Force Survey (LFS), persons with low educational attainment (having completed 8 grades of primary school at most) were affected the most unfavourably by changes. The gap between the employment rates of persons with lower and that of persons with tertiary educational attainment became significantly wider. In 1992, the employment rate of persons with tertiary educa-

Figure 45.3. **Employment rate of population aged 15–74 by regions**
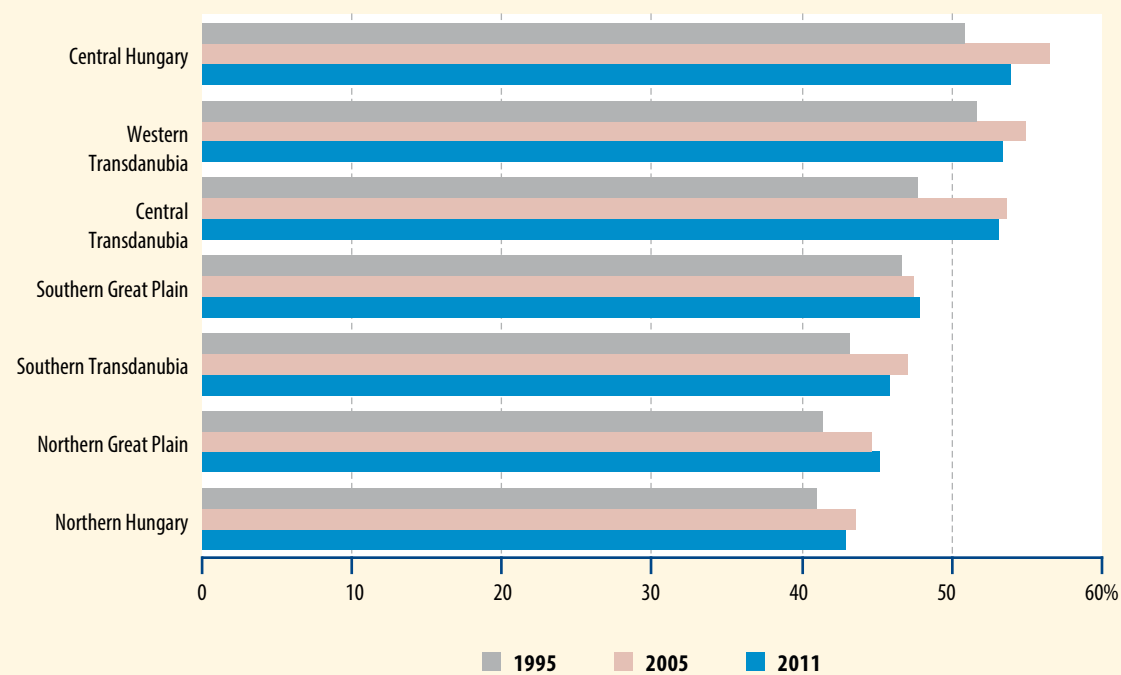
> **!** *Regional differences do not decrease; the gap between the regions having the best and the worst rates does not narrow: the difference exceeded 11 percentage points in 2011.*

tion was two and a half times as high as that of persons with primary and lower secondary education, while by 2011 this difference grew already to more than 3.5-fold. The figures demonstrate that raising the level of education of the population and developing the knowledge and skills being relevant in the labour market are necessary in terms of increasing employment.

Between 1992 and 2011, the employment rate exceeded the national average in Central Hungary, Western Transdanubia and Central Transdanubia. The employment reached its lowest value between 1995 and 1997 in all of the regions. Afterwards, employment improved slowly in most of the regions. In the four regions in a less favourable position in the labour market (Southern Transdanubia, Northern Hungary, Northern Great Plain and Southern Great Plain), the indicator practically reached its maximum until 2003, then it stagnated or slightly diminished. Employment progressed in Central Hungary until 2005, in Western Transdanubia, following the peak in 2002, the rate was still nearly 56% in 2007, while it increased with some slowdowns in Central

Transdanubia until 2007. The outbreak of the crisis caused a decline in employment in each region except for Southern Transdanubia. Following the nadir in 2010, significant improvement occurred in 2011 only in regions in more advantageous situation, which deepened further regional differences.

Definitions

The employment rate is the ratio of employed persons to the population of corresponding age.

In the Labour Force Survey, employed persons are persons aged 15–74 who, during the reference week (from Monday till Sunday), performed work for pay or profit for at least one hour or were not working but had a job from which they were temporarily absent (because of e.g. holidays, illness etc).

Stadat tables
2.1. Labour market
6.2. Society

Atypical employment

Keywords atypical employment, self-employed, part-time employment, employment with fixed-term contract, home working, telework

EL	35.6
RO	29.8
IT	24.0
PL	22.0
CZ	17.7
PT	17.1
ES	16.2
CY	16.0
SL	15.9
▶ EU-27	15.8 ◀
IE	15.3
SI	15.2
NL	14.3
BE	13.8
UK	13.3
MT	13.0
AT	12.7
FI	12.5
BG	11.9
▶ HU	11.8 ◀
FR	11.4
LV	11.1
DE	10.9
LT	10.3
SE	9.5
DK	8.6
EE	8.2
LU	8.1

Figure 46.1. **Self-employed as a percentage of population aged 15–64**
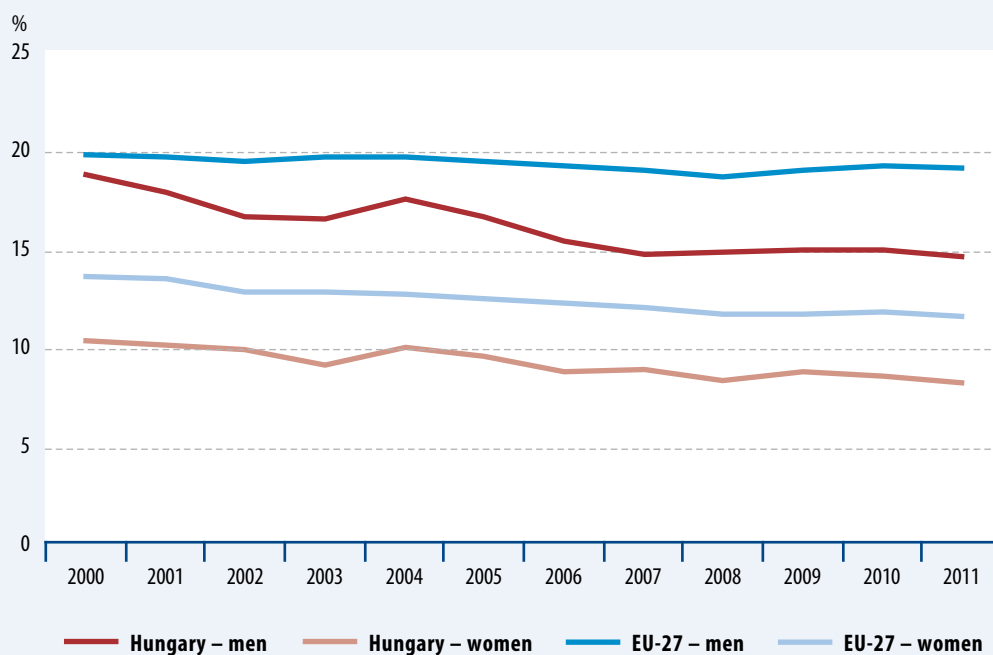
Source: Eurostat.

! *The proportion of self-employed persons is below the EU average, and is decreasing in compliance with the EU average.*

Relevance Atypical forms of employment as sources of job creation and preservation, better jobs and economic growth can be the tools for the fundamental strategic goal of improving competitiveness together with increasing employment. The atypical forms of employment, by providing more flexible framework for employment, can create conditions to work for such social groups that are excluded from the labour market under normal conditions.

Commentary The most common form of atypical employment in Hungary is self-employment. The non-employees are connected to the labour market more loosely; therefore, their status is more uncertain than that of employees' whose labour market situation is more predictable. The status of own-account workers or members of partnership as an option cannot overcome the employees' rate of above 85%. The rate of self-

employment has continuously declined since 2000, and by 2011 it fell from 15% to 12%.

International outlook The declining share of self-employment is typical not only in Hungary, but in the European Union as a whole, although the average rate is slightly higher there. The proportion of part-time workers in Hungary is very low in international comparison as well, i.e. it is one third of the EU average. In respect of home working, which is cost effective for the employers and flexible for the employed, there is also a significant lag compared to the EU average, where the rate of people working at home is about twice as high as in Hungary.

Details Fixed-term employment, which means fewer constraints for the employer and provides more freedom to terminate the labour contract, improves the flexibility of the labour market. Due

◀ *Rate of self-employed in the population aged 15–64 in the European Union, 2011,* %

Figure 46.2. **Part-time workers as a percentage of employed persons aged 15–64**

Source: Eurostat.

> **!** *Part-time employment as a tool of crisis management shows a slight growth in Hungary, but it still lags significantly behind the EU average.*

to the crisis, in 2010 its proportion jumped by 1.2 percentage points to 9.6%. This was partly due to the increase of casual and public employment, and partly to the more dynamic labour market fluctuations, inflows and outflows.

Making working time more flexible – partly by redistributing and shortening the working time – can become an effective tool of handling unemployment. The proportion of part-time employment is very low in Hungary. One reason for this is that employers prefer full-time employment, and the other is that the cost of living is often higher than the attainable part-time wage. Therefore, for many workers it is the cost of living that forces them to work full-time. Between 2000 and 2007, the proportion of part-time workers hardly changed, it remained typically below 4%. After 2008, one of the possible responses of the labour market to the global economic crisis was that companies struggling with transitional market problems modified many full-time contracts to part-time ones. Employees' earnings were supplemented from public funds to the extent of their full-time earnings, or employees could take part in free retraining. As a result, the proportion of part-time

employment began to rise, and it exceeded 6% in 2011.

Out of women nearly twice as many choose part-time employment, since in addition to child care and other family obligations, only part-time work provides an opportunity for them to gain income or to build a career. In 2011, the proportion of part-time work was 8.8% for women and 4.4% for men. Part-time employment for women is significantly below the EU average. It is partly due to traditional reasons, since the two earners family model was characteristic in Hungary until the regime change.

Another form of atypical work is home working. The advantage of home working – in addition to the fact that it means significant cost saving for the employer - is that it provides an opportunity for work and income gain to the disadvantaged groups of the labour market, such as people with reduced working capacity or women who raise their children at home. The proportion of people doing their main work regularly at home within all employed has been continuously decreasing since 2000 (the year of first available comparable data) from 4% to 2.8%. The proportion of people doing their

main work at home is the same among men and women.

The most common form of home working is telework, which is more and more gaining ground with the development of communication and information technologies. In the age group 15–64, the number of people doing telework regularly was 23 thousand in 2003, their number increased year by year, and by 2010 it was more than 43 thousand. The number of those doing telework occasionally outnumbered this by 16 thousand. Their proportion within all employed was 1.2% and 1.6%, respectively, in 2010. In 2011, this rate slightly decreased. The proportion of men doing telework both regularly and occasionally was higher than that of women.

Definitions

Those forms of employment are considered atypical which deviate from the usual ones. Full-time employment with contract of indefinite

duration as employee is considered usual. On the basis of this definition and completed with other, unusual types of employment, the following categories are considered atypical employment in the present study:

1. self-employers: working not as employees (self-employed, working members of partnerships, unpaid family workers, members of cooperatives),

2. part-time workers: working in part-time according to self-classification,

3. working with fixed-term contract: employed with fixed-term labour contract,

4. employed working at home or doing telework: those who do their main work regularly at home and those doing telework. Telework means work done partly or solely at home or at a distance from the principal or the local unit of the principal, and submitting the result to the principal by applying information and communication technology tools.

Unemployment rate

Keywords unemployment rate, unemployment

Figure 47.1. **Unemployment rate of the population aged 15–74**
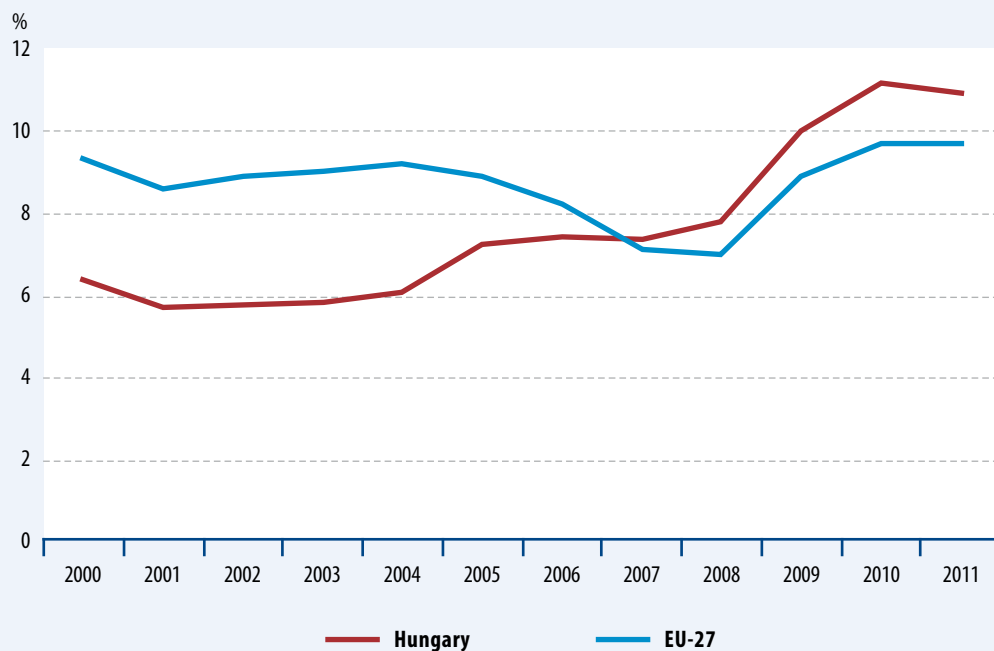
Source: Eurostat.

! *Since the beginning of the 2000s, unemployment rate has been continuously increasing in Hungary; it nearly doubled by 2011, and has always been higher than the EU average since 2007.*

Relevance Creating and strengthening social cohesion requires circumstances in which all individuals have, in the long run, the basic requisites for social and economic participation; where paths of mobility are created and kept open for the individual. Those social groups who cannot find jobs because of scarcity of jobs or lack of skills and qualification relevant in terms of employment are more affected by the risk of social exclusion and poverty. These disadvantages are concentrated mostly in Northern Hungary and Northern Great Plain. Without the social inclusion of these groups and the improvement of their labour market position, it is difficult to strengthen social cohesion Encouraging and supporting employment of young people in the interest of acquiring job experience helping their later employment form the basis of sustainable development as well.

Commentary Mass unemployment appeared in Hungary at the beginning of the 1990s. The

unemployment rate was the highest, 12% in 1993. The subsequent decline could be observed until 2001 (5.7%), then the rate began to increase again, and since 2005 it has been on a level exceeding 7%. The global economic crisis that developed in 2008 significantly influenced the labour market, and as a consequence of the fall in production, factory closures and layoffs, the number of unemployed persons considerably increased. The unemployment rate reached the level of 1996, namely 10% in 2009, while in 2010 and 2011 it was around 11%.

International outlook The global economic crisis has affected Hungary more deeply than it has affected the EU on average. While until 2006 the level of the unemployment rate in Hungary was below the EU level, from 2009 it has exceeded that (by around 1 percentage point).
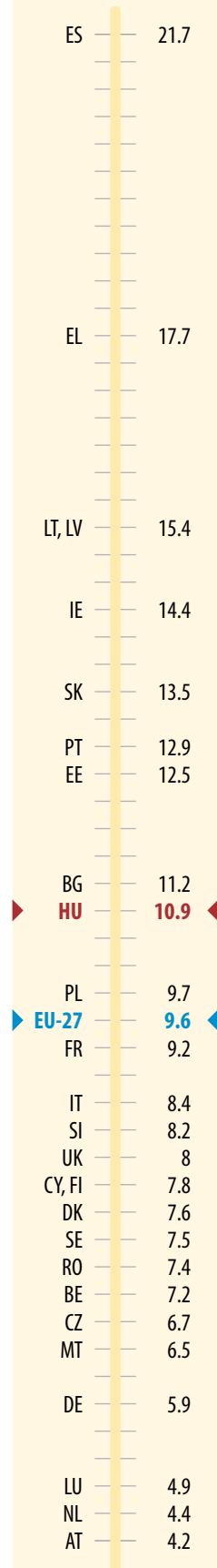
Unemployment rate in the European Union, 2011, % ▸

ES	21.7
EL	17.7
LT, LV	15.4
IE	14.4
SK	13.5
PT	12.9
EE	12.5
BG	11.2
▸ **HU**	**10.9** ◂
PL	9.7
▸ **EU-27**	**9.6** ◂
FR	9.2
IT	8.4
SI	8.2
UK	8
CY, FI	7.8
DK	7.6
SE	7.5
RO	7.4
BE	7.2
CZ	6.7
MT	6.5
DE	5.9
LU	4.9
NL	4.4
AT	4.2

Figure 47.2.   **Unemployment rate by age groups**
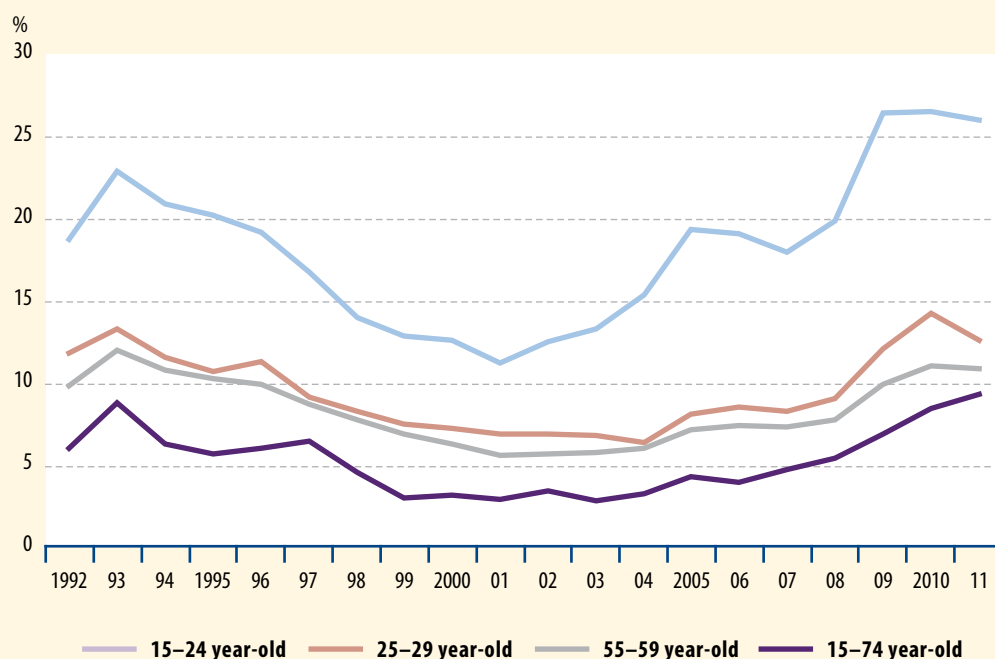
In the long run, unemployment rate is the highest in the youngest age group; it is two or three times as high as in the other age groups.

Details In 2004, both sexes had an unemployment rate of 6.1%. Afterwards, the unemployment rate of women rose at a faster rate than that of men, so the unemployment rate of women exceeded that of men as in the EU in general. Due to the unfolding economic crisis in 2009, men's unemployment rate rose above women's again, but in 2011 the figures began to level off again.

Young people are present in the labour market as unemployed in a larger proportion than elder population. The unemployment rate of persons aged 15–24 and 25–29 exceeded the national average rate all over the examined period. Within this, the rate of persons aged 15–24 was two or two and a half times as high as that. The high unemployment rate of young people is primarily connected to the fact that among them, because of the expansion of higher education, the economically active population (total number of the employed and unemployed) declined significantly. While in the years around 2000 one in three, from 2007 only one in four young persons was present in the labour market, however, they represented the less educated stratum of this age group. Although the number of 15–24 year-old unemployed persons has fallen by almost 50% since 1992, their unemployment rate has showed a rising tendency. In consequence of the economic crisis, one in four economically active persons aged 15–24 was looking for a job in 2009 and since that time their unemployment rate has not decreased below 26%. The narrowing of job opportunities affected not only young people leaving formal education but also those in both age groups who had been employed earlier. As a result of this, the unemployment rate of persons aged 25–29 was 14% in 2010, which was the highest in the observed period within this age group, and it remained around 13% in 2011 as well. In the years preceding retirement age, people have considerably less chances to find a new job, therefore, many of those losing their work – instead of seeking a job – leave the labour market by choosing one of the forms of early retirement. Thus, unemployment rate is lower among them than in younger age groups.

In the observed period, the differences between counties did not essentially change. In 2011, the unemployment rate of the age group 15–74 was the highest in Nógrád (19%), Szabolcs-Szatmár-Bereg (18%) and Borsod-Aba-

Figure 47.3. **Unemployment rate by counties, 2011**

Per cent

	− 8.0
	8.1 − 10.0
	10.1 − 12.0
	12.1 − 14.0
	14.1 −
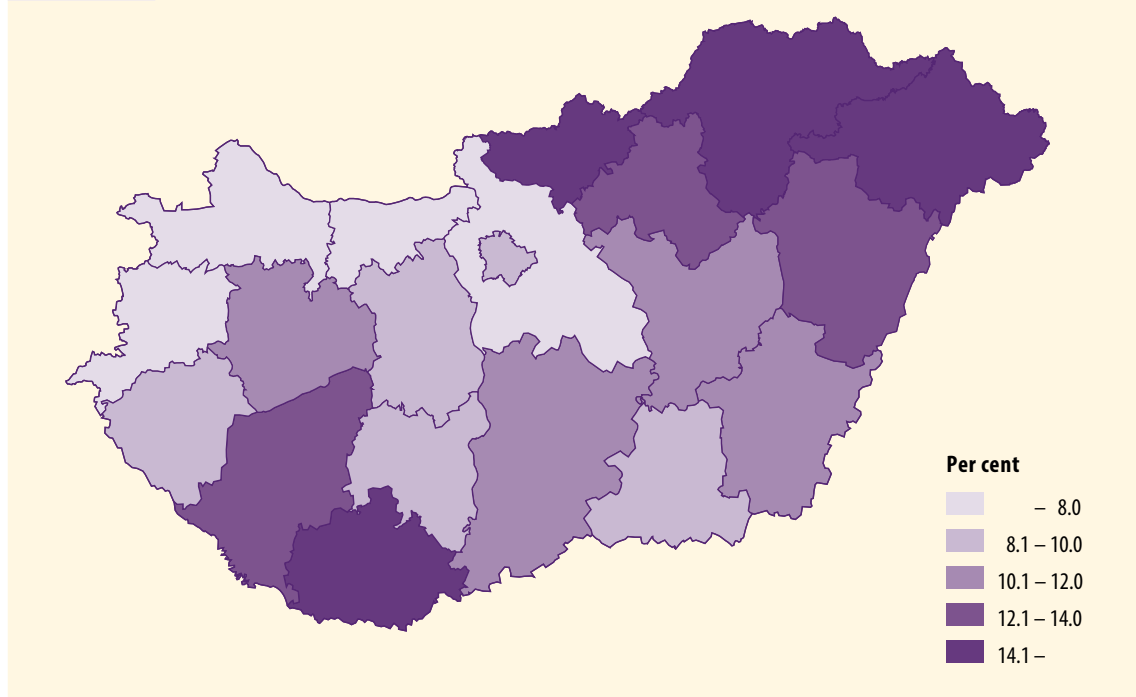
! *Regional discrepancies which can be considered traditional do not diminish in respect of unemployment.*

új-Zemplén (18%) counties and the lowest in Győr-Moson-Sopron (6.3%), Vas (7.1%) and Pest (7.5%) counties.

Definitions

Unemployed persons are those who, during the reference week, neither worked nor had a job from which they were temporarily absent, who were actively seeking work in the four weeks before the reference week, were available for work at the time of the survey, i.e. could start work within two weeks following the reference week if a proper job was found, or who found a job to start later, i.e. within 90 days.

The unemployment rate is the ratio of unemployed persons to the economically active population.

Stadat tables
2.1.11. Number of unemployed persons by age group and sex (1998–2012)
2.1.15. Unemployed persons by length of job-search (1998–2011)
2.1.16. Unemployed persons by highest educational qualification and sex (1998–2012)
2.1.26. Unemployment rate by age group and sex (1998–2012)
6.2.1.11. Unemployment rate (2000–)
7.2.3. Unemployment data of population aged 15–64 (2000–)

Long-term unemployment rate

Keywords **long-term unemployment, unemployment**

SK	67.8
IE	59.4
EE	56.8
BG	56.2
LV	54.6
IT, LT	51.9
EL	49.6
BE	48.3
PT	48.2
DE	48
▶ **HU** ◀	**47.9**
MT	46.1
SI	44.2
▶ **EU-27** ◀	**42.9**
RO	41.9
ES	41.6
FR	41.5
CZ	40.5
PL	37.2
NL, UK	33.5
LU	28.8
AT	25.9
DK	24.4
FI	22.2
CY	20.9
SE	18.6

Long-term unemployment rate in the population aged 15–74 in the European Union, 2011, %

Figure 48.1. **Long-term unemployment rate by sex**

Legend: Hungary – men, Hungary – women, EU-27 – men, EU-27 – women
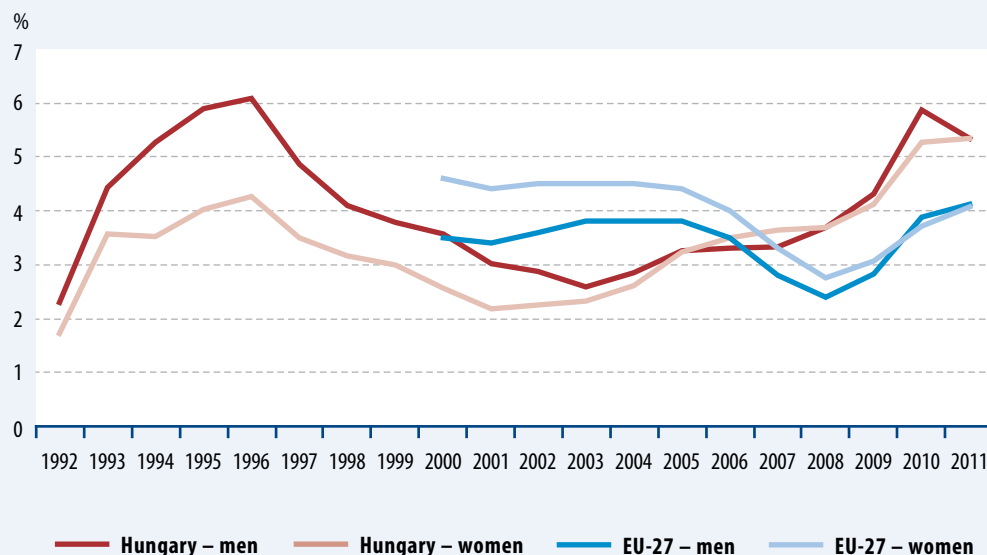
Source: Eurostat.

! *Long-term unemployment rate has been higher than the EU average since 2007.*

Relevance In addition to promoting the inclusion of disadvantaged social groups and regions, the improvement of employment stimulates economic growth, improves the balance of the state budget and stabilizes financing the social provision systems. In parallel with the rise of the duration of unemployment, the chances of getting a job worsen, while the risk of poverty and exclusion increases.

Commentary The long-term unemployment rate showed an increasing tendency until 1996 (5.3%), then a slow decline followed until 2003 (2.5%). After 2003, the long-term unemployment rates of men and women have been approximately the same. Due to the economic crisis, not only the number of unemployed grew rapidly, but also the time period spent on job seeking increased significantly. Accordingly, in 2009 the rate reached 4.2% that was 0.7% higher than in 2007, the last year before the crisis, while it increased to 5.6% by 2010 and remained above 5% in 2011 as well.

International outlook After 2007, the Hungarian long-term unemployment rate exceeded the EU average every year. In 2009, the men's rate was higher by 1.5 percentage points than the EU-27 average, and for women it was higher by 1 percentage point. The increase continued in Hungary as well as in the EU, but in 2011 a slight decrease occurred in Hungary, while the rate further deteriorated in the European Union,

Definition Long-term unemployed are unemployed persons who have been actively seeking work for at least 12 months. The indicator is defined as the ratio of long-term unemployed persons to the economically active population.

Stadat tables
2.1.15. Unemployed persons by the length of job search (1998–)

Average age at the time of leaving the labour market

Keywords **leaving the labour market, pension, old-age pension, disability pension, rehabilitation annuity**

Figure 49.1. **Average age of retirement by sex according to age at the time of the declaration of pension (old-age and old-age-type pension)**
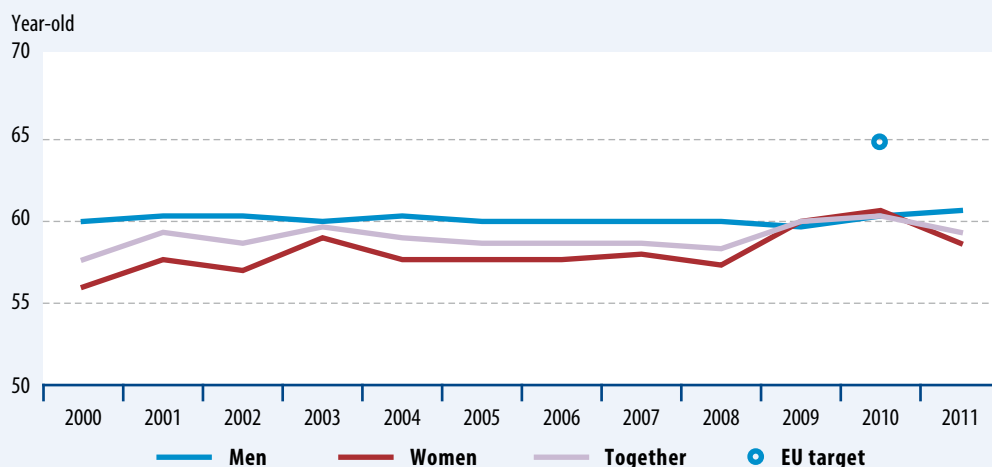
Source: Central Administration of National Pension Insurance.

! *In 2011, the retirement age centre of men continued to increase year-on-year, while it relatively fell in case of women due to the introduction of the opportunity to retire after 40 years service time.*

Relevance In the interest of minimizing pension burdens, efforts should be made for the population of working age to continue to work longer. Accordingly, the prolongation of the retirement age to 65 years was among the objectives of the European Union for 2010.

Commentary As the early retirement age of women rose from 57 to 59 years in 2009, no age group reached the early retirement age in 2010. The number of old-age and old-age-type pensioners among women continued to decrease. The retirement age centre of women increased and reached 60.7 years, which was, similarly to the previous year, higher than that of men (60.2 years).

In 2011, a new form of old-age retirement became possible for women. They may retire after a long, at least 40 year-long period of work. The 40 years refer to the so-called entitlement time. Only the periods of wage earning activities and those of receiving child care provisions are taken into account in the entitlement time; years of full-time tertiary education, periods of receiving unemployment benefits and other periods being otherwise part of service time, are excluded. The new form of retirement provides an opportunity for early retirement first of all for women who started wage earning activity after they had finished primary or secondary education.

In 2011, the old-age and old-age-type retirement age centre of women was 58.5 years, more than 2 years lower than in 2010. Within this, the age centre of women retiring on the basis of 40 years entitlement time was 57.6 years, while the age centre was 60.0 years in case other old-age and old-age-type provisions. This latter one also decreased compared to the figure in 2010 (60.7 years), since early retirement became possible at the age of 59 years for those born in 1952. The old-age retirement age centre of men was 60.4 years, 0.2 year higher than a year earlier.

Details In 2010 and 2011, a slow gradual decrease could be observed in the disability and accident-related disability retirement age centre of both sexes compared to 2009. An opposite trend prevailed in case of rehabilitation annuity, where the average age at the time of annuity award increased from 44–45 years in the year of its introduction to 47–48 years.

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 in large numbers, i.e. on retirement.

Gender pay gap

Keywords **female-male wage ratio, average earning, average hourly wage**

CZ	25.5
DE	23.1
CY	21.0
SK	20.7
UK	19.5
FI	19.4
NL	18.5
▶ LV, **HU**	**17.6** ◀
ES	16.7
▶ **EU-27**	**16.4** ◀
DK, FR	16.0
SE	15.8
BG	15.7
LT	14.6
PT	12.8
IE	12.6
RO	12.5
LU	12.0
BE	8.6
MT	6.1
IT	5.5
PL	5.3
SI	4.4

◀ **Gender pay gap in the European Union, 2010,** %

Figure 50.1. **Gender pay gap calculated on the basis of full-timers' monthly wages**
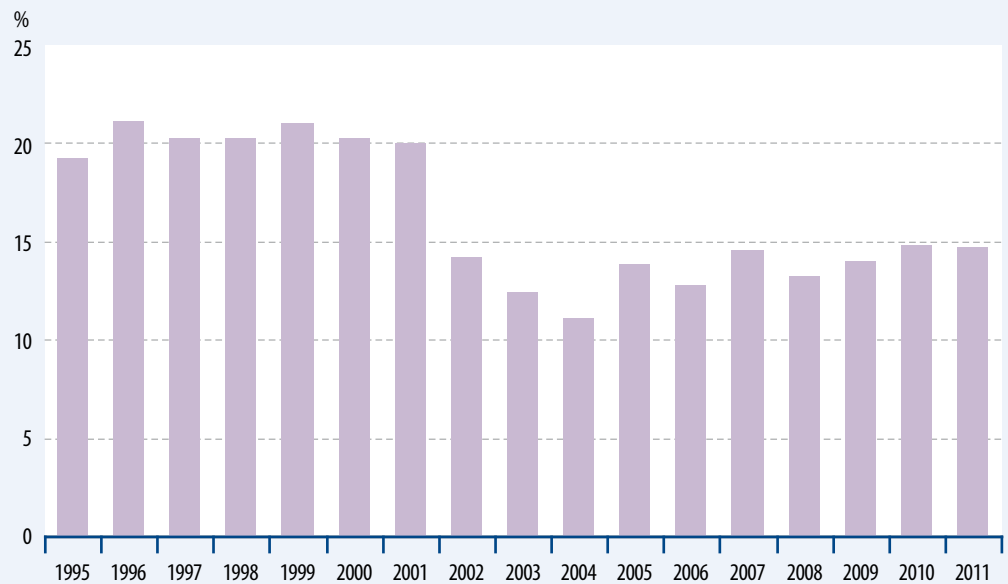
Source: National Employment Office (NEO).

! *In the past one and a half decades, gender pay gap practically decreased with some fluctuations.*

Relevance Indicators measuring the difference between male and female earnings are important from the point of view of equal opportunity. The principle of "equal wage for equal job" is not only enforced by the Hungarian labour and equality laws, but it is a requirement of the European Union as well.

Commentary Since 1995, gender pay gap has been essentially decreasing with some fluctuations. Various reasons can be adduced for wage difference between men and women, and only a part of them derives from discrimination. There are no 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 Hungarian practice, the percentage difference calculated on the basis of monthly gross earnings of full-time employees is the most wide-spread. Its extent depends on in which economic section the male and female employees are working, since the job structure of NACE sections are considerably different. The evaluation of individual occupations in the labour market is different. Gender pay gap is the smallest in agriculture, public administration and accommodation and food service activities, while it is the largest in manufacturing and financial and insurance activities. Some 43% of female employees work in 15 occupations, while this rate is 34% among men. The level of education of employees also strongly influences wage levels, though the distribution of female employees by educational attainment does not differ from that of male employees. At the same time, the specialization of qualification, correlating well with the occupation is considerably different in case of the two sexes, thus, there are large differences by occupations, and the highest pay gap can be observed among managers and

professionals. This difference is mainly caused by the fact that women work in jobs which require less responsibility, less qualification, do not require long work experience and no extra requirements are set up by the employer. In Hungary, an important factor of wages is whether an employee works for the business sector or in a budgetary institution. The budgetary sector is characterised by the predomination of female employment, two thirds of employees are there females. In the 6 percentage points fall of GPG in 2002, the one-time wage supplement of civil servants and public employees paid in the second half of 2001 played an important role, because it affected more female employees than males working mainly in the business sector. 2008 was the last year when basic salary rose and 13th month salary was paid, which later increased the gender pay gap. Thus, the pay advantage of men became 15% in 2010 and 2011 in corporations employing at least 5 persons and budgetary institutions. Gross earnings of women working at smaller corporations are much closer to those of men than at larger corporations.

International outlook Since 2008, gender pay gap has been measured on a new basis in the European Union. Since that time, each country has measured the differences in hourly wages; therefore, it has become possible to take into account earnings of part-time employees as well. At the same time, non-regular elements are not included in earnings, so gender differences in extra work or premiums do not bias the indicator.

Details The new indicator has been available since 2008, and the reference year of the most recent data is 2010. Except for the economic sections of agriculture and public administration, it refers to economic units of the national economy employing at least 10 persons. In Hungary, the hourly pay advantage of men changed only by some tenths in the last three years (2008: 18%, 2009: 17%, 2010: 18%). Among EU member states, Hungary is in the middle-rank, and the EU average is lower than the level in Hungary.

Definitions

The gender pay gap shows the percentage difference between the average gross monthly earnings of full-time female and male employees.

Gender pay gap (GPG) in the European Union: the percentage difference between regular average earnings of men and women in organizations with more than 10 employees of the national economy except for the sections agriculture and public administration.

At-risk-of-poverty rate

Keywords **at-risk-of-poverty rate, at-risk-of-poverty threshold, persistent poverty**

LV	21.3
RO	21.1
BG, ES	20.7
LT	20.2
EL	20.1
IT	18.2
PT	17.9
PL	17.6
UK	17.1
▶ EU-27 ◀	**16.4**
IE	16.1
EE	15.8
DE	15.6
CY	15.3
MT	15
BE	14.6
LU	14.5
DK, FR	13.3
FI	13.1
SE	12.9
SI	12.7
▶ HU ◀	**12.3**
AT	12.1
SK	12
NL	10.3
CZ	9

At-risk-of-poverty rate in the European Union, 2010, %

Figure 51.1. **At-risk-of-poverty rate**
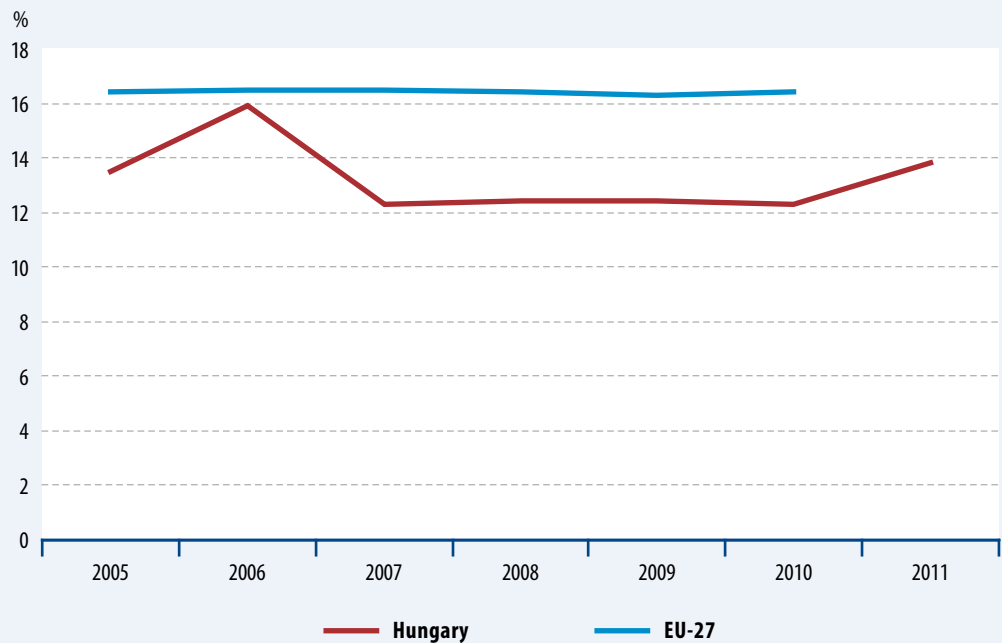
Source: Eurostat.

> **!** *At-risk-of-poverty rate increased considerably, by 1.5 percentage points between 2010 and 2011.*

Relevance A sustainability goal is to provide a social minimum that is accessible for all, to create equal opportunities to access resources, goods, rights, and services in order to avoid marginalisation and social exclusion, as well as to manage an integrated approach to reduce social disadvantages such as poverty, low education levels, cultural exclusion, unemployment and disability, instead of the currently applied approach of addressing problems in sub-systems. Eradication of poverty is a priority in the document of the Europe 2020 strategy as well. It is especially important to direct attention to the income position of social groups at risk (unemployed, poor, disabled, sick, old, Roma, etc. people), since poverty and risk of poverty is more significant among them than in other social groups.

Commentary At-risk-of-poverty rate on country level is more favourable in Hungary than the EU average. The gender difference is smaller in Hungary than the EU average and shows a reverse trend: in our country women, while in the majority of the EU-27 countries men are in better income position. However, taking into consideration that average income level is much lower in Hungary than in most EU member states, this does not mean an advantage in absolute terms. In 2010, persistent at-risk-of-poverty was 5.7%, about half of the cross-sectional at-risk-of-poverty rate.

International outlook In 2010, 16.4 % of the population of EU, about 80 million people, lived under the poverty threshold defined by relative income concept. The at-risk-of poverty rate was quite stable; the EU average fluctuated between 16 and 17% between 2005 and 2010, and this was characteristic of the majority of member states. In 2010, the at-risk-of-poverty rate was higher than 20% in six member states

Figure 51.2. **Persistent at-risk-of-poverty rate**

Source: Eurostat.

! *As opposed to the EU average, the persistent at-risk-of-poverty rate in Hungary decreased year-on-year in 2010.*

such as Latvia (21.3%), Romania (21.1%), Spain and Bulgaria (21 – 21%), Lithuania (20%), and Greece (20%), while the rate was the lowest in the Czech Republic (9%) and the Netherlands (10%). The Hungarian data (12%) was between the Austrian (12%) and the Slovenian (13%) ones, and it was the 21st place in the rank of the 25 member states supplying data that year.

The at-risk-of-poverty rate for children was 21% on the EU average, and it was higher than the rate for the total population in 23 member states. Exceptions were Denmark, Finland and Slovenia, where the at-risk-of-poverty rate for children was between 11% and 13%. The relative income position of children was worsened by the prolonged economic crisis. The at-risk-of-poverty rate for children varied on a wide scale from the 11% in Denmark to the 31% in Romania. The rate in Hungary (20%) was in the middle rank, the same as in the United Kingdom and it was followed by the rate in Malta.

On EU level, the at-risk-of-poverty rate for elderly was lower than the rate for the total

population. The rate was the lowest in Hungary (4.1%), the Netherlands and Luxembourg (5.9%-5.9%).

Details In Hungary, persistent at-risk-of-poverty rate was calculated for three periods (2005–2008, 2006–2009, 2007–2010) so far. This was of course lower than the cross-sectional rate of the given year, 7.7% in 2008, 8.6% in 2009 and 5.7% in 2010. Within the relatively low at-risk-of-poverty rate of the elderly, the persistent at-risk-of-poverty rate is gradually decreasing; in 2010, out of 10 elderly people at-risk-of-poverty, only 3 belonged to the group being persistently at-risk-of-poverty.

Definitions

At-risk-of-poverty rate shows the proportion of persons living in households with income of less than 60% of the median equivalised disposable income in the total population.

At-risk-of-poverty threshold is 60% of the median equivalised income in national currency,

| Figure 51.3. | **At-risk-of-poverty rate by age groups** |
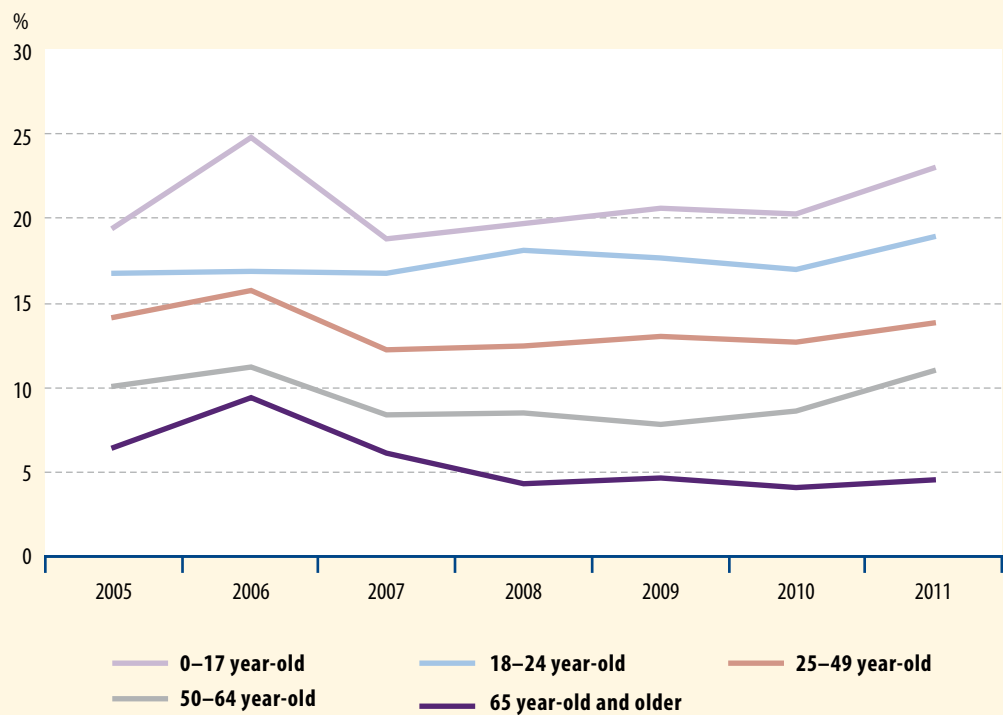
Source: Eurostat.

> **!** *Those under the age of 18 are endangered the most: in addition to the fact that at-risk-of-poverty is the highest in this age group, their position has deteriorated the most (by 3.5 percentage points) since 2005.*

in Euro and in purchasing parity standard (PPS), as an illustrative value for single households and households with 2 adults and 2 children.

Persistent at-risk-of-poverty rate shows the proportion of people living in households with income of less than 60% of the median equivalised income in year n, and in at least 2 of the years n-1 and n-2 and n-3.

At-risk-of-poverty rate by age groups shows the proportion of people in different age groups living under the poverty threshold, and so the position of the different age groups is comparable.

Relative at-risk-of-poverty rate

Keywords at-risk-of-poverty rate, poverty threshold, relative at-risk-of-poverty rate

Figure 52.1. **Relative at-risk-of-poverty rate** (Total population=1.0)
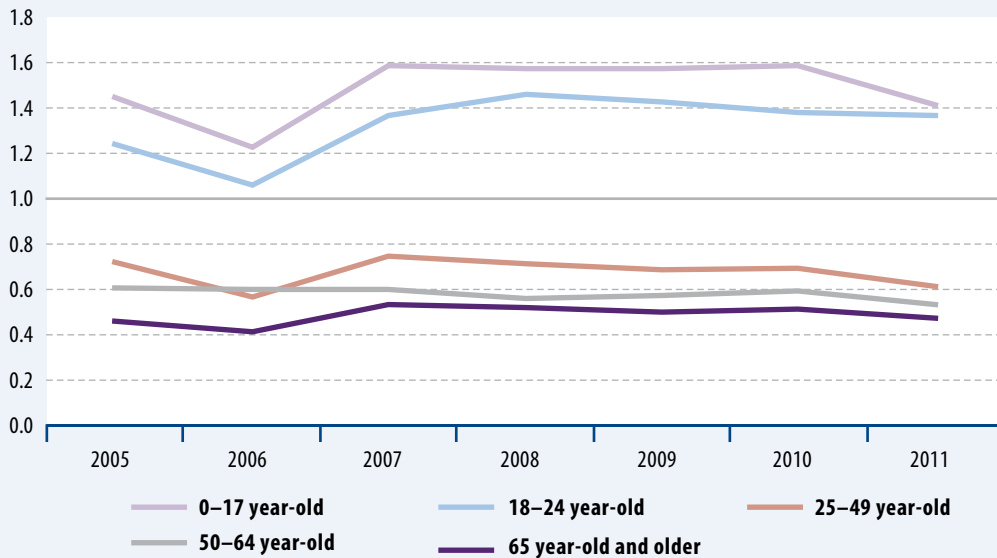
Source: Eurostat.

! *The relative at-risk-of-poverty rate of children and young adults is above, while that of older age groups is below the average.*

Relevance The proportion of children among the poor is higher and higher, while at-risk-of-poverty rate is usually decreasing with age. Child poverty hinders not only meeting needs but also social relationships, and limits the possibilities for decision making important in respect of the future (e.g. education), which increases the probability of social exclusion in adulthood.

Commentary When studying poverty by age group, it can be clearly stated that in parallel with age at-risk-of-poverty and relative at-risk-of-poverty rates are gradually declining. The relative position of each age group is stable, but there was a further restructuring in 2011, first all to the detriment of children. The at-risk-of-poverty rate of children aged 0–17 years increased to 23.0% in 2011 compared to 20.3% in 2010. The position of older but still active age population aged 50-64 worsened, although relative at-risk-of-poverty in this age group was even so below the average (four fifths of the average). The relative at-risk-of-poverty rate was higher than the average only for children aged 0-17 (1.67) and young adults aged 18-24 (1.37). The relative position of people older than

65 years has not changed; the relative at-risk-of-poverty rate of this age group was one third of the national average. The advantage of men within the total population diminished. Both the relative deterioration of the position of men and the slight improvement in the relative position of women played a role in this.

International outlook In 2010, the EU average of at-risk-of-poverty rate of children under 18 years of age was 21%, which was about the same as the average in Hungary (20%). The rate was the highest in Romania, Bulgaria, Latvia, Spain, Italy and Greece, while the lowest in Denmark, Finland and Slovenia.

Definition The relative at-risk-of-poverty rate is the proportion of people living in poverty in a certain age group compared to the national average. If the value is higher than 1, it indicates that the risk of getting below the poverty threshold will be higher than the average, while the value lower than 1 indicates that the risk will be lower than the average.

At-risk-of-poverty rate of children under 18 years of age in the European Union, 2010, %

RO	31.3
BG	26.8
LV	26.6
ES	26.2
IT	24.7
LT	23.3
EL	23
PL	22.5
PT	22.4
LU	21.4
EU-27	20.5
HU, UK	20.3
MT	19.9
IE	19.7
SK	18.8
BE	18.3
FR	17.9
DE	17.5
EE	17.3
CZ, AT	14.3
NL	13.7
SE	13.1
CY	12.8
SI	12.6
FI	11.4
DK	10.9
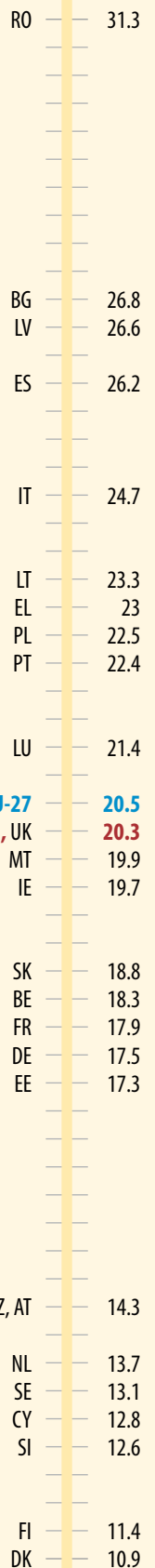
Inequality of income distribution

Keywords **income distribution**

ES	6.8
LV	6.6
RO	6.2
BG	6.1
EL	6.0
LT	5.8
PT	5.7
IT	5.6
EE, IE,[a] UK	5.3
EU-27, PL	**5.0** ◄
FR	4.6
DE	4.5
DK	4.4
CY	4.3
MT	4.1
LU	4.0
► BE, **HU**	**3.9** ◄
NL, AT, SK	3.8
FI	3.7
SE	3.6
CZ, SI	3.5

Figure 53.1.   Inequality of income distribution
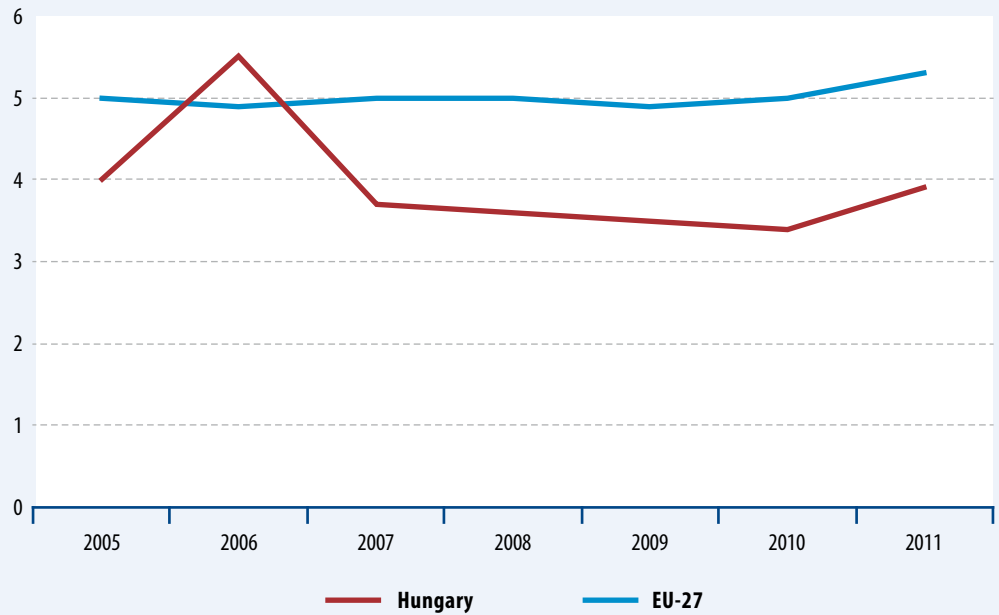
Source: Eurostat.

> **!** *Income inequality in Hungary is below the EU average, but, as opposed to the decrease earlier, it increased between 2010 and 2011.*

Relevance Inequality of income distribution has a negative effect on social cohesion, and it appears in several dimensions at the same time. Inequality is observed in the geographical space, between the regional units of the country, by settlement types, as well as by educational attainment and sometimes by sex. To overcome this is an important element of the social aspect of sustainability. The quotient of the income of the top income quintile and that of the lowest income quintile is an important indicator of social inequalities which is known as S80/S20.

Commentary Income inequality in Hungary decreased below 4 in the former years except for 2005 and 2006. From 2010 to 2011, the indicator approached again 4 (3.9), however, this value was still lower than the EU average, which has been considerably higher than the Hungarian average every year since 2008.

International outlook The international comparison of inequality of income distribution shows that in the European Union, inequality was the lowest in the Czech Republic and Slovenia (3.5–3.5) in 2011. On the other hand, inequality was the highest in Spain (6.8%), Latvia (6.6%) and Romania (6.2). In Hungary, inequality is moderate compared to the values in the EU member states.

Definition The indicator of inequality of income distribution is the quotient of the equivalised income of the top income quintile and that of the lowest income quintile. The higher value indicates larger inequalities.
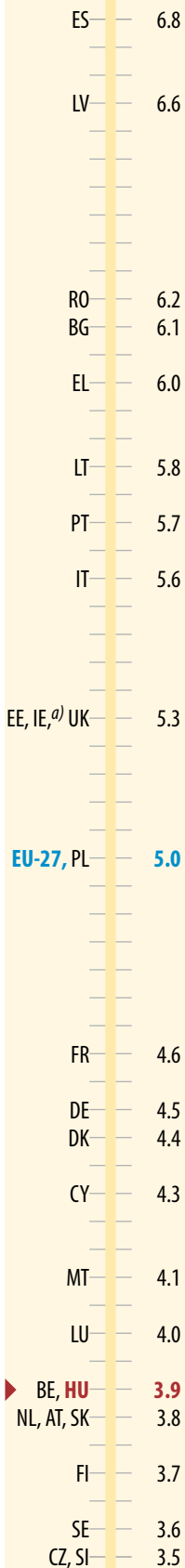
a) 2010.   ◄

Inequality of income distribution in the European Union, 2011

Rate of persons living in jobless households

Keywords **jobless households, employment**

| Figure 54.1. | **Persons living in jobless households by age groups** |

Legend:
- Hungary – 0–17 year-old
- Hungary – 18–59 year-old
- EU-27 – 0–17 year-old
- EU-27 – 18–59 year-old
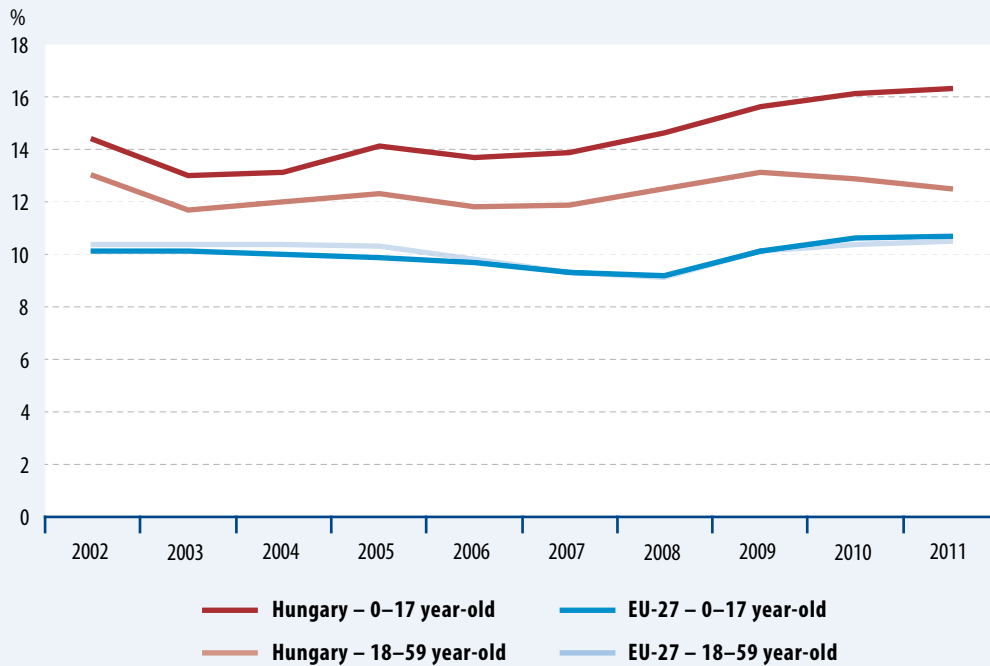
Source: Eurostat.

! *In Hungary, the proportion of jobless households exceeds the European Union average.*

Relevance The priorities of sustainability include social cohesion and improvement of employment. The life chances of people living in jobless households are worse and the risk of exclusion is greater. In such small communities, the transmission of disadvantages and the reproduction of poverty are more likely.

Commentary In the examined period, more than one tenth of persons aged 0–59 lived in households without employed, namely where the source of living did not derive from work. Among children aged less than 18 years, this rate was by some percentage points (already 3 percentage points in 2011) higher than among persons aged 18–59. This shows that in jobless households usually more than one child are jeopardized by the potential transmission of unemployment or inactivity.

International outlook In Hungary, the proportion of persons living in jobless households exceeded the European Union average in the whole period. Furthermore, the differences between the rates showed an upward trend. In Hungary, the ratio of persons living in jobless households has continuously increased from 2006, while EU average figures, after a decline and stagnation, have also begun to increase since 2009. Since the growth among children aged 0-17 was larger than among adult population aged 18-59, the difference compared to the EU average showed a decreasing tendency in the latter group, while in case of children it grew further, and in 2011 the difference reached 5.6 percentage points. This trend clearly shows that households with children are more and more exposed to labour market disadvantages in Hungary.

Rate of persons living in jobless households in the European Union, 2011, % ▶

IE	20.2
UK	17.3
BG	17.0
▶ **HU**	**16.3** ◀
LT	12.9
BE	12.5
RO	12.1
ES	11.9
LV	10.9
▶ **EU-27**	**10.7** ◀
FR	9.9
SK	9.6
EL	9.2
EE	9.0
DE	8.8
PL	8.7
MT, SE	8.4
IT	8.3
DK	8.2
PT	7.8
CZ	7.2
CY	5.8
NL	5.3
AT	5.0
FI	4.9
LU	4.8
SI	4.0
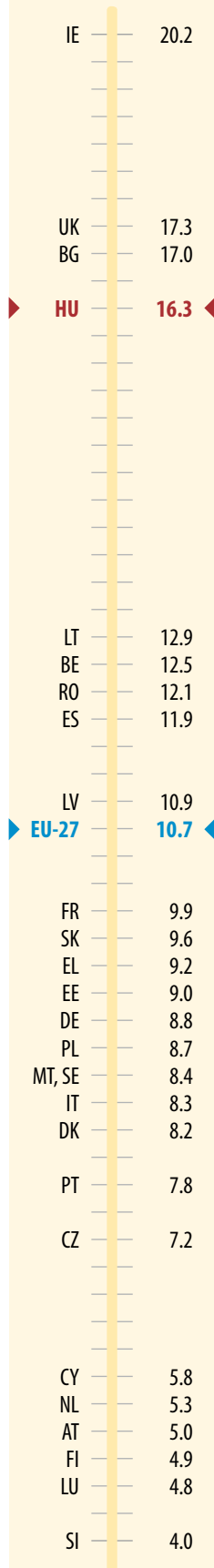
Figure 54.2.   **18–59 year-old persons living in jobless households**

%

```
16

14

12

10

8

6

4

2

0
    2003   2004   2005   2006   2007   2008   2009   2010   2011
```

— **Hungary – men**   — **Hungary – women**   — **EU-27 – men**   — **EU-27 – women**
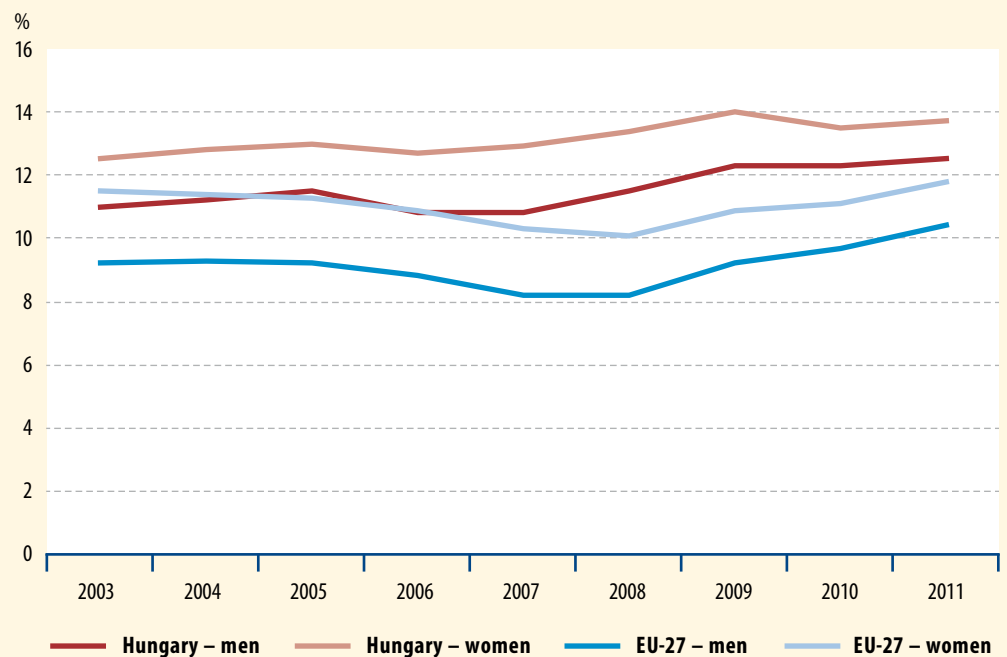
Source: Eurostat.

! *The proportion of women living in jobless households is slightly higher than that of men.*

Details The rate is 1 to 2 percentage points higher for women than for men. Single women of working age choose or are pressed to choose – even if for a short period – to live not from wage or salary, but from childcare or other social benefits.

Definition The indicator of population living in jobless households shows the proportion of those living in households where no one works (i.e. each member of the household is economically inactive or unemployed) within the given population group.

Gross debt-to-income ratio of households

Keywords **gross debt-to-income ratio of households, income, loan**

| Figure 55.1. | **Gross debt-to-income ratio of households** |
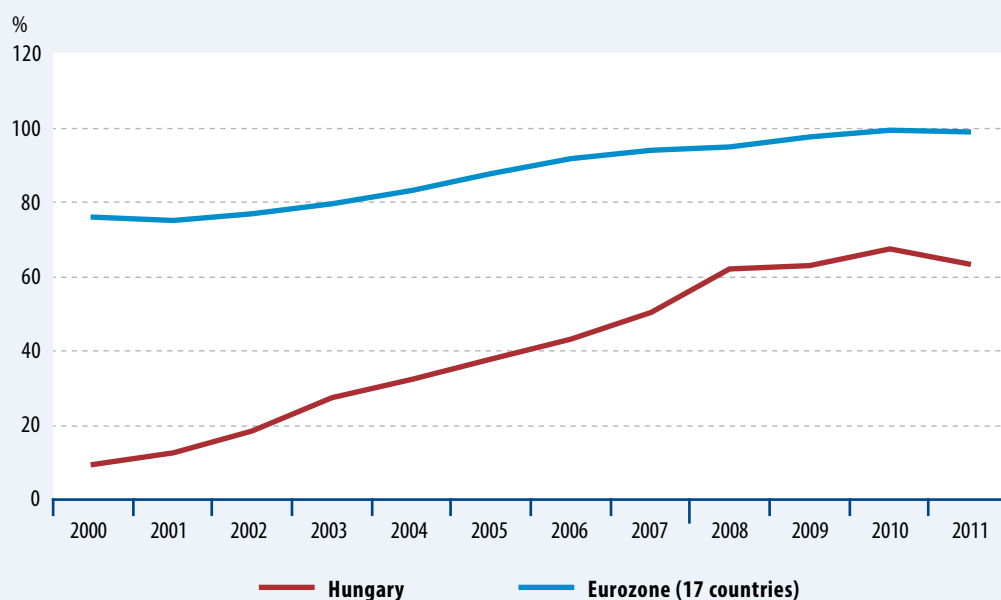
Source: Eurostat.

! *The gross debt-to-income ratio of households continuously increased between 2000 and 2010, while in 2011 it slightly fell.*

Relevance Similarly to the international trends, the gross debt-to-income ratio of households is increasing in Hungary as well. Experiences and surveys show that households do not have proper financial expertise: they are not able to judge their own risk management capability and the possible advantages or disadvantages of certain financial services. Indebtedness in foreign currency is a serious problem, and helping responsible decision makings is the joint responsibility of the people, the banks and the government.

Commentary Since 2000, the gross debt-to-income ratio of households has been increasing in Hungary, and the highest value (69%) was registered in 2010. The debt-to-income ratio of households increased continuously, i.e. households had more and more loans compared to their income. The pace of growth in the loan stock was very changeable.

International outlook In 2011, the average debt-to-income ratio of the 17 Eurozone countries was 36 percentage points higher than in

Hungary. Since 2000, the trend there has been similar to the one in Hungary, but the rate of increase is more moderate there. In 2011, the ratio was the highest in Denmark (267%) and the lowest in Lithuania (41%).

Definition Gross debt-to-income ratio of households shows the percentage of average gross loans in the households' disposable income – completed with the adjustment for the change in the net equity of households in pension funds reserves – in a given period.

DK, NL	267.3
IE	206.4
SE	148.8
UK	139.2
PT	125.5
ES	125.4
FI	104.1
AT	88.7
BE	88.3
DE	86.3
FR	82.9
LV	66.1
IT	65.2
▶ HU	63.4 ◀
CZ	55.9
SI	46.6
SK	42.3
LT	40.8

Gross debt-to-income ratio of households in the European Union, 2011, %

Proportion of flats with no bathroom

Figure 56.1.   **Proportion of flats with no bathroom**
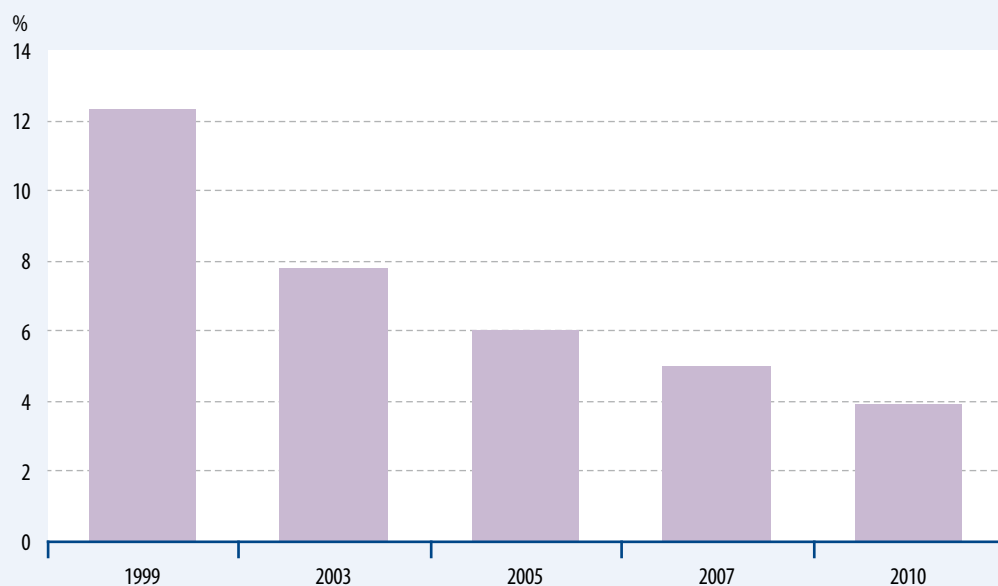
> ! *The proportion of flats with no bathroom continues to decrease.*

Relevance The lack of bathroom facilities refers to a number of deficiencies in housing facilities and quality in itself, thus beyond its direct meaning it reflects a general trend in housing conditions. Therefore this indicator can be used to monitor the social inequalities in housing conditions by income quintiles.

Commentary The proportion of flats with no bathroom was 12% in 1999 and since then has continued to decrease. In 2010, only 4% of flats had no bathroom. The indicator shows significant discrepancies by both income quintile and regional unit.

Details In 1999, the proportion of flats with no bathroom was double the average in the lowest income quintile of households with a proportion of 24% and 7-fold higher than in the fifth income quintal (3.3%). Since that time, this proportion has decreased in each income category. However, the rate of decrease was the lowest in households in the worst income situation, where the proportion of flats with no bathroom was still 11% in 2010.

Of the regions, this indicator was below 3% in Western Transdanubia, Central Hungary and Central Transdanubia and above 6% in Northern Great Plain and Northern Hungary in 2010.

Definition Households are divided into quintiles based on the combined net income of household members. Flats with a shower-room are regarded as having a bathroom.

Figure 56.2. **Proportion of flats with no bathroom by household income quintile**

| Income quintile 1 | Income quintile 2 | Income quintile 3 | Income quintile 4 | Income quintile 5 |
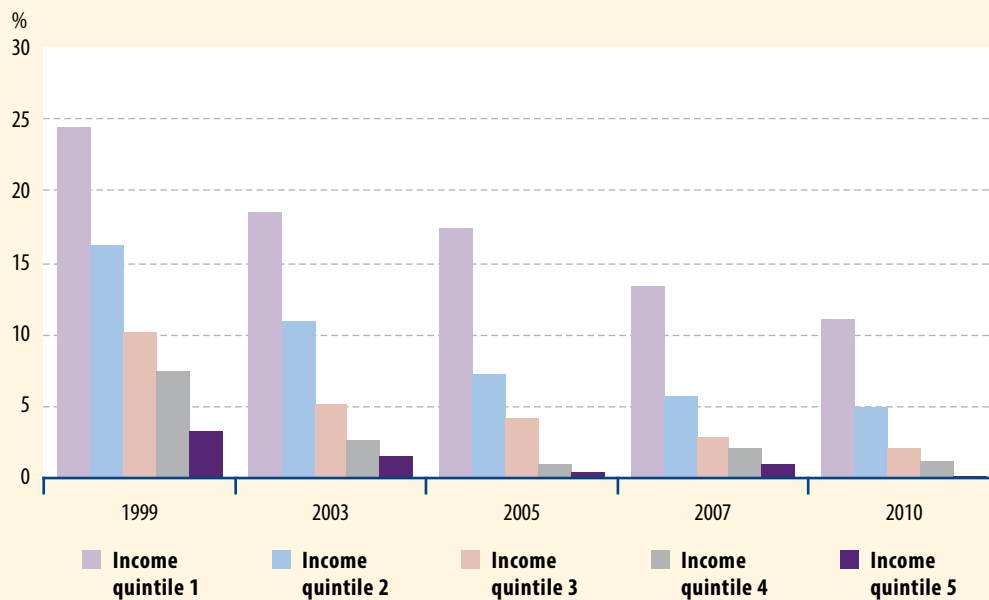
> ! *There is a strong negative correlation between the proportion of flats with no bathroom and household incomes.*

Figure 56.3. **Proportion of flats with no bathroom by region**
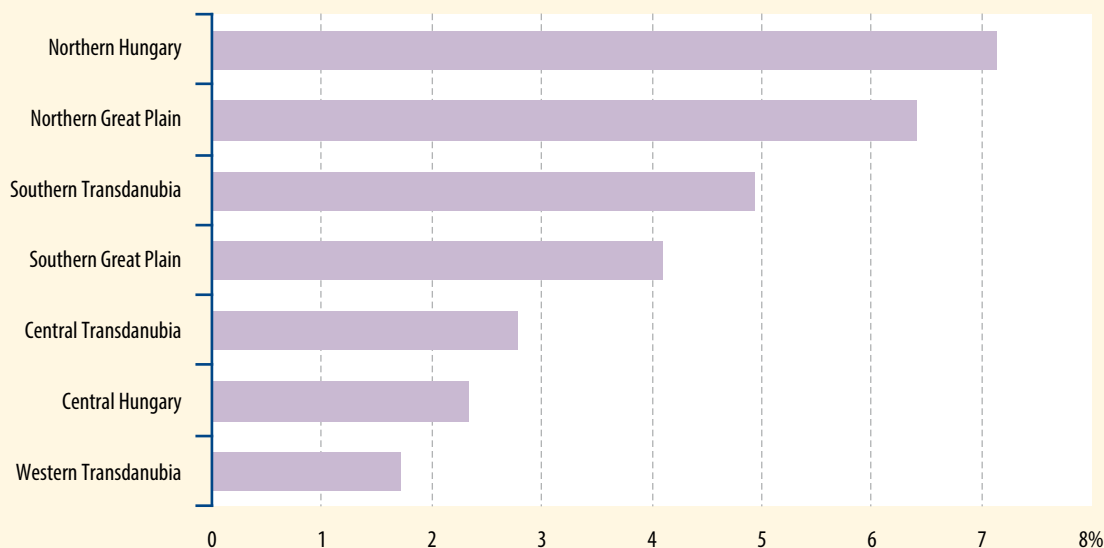
> ! *A four-fold difference was seen between the best and the worst regions.*

Structure of consumption

Keywords **consumption structure, consumption, household expenses**

Figure 57.1.	**Distribution of per capita consumption expenses**

2000

29%
4%
6%
18%
5%
4%
11%
5%
7%
0.4%
3%
8%

2010

23%
3%
4%
25%
4%
5%
11%
6%
8%
1%
4%
6%

- **Foods and non-alcoholic beverages**
- **Alcoholic beverages and tobacco products**
- **Clothing and footwear**
- **Housing services, water, electricity, gas and other fuel**
- **Interior furnishings, housing equipment, regular housing maintenance**
- **Health care**
- **Transport and freight services**
- **Telecommunication**
- **Recreation and culture**
- **Education**
- **Catering and accommodation services**
- **Other products and services**

> **!** *Between 2000 and 2010, households significantly increased their spending on housing services, water, electricity, gas and other fuels.*

Relevance The purpose of the consumption structure indicator is to show household expenses and, indirectly, the quality of life of households. With the help of this indicator it can be assessed what proportion of household incomes goes on buying basic, subsistence goods and services and what proportion on so called welfare activities like recreation and intellectual development.

Commentary The economic crisis had a significant impact on the structure of household consumption. Declining real incomes, labour market exclusion, rising loan and living costs resulted in a fall in household spending and a rise in the share of cheaper food products.

Households still spent the most on home maintenance and household energy as well as on food and non-alcoholic beverages. Notwithstand-

ing there was a distributional shift in their spending: in 2010, more money was spent on home maintenance than on foods. While the proportion of money spent on food fell from 29% in 2000 to only 23% in 2010, the respective figures for home maintenance were 19% and 25%. Nationally, these two main expenditure groups as a whole accounted for nearly half of the personal spending (HUF 785 thousand) in 2010.

In 2010, electricity, gas and other fuels accounted for two thirds of the home maintenance spending (HUF 125 thousand), no significant change year-on-year at constant prices. Energy prices continued to rise though at a declining rate, which was still higher than the consumer price index: energy prices increased by 8.2% in 2009 and by 6.3% in 2010.

In 2010, the household spending on food per capita was HUF 160 thousand, a 1.8% fall year-

on-year at constant prices. Though the fall in the volume of consumption was smaller than in 2009, households continued to restrict their food consumption as a consequence of the economic downturn. The squeeze on household incomes was reflected in how the structure of food consumption changed: there was a rise in cereal and especially in bread consumption and a fall in vegetable and fruit consumption.

Transport and freight services as a whole were the households' third biggest spend area: in 2010, HUF 85 thousand were spent on these services, 14% less than in 2009 at constant prices. Within this car purchases increased by

a real 9.0% mainly as a result of a rise in car loan costs. Approximately 20% less was spent on car maintenance and transport services. Because of the high fuel prices there was a fall in car use with a 28% slump in fuel spend. Fixed line passenger transport played a main role in local and long-distance transport resulting in a very significant, inflation adjusted spending slump of 33% in road passenger transport compared with 2009.

Definition Consumption structure: This indicator gives detailed information on the distribution of the per capita consumption expenditure.

Stadat tables
2.2.4. Annual per capita expenditure by COICOP (2000–)

Nutrient and food consumption

Keywords **nutrient consumption, energy, protein, fat, and carbohydrate intake, food consumption**

Figure 58.1. **Trend and structure of the daily energy intake per capita**
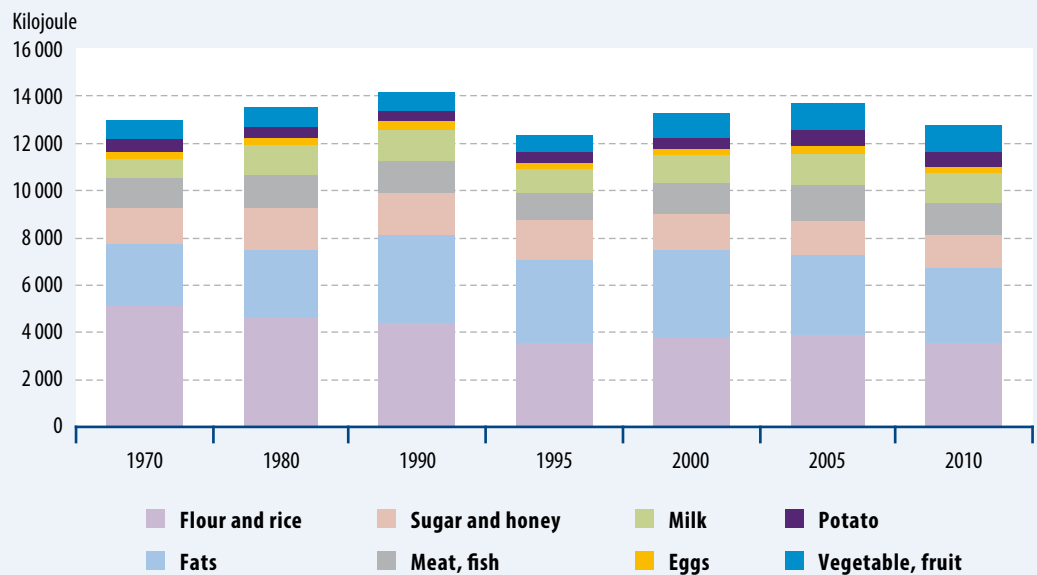
> ! *The volume of energy intake peaked in 1990.*

Relevance The nutrient and food consumption of households is one of the most important living-standard indicators. One of the dimensions of the observation is the change in the proportion of food within all expenses; the other is the change in the structure of consumption (food consumption at home from purchases or from own production) as well as it is important to map changes in quantitative indicators.

Commentary Since 1970, the daily calorie intake in Hungary has varied between 12,000 and 14,000 kilojoules hitting a high of over 14,000 kilojoules in the second half of the 1980s. The energy intake increased by around 10% between 1970 and 1990 as a whole, then fell by 13% in the five years after the regime change (12,350 kilojoules), which was followed by a slightly uneven rise between 1995 and 2005 (by 11%) and by a slight decline between 2005 and 2010 (7%).

Details In 2010, daily calorie intake stood at the level of the mid-1990s of 12,750 kilojoules, which was 17% higher than the recommended

level (10 886 kilojoules/capita/day). There was no significant dietary change despite a fall in cereal, sugar and fat consumption and a slight rise in vegetable and fruit consumption. Of total energy intake, more than half was from, cereals and fats, nearly 25% from animal products (meat, fish, milk, eggs), 10% from sugar and honey and 14% from low-calorie vegetable and fruits including potato.

The last 40 years, except for the period between 1995 and 2005, showed a clear fall in the carbohydrate consumption. The volume of daily per capita fat consumption (136 gram) was nearly 20% higher in 2010 than in 1970, but it fell by 10% between 1990 and 2010 and by 6% during the last five years. In fat consumption, vegetable oils were preferred to animal fats. Between 1990 and 2010, the proportion of vegetable oils in fat consumption increased from 30% to 60%. The daily protein intake rose by 20% between 1995 and 2005 and fell by 9% to 96 gram between 2005 and 2010. In 2010, based on the physiological recommendations, the daily carbohydrate intake (363 gram) was at the optimal level, however, the daily protein and fat consumption

Figure 58.2. **Annual average volume of food consumption per capita**

Kilogrammes

Legend:
- Meat, fish
- Bread and bakery
- Milk
- Vegetable
- Fruit
- Potato
- Fats
- Flour and semolina
- Sugar
- Eggs
- Cheese
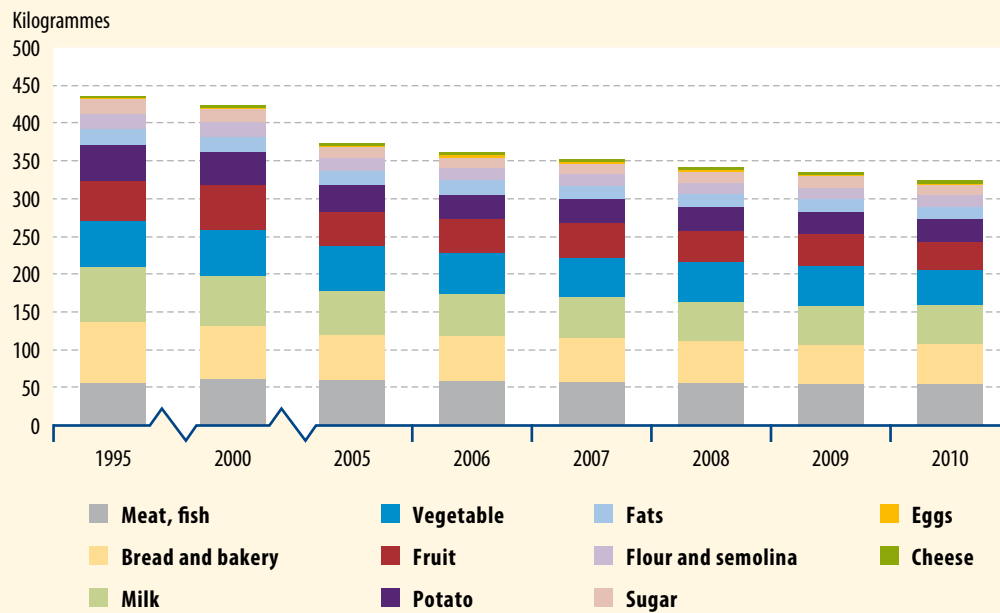
! *Since 2000, with the exception of some food items, there has been a fall in the volume of household food consumption.*

(96 and 136 gram respectively), despite the declining intake, was 20 and 60% higher than the recommended volume.

The volume of household food consumption per head, disregarding some consumption items, has decreased since 2000. The unfavourable external and internal economic processes resulted in a household consumption decline. A shift in consumption habits towards eating out also slightly intensified this process. Constrained household budgets were well reflected by a fall in household food (meat, vegetable, and fruit) consumption. In 2010, the meat, the vegetable and the fruit consumption was significantly lower than five years earlier (by 5, 10 and 8 kg respectively).

The richer households consume better quality foods than the poorer ones. Higher-income people and childless families are getting more health conscious. Higher-income people consumed 25 litre more milk and had a three-fold higher cheese and cottage cheese consumption per head then the poor people. The meat, vegetable and fruit consumption of low-income people stood at 65, 44 and 28% respectively of those being in the top income decile.

After the turn of the millennium, there was a significant change in consumer habits. Proportionately less own produced and more processed, commercial foods were consumed. The proportion of own produced foods in household consumption fell from 21% in 2000 to 11% in 2010. The proportion of eating out increased from 9.2% in 2000 to 15% in 2010 as a combined result of life style and supply side changes. Mainly the younger and the high-income people eat out.

Definitions

The indicator of nutrient consumption shows the energy, protein, fat and carbohydrate intake per capita.

The indicator of food consumption per capita refers to private households with kg/capita figures.

Stadat tables
3.1.17. Per capita consumption of food, beverages, tobacco and nutrients (1990–)
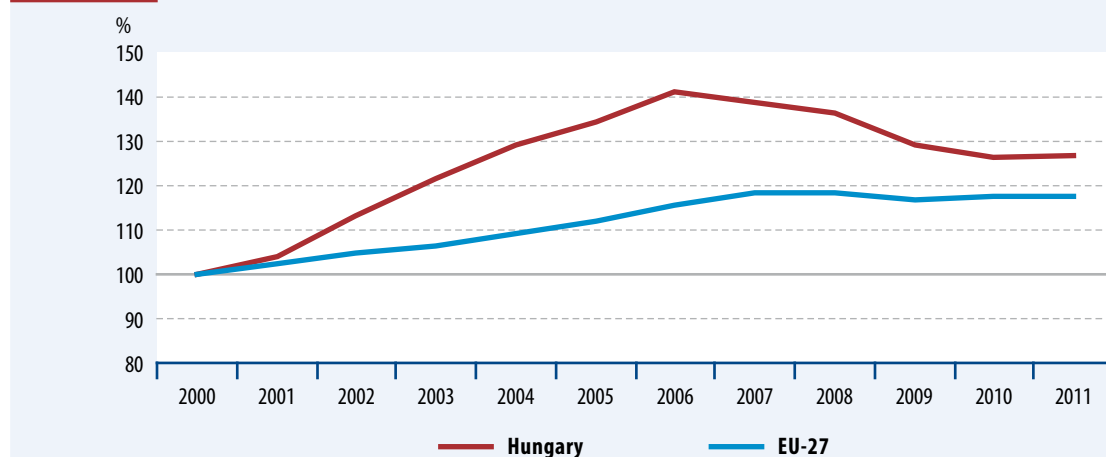
Retail trade

Figure 59.1. **Volume of retail sales** (2000=100.0)

> **!** *Since 2000, the volume of retail sales has increased by 27%.*

Relevance Household consumption is a major component in the economic development of a country; however, the judgement of its level is problematic. The low level of consumption indicates the scarcity of available material resources in a given country, while the high consumption level of developed countries is precarious in respect of environmental and social sustainability. The 'overutilization' of natural resources to produce consumer goods is a problem for the environment, while the regionally uneven distribution of consumer goods is a problem for the society.

Commentary In Hungary, retail sales continued to grow until 2006, then fell between 2007 and 2010. 2011 saw no change in the volume of sales. The volume of sales rose by 27% during the last 11 years as a whole.

Food, drinks and tobacco stores accounted for the major part of over 44% of all sales in 2011 as a result of a nearly one third volume growth in sales during the past 11 years. Despite a 26% rise in sales volumes, the proportion of non-food retail trade fell by 9 percentage points between 2000 and 2011. Similarly, the volume of automotive fuel sales increased by 20% between 2000 and 2011 to 18% of all sales in 2011 (slight decrease in proportion).

International outlook Between 2000 and 2011, the volume of retail sales rose by 18% in the European Union, which was lower than the respective Hungarian figure.

Details After the regime change, the Hungarian retail network underwent a significant transformation. The number of shops continued to rise between 2000 and 2005, then fell to 146,762 in 2011, which was 3% lower than in 2000. In 2011, three tenths of shops were in Central Hungary and, within this, two tenths in Budapest.

Despite the expansion of the large retail networks (the number of hypermarkets /168/ and supermarkets /117/ increased by 4.5-fold and 3-fold respectively between 2000 and 2011) the retail sector is still fragmented with more than 147 thousand shops. There was no significant change in the proportion of one-shop businesses (53%) between 2000 and 2011.

The average floor area per retail unit was on the rise. Between 2003 and 2011, the total retail sales area increased, mainly because of the expansion of hypermarkets and specialized stores, from around 14.8 million sqm to over 16 million sqm, while the average sales area per shop rose from 95 to 111 sqm.

As a result of changing consumer habits, the proportion of people (occasionally) shopping

Figure 59.2. **Changes in the number of retail shops**
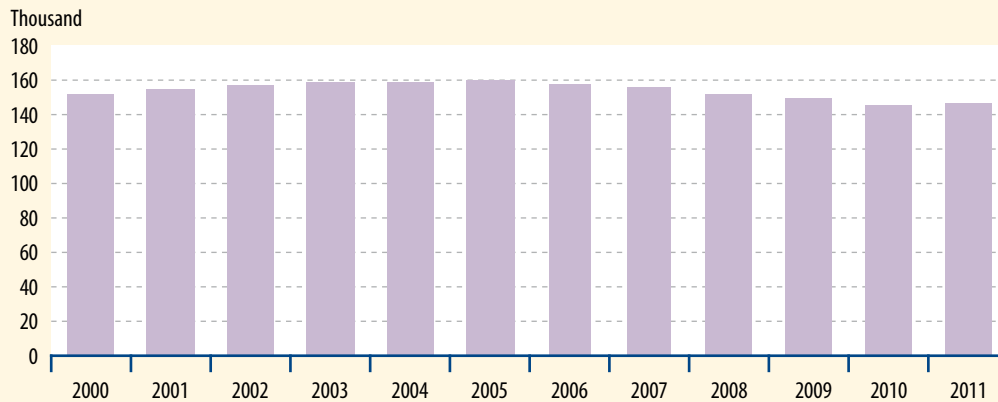
> ! *Since 2000, the number of retail shops has decreased by 3%.*

Figure 59.3. **Changes in online shopping**
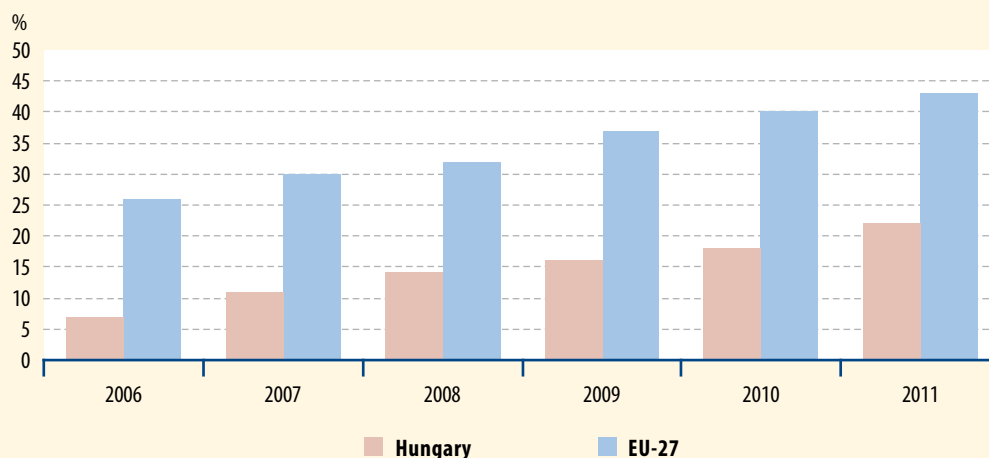
Source: Eurostat.

> ! *In 2011, 22% of the population shopped online.*

online increased by a significant 15 percentage points to 22% between 2006 and 2011. Books, distance learning materials, clothing and sport equipment as well as accommodation services and tickets were most frequently bought online. The respective EU average, showing a similar trend, was nearly twice as high as the Hungarian one.

Definitions

The retail network is made up of retail outlets, like shops, public pharmacies and fuel stations, selling commercial goods, but the motor vehicles stores and the motor vehicle parts and accessories stores are excluded. (TEÁOR'08.)

Retail sales (at current prices) include VAT and other consumer taxes.

Changes in retail trade are measured by volume indices, which is the deflated value index of retail trade where the deflator is a price index calculated by the representative items of the consumer price survey.

The indicator of online shopping shows what proportion of those aged 16-74 have shopped online in the year before the survey.

Stadat tables
4.4. Internal trade
6.4.4. Internal trade (spatial data)

Utility services

Figure 60.1. **Public utility gap**
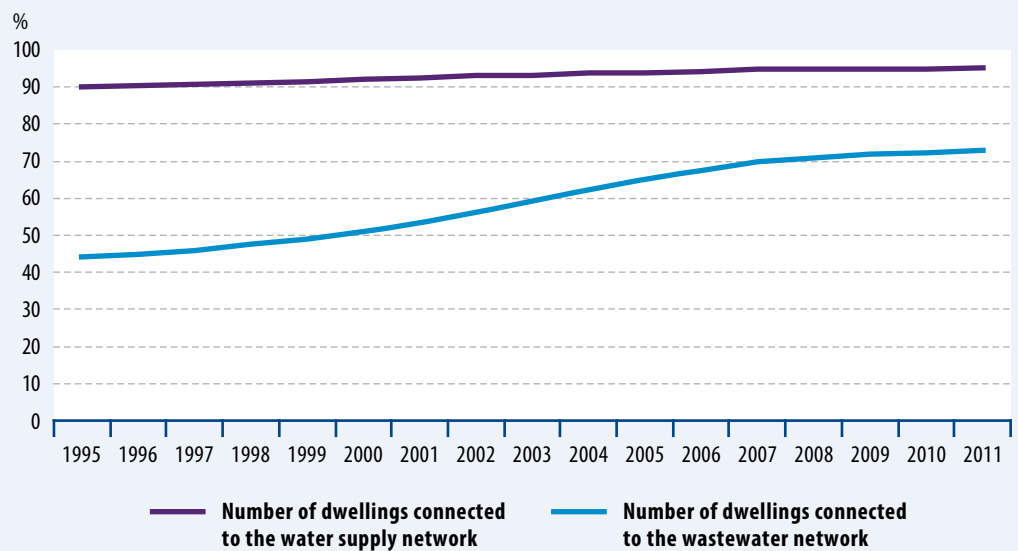

%

— Number of dwellings connected to the water supply network
— Number of dwellings connected to the wastewater network

> **!** *The public utility gap significantly decreased in the observed period, and stood at 22 percentage points in 2011.*

Relevance Agricultural, industrial and household pollution sources in Hungary contribute to the pollution of our living waters. Communal sewage plays a major role in the pollution of surface waters. Unsewered residential areas with their cesspools and cesspits exert a significant negative impact on subsurface waters.

Commentary All settlements were already connected to the water network in 2008 and 95% of all dwellings had running water in 2011. The water consumption, within this the household water consumption, fell by around 17% between 2000 and 2011 as a result of higher water prices and a rise in the number of private wells.

Between 2000 and 2011, the number of settlements connected to the sewage system increased from 854 to 1763. Along with this, the number of dwellings connected to the sewage system increased by 1.2 million to 3.2 million resulting in 73% coverage. Between 2000 and 2011, the average output of the sewage system was 537 million m³, which was around 82% of the drinking water output (655 million cubic meters).

Details In a regional comparison, Budapest and the county of Győr-Moson Sopron had the best

sewage infrastructures and the lowest public utility gaps (3 and 11 percentage points respectively). Against this, the counties of Bács-Kiskun and Békés had the highest public utility gaps (39 and 41 percentage points respectively).

In 2011, 2,875 settlements had gas supply infrastructure in Hungary (91% coverage). 3.5 million units, within this 3.3 million homes were heated with gas with a total consumption of 8 billion cubic meters. The number of household consumers increased until 2010 and then fell by nearly 90 thousand in 2011. In 2011, 76% of homes were connected to the gas network. The average gas consumption per household decreased, at a declining rate, from the top figure of 125 cubic meters per month in 2003 to 78 cubic meter per month in 2011, partly as a result of an ongoing rise in gas prices. Many households reduced their consumption or switched to firewood heating to save money.

Definitions

Public utility gap (the difference between the number of households connected to the water supply network and the number of households connected to the wastewater network). In an ideal case, the public utility gap is 0.

Figure 60.2. **Public utility gap by county, 2011**

Per cent	
	– 5.0
	5.1 – 15.0
	15.1 – 25.0
	25.1 – 35.0
	35.1 –
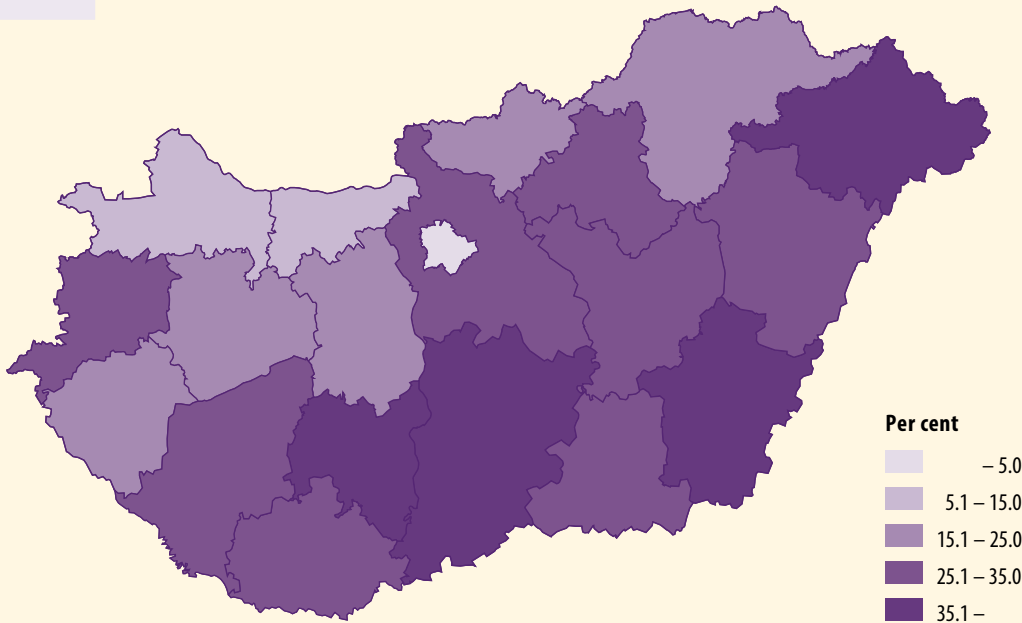
! *Budapest had the lowest public utility gap with a value being under 3 percentage points.*

Figure 60.3. **Gas supply**

■ **Number of household gas consumers, thousand**

— **Monthly average piped gas consumption per household , m³/month**
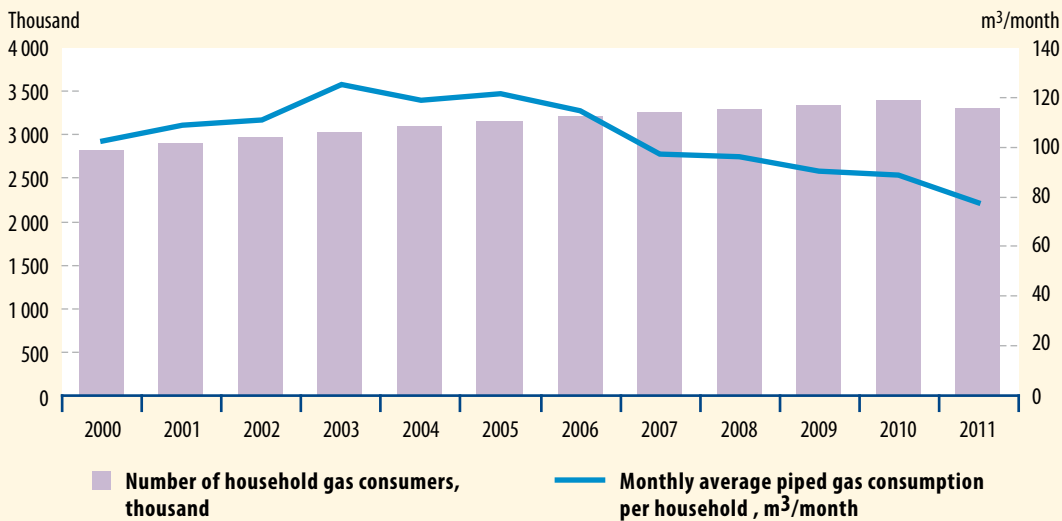
! *The average gas consumption per household has continued to decrease since 2005.*

Gas heated household: gas heated home with or without gas meter, a flat rate is charged in case of no gas meter, in case of common in-house premises with common gas meter the building.

Stadat tables
2.3.9. Piped gas supply (1990–2012)
2.3.10. Electricity supply (1990–2011)
5.4.2. Public water abstraction and supply
5.4.3. Municipal waste water discharge and treatment (1990–)
6.2.2.7. Use of gas and electricity (1990–2011)

Residential water consumption from public water supply

Keywords **water utility, water consumption**

CY	88

Figure 61.1.	**Residential water consumption from public water supply**	

m³/capita

In Hungary, the per capita consumption of piped water declined as a result of water saving and high water prices.

ES[a]	56
PT[a]	55
SE[b]	52
NL[a]	48
DK[c]	45
AT,[d] DE[b]	44
SI	42
BE	37
BG, **HU**[e]	**36**
EL[b]	35
CZ[a]	32
PL	31
RO	26
MT	24
LT	19

Relevance An environment conscious society economizes on water usage to preserve own water resources for the healthy and sustainable development of the society.

The goal of sustainability is to create a quantitative balance in the artificial water circulation and to spread the techniques of an economical and pollution-free water use.

Commentary In Hungary, the annual volume of piped water per head decreased by more than 10% between 2000 and 2011, mainly as a result of high water and wastewater prices and new private wells. The weather had a significant influence on annual household water consumption, e.g. there were water consumption spikes in the drought years (2000, 2003, 2007).

International outlook The Hungarian population with a piped water consumption of more than 34 m³ per head in 2011 was in the second, lower quintile in an EU comparison. It was fa-

vourable from the point of view of environment protection and water saving. In this respect, the new member states (except for Cyprus) underperformed the older ones, mainly as a result of the followings: different water abstraction technologies, different levels of provision in terms of private water and wastewater facilities (running water, waste water drainage), different climatic conditions, ownership of water utilities (government/private), water prices, private wells, etc.

Details As a result of the different water prices and infrastructural facilities the per capita water consumption significantly differs by county. The annual water consumption per inhabitant was the highest in Budapest and Pest County and the lowest in Nógrád and Borsod-Abaúj-Zemplén County. The piped water consumption was below the national average in all counties except for Budapest and Pest County.

a) 2008.   d) 2002.
b) 2007.   e) 2011.
c) 2004.

Residential water consumption from public water supply in the European Union, 2009, m³/capita/year

Figure 61.2. **Household consumption of piped water by county, 2011**

m³/capita

	– 24.0
	24.1 – 28.0
	28.1 – 32.0
	32.1 – 36.0
	36.1 –
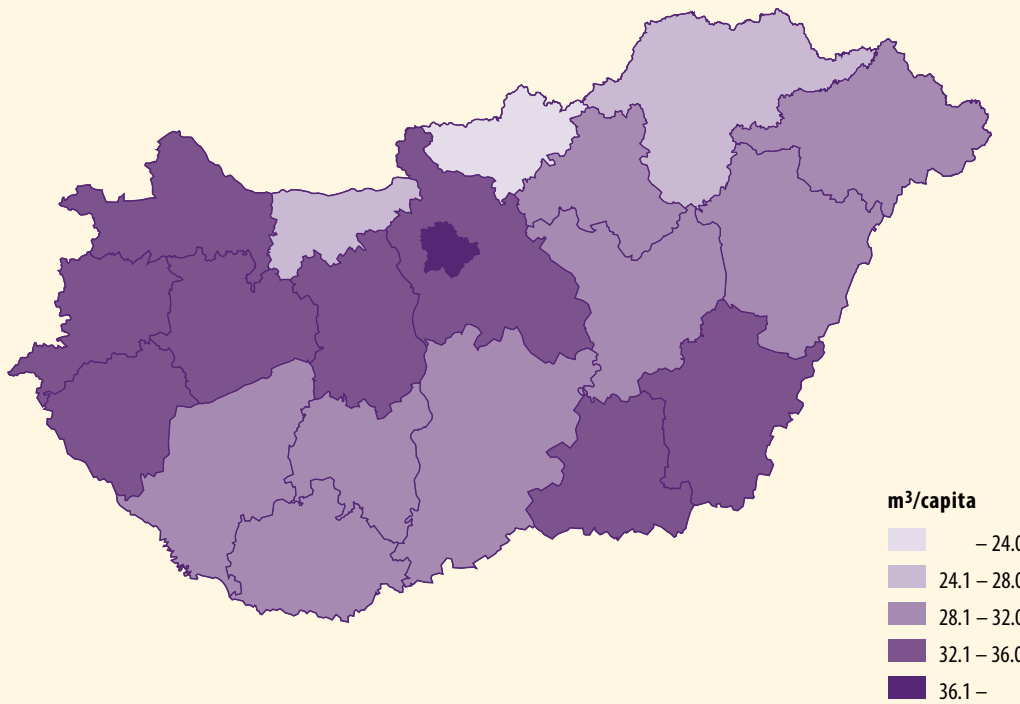
! *The per capita household consumption of water was the highest in Budapest.*

Definitions

The household consumption of piped water contains the volume of drinking water piped from water utilities to private homes and public taps.

Concerning the counties, the annual water consumption refers to the mid-year population number.

Stadat tables

5.4.2. Public water abstraction and supply (1990–)

|	
ES	177.9
CY	163.7
LV	163.7
RO	148.0
LT	146.7
PT	144.4
EE	138.1
PL	136.0
IE	133.4
FI	130.3
EL	127.6
FR	126.2
SI	123.7
AT	120.7
► **EU-27** ◄	**118.0**
LU	117.6
► **HU** ◄	**114.4**
IT	113.8
NL	113.3
CZ	108.8
DE	108.6
BG	107.1
UK	106.1
DK	101.7
SE	96.2
MT	85.4
BE	85.4
SK	80.5

Household electricity consumption

Keywords household electricity consumption, energy consumption, electricity

Figure 62.1. **Household electricity consumption**

Kilowatt hours/month
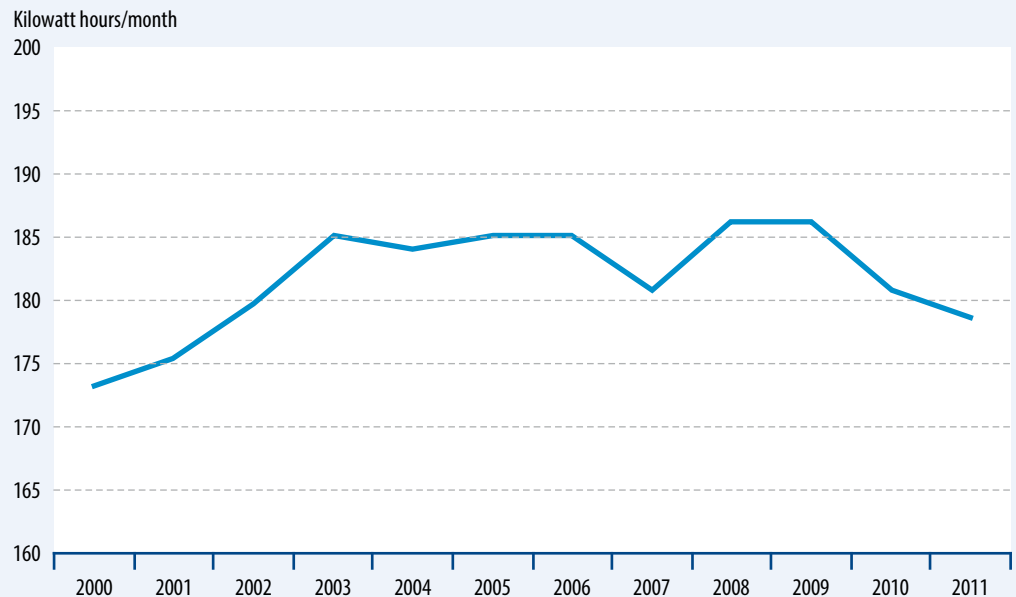
! *Household consumption increased between 2000 and 2003, which was followed by a stagnation, then decreased from 2009.*

Relevance There is a correlation between discretionary household incomes and energy consumption, thus they play an increasingly significant role concerning environment pollution. Energy saving may contribute to tackling global climate change as well as enhancing the efficiency of energy management. It is important to make heating and the cooling more efficient in settlements as well as to align the settlement structure and construction standards with the changing climate. Information on climate change and on emission reduction should be disseminated and adapted. The aim is to reduce the energy consumption of public stakeholders and households through better heat insulation, more efficient electronic appliances and products, and to make a shift towards less energy intensive goods and services.

Commentary
In Hungary, the public electricity network covers all settlements in the country. The last one and half decade saw a sustained increase in residential electricity demand in spite of the spread of energy saving appliances. In 2011, more than 5 million households accounted for around one third of the total electricity consumption. Household consumption increased by 7% between 2000 and 2003, and then remained relatively flat until 2010, which was followed by a 4% fall. A growth in the number of consumers (+7%) and air conditioning devices resulted in a rise in consumption. In 2011, the number and consumption of consumers was 7 and 11% higher respectively than in 2000. The electricity use per head per month varied between 173 and 186 kilowatt hours. The increase in the number of household electricity consumers may be explained by an increase in dwelling stock, as well as by an expansion in the electricity network in the outer areas of settlements, by grid connection of buildings of holiday homes, weekend houses and buildings in allotment gardens surrounding settlements.

International outlook Between 2000 and 2007, there was an 18% rise in household electricity

Changes in household electricity consumption in the European Union, 2010, *2000=100%*

Figure 62.2.   **Ratio of household electricity use to total consumption**
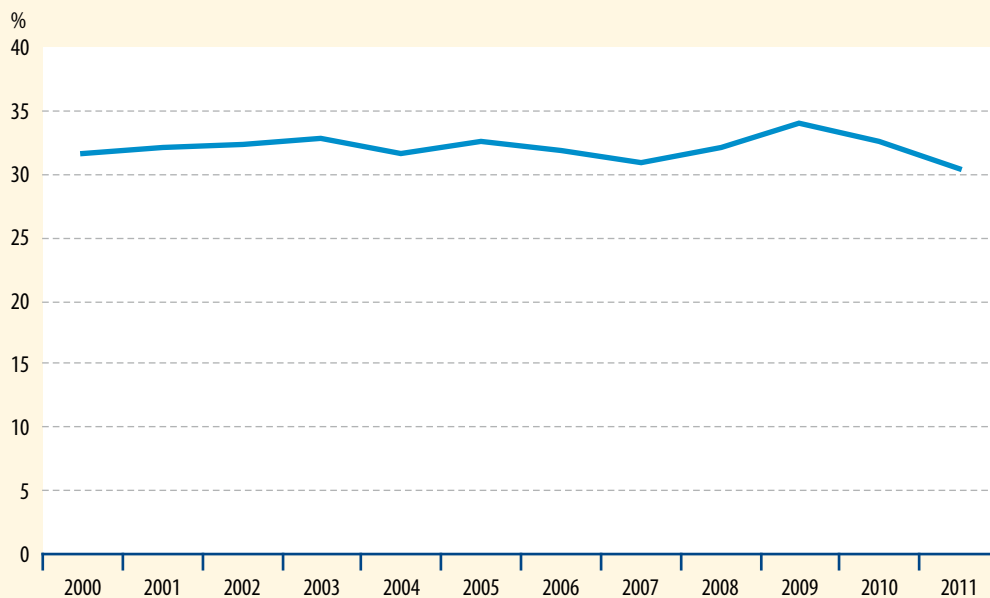
> **!**   *Households accounted for 30–34% of the electricity consumption in the observed period.*

consumption in the EU-27 despite the national and EU energy saving measures. Spain, Cyprus and Latvia recorded the biggest rises (64-78%), while Slovakia, Belgium and Malta saw a 15-20% fall in household electricity consumption. In Hungary, the rise in consumption was somewhat more favourable than the EU average.

Details There were significant regional differences in household electricity consumption. The electricity use per head was the highest in the counties of Pest and Győr-Moson-Sopron, standing at 15% above the national average (178.9 kilowatt hour/month/head). The county of Heves as well as Budapest had a considerable consumption level as well. Zala and Somogy had the lowest specific consumption figures, standing at 73-75% of the national average.

   Since 2000, except for the county of Fejér, all Transdanubian counties saw a fall in household consumption, while there was a rise in the eastern part of the country and Central Hungary with the sharpest surge of 12% in Budapest.

Definition The indicators on the electricity consumption of households indicate the main features of all electricity used by households.

The volume of electricity drawn for industrial, employment purposes accounted with a non-household rate is not classified as household consumption.
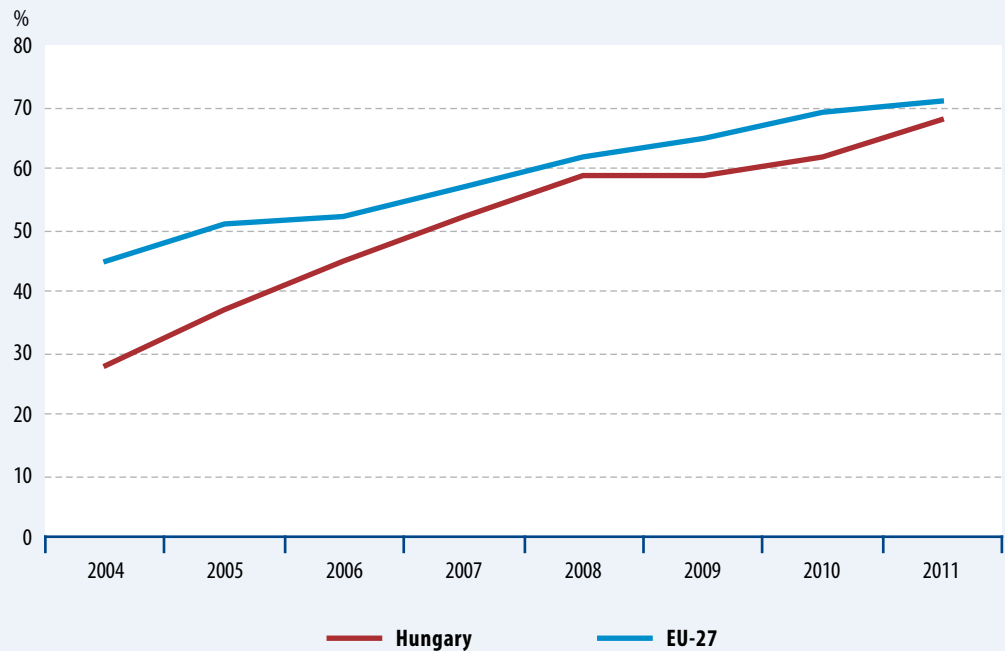
Stadat tables
2.3.10. Electricity supply (1990–2011)

Internet use

Keywords **internet use**

Figure 63.1. **Residential internet use**

Source: Eurostat.

> **!** *Since 2004, there has been a significant rise in the residential internet use, which stood at 68% in 2011.*

Relevance The expansion of the internet usage, through the dissemination of innovations and new scientific technologies, may be a great way of promoting economic development while facilitating equal opportunities and anti-discrimination measures. The expanding world wide web is a fast and environment friendly tool to disseminate information.

Commentary 68% of the population aged 16-74 browsed on the net at least occasionally over the three months before the survey. This ratio stood at 28% in 2004. In 2004, the EU average was 17 percentage points higher than the Hungarian one; however, the respective figure was only 3 percentage points in 2011. One of the reasons for the spread of the Internet is the rapid development of the increasingly cheaper underlying technology that transforms the socioeconomic processes.

International outlook Hungary was ranked seventeenth among the 27 EU member states, just below the EU average (71%). Sweden was ranked first with a 93% internet penetration rate, while Romania was ranked last with a 40% internet penetration rate.

Details In Hungary, the proportion of people with access to the internet increased from 28% in 2004 to 59% in 2008. This was followed by no change in 2009 and a slight growth in 2010. In 2011, this indicator was 9 percentage points higher than three years earlier. The economic crisis played a main role in the slowdown of development.

Internet use is linked to various characteristics like earnings (you need money to buy ICT – information and communication tools), population density (more households have access to the internet in the bigger settlements) and the

Residential internet use in the European Union, 2011, %

Figure 63.2.   **Internet use by age group**
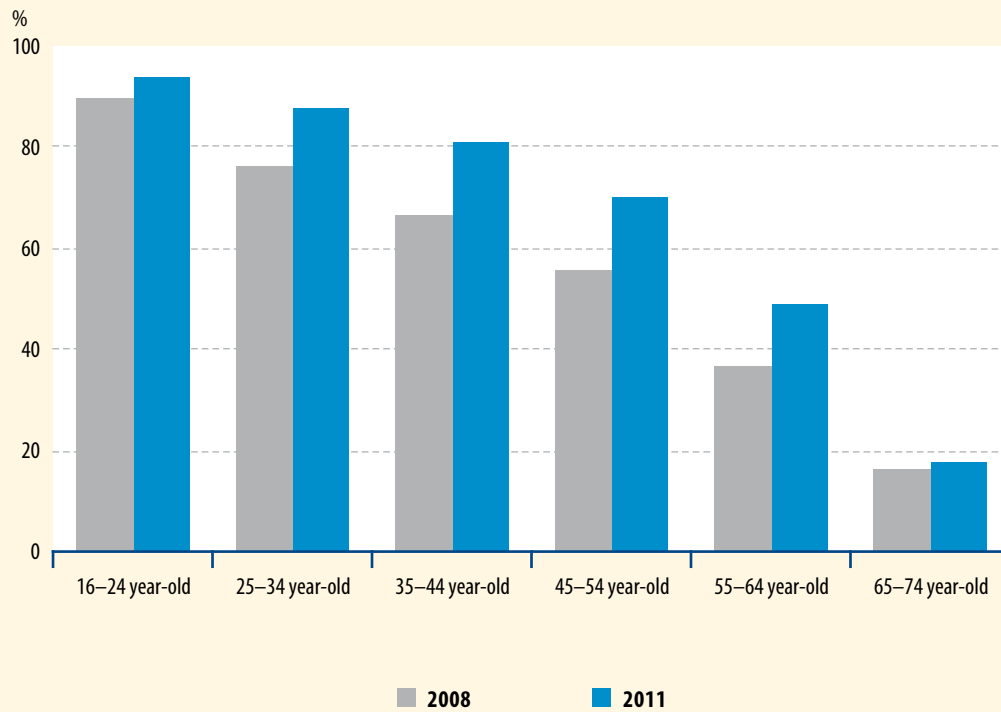
> **!**   *Since 2008, all age groups have seen a rise in the proportion of internet users.*

type of the given household (e.g. Households with children are more likely to have Internet access.)

The largest proportion of Internet users was in the youngest age group at 94% in 2011. 88% of those aged 24-34 browsed on the net at least occasionally over the three months before the survey. The smallest proportion of Internet users was among those aged 65-74 at 18% in 2011. The population aged 35–44 and 45–54 saw the biggest change with a 14 percentage points rise in the proportion of internet users between 2008 and 2011.

Definition The intensity of internet use by individuals is indicated by the proportion of real internet users, showing the percentage of the population aged 16–74 that used the internet in the three months before the survey.

Passenger car fleet

Keywords **motorisation level, passenger car fleet**

LU	678
IT	606
CY	579
MT	568
PT	560
AT	522
FI, SI	521
DE	509
LT	506
BE	483
FR	482
ES	480
▶ EU-27 ◀	**473**
DK	471
SE	465
NL	462
UK	459
IE	437
PL	433
CZ	424
EE	407
LV	400
EL	349
BG	329
▶ HU ◀	**300**
SK	294
RO	197

Figure 64.1. **Data on the passenger car fleet**

- Motor vehicles more than 5 years old, thousand vehicles
- Motor vehicles less than 5 years old, thousand vehicles
- Average age of the passenger car fleet, years
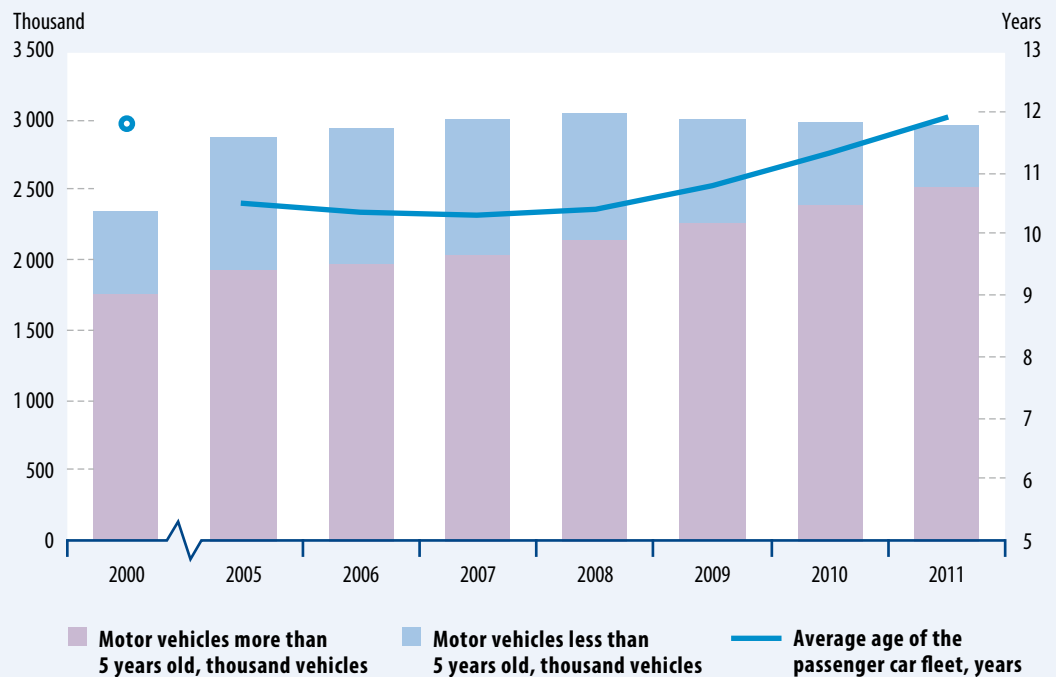
! *In 2011, the average age of the domestic passenger car fleet was 12 years.*

Relevance Nowadays, there is a strong correlation between transportation and the overall socio-economic development. Transport plays a major role in enhancing economic development, the freedom of movement and the quality of life. However, it has significant ecological, health and traffic safety implications. The development of more environment friendly transport systems with an emphasis on rail, water and public transport is an EU objective.

Commentary In Hungary, the number of passenger cars increased by more than 25% between 2000 and 2011. However, it was an uneven development with an average growth rate of 4% in the first half of the 2000s and of 2% between 2005 and 2008. The passenger car fleet surged over 3 million in 2008, then, as a result of the economic downturn, dipped down to below 3 million again in 2010 and even lower in 2011.

Between 2001 and 2006, the number of passenger cars less than 5 years old increased by an annual average of 9%, then fell at an increasing rate (at an annual average of 14%). The economic downturn caused a fall, resulting in a drastic fall in the number of new car sales. The average age of the domestic car fleet decreased until 2007, then increased again.

During the mid-1990s, COMECON-cars (Lada, Trabant, Wartburg, Skoda) accounted for more than three fifths of the domestic passenger car fleet, however, nowadays the Opel, Suzuki, Volkswagen, and Ford brands are the most popular.

International outlook In the EU-27, the number of passenger cars per thousand population increased from 375 in 1995 to 473 in 2009 with an average annual growth rate of 2%.

◀ *Changes in the passenger car fleet in the European Union, 2009,* *cars/thousand residents*

In 2009, the number of passenger cars per thousand population ranged from 197 (Romania) to 678 (Luxemburg) in the EU member states. In addition to Luxemburg, the number of passenger cars per thousand population was over 500 in Italy, Cyprus, Malta, Portugal, Austria, Finland, Slovenia, Germany and Lithuania. Between 1995 and 2009, the motorisation rate more than doubled in Latvia, Lithuania, Poland, Portugal and Romania. In Hungary, the number of passenger cars per thousand population increased by 38% from 218 in 1995 to 300 in 2009.

Definition The indicator of motorisation level shows how the number of passenger cars changes.

Stadat tables

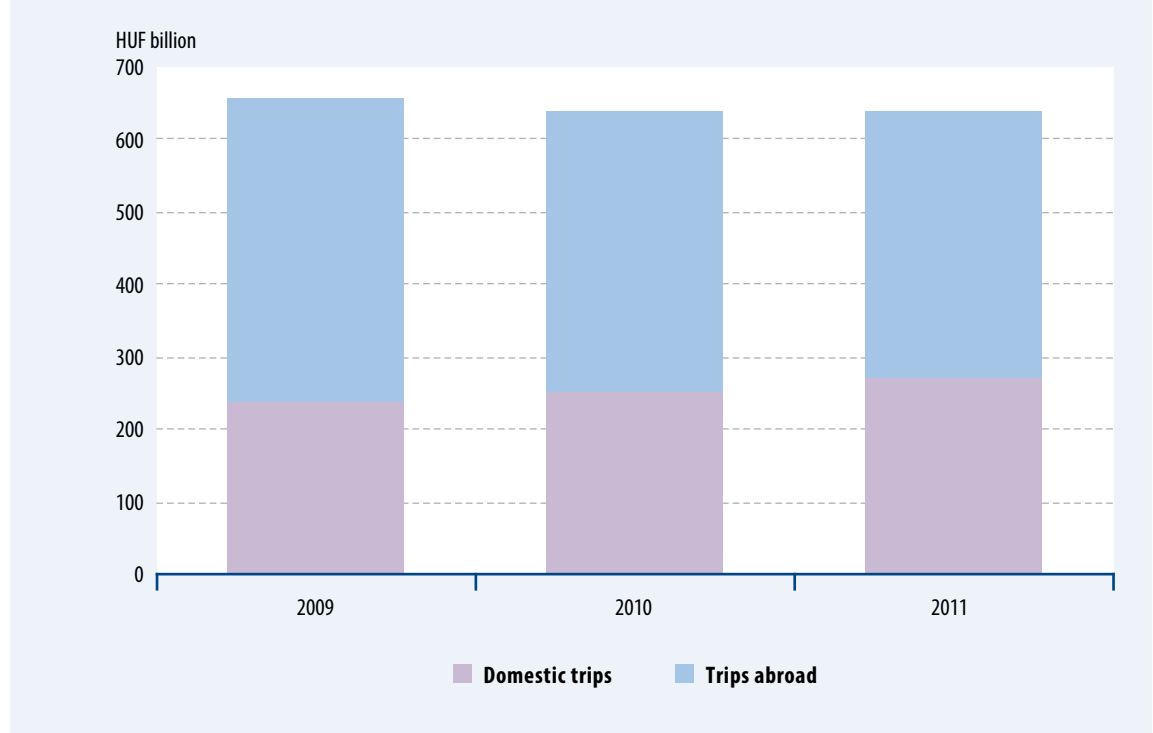**4.6.11. Stock of passenger cars by make (2002–)**

4.6.12. Average age of passenger cars, by make (2002–)

Tourism

Keywords **tourism, tourism spending, spending structure, domestic overnight trips**

Figure 65.1.   **Spending during overnight tourist trips made by Hungarian residents**

HUF billion

Legend: Domestic trips, Trips abroad

!   *Since 2009, the proportion of domestic tourist expenditures spent on domestic trips has increased by 6%.*

Relevance Tourism depends more on the state of the natural environment than any other economic sector. Tourist destinations require a clean and well managed, i.e. a more sustainable environment to maintain their attraction. Tourism became one of the major economic sectors in a number of countries. Thus tourism should be developed in a more sustainable way along with the promotion of domestic tourism and the attraction of international visitors.

Commentary From 2009, the average spend per overnight domestic trips has increased by an annual 6-7%, while the average spend per international trips has decreased by 8 and 4% at current prices. Because of this, the proportion of domestic tourism increased from 36% in 2009 to 42% in 2011, mainly as a result of the detrimental effects of the economic crisis (constrained household budgets).

Details In 2011, Hungarian people spent HUF 269 billion on domestic tourism, a 6.4% rise year-on-year at current prices. HUF 87 billion was spent on accommodation services, HUF 69 billion on catering and food and HUF 59 billion on transport (including the fuel spend as well).

Definition The average spend per overnight tourist trips is to show tourist trips, broken down by domestic and international trips.

Figure 65.2. **Spending structure of domestic overnight trips, 2011**

- ■ **Accomodation**
- ■ **Catering**
- ■ **Transport**
- ■ **Other**

32%

26%

22%

20%
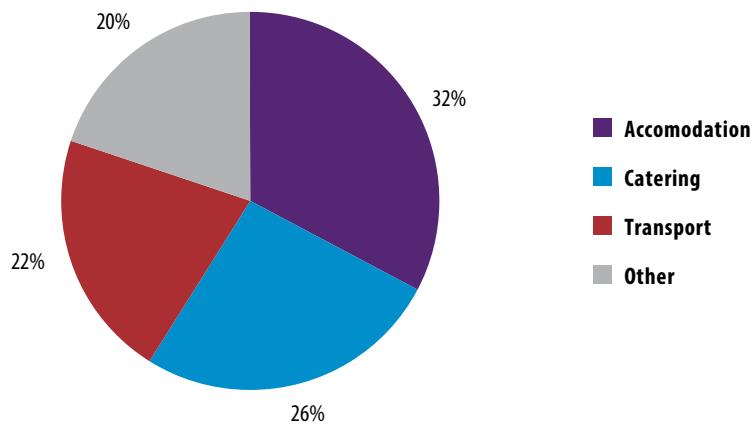
! *Of the total tourism spending during domestic trips, one third was spent on accommodation services, one quarter on food services, 22% on transport and a further 20% on other purposes.*

Stadat tables
4.5. Tourism, catering

Life expectancy

Keywords **life expectancy, healthy life expectancy, life expectancy at age 65**

Figure 66.1. **Life expectancy at birth and healthy life expectancy**

Legend:
— Life expectancy, men
— Life expectancy, women
— Healthy life expectancy, men
— Healthy life expectancy, women

! *In 2011, life expectancy at birth was in Hungary 70.9 years for men and 78.2 years for women.*

Relevance Life expectancy is a fundamental indicator of the socio-economic development and the population health status of a country. Life expectancy expresses also the mortality conditions of the population, thus the increase of 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 the availability of human resources; therefore, its improvement is an important guarantee for the sustainable development as well.

Commentary Between 2000 and 2011, the value of the indicator rose by 3.8 years for men and 2.6 years for women. Due to the greater increase for males, the gap between the life expectancy at birth of the two sexes has narrowed from 8.5 years to 7.3 years, but it is still high in European terms. In the background of the gradual increase of life expectancy, the improvement of living conditions, the quality im-

provement of the health care system and the evolution of health conscious attitude may stand.

Higher life expectancy of females can be observed all over the world, which can be explained by genetic and hormonal reasons and by different lifestyle.

In Hungary, healthy life expectancy was 56.4 years for men and 58.6 years for women in 2010. The indicator lags behind the EU average (62.6 years for women and 61.7 years for men) but is increasing year by year.

International outlook Despite the increase, in 2009 the Hungarian life expectancy at birth was the 23rd in the EU-27 ranking, 7.7 years behind Italy being the first in the ranking. In 2009, the life expectancy at birth in the EU-27 member states was 76.7 years for males and 82.6 years for females on average. This value was 6 years higher for men and 4 years higher for women than in Hungary.

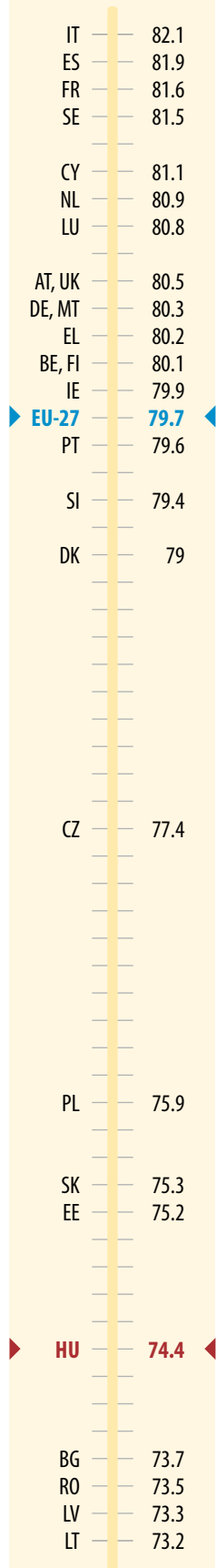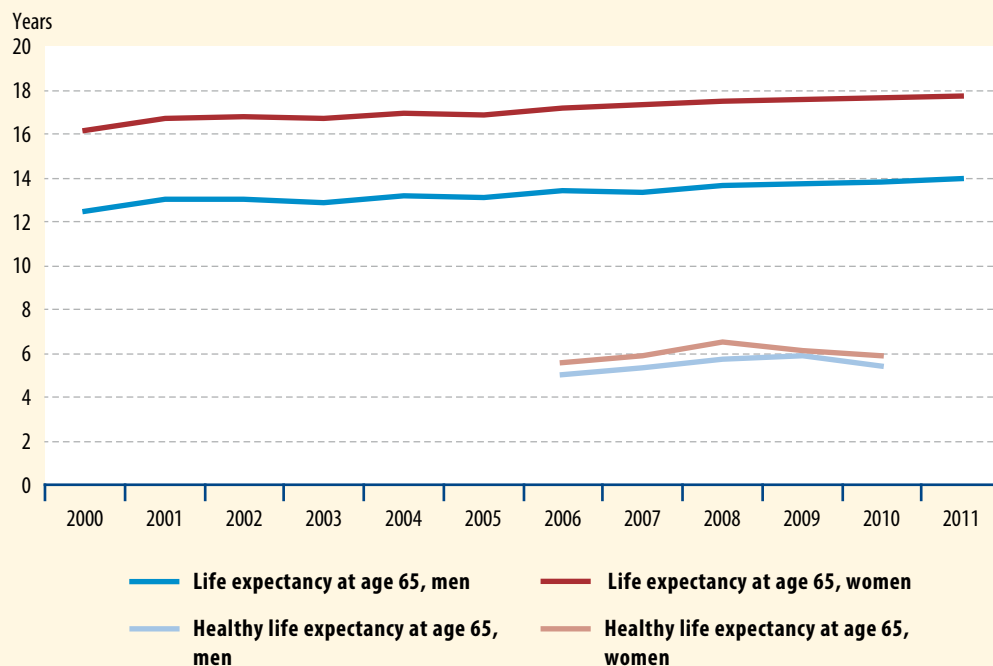*Life expectancy at birth in the European Union, 2009, years*

Figure 66.2. **Life expectancy and healthy life expectancy at age 65**

Years

- Life expectancy at age 65, men
- Life expectancy at age 65, women
- Healthy life expectancy at age 65, men
- Healthy life expectancy at age 65, women

> **!** *Life expectancy at age 65 for females increased by 2 years between 2000 and 2011.*

In contrast to life expectancies, healthy life expectancies were higher for men than for women in some countries of Europe, but, except for Portugal, Belgium and Iceland, the difference is not even more than one year. In Eastern and Central European countries, where the indicator is higher for women, the difference might be 2.2–4.6 years, while in the more developed countries the "advantage" of women is not really considerable. In Hungary, the difference is in the middle-rank in European comparison.

In 2009, the life expectancy at age 65 in Hungary was by 3 years less on average than the EU-27 average. Hungarian men aged 65 years could expect 4 years less and women 3 years less than those living in the other member states of the EU-27. The EU-27 average was 17 years for men and 21 years for women in 2009.
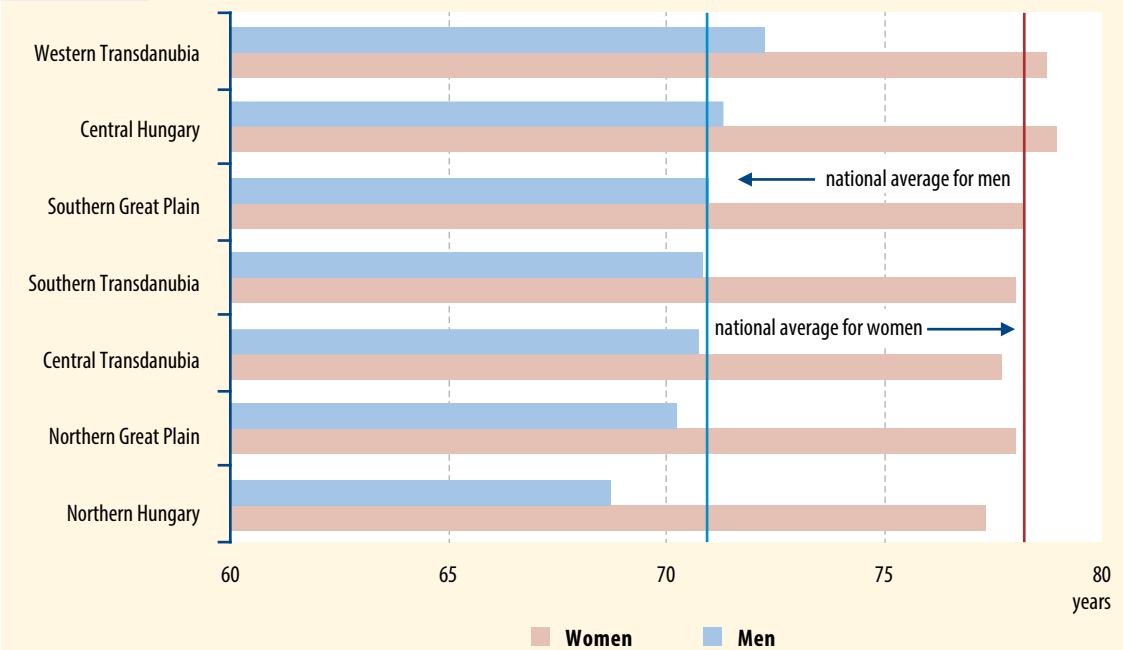
According to the most recent analysis of the EHLEIS *(European Health and Life Expectancy Information System)*, women spend 32% of life expectancy at age 65 in disability-free conditions, while this proportion is higher, 38% in case of men. The ratios in Hungary are much lower than the EU average, but, although with some fluctuations, they are increasing year by year. In 2010, our lagging behind the EU

average was 2.8 years in case of women and 3.1 years in case of men.

Details When comparing healthy life expectancies, women can expect more healthy life years. However, within life expectancies, the proportion of healthy life years is more favourable in case of men; they spend 80%, while women spend only 75% of their life in healthy conditions. Thus, life expectancy of women consists of a longer healthy period and of life years spent in illness longer than men.

Life expectancy at age 65 also increased, although to a smaller extent, between 2000 and 2011; it rose by 1.4 years for men and 1.6 years for women. In 2011, men could expect 13.9 and women 17.7 life years at the age of 65. The gap between the two genders slightly decreased between 2000 and 2011, and it was 3.8 years in 2011.

Since 2000, life expectancy at birth has increased in all regions. The best progress among men occurred in Central Hungary, where life expectancy at birth has increased by more than 4 years, while in Northern Hungary only by 2.5 years. The most significant increase among women could be found in Southern Transdanubia, where life expectancy at birth has

Figure 66.3.   Life expectancy at birth by regions, 2011

national average for men

national average for women

Western Transdanubia
Central Hungary
Southern Great Plain
Southern Transdanubia
Central Transdanubia
Northern Great Plain
Northern Hungary

60   65   70   75   80
years

☐ Women   ☐ Men

! *The gap between life expectancies of men in Central Hungary and Northern Hungary is 3.5 years, while that between life expectancies of women in Western Transdanubia and Northern Hungary is 1.6 years.*

increased by more than 3 years, while in Southern Great Plain only by 2 years.

Between 2000 and 2011, life expectancy at age 65 also increased in all regions. Similarly to life expectancy at birth, the most significant improvement was in Central Hungary for men and in Southern Transdanubia for women. The rate of improvement was 1.8 years for males and 2 years for females.

Definitions

The indicator 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 healthy life years (HLY) at birth measures the number of years that a person at birth is still expected to live in a healthy condition. HLY is a health expectancy indicator which combines information on mortality and morbidity. Healthy life expectancy shows the number of years expected to be spent in disability-free conditions (due to health status). The indicator is calculated separately for males and females using the age-specific mortality information and the age-specific prevalence (proportions) of the

population in healthy and unhealthy conditions (incidence rate in a given age group according to the data of the survey EU-SILC). The value of the indicator in a region of the country is strongly connected with the general development level and mortality patterns of the given region. Healthy life expectancies are independent of the number and age-structure of the population, which enables comparisons between different social groups (genders, social-occupational categories) and between countries in Europe alike.

The indicator of life expectancy at the age 65 shows how many further years of lifetime a person can expect at the age of 65 years.

The indicator healthy life years (HLY) at age 65 measures the number of years that a person at age 65 is still expected to live in a healthy condition. It is a combined indiactor based on mortality and morbidity data.
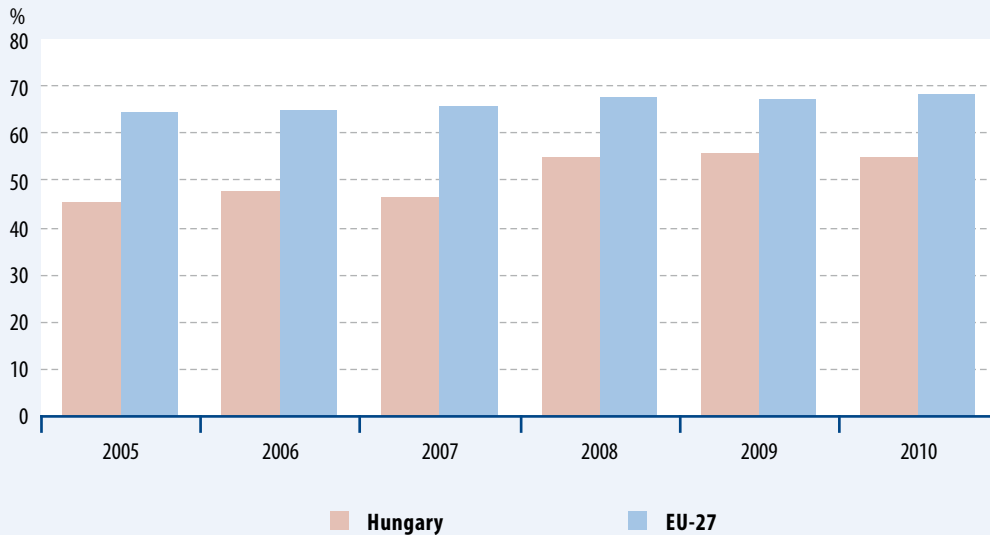
Stadat tables
6.1.7. Average life expectancy at birth, average age

Perceived health

Figure 67.1. **Perceived health**

Source: Eurostat.

> **!** *Despite the improvement between 2005 and 2010, the aggregate proportion of those placing themselves in the health category very good or good decreased by 1 percentage point in 2010 year-on-year.*

Relevance Perceived health is a subjective indicator to characterize and measure the health status (indirectly the life quality) which is based on the own opinion of people on their health.

Commentary Most of the adult population is satisfied with their health status or evaluates that at least as „fair". Men have 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 less hazardous life style (the prevalence of regular smoking, binge-drinking, overweighting and obesity is considerably higher among men).

Compared to the EU average, a smaller proportion of the Hungarian population (only 55% as opposed to the 69% EU average) deems their health "very good" or "good". In the years after 2005, this proportion was only 46%, while the EU average was over 64% even that time. However, the pace of increase is larger in Hungary.

International outlook The proportion of people satisified with their health is increasing year by year both in the EU member states and in Hungary. In this respect, Hungary is the ninth in the ranking of the European countries, preceding Romania and Slovakia, however, we still l ag considerably behind the more developed countries. The indicator is closely connected to the health status and to the living standard as well. The basic trends can be traced year by year with the help of health indicators calculated from the EU-SILC (Statistics on Income and Living Conditions) surveys, but stronger correlations can be analyzed only on the basis of detailed health surveys conducted every five years.

Details People in very good income situation stated their health as 'very good' or 'good' in a higher proportion than those who are living on a lower income level At the same time, only 9% of them evaluate their health status as 'bad' and 'very bad', while this proportion is more than 20% among persons with low income.

Educational attainment is a key factor in the development of health status. People with higher educational attainment evaluated their health status significantly better and it is in all probability actually better than the less educated ones'.

Figure 67.2.   **Perceived health by income quintiles, 2010**
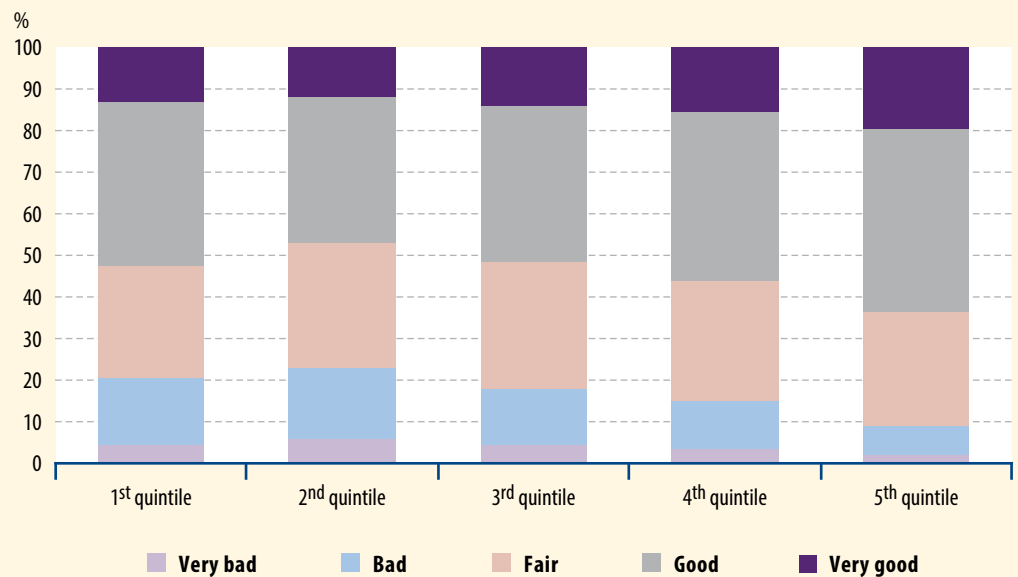
People in higher income quintiles deem their health status more favourable.

Figure 67.3.   **Perceived health by educational attainment, 2009**
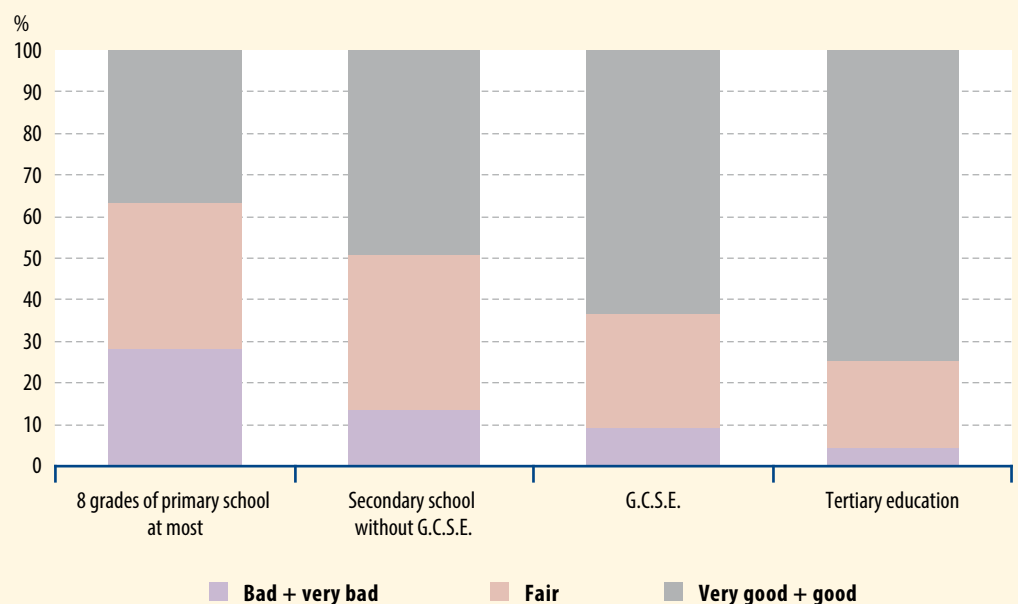
People with higher educational attainment deem their health status more favourable.

In health preservation and health awareness, the general level of knowledge involving also health information, which can be obtained by education, has a key factor.

Definition The most frequently used indicator in population surveys for characterizing health status is the self-assessment of health status when the respondent determines his/her health status on a five-grade scale.
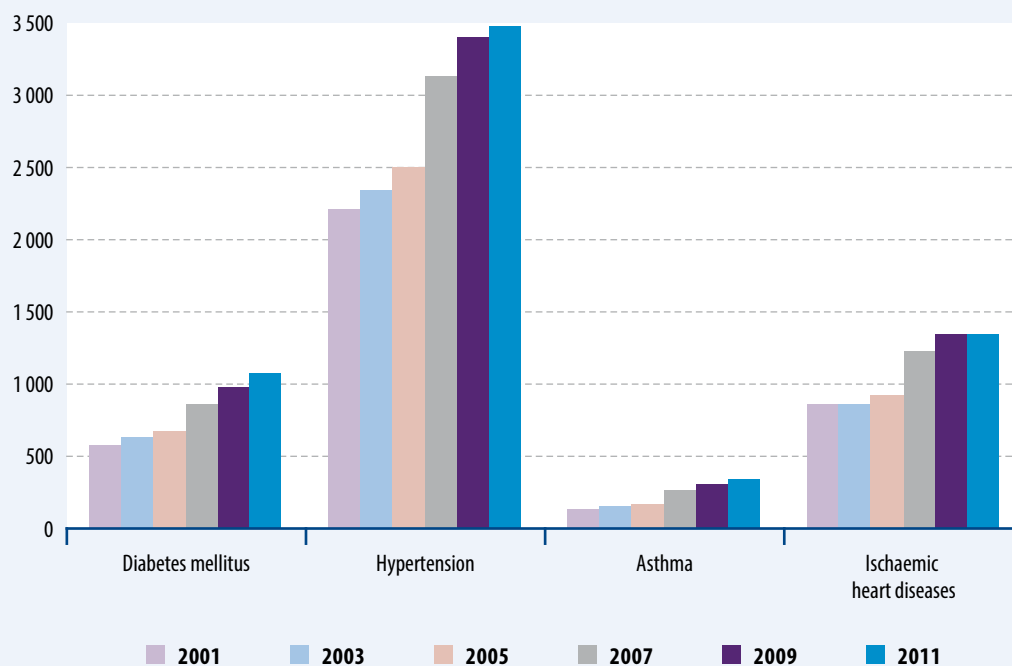
Chronic diseases in the population

Figure 68.1. **Number of major disease cases by ten thousand population aged 19 years and older***

* Based on the data of those registered at GPs.

> **!** *According to GPs' reports, the incidence rate of diseases per ten thousand adult population is increasing in each disease group observed.*

Relevance Chronic diseases affect at least 50 in every hundred thousand people. Since these can be traced back to the same 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 considerlably improve the health status and the economic situation in the EU member states.

Commentary The number and order of diseases registered at GPs per ten thousand inhabitants aged 19 years and older is different by gender, age groups and regions. 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 increased by 57% over ten years (the number of cases was 2,214 in 2001 and 3,484 in 2011);

the growth was 67% among men and 51% among women. Based on the results of the European Health Interview Survey 2009, 33% of the adult population suffers from hypertensive disease.

Details The incidence of ischaemic heart diseases has also considerably increased (by 50%) since 2001. While in 2001 the incidence rate calculated for ten thousand people of corresponding age was 863, it amounted to 1,350 in 2011. This growth was 51% for men (the number of cases was 813 in 2001 and 1,231 in 2011) and 60% for women (the indicator calculated for ten thousand women was 906 in 2001 and 1,454 in 2011). According to the health interview survey in 2009, about one third of the adult population suffered from some kind of heart diseases; among them angina (7.2%) and infarction (4.2%) represented the highest proportions.

The incidence rate of diabetes mellitus nearly doubled over ten years (the incidence rate

Some major diseases per thousand examined pupils in school year 2010/2011
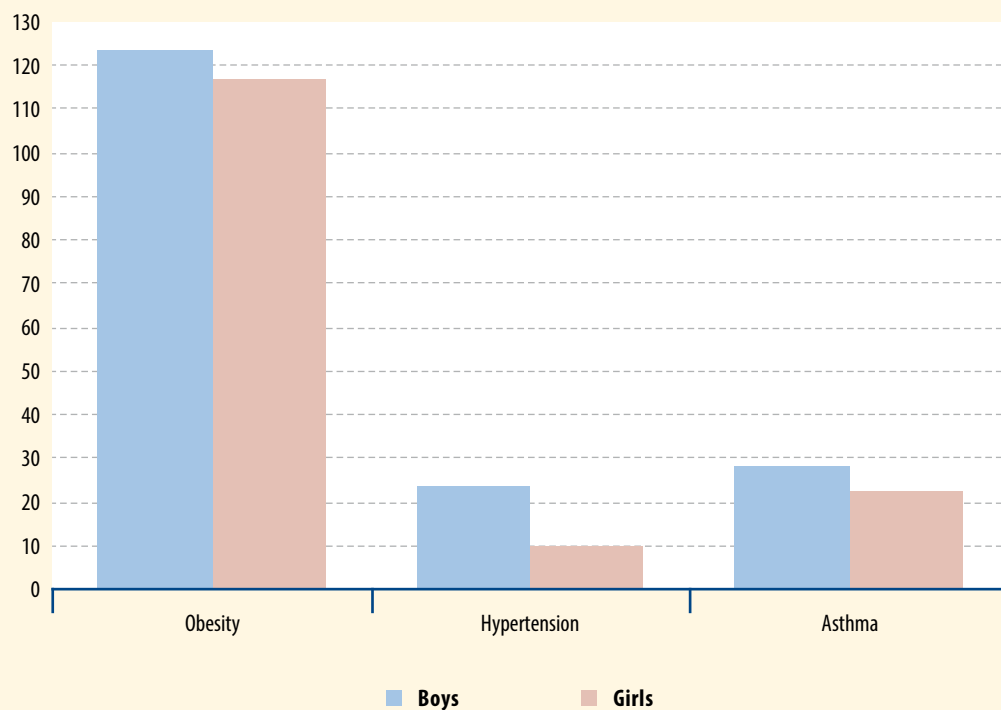
Source: school health report, 2010/2011.

!   *In school year 2010/2011, the proportion of the observed diseases was higher among boys than girls.*

calculated for ten thousand people of corresponding age was 585 in 2001 and 1,072 in 2011). The growth was 97% in case of men (the number per ten thousand men was 543 in 2001 and 1,072 in 2011) and 72% in case of women (the incidence rate was 622 in 2001 and 1,073 in 2011). According to self reported data, 8.3% of the adult population suffered from diabetes in 2009.

The incidence rates in Southern Transdanubia are higher in each observed disease group than the national indicators. This trend applies to both genders.

Among school age children (6–18 year-old), obesity belongs to the leading diseases (among observed children, the rate is 123 per mille for boys and 117 per mille for girls). The proportion of children suffering from asthma (boys: 28.2 per mille, girls: 22.2 per mille) and hypertensive disesase (boys: 17 per mille, girls: 10 per mille) is very high as well.

In the school year 2010/2011, obesity was the most considerable among boys in the 12th grade (out of thousand boys 135 belonged to this

category) and among girls in the fourth grade (124 per mille). In this respect, the situation is the best among children in the 2nd grade, where out of thousand observed children, 106 boys and 111 girls are considered obese.

Asthma is one of the health consequences of environmental factors. Earlier mainly toddlers suffered from asthma, but nowadays more and more adolescents have respiratory disorders as well. The proportion of asthmatic diseases is the highest among boys in the 4th grade (32 per mille) and girls in the 10th grade (29 per mille).

The prevalence of hypertensive disease is increasing considerably with progress in age: while in the 2nd grade 3 boys and 2 girls out of thousand examined children belonged to this category, their number was 45 and 14, respectively in the 12th grade.

The prevalence of diabetes mellitus is increasing by age as well: in the 2nd grade its proportion is 1 per mille, while in the 12th grade 3 per mille for both boys and girls.

Definitions

The indicators of school health screening show the incidence of diseases per thousand pupils by sex and age groups. The classification by morbidity is based on the 10th Revision of the International Classification of Diseases.

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: malnutririon (BMI<3 percentile (pc), skinny (BMI≥3 pc, but <10 pc), overweight (BMI≥85 pc, but <97 pc), obesity (BMI above 97 pc).

Those children suffer from hypertensive disease, whose systolic and/or diastolic blood pressure mesured 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 or secondary), and who need medication.

Failed medical examinations due to financial reasons

Keywords **failed medical examinations, health care, medical examination**

| Figure 69.1. | **Failed medical examinations due to financial reasons by income quintile*** |
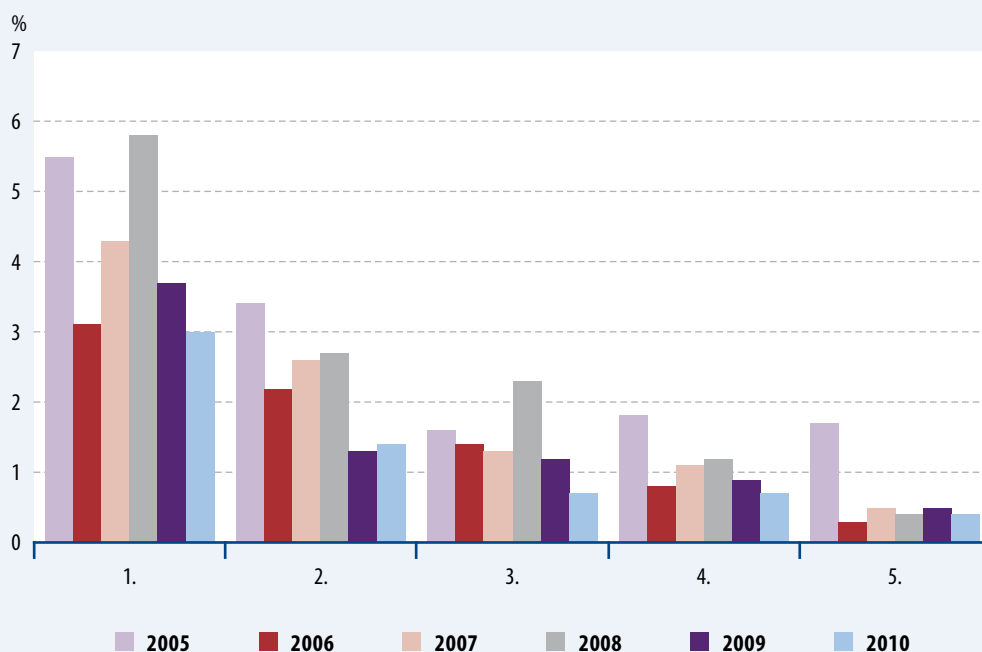
* Based on the data of those registered at GPs.

! *The difference between the top and the lowest income quintiles decreased by 1.2 percentage points between 2005 and 2010.*

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

Commentary The proportion of failed medical examinations due to financial reasons improved in each income quintile. This decrease stopped in the years 2007/08 in each category. It is invariably rarer among people in higher income quintiles that they have to give up some kind of medical examination due to financial reasons.

Definition The proportion of failed medical examinations by income quintile shows the ratio of persons who are not able to afford medical examination by income quintile. Income quintiles are determined on the basis of net income per capita. 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.
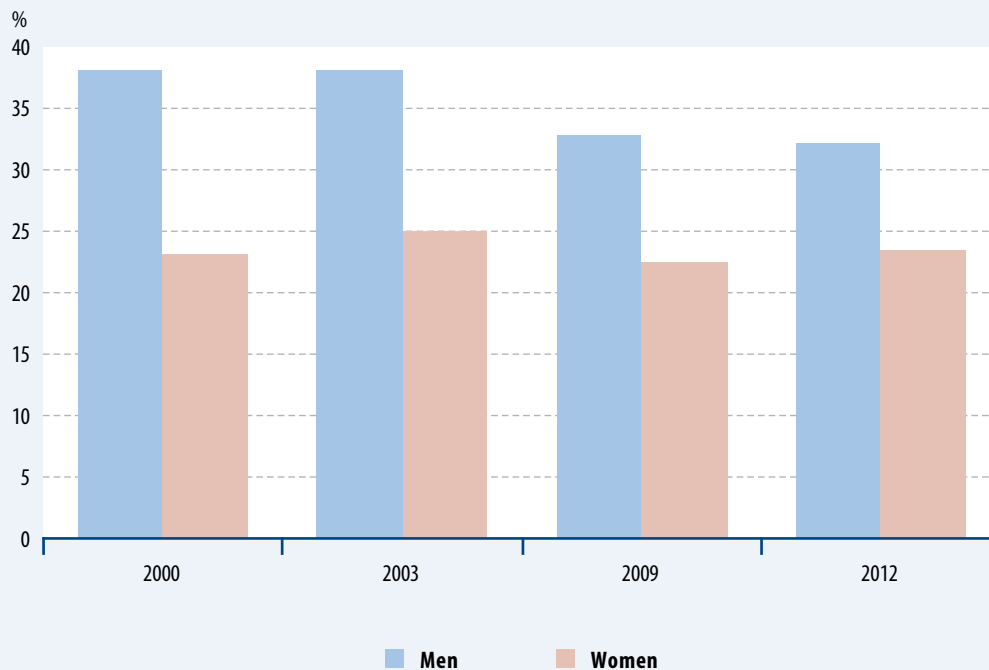
Percentage rate of smokers

Keywords **smoking, smoking related death rate**

| Figure 70.1. | **Rate of regular smokers** |

Among the Hungarian adult population, one third of men and nearly one fourth of women smoke tobacco daily.

Relevance It is proven that smoking is in causal relation with the development of numerous neoplasms and diseases of the circulatory and respiratory systems. Besides, maternal smoking may lead to numerous complications connected with getting pregnant, with pregnancy and childbirth, as well as raises the possibility 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.

Health status worsened due to smoking may result 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.

Commentary According to the data of the European Health Interview Survey in 2009, more than 2.5 million adults were smokers in Hungary, and most of them were daily smokers. There is a significant difference between genders: while among females 23% were daily smokers, among males this ratio was 33%. According to the most recent research in 2012, these rates did not considerably change in case of men, while a 1 percentage point increase occurred among women. Since 2000, the proportion of daily smokers has decreased among men and stagnated among women.

International outlook According to the calculations of the World Health Organization (WHO), the number of deaths due to smoking related diseases is very high in Hungary: in 2009 the standardized death rate per hundred thousand inhabitants was 428 in our country, while the EU average was only 203 (WHO). The

Smoking related death rate in the European Union, 2009, per hundred thousand population

LT	490.5
LV	442.6
RO	433.6
HU	**427.8**
SK	427.0
BG	345.1
EE	325.5
CZ	315.7
PL	247.6
IE	224.6
MT	224.2
FI	213.2
UK	203.9
EU-27	**203.2**
SI	199.6
EL	196.6
AT	190.1
DE	183.7
SE	169.8
PT	167.6
IT	158.6
LU	158.1
NL	157.5
CY	145.1
ES	143.0
FR	116.6

Figure 70.2. **Rate of regular smokers in Hungary by age groups and sex**
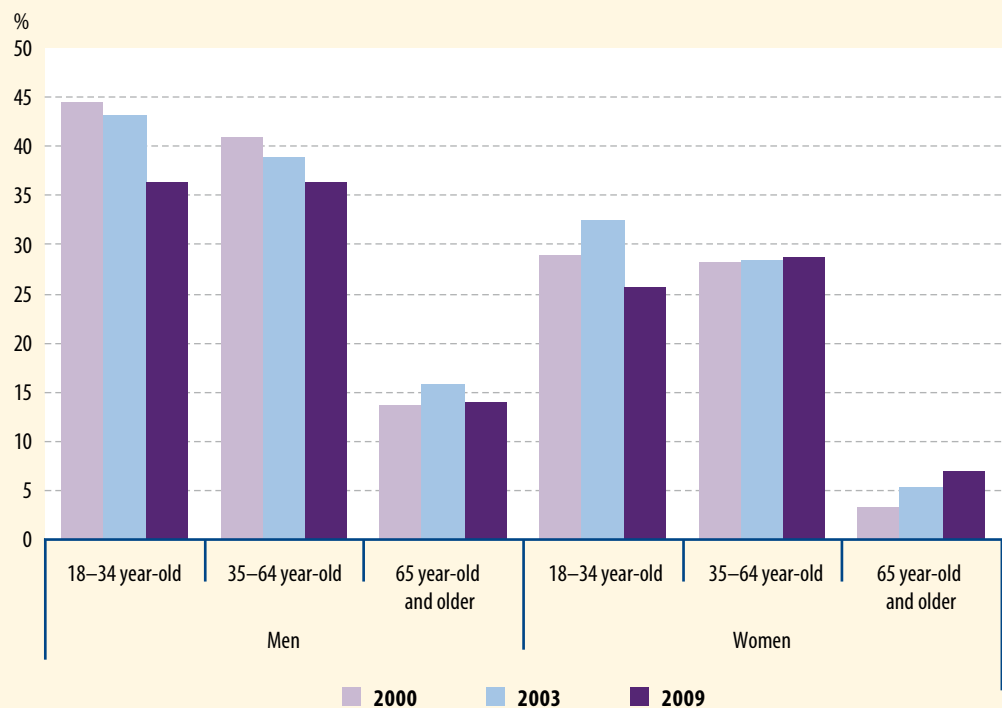
> **!** *There is a significant decrease in case of men aged 18–64 years.*

situation is worse only in two Baltic states, Lithuania and Latvia, and in Romania. At the same time, the value of the indicator definitely decreased in the past decades: the standardized death rate per hundred thousand inhabitants was 566 in 1980, 537 in 1990 and 490 in 2000 in Hungary.

Details The proportion of smokers is the lowest in the oldest age group in case of both genders, while among women those of middle age are the heaviest smokers (in case of men, the difference between young and middle aged men is negligible).

Within the country, there are regional differences as well: in Southern Transdanubia one third of the population is daily smoker, while this proportion is only one fourth in Central and Western Transdanubia and Southern Great Plain.

Definition Regular smokers are those who smoke tobacco daily.

Alcohol consumption

Keywords **alcohol consumption categories, death rate connected to alcohol consumption**

| **Figure 71.1.** | **Alcohol drinking habits, 2009** |

Heavy drinkers   **Moderate drinkers**   **Occasional drinkers**   **Abstainers**
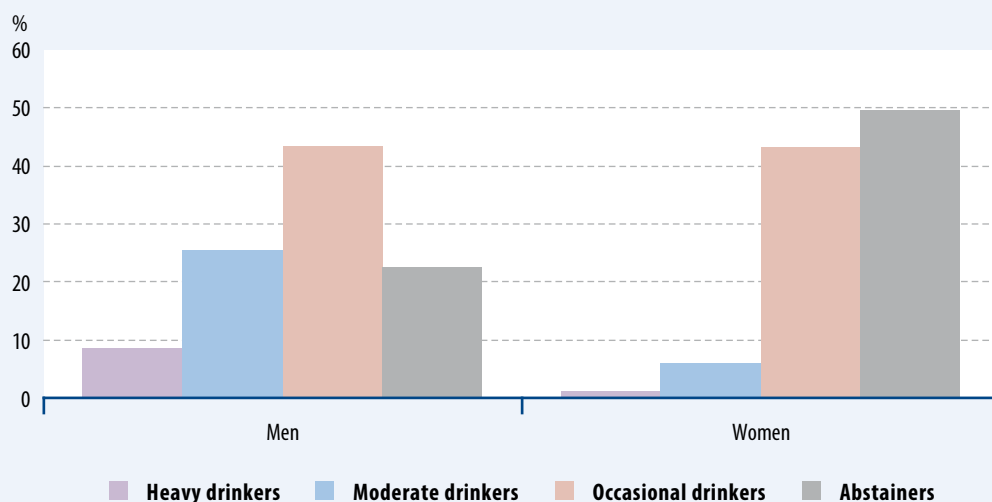
!   *4.6% of the adult population is heavy drinker.*

Relevance Excessive alcohol consumption may play a role in the development of almost 40 different types of diseases. In accordance with estimates, alcohol consumption causes 3.2% of the global deaths; in the European Union alcohol is responsible for almost 200,000 deaths per year. It shows the significance of morbidity burdens that approximately 17 billion euros are spent yearly on the therapy of alcohol-related diseases.

Commentary According to self-reported data, 4.6% of the Hungarian adult population could be classified as heavy drinkers, 15% were moderate drinkers, 43% occasional drinkers and 37% were abstainers in 2009.

International outlook In 2009, mortality connected to alcohol consumption was in Hungary nearly twice as high as the EU average (WHO). The standardized death rate per hundred thousand inhabitants was 114.4 in Hungary as opposed to 59.8 in the EU. In this respect, the situation is worse only in the Baltic states, while the indicator is the most favourable in Malta and Greece.

Details One in every twenty adults (8.6% of men and 1.1% of women) belonged to heavy drinkers in 2009; their number amounted to about 400 thousand. The proportion of heavy drinkers was the highest among middle aged men, among them, one in every nine drank too much, and the proportion of 10% among the 65 year-old and older men was not much lower either. Among women, the differences between age groups were considerable in the proportions of abstainers and not those of heavy drinkers: in the age group 18–34, 40%, while in that of 65 years and older 67% did not drink alcohol at all.

Definition Heavy drinkers are those women and men who consumed more than 7 and 14 units of alcohol, respectively in 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 wine or 5 cl spirit. Due to the great importance of the phenomenon called "binge drinking" in scientific literature (consumption of a large quantity of alcohol in one occasion), we consider those who drink 6 or more drinks per one occasion heavy drinkers as well.

Death rate connected to alcohol consumption in the European Union, 2009, per hundred thousand population ▶

LT	153.4
EE	119.4
LV	116.0
▶ **HU**	**114.4** ◀
RO	108.8
SI	95.6
FI	88.9
SK	84.9
PL	84.6
CZ	71.3
FR	66.0
AT	63.7
BG	62.9
▶ **EU-27**	**59.8** ◀
IE	58.4
LU	55.7
PT	53.7
DE	50.8
UK	50.4
SE	48.4
CY	41.8
ES	40.5
IT	40.1
NL	39.8
EL	38.5
MT	36.2

Suicide death rate

Keywords **suicide**

LT	31.5
HU	**21.8**
LV	20.7
SI	18.7
EE, FI	18.3
PL	15.8
FR	14.9
AT	12.8
CZ	12.4
SE	12.3
IE	11.6
RO	11.2
EU-27	**10.4**
SK	10.3
DK	9.9
DE	9.6
BG	9.4
LU	8.8
NL	8.5
MT	7.9
PT	7.8
UK	6.6
ES	6.3
IT	5.4
CY	3.6
EL	3.0

Figure 72.1. **Number of fatal suicides per hundred thousand inhabitants**

‰ₒₒₒ

Legend: Men — Women — Total
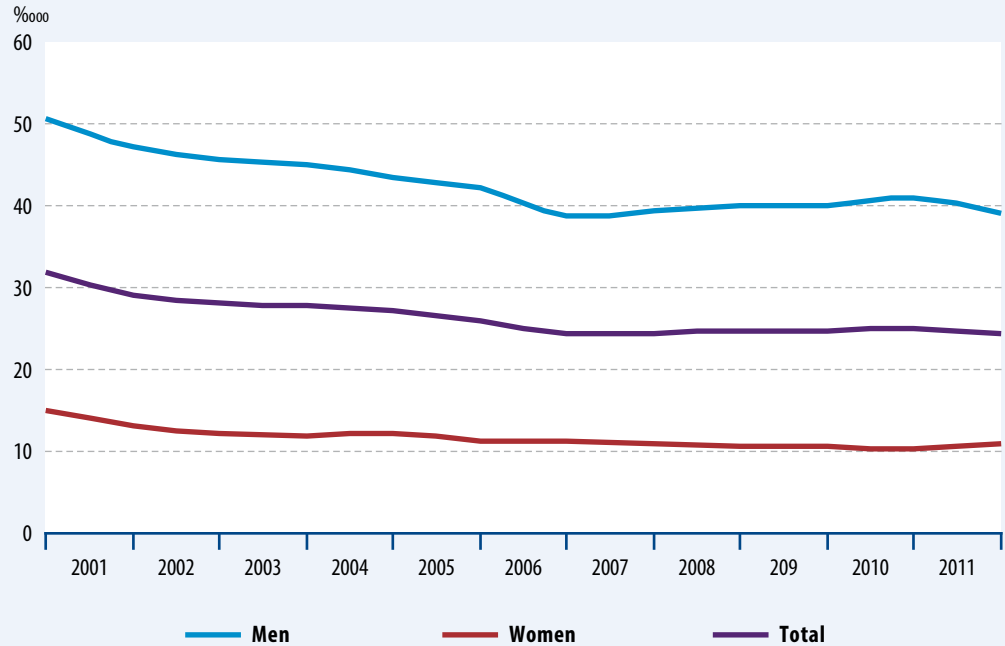
! *Suicide death rate declined by 24 percent between 2000 and 2011.*

Relevance Suicide death rate is one of the most important indicators of mental health as suicides are a rare and extreme outcome of mental illnesses. Improving the health status is of extremely high importance, given its strong impact on many economic and social processes as well. It is a sustainability goal to increase the healthy life years of the Hungarian population.

Commentary Suicide death rates decreased by 24 percent between 2000 and 2011. In 2000, the number of fatal suicides was 51 per hundred thousand men and 15 per hundred thousand women; over twelve years, this number decreased to 39 and 11, respectively. The gap between men and women slightly increased in the observed period. The rate for males was approximately three and a half times higher than that for females in 2011.

International outlook Among EU member states, suicide death rate was the second highest in Hungary in 2009. In our country, the suicide death rate is twice as high for women and more than twice as high for men as the EU-27 average. The indicator is more unfavourable only in Lithuania. The lowest values were registered in the Mediterranean countries (Greece, Cyprus, Italy).

Details In the period between 2000 and 2011, the suicide death rate declined to a different extent in the different age groups: while the fall of mortality rates in the 25–44 and 65–X age groups was much above average, 36–45%, the rates in the age groups 15–24 and 45–64 only declined by 6–21%.

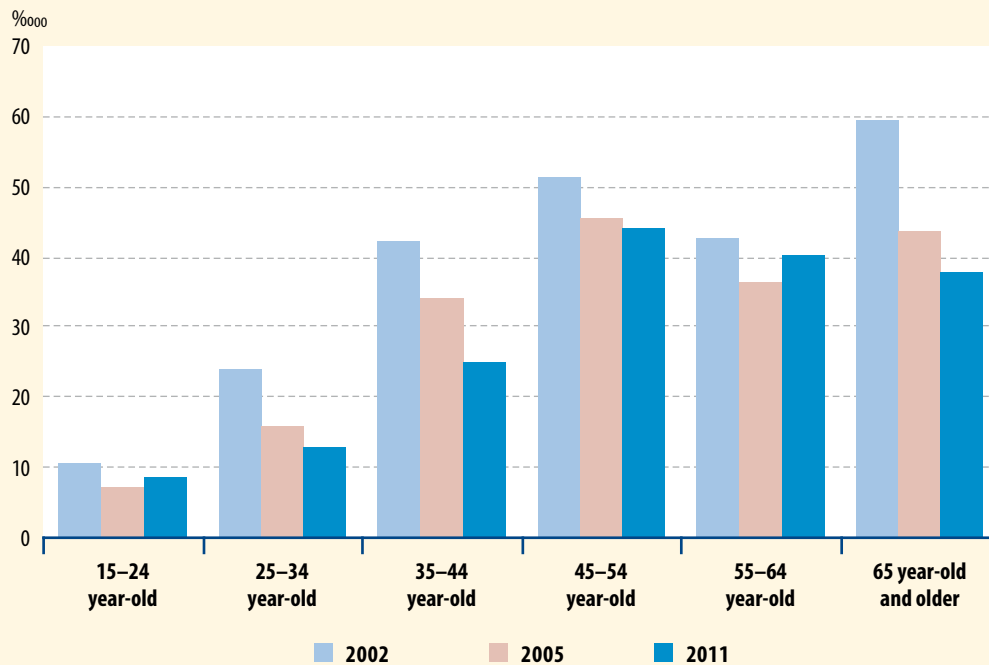Regional differences are significant, although they decreased somewhat. In 2011, the number

Number of fatal suicides in the European Union, 2009, *per hundred thousand population*

Figure 72.2.   **Number of fatal suicides per hundred thousand inhabitants by age groups**

> **!** *Suicide death rate declined by 45% in the age group 25–34 between 2000 and 2011.*

of deaths due to suicide per hundred thousand inhabitants was 34 in Southern Great Plain and 17 in Western Transdanubia, while the national average was 24. In a breakdown by gender, the situation is similar: while in Southern Great Plain 55 men and 16 women per hundred thousand inhabitants deceased due to suicide, in Western Transdanubia these figures were 29 and 6, respectively.
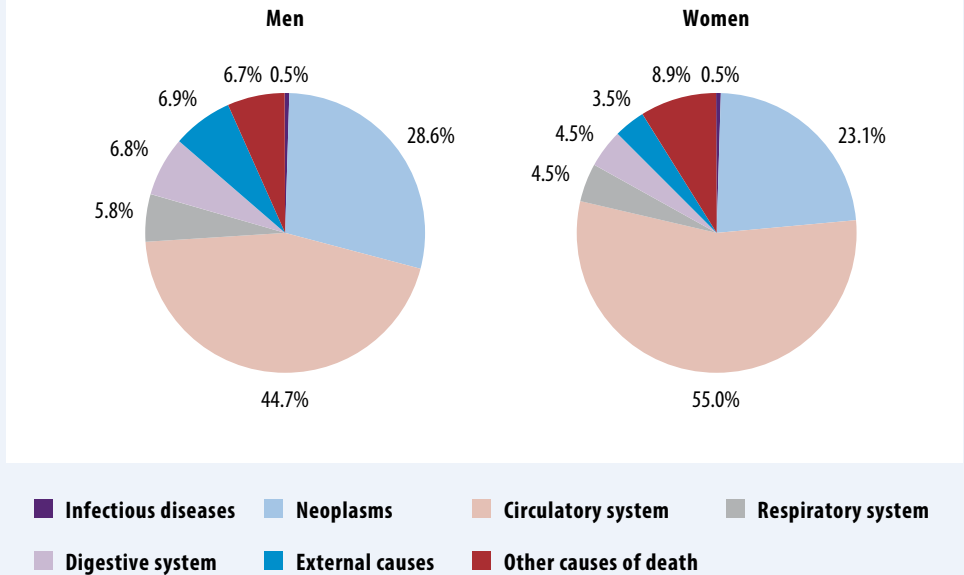
Definition The indicator shows only the number of fatal suicides per hundred thousand inhabitants. The data do not contain attempted suicides which did not result in death.

Stadat tables
1.4. Deaths by frequent causes of death (1990–)

Death rate by major causes of death

Keywords **deaths, causes of death**

BG	965.1
► HU	914.7 ◄
SK	864.9
EE	839.8
PL	809.2
CZ	744.6
DK	643.8
SI	625.5
PT	611.6
► EU-27	601.6 ◄
IE	587.4
FI	580.0
EL	577.4
DE	575.6
MT	572.0
UK	563.0
AT	562.7
NL	549.1
CY	531.6
LU	527.7
SE	520.4
FR	509.6
ES	504.3
IT	495.6

Figure 73.1.   **Distribution of deaths by major causes of death, 2011**

Men

0.5% Infectious diseases · 28.6% Neoplasms · 44.7% Circulatory system · 5.8% Respiratory system · 6.8% Digestive system · 6.9% External causes · 6.7% Other causes of death

Women

0.5% Infectious diseases · 23.1% Neoplasms · 55.0% Circulatory system · 4.5% Respiratory system · 4.5% Digestive system · 3.5% External causes · 8.9% Other causes of death

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

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

Relevance The examination of 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.

Commentary In 2011, the 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 76% of the total number of deaths. The number of deaths due to the diseases of the digestive system, external causes in case of men and the diseases of the respiratory system is relatively high as well. These account for 16%, while the other causes are responsible for only 8% of all deaths.

Regarding the changes in the major causes of death, the most considerable improvement occurred in the external causes of death and in the diseases of the digestive system between 2000 and 2011. The number of deaths due to infectious diseases and diseases of the circulatory system decreased as well, but there was a considerable growth in deaths caused by the diseases of the respiratory system and a slight one in deaths due to neoplasms.

International outlook In international comparisons, we use the WHO mortality rate standardized for the European population. The structure of causes of death in Hungary is at present similar to that in countries with developed health culture. The reason of higher mortality rates compared to developed countries is that more people die earlier due to the leading causes of deaths than elsewhere.

In 2009, the standardized death rate of Hungary was the second highest in the EU member states. In Hungary, the number of deaths per hundred thousand persons was by 419 more than in the best-ranked Italy.

Standardized death rate in the European Union, 2009, per hundred thousand population

Figure 73.2.   **Number of deaths in Hungary by the major causes of death**

%₀₀₀₀

Legend:
- Infectious diseases
- Neoplasms
- Circulatory system
- Respiratory system
- Digestive system
- External causes
- Other causes of death
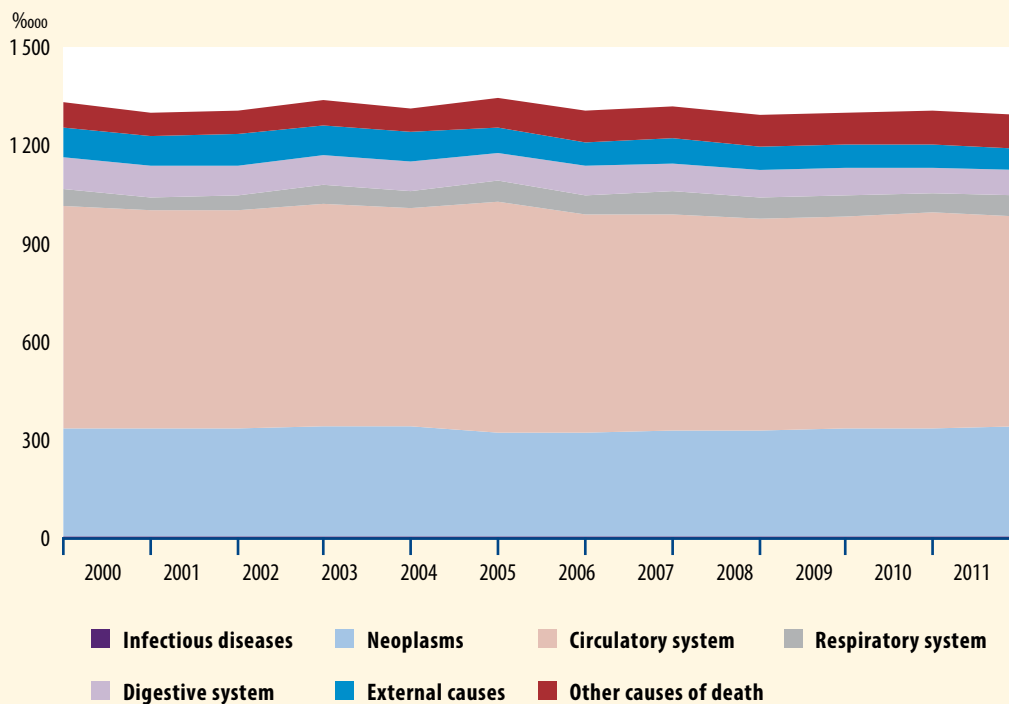
! *Diseases of the circulatory system and neoplasms account for 76% of deaths.*

In all the main groups of causes of death, the standardized rates of Hungarian men are higher than the EU average. In 2009, the rate of those deceased due to the diseases of the digestive system was two and a half times higher than the EU average, while the rate was more than the double of the EU average in case of deaths due to the diseases of the circulatory system.

In case of women, the indicators of causes of death exceed the EU average to a smaller extent than in case of men. In 2009, mortality due to diseases of the respiratory system was similar to the average of the EU member states, but mortality from diseases of the circulatory system and the digestive system was nearly twice of the EU average.

Details The number of deaths per hundred thousand persons decreased for men and increased for women between 2000 and 2011. The structure of causes of death is very similar for the two genders, and there is a difference in the proportions of the major causes. In 2011, the proportions of deceases due to neoplasms, diseases of the respiratory system, digestive system and external causes

were higher among men, while diseases of the circulatory system led to death more freqently in case of women.

The differences between regions have increased. Since 2000, the number of deaths per hundred thousand inhabitants has significantly decreased in Central Hungary, while in Northern Hungary it has further inreased. 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.

Definitions

Causes of death are classsified according to the 10th Revision of the International Classification of Diseases.

The standardized death rate is a crude indicator which is weighted by the age distribution of the World Health Organization's (WHO) European standard population.
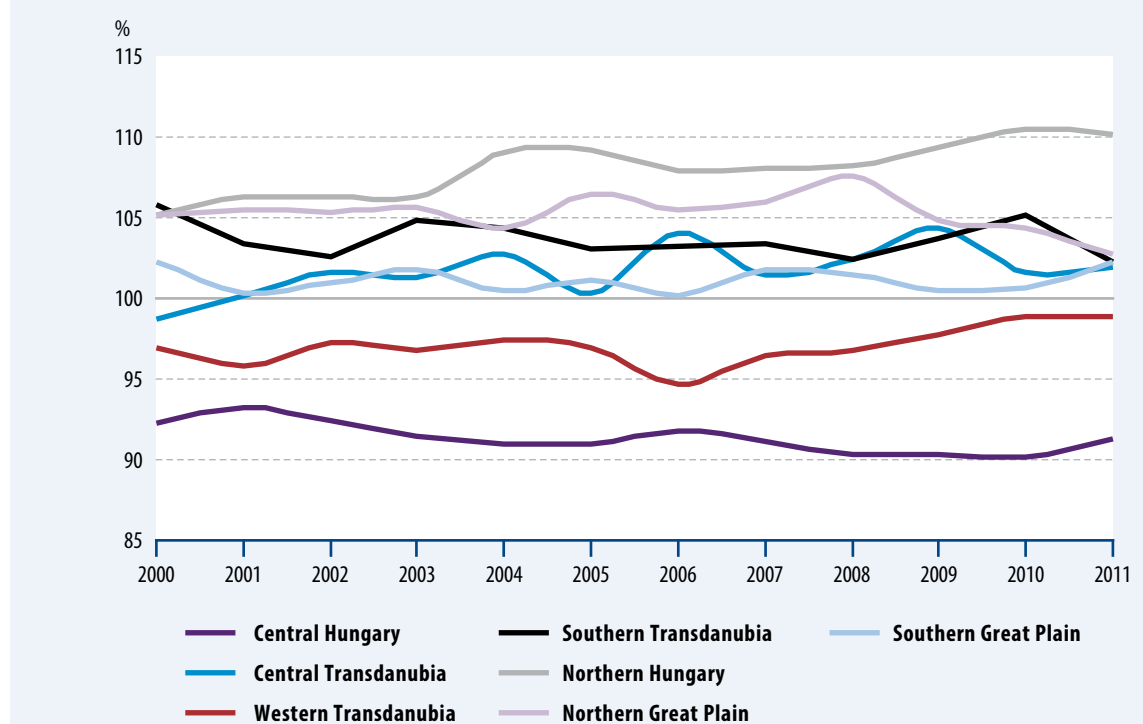
Stadat tables
1.4. Deaths by frequent causes of death (1990–)

Standardized mortality ratio (SMR)

Keywords **standardized mortality ratio, mortality**

| Figure 74.1. | **Standardized mortality ratio by regions** | (national=100.0) |

The figure shows standardized mortality ratio by regions, with series:
Central Hungary, Central Transdanubia, Western Transdanubia, Southern Transdanubia, Northern Hungary, Northern Great Plain, Southern Great Plain, from 2000 to 2011.

! *The gap between the regions with the highest and the lowest mortality has been opening since the turn of the millennium.*

Relevance The goal of exploring mortality inequalities within the country is to draw the attention to the existing regional differences in mortality hazards. The state of economic development, 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.

Commentary In 2011, the value of SMR was above the national average in Central Transdanubia, Southern Transdanubia, Northern Hungary and in Northern and Southern Great Plain, while it was below the average in Central Hungary and Western Transdaubia. Since 2000, the mortality condition of Central Hungary has improved, while that of Northern Hungary worsened compared to the national average. The SMR was 110% in Northern Hungary and 91% in Central Hungary in 2011. The difference between the two extreme values was 19 percentage points, 6 percentage points more than in 2000.

Details In the period between 2000 and 2011, the regional differences in the SMR increased for males and moderated for females. In 2011, the SMR of men was 116% in Northern Hungary and 88% in Central Hungary. The difference between the two extreme values was 28 percentage points, 11 percentage points higher than in 2000. Regarding the SMR values of women, Central Hungay 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 2011, Northern Hungary was the first in the ranking in case of women as well. However, the gap between the two extreme values has been closing, because in 2000 the difference was 15 percentage points, and by 2011 it moderated to 11 percentage points.

Definition Standardized mortality ratio (SMR) is the ratio of the actually observed number of deaths in the given region and the expected

Figure 74.2. **Standardized mortality ratio for men by regions**
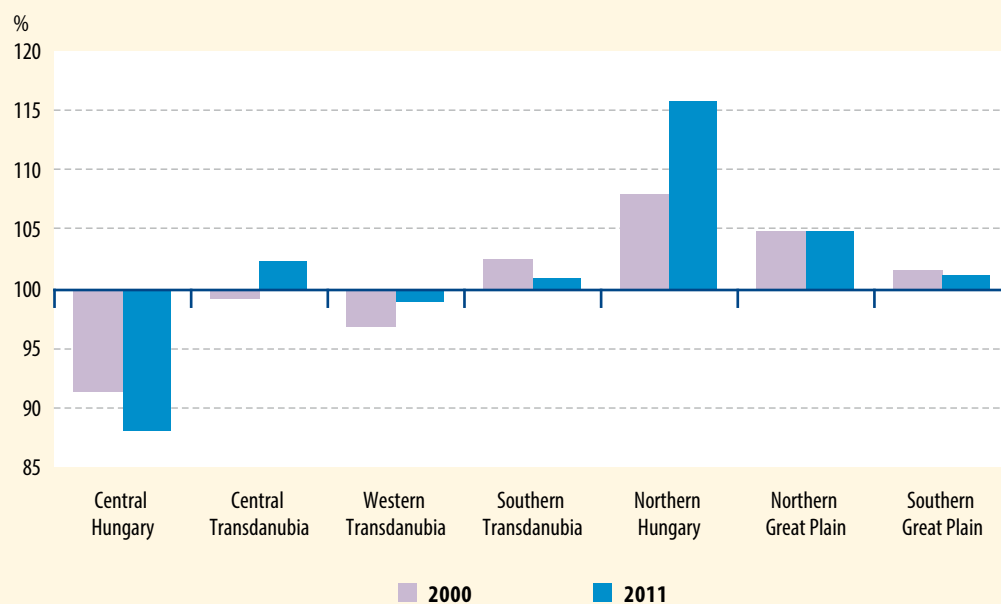
! *The difference increased to 28 percentage points between the SMR of men in Northern Hungary and Central Hungary.*

Figure 74.3. **Standardized mortality ratio for women by regions**
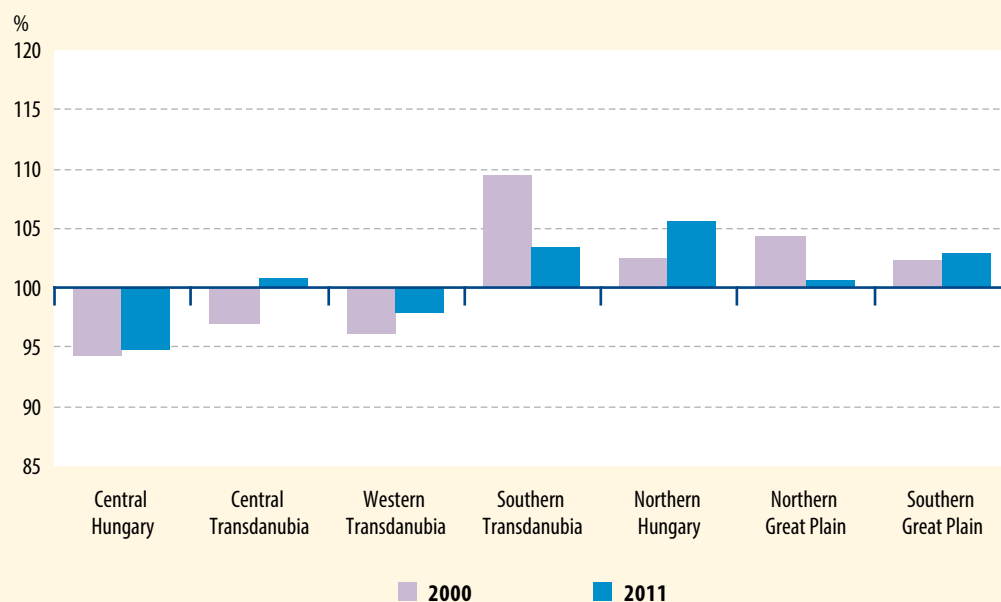
! *The difference between the regions with the highest and the lowest SMR moderated.*

number of deaths calculated by the country 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 standardized mortality ratio is higher than 100%.

Persons with low educational attainment

Keywords **low educational attainment, educational attainment, education**

MT	68.5
ES	46.2
IT	44.0
EL	35.5
BE	28.7
FR	28.4
NL	27.7
EU-27, IE	26.6 ◄
RO	25.1
CY	25.0
UK	23.6
DK	23.1
LU	22.7
BG	19.8
► HU	18.2 ◄
SE	18.0
AT	17.5
FI	16.3
SI	15.5
DE	13.7
LV	12.3
EE	11.1
PL	10.9
SK	8.7
CZ	7.7
LT	7.1

Rate of persons with low educational attainment in the European Union, 2011, % ◄

Figure 75.1. **Number of persons with low educational attainment by age group**

15–24 year-old ■ **25–29 year-old** ■ **30–34 year-old** ■ **35–39 year-old** ■ **40–44 year-old** ■ **45–49 year-old** ■ **50–54 year-old** ■ **55–59 year-old** ■ **60–64 year-old** ■ **65–74 year-old**
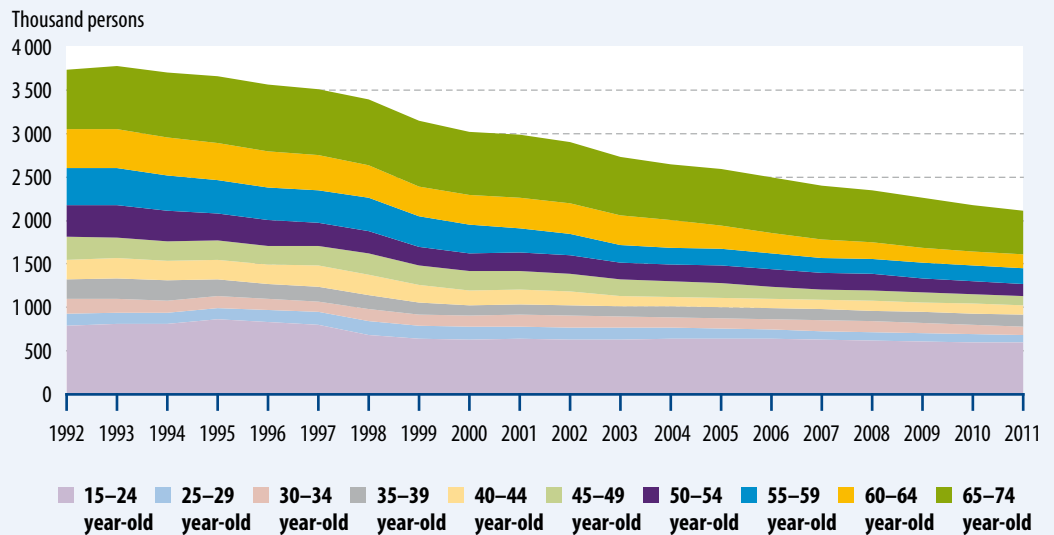
! *The number of persons with low educational attainment continues to fall.*

Relevance The level of educational attainment is closely connected with the chances of employment, but its low level may be a disadvantage in other areas of life as well. Increasing the level of educational attainment helps create social cohesion and a clear improvement in life chances.

Commentary The number of persons with low educational attainment gradually decreased due to the increase in the level of educational attainment, while the number of population aged 15–74 did not change. Accordingly, in 1992 nearly half of the population aged 15–74 belonged to persons with low educational attainment, while in 2011 their ratio was only 28%. Between 1992 and 2011, the number of persons having completed primary school at most diminished by 43%.

International outlook Since 2003, i.e. the year of the first available EU data suitable for international comparison, the rate of people with low educational attainment in Hungary has been continuously below of the EU average, and the proportion of this group has been decreasing at a faster pace as well. The indicator is the worst in Malta

(69% of the population aged 25–64 years have low educational attainment), closely followed by Portugal (65%). At the other end of the ranking are Lithuania, the Czech Republic and Slovakia.

Details The level of educational attainment considerably increased (by 25–62%) in each age group between 1992 and 2011 because of the demographic change and the expansion of higher education. The decline in the number of persons having completed primary school was considerable first of all among middle aged (45–64 year-old) people. 40% of persons with low educational attainment belonged to the two ends of the age scale, namely to the youngest (15–24) and the oldest (65–74) age groups in 1992, while in 2011, their ratio already was more than 50%.

Definition Persons with low educational attainment are those who completed 8 grades of primary school at most.

Stadat tables
2.1.23. Number of population aged 15–74 by highest educational qualification and sex (1998–2012)

Low reading literacy performance of pupils

Keywords **pupils with low reading literacy, education**

Figure 76.1. **Share of pupils with low reading literacy**

Source: Eurostat.

! *According to the last PISA survey, the rate of pupils whose reading literacy performance is low has significantly decreased in Hungary.*

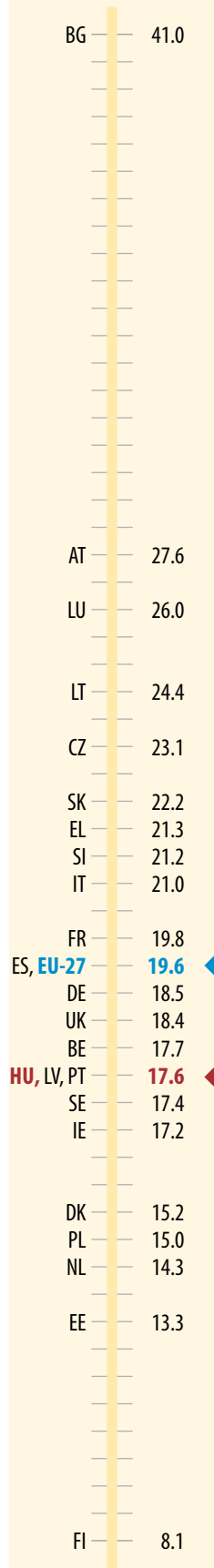**Relevance** To raise the general level of culture/education and to improve the quality of cultural socialisation, there is a need for improved access to basic cultural services through developing community spaces and cultural infrastructure; furthermore, the role of culture and community activities in education and training needs to be strengthened. The essential precondition of all these is the proper level of reading literacy. The EU objective is to decrease the proportion of 15 year-old pupils with low reading literacy performance below 15% by 2020.

Commentary Hungary has achieved a significant improvement since the turn of the millennium. While in 2000 the proportion of students with low level of reading proficiency was 23%, by 2009 it decreased to 18%.

International outlook While in Finland the share of pupils with low reading literacy is only 8%, this share exceeds 40% in Bulgaria and Romania. Hungary belongs to the first third of the ranking; the surrounding countries can be described with higher rates than the Hungarian one: in Slovenia, Slovakia and the Czech Republic, more than 20% of students do not reach level 2.

Definition The indicator presents the share of 15 year-old pupils who are at level 1 or below at the PISA combined reading literacy scale. According to the definition used in PISA, reading literacy measures the ability of 15 year-old students to use written information. On a 5-grade scale, proficiency at level 1 and below means that the pupils are not likely to demonstrate success on the most basic type of reading that PISA seeks to measure. Such students have serious difficulties in using reading literacy as an effective tool to advance and expand their knowledge and skills in other areas.

Rate of pupils with low reading literacy in the European Union, 2009, %

BG	41.0
AT	27.6
LU	26.0
LT	24.4
CZ	23.1
SK	22.2
EL	21.3
SI	21.2
IT	21.0
FR	19.8
ES, **EU-27**	**19.6** ◄
DE	18.5
UK	18.4
BE	17.7
HU, LV, PT	**17.6** ◄
SE	17.4
IE	17.2
DK	15.2
PL	15.0
NL	14.3
EE	13.3
FI	8.1

Early school leavers

Keywords **early school leavers, educational attainment, education**

Figure 77.1. **Rate of early school leavers**

Source: Eurostat.

Hungary, men — **EU-27, men** — ⦿ **EU target**
Hungary, women — **EU-27, women**
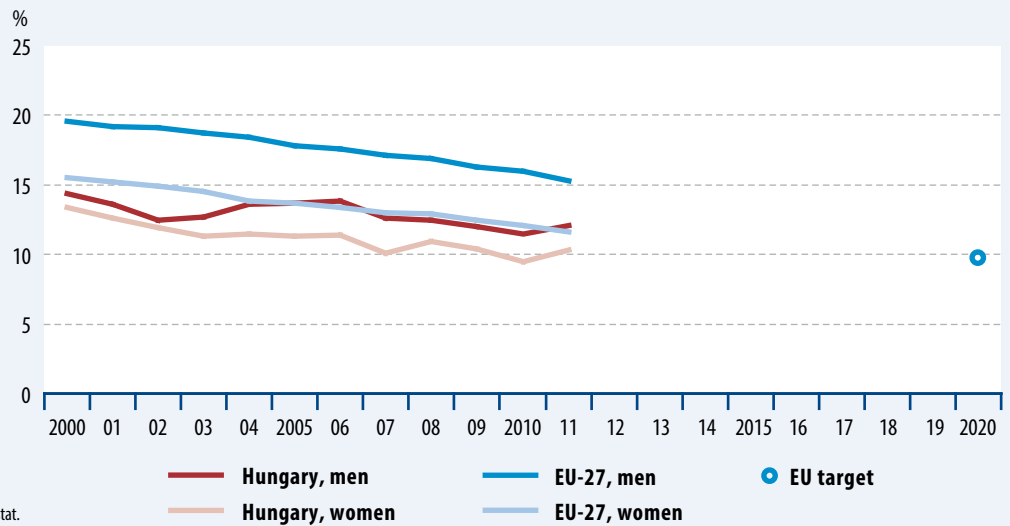
> **!** *The rate of early school leavers decreased between 2000 and 2010 in Hungary, it slightly increased in 2011, but even so, it is below the EU average.*

Relevance One of the main objectives of the renewed EU Sustainable Development Strategy (SDS) in the topic "Social inclusion, demography and migration" is: "Promoting increased employment of young people. Intensifying efforts to reduce early school leaving to 10% and to ensure that at least 85% of the 22 year-olds should complete upper secondary education. Every young person who has left school and is unemployed should be offered a job, apprenticeship, additional training or other employability measure within 4 months."

Commentary The rate of early school leavers (persons aged 18–24 with at most lower secondary education and not receiving any education or training) declined by 2.7 percentage points between 2000 and 2011. Several issues played a role in this: the age of compulsory education increased; the age of starting school initiated by parents is more and more frequently 7 years instead of 6 – that was general earlier –; since 2003 a preparatory language class has been introduced in more and more secondary schools which prolongs the age of obtaining G.C.S.E. (from 18-19 to 19-20); thus the length of professional education bounded to G.C.S.E. increased by 1–2 years.

Rate of early school leavers in the European Union, 2011, %

The rate of early school leavers was continuously lower and the decrease was faster among women than among men in the examined period. Due to these facts, the 1 percentage point difference between the sexes in 2000 increased to 1.8 by 2011.

International outlook Though between 2000 and 2011 the decline in the rate of early school leavers in the European Union was larger than in Hungary – more than 4 percentage points –, the Hungarian school system still offers an alternative to obtain at least an upper secondary education for more 18-24 year-old persons with lower secondary education than the EU member states in general.

Definition This indicator shows the ratio of early school leavers within the population of the given age group (18–24). Those 18–24 year-old primary school graduates are qualified as early school leavers, who did not participate in (either formal or non-formal) education or training during four weeks before the interview.

Stadat tables
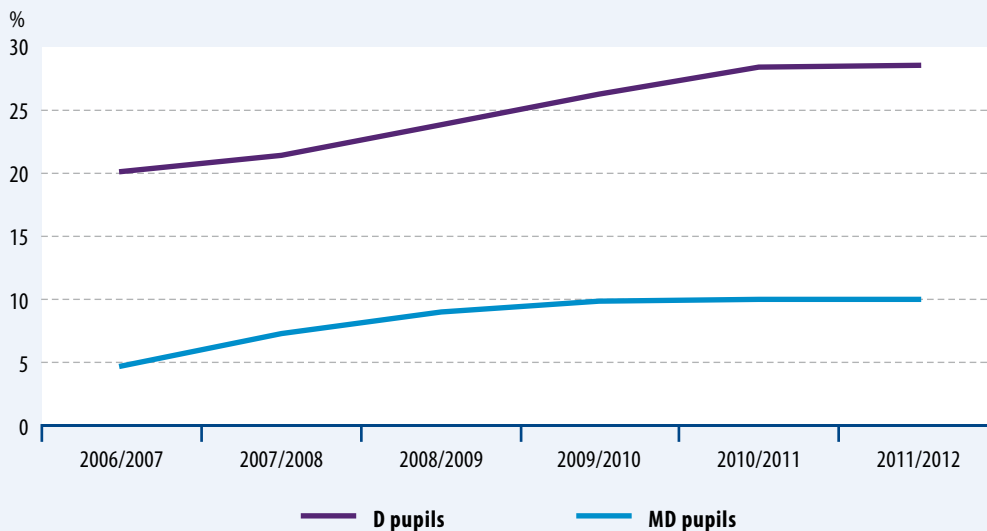**2.2.4. Individual and social results, effectiveness of learning (2000–2011)**

Disadvantaged (D) and multi-disadvantaged (MD) students

Keywords **disadvantaged (D) students, multi-disadvantaged (MD) students**

Figure 78.1. **Proportion of disadvantaged (D) and multi-disadvantaged (MD) students in full-time education**

Source: Ministry of Human Resources.

> ! *The increase in the proportion of both disadvantaged and multi-disadvantaged students stopped.*

Relevance Social cohesion requires creation of circumstances in which all individuals have, in the long run, the basic prerequisites for socio-economic participation; where paths of mobility are created and kept open for the individual.

The Hungarian education system – as proven by findings of numerous Hungarian experts and international data (PISA Report 2000 and 2003) - does not always provide equal conditions for its participants. It is true that members of disadvantaged social groups are provided with lower education standard under poorer conditions. An increasing number of initiatives are launched to offset social differences that are reproduced in the public education system and are conserved from generation to generation, and stopping inequalities in opportunities is included as a priority objective of development strategies.

Commentary In full-time education, the number and the rate of disadvantaged (D) and multi-disadvantaged (MD) children were similar in the 2011/2012 school year to those in the previous year. At lower levels of general education, the rate of disadvantaged students is over 30%, while at secondary level it is much lower, 16% in secondary vocational schools and 8% in secondary grammar schools.

Just as in case of disadvantaged children, the number and the rate of multi-disadvantaged students in full-time education were similar in the 2011/2012 school year to those in the previous year.

At lower levels of general education, the rate of multi-disadvantaged students is over 10%, while at secondary level giving G.C.S.E. it is much lower, 2.8% in secondary vocational schools and 1.3% in secondary grammar schools.

Details Except for Heves county, the situation is the worst in Northern Great Plain and Northern Hungary. In these two regions, the rate of disadvantaged students is by 18 and 16 percentage points, while that of multi-disadvantaged students is by 11 and 10 percentage points higher, respectively than the national average. On the other hand, in Central Hungary (Budapest and Pest county), the proportion of students belonging to a risk group (14%) is half of the national average, while the MD-rate (3%) is less than the third thereof.

Definitions Disadvantaged child, student: those children, students whose entitlement to a regular child protection allowance on the basis of their social background is declared by the public administration officer.

Figure 78.2. **Proportion of disadvantaged (D) and multi-disadvantaged (MD) students in full-time education by school-type, 2011/2012**
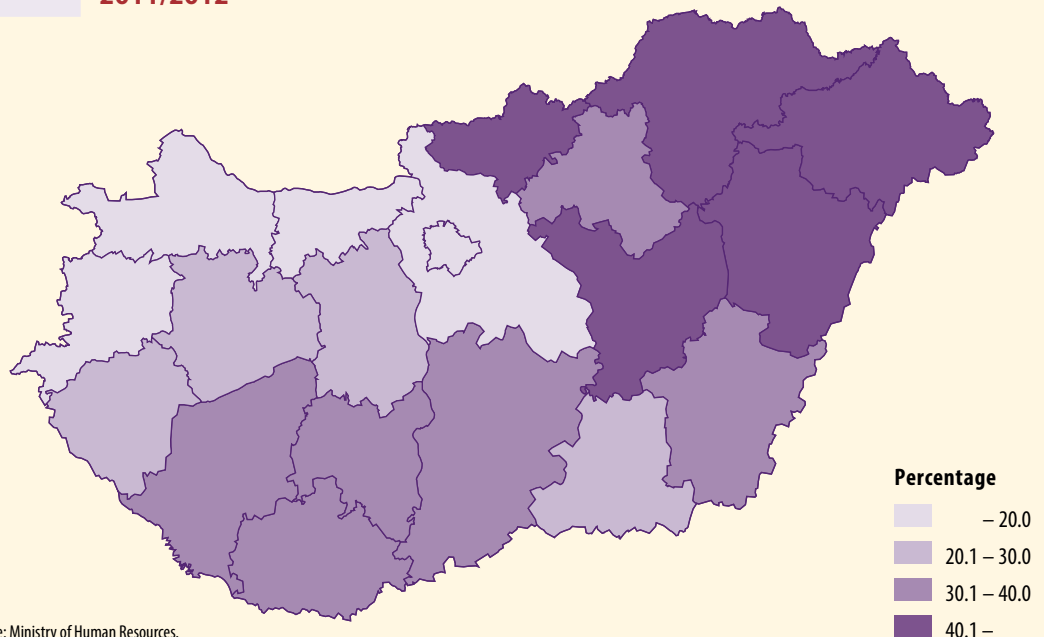

Source: Ministry of Human Resources.

■ **Disadvantaged pupils, D**　■ **Multi-disadvantaged pupils, MD**
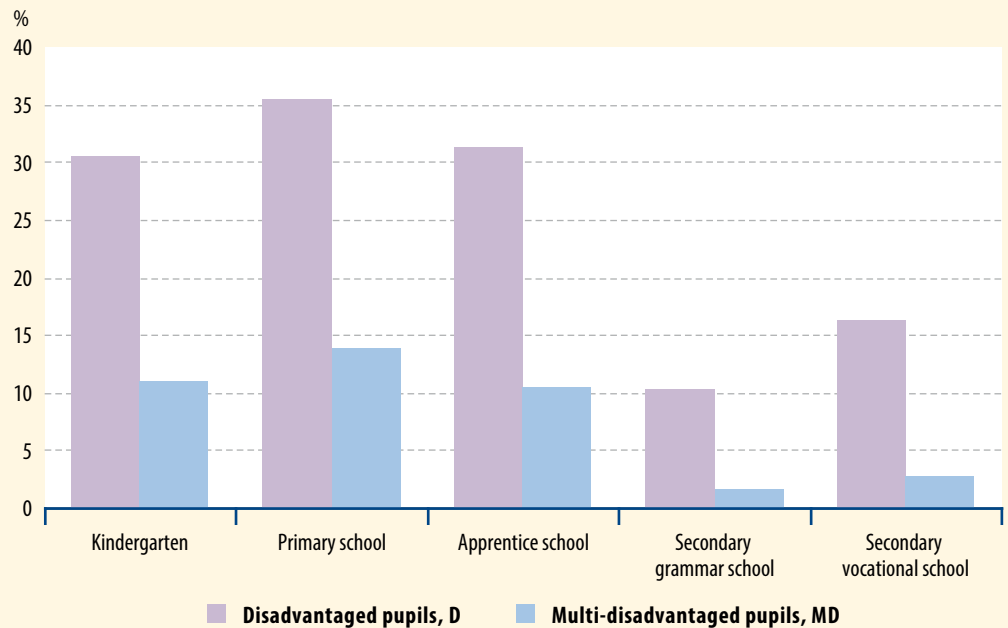
> **!** *At lower levels of general education, the situation is more unfavourable.*

Figure 78.3. **Proportion of disadvantaged (D) students in full-time education by counties, 2011/2012**

Percentage
- ☐ – 20.0
- ☐ 20.1 – 30.0
- ☐ 30.1 – 40.0
- ☐ 40.1 –

Source: Ministry of Human Resources.

> **!** *The proportion of disadvantaged students in Szabolcs–Szatmár–Bereg county is more than five times as high as in Budapest.*

Multi-disadvantaged child, student: those disadvantaged children, students whose parent having legal custody of the child declares in a voluntary statement that he/she has completed the 8th grade of primary school at most. Furthermore, children, students taken into long-term foster care are multi-disadvantaged as well.

Computer skills of individuals

Keywords **computer, computer skills**

| Figure 79.1. | **Proportion of people with at least medium level computer skills** |
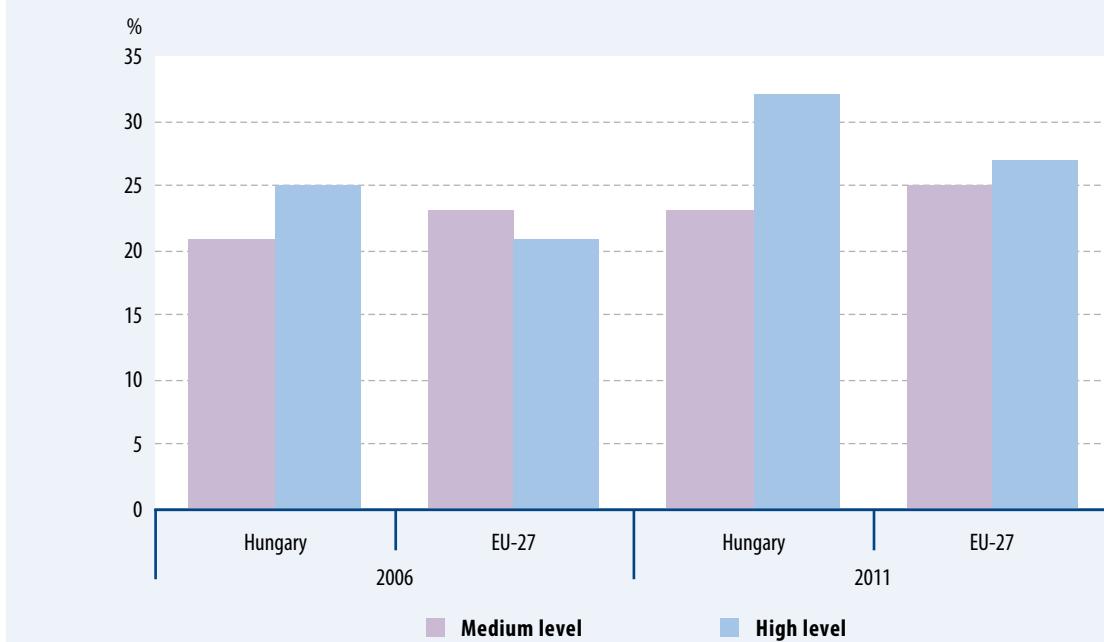
Source: Eurostat.

! *In 2011, the proportion of people with medium level computer skills was 23% in Hungary.*

Relevance The increasing computer use at work resulting from the digital revolution requires the continuous development of computer skills. In addition to the fact that digital literacy, ability to appropriately use digital technology and communication tools, is one of the pre-conditions to appear successfully in the labour market, it contributes to the enrichment of general knowledge and makes our everday life easier as well.

Commentary In Hungary, there has been a considerable progress in the field of e-skills of the population aged 16–74 years since 2006. By 2011, about 3 of 10 individuals had high level and more than one fifth of them had medium level computer skills. Compared to 2006, the proportion of people with high level computer skills increased by 7 percentage points and amounts to 32% at present, while that of the population with medium level of computer skills grew by 2 percentage points to 23% by 2011.

International outlook The share of population with basic and medium level computer skills has a similar trend as the EU-27 average. Our national high level computer literacy exceeded the average of EU-27 by 5% in 2011. However, while the proportion of those with medium level computer skills has been lower, that of people with high level skills has been higher than the EU average for years. The Hungarian indicator (32%) is the 6th in the ranking of EU member states together with 5 other countries, Estonia, Spain, Lithuania, the Netherlands and the United Kingdom. The highest proportion of the population having high computer skills was observed in Luxembourg and Finland (43%), while in Romania only one in ten people is able to perform six of the operations listed.

Details According to the survey of 2011, 74% of the Hungarian population aged 16-74 have already used computer in their life. The questions for computer skills are addressed to know the level of usage. The share of individuals aged

Rate of persons with high-level computer skills in the European Union, 2011, %

LU	43
AT, SW	42
DK	39
EE, ES, LT, **HU,** NL, UK	32
SI	31
FR, LV	29
BE, PT	28
EU-27	**27**
IE	26
CZ, DE, IT	25
GR, MT	24
CY, SK	23
PL	18
BG	11
RO	10

Figure 79.2.   **Proportion of people with computer skills, 2011**
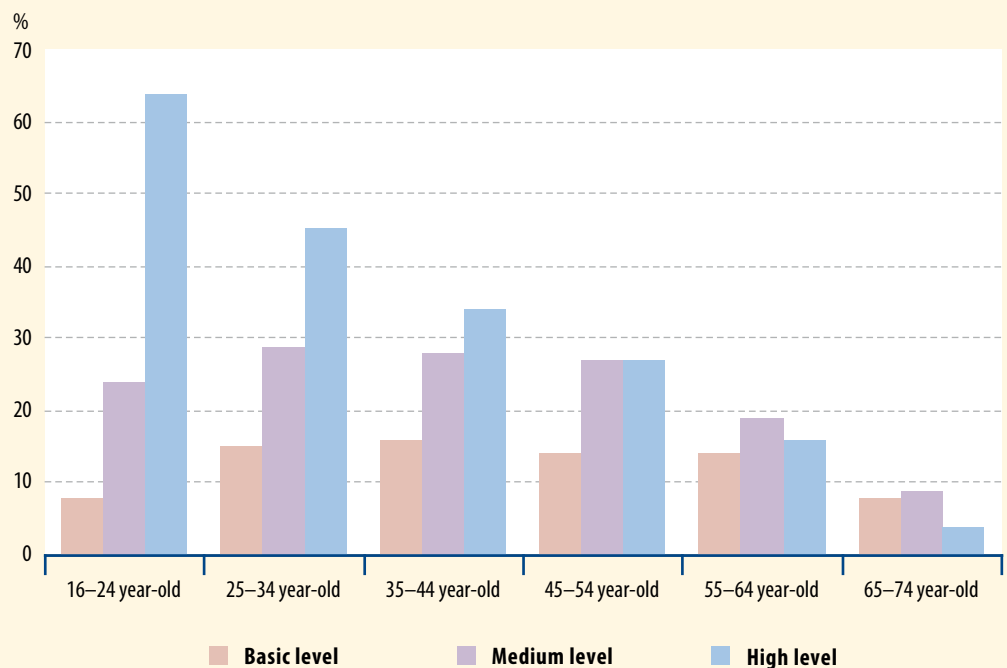
64% of young people aged 16–24 years have high level computer skills.

16-44 with high level computer skills is above average (32%). Among them, the proportion of young people aged 16–24 years is outstanding; two thirds of them use the computer on high level. Among other young people aged 25-34, the proportion of those with digital literacy is also about three times as high as of those with low level computer skills. Three of every ten people aged 35-44 are able to deal with the computer on high level. In the age group of 45-54, the share of individuals with high and medium level computer skills is the same (27%), while among individuals aged 55-64, the proportion of those with high level computer skills is lower than that of people with medium level digital knowledge. The proportion of individuals above 65 years with any level of computer skills is less than 10%.

Definitions

The indicator of individuals' level of computer skills presents the share of individuals having low, medium and high level computer skills in the total population aged 16–74. E-skills are users' abilities which enable to effectively use new information and communication technology.

Computer skills surveyed:

1) Copying, deleting or moving a file or folder
2) Using copy and paste tools to duplicate or move information within a document
3) Using basic arithmetic formulas in a spreadsheet
4) Compressing or zipping files
5) Connecting and installing new devices (printer, modem etc.)
6) Writing a computer program using a specialised programming language

Levels of computer skills:

basic: where 1 or 2,
medium: where 3 or 4,
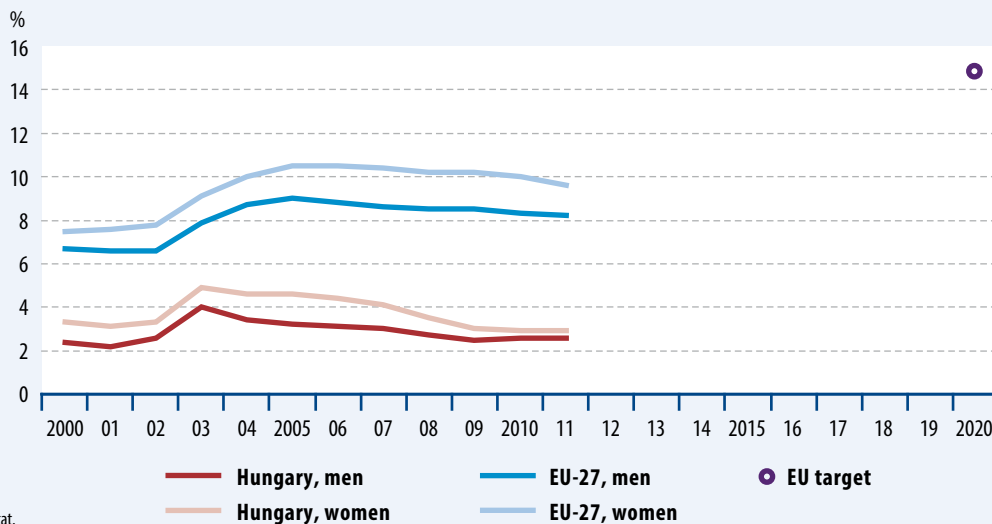high: where 5 or 6 operations from the above list can be carried out.

Those who indicated none of the above operations have no computer skills.

Life-long learning

Keywords **life-long learning, education, training**

Figure 80.1. Life-long learning in the population aged 25-64

Hungary, men — EU-27, men — ⊙ EU target
Hungary, women — EU-27, women

Source: Eurostat.

> **!** *In 2011, 2.7% of the population concerned participated in some kind of training.*

Relevance Life-long learning serves the adjustment of the labour force to the changing demands of the economy. Besides, it comprehends all planned learning activities which aim at obtaining knowledge or improving abilities and competencies.

According to the so-called European benchmark, at least 15% of the adult population on average must be provided with the possibility of participating in life-long learning by 2020.

Commentary Between 2000 and 2002, the share of people participating in life-long learning in the total population aged 25–64 was around 3%. This share, after a great increase of nearly 1.5 percentage points in 2003, became steady on a level of around 4% till 2006. However, thereafter, a continuous decrease occurred, and in 2011 only 2.7% of the population concerned participated in education or training. The reason for this decreasing participation rate may be the globally evolving crisis as well, but the results of researches and ad-hoc surveys make it clear, when answering the question, more and more people do not take into account shorter, one- or two-day-long trainings or trainings which are not connected to the job.

The indicator of life-long learning by sex shows that more women participate in life-long learning than men. The difference was about 1% at the beginning of the millennium, and it approached 1.5% by the middle of the first decade, while since 2005 the gap has been continuously narrowing. The results of the survey in 2011 show only a difference of 0.3% in the participation rate of the two genders.

International outlook While in the EU member states every ninth or tenth person of the population aged 25–64 stated that they participate in education or training, in Hungary not even the third of the population did so. In Hungary and in the EU in general, more women are involved in life-long learning than men. The proportion of people participating in different trainings is the highest in the Scandinavian countries and the lowest in the Central Eastern European member states.

Definition Life-long learning is the ratio of persons aged 25–64 who answered that they had participated in education or training (formal or non-formal) in the four weeks preceding the survey to the total population of the same age group.

Life-long learning in the European Union, 2011, %

DK	32.3
SE	25.0
FI	23.8
NL	16.7
SI	15.9
UK	15.8
LU	13.6
AT	13.4
EE	12.0
PT	11.6
CZ	11.4
ES	10.8
EU-27	**8.9**
DE	7.8
CY	7.5
BE	7.1
IE	6.8
MT	6.6
LT	5.9
IT	5.7
FR	5.5
LV	5.0
PL	4.5
SK	3.9
HU	**2.7**
EL	2.4
RO	1.6
BG	1.2

Capacity of kindergartens and infant nurseries

Keywords **utilization of kindergartens, utilization of infant nurseries**

Figure 81.1.	**Utilization of kindergartens**
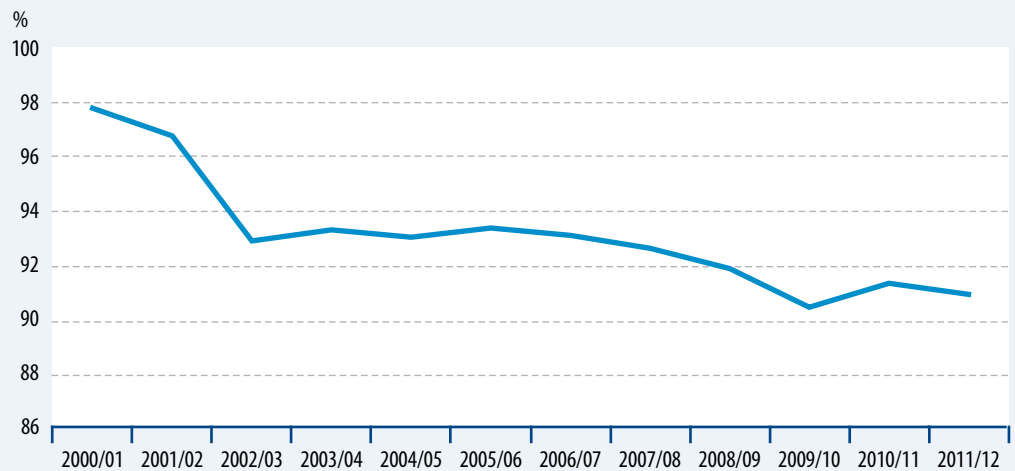
Source: Ministry of Human Resources.

! *In school year 2011/12, the utilization of kindergartens was 91%.*

Relevance In order to reduce child poverty, it is important that health, care, development and social services should be accessible for all 0–3 year-old children and their parents. For this, it is necessary to harmonize locally accessible services. The kindergarten education of children from the age of three and then the accessibility to integrated education of high quality is indispensable for creating the basis for success in school and avoiding dropout. The possibility for daycare of children who are still not obliged to attend school promotes the parents' return to the labour market.

Commentary After the turn of the millennium both the number of kindergarten pupils and that of kindergarten places gradually decreased until 2007, then they both increased. The utilization of kindergartens fell from 98% in 2001 to 91% by 2009, and then this level became stagnant. The new type of multifunctional institution, namely the uniform kindergarten-infant nursery enabling to fill vacant kindergarten places with children younger than three years, affected favourably the utilization of kindergartens. Thus, more than 500 children younger than kindergarten age were cared for in 2011.

Details The capacity utilization of infant nurseries was around 120% at the early 2000s, and it reached even 130% in 2008. The number of children enrolled is persistently higher than that of places.

After 2009, the overcrowding of infant nurseries decreased due to two reasons. Firstly, from 1st January 2010, the maximum size of a group in infant nurseries grew from 10 to 12 children, (if all children are older than two years, at most 14 children can be nursed in one group). On the other hand, a new type of multifunctional institution for initial education was established, namely the uniform kindergarten-infant nursery, which gives opportunity for the parents of 2 or3 year-old children living in smaller settlements to recourse to day-time care thus promoting their return to the labour market. In smaller settlements, the municipal council is not obliged to operate a separate infant nursery because of the low number of children. The third factor is the spread of out of school care, which is a form of day-time care besides infant nurseries. As an effect of all these changes, the utilization of infant nurseries fell to 103% in 2011.

In respect of regional differences, no change could be observed. The occupancy rate is the highest (over 90%) in the counties of Northern
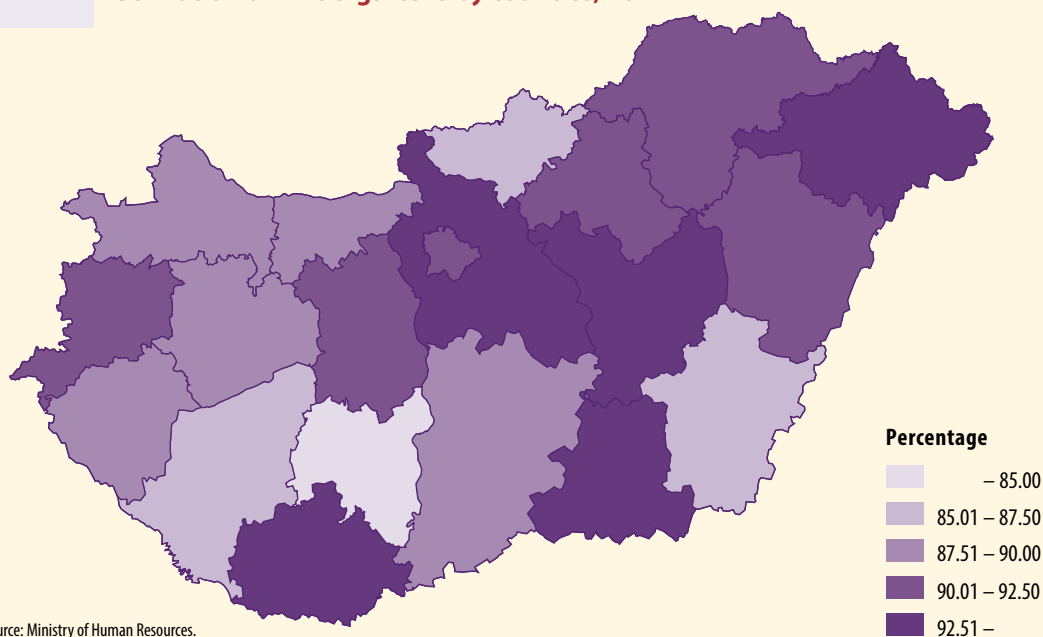
Figure 81.2. **Utilization of infant nurseries**
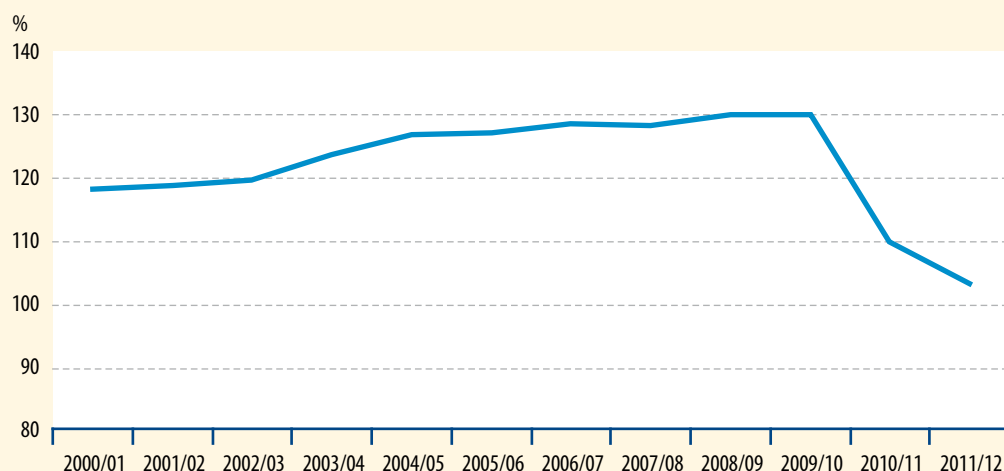
Source: Ministry of Human Resources.

! *The shortage of capacity during the decade considerably decreased in the last two years.*

Figure 81.3. **Utilization of kindergartens by counties, 2011**

Percentage

	− 85.00
	85.01 − 87.50
	87.51 − 90.00
	90.01 − 92.50
	92.51 −

Source: Ministry of Human Resources.

! *The occupancy rate of kindergartens is the highest in Szabolcs–Szatmár-Bereg county.*

Great Plain and Central Hungary every year. At the same time, the utilization of kindergartens in Tolna county did not even reach 85% in 2011.

Definitions The utilization rate of infant nurseries is an indicator defined as the ratio of the number of children enrolled and the number of active infant nursery places.

The utilization rate of kindergartens is defined as the ratio of children enrolled and registered in kindergartens at the reference date of the statistical survey to the number of places of active kindergartens.

Stadat tables
2.4.10. Infant nurseries and out of school care
2.6.3. Education at kindergartens

Civil society organisations

| Figure 82.1. | **Number of civil society organisations** |

> **!** *The number of civil society organisations was around 65 thousand in 2011.*

Relevance The activity of civil society organisations functioning between the market and the public sector aims at making the provision of public tasks more efficient, improving the quality of public services and satisfying newly emerging social needs such as environment protection, legal protection and humanitarian services. In addition, the participation and commitment of citizens can be increased, too, on the basis of sharing knowledge, with the particular involvement of civil society organisations.

Commentary Prior to the regime change the absolute dominance of membership organisations was observed, the number of foundations was negligible, however, 36% of the non-profit sector operates already in this form nowadays. The boom of establishing non-profit membership organisations until 1995 was followed by stagnation, then from 2000 an increase again. The number of foundations grew almost continuously, though at lower rates from 1995 compared to the preceding periods, which, however, stopped in 2008. There

were 23 236 registered foundations in Hungary in 2011. The number of organisations in the total non-profit sector was more than 65 thousand in 2011.

International outlook In 1990 the Hungarian non-profit sector was much smaller, in relative terms as well, than that of developed western European countries. Following the regime change the number of civil society organisations has risen fast, and their social and economic role has gradually strengthened. The most striking difference is the relatively low share of organisations providing welfare services in Hungary, in contrast with the non-profit sector in developed countries, where this is exactly the most important area.

Details The organisations engaged in community and economic development, public safety, education and religion underwent a dynamic growth, considerably exceeding the average throughout the period. Besides, the size of recreation, cultural, health and social as well as environmental

sub-sectors more than doubled, too. However, the number of professional economic interest groups, sports clubs and fire-brigade associations decreased between 1993 and 2011.

The composition of the sectors of foundations and associations differ fundamentally, as far as activities are concerned. The proportion of the areas which were rather underdeveloped in Hungary compared to western European countries is considerably higher in the sector of foundations than among associations.

Today the activity structure is balanced. Conventionally, the proportions of sports and recreation organisations continue to be high among associations. In addition, there are many non-profit membership organisations in the areas of culture and arts, too. Among education and health organisations foundations are dominant. The smallest proportions of the domestic non-profit sector are represented by political organisations, multi-purpose grant-making organisations, as well as non-profit unions.

Definition Non-profit organisations: foundations (private and public foundations) and non-profit membership organisations (associations, unions, federations, professional, employers' and employees' interest groups, public law associations, non-profit business associations, nonprofit institutions).

E-government availability

Keywords **e-government, e-administration**

| Figure 83.1. | **Availability of e-government, 2011** |
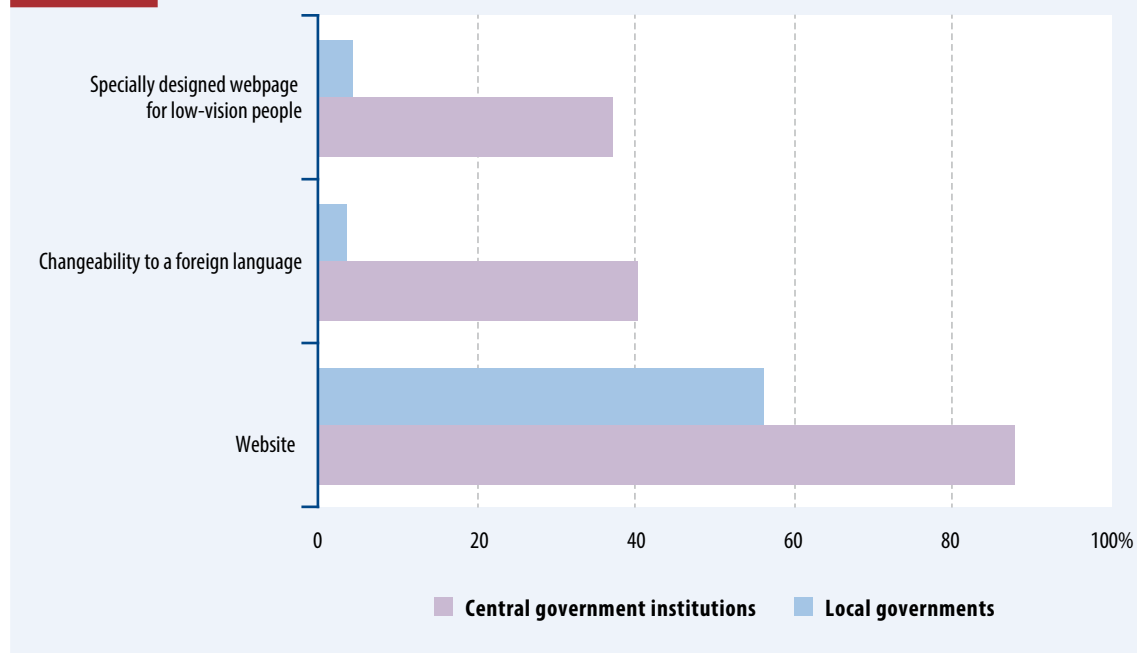
> ! *Having a website is more common among central government institutions than local governments.*

Relevance Info-communication technologies are a driving force of development in the 21st century. Through dematerialisation the many different modern information providing tools may have a positive effect on transport, trade, health as well as production processes.

Commentary The spread and variety of websites are important indicators of the state of development of e-administration. 58% of the surveyed public administration institutions had their own website in 2011. 88% of central government institutions were available on the World Wide Web, and this proportion was 56% for local governments. The state of development can also be examined by the availability of choosable utility functions of a particular website. 40% of the websites of the surveyed central government institutions could be changed to a foreign language and 37% provided an alternative surface for low-vision people. As for local governments these options were possible in a negligible proportion, merely 4% of the cases.

International outlook In 2008 the use of e-government by individuals in Hungary was of lower intensity in the 3 categories (obtaining information, downloading forms, submitting filled-in forms) than the EU-27 average, but overtook that by 2011 in both obtaining information and downloading forms, by 2 percentage points and 1 percentage point respectively.

Details In 2011 37% of Hungary's population aged 16–74 years visited e-government portals to obtain information (e.g. on working hours of offices, or documents needed for administration), while only one in four people did so in 2008. The second category, the frequency of downloading forms, rose as well, from 21% to 26% over the 4 years. 18% of the population took the opportunity to send filled-in forms back to administrative websites in 2011, the majority of whom submitted their tax return in electronic way.

The change of the demand side of e-government services is an important indicator of the development of information society. In Hungary 93% of the enterprises with internet connection used the websites of administrative institutions to obtain information in 2010. 89% of enterprises downloaded forms and no less than 83%

Figure 83.2. **Use of e-government by individuals in the preceding 12 months**

Legend:
- To obtain information from websites of public offices
- To download forms
- To send filled-in forms
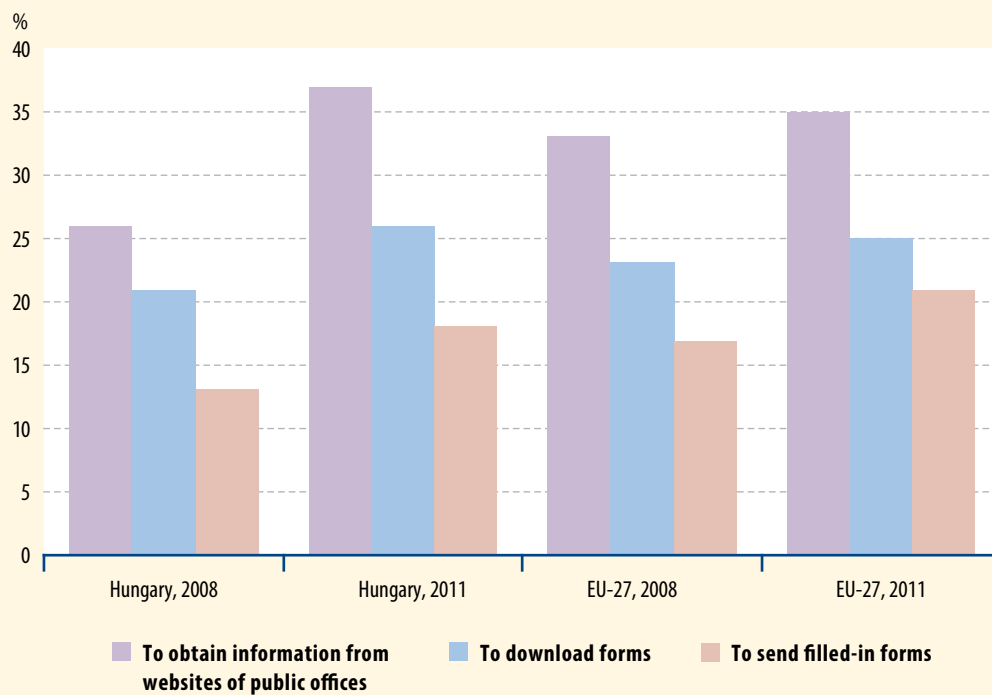
Source: Eurostat.

! *In 2011 37% of the population used e-government webpages to obtain information.*

of them returned the filled-in forms in electronic way to administrative organs. At the highest level of e-government procedures all works in connection with administration are carried out in electronic way, including occasional money flows. During 2010 some 51% of enterprises in Hungary with internet connection managed administrative work entirely in electronic way, nearly three-quarters of them used the web for the return of social contributions for employees, as well as for corporate tax and VAT returns. A lower proportion, some 38% managed their administrative work concerning customs and excise tax in electronic way.

Definitions

The indicator of e-government availability shows the proportion of administrative institutions having a website, broken down by central government and local governments. The webpages in the content and style of which the institution has a say are considered as the individual websites of the institution, whether they are established by organs of higher level or the institution's IT specialists.

The indicator of e-government use by individuals shows the percentage of the population aged 16–74 years that used in the 12 months before the survey electronic administrative websites to obtain information, download forms or send filled-in forms back.
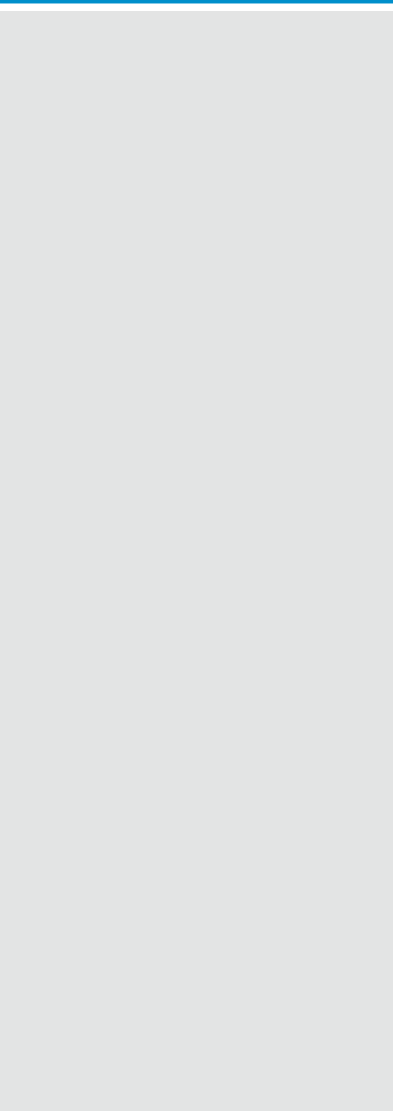
Summary

Economy is a system forming part of natural and social systems, and it has to ensure the production of goods and services suitable for satisfying social demands, and the mechanisms for their distribution and consumption. For this it uses the resources of the surrounding systems and exerts a continuous impact on these systems.

The effects of the economic system on natural and social systems are not one-fold and one-way: they influence directly or through social impacts the natural environment, which has an effect in turn on the economy, too. The complex network of systems, with our society included, can only further "exist" in a sustainable way if our new economic approach is established keeping in view the principles of external systems.

Chapter	Number	Indicator	Page	
General economic indicators	84	Gross domestic product (GDP)	167	☀
	85	Gross national income (GNI)	170	
	86	Gross fixed capital formation	172	🌧
	87	Gross savings rate	174	⛅🌧
	88	General government consolidated gross debt	175	🌧
	89	Labour productivity	177	☀
	90	Domestic material consumption	178	⛅🌧
	91	Active enterprises	180	☀
	92	Expenditures on research and development	182	☀
	93	Consumer price index (inflation)	184	🌧
Economic relations	94	Balance of external trade in goods	186	
	95	Foreign direct capital investments	188	☀
	96	Income paid as dividends to the rest of the world	190	
	97	Index of international price competitiveness	191	⛅🌧
Energy	98	Energy import dependency	192	⛅🌧
	99	Energy intensity	194	☀
	100	Renewable energy sources	196	☀
	101	Energy use of transport	199	🌧
	102	Biofuel use in transport	201	☀
	103	Combined heat and power generation	202	⛅🌧
	104	Implicit tax on energy	203	⛅🌧
Transport	105	Volume of freight transport	204	🌧
	106	Volume of passenger transport	206	☀

Gross domestic product (GDP)

Keywords **gross domestic product (GDP), GDP per capita**

Figure 84.1. **GDP per capita at average 2005 prices**

Thousand euros
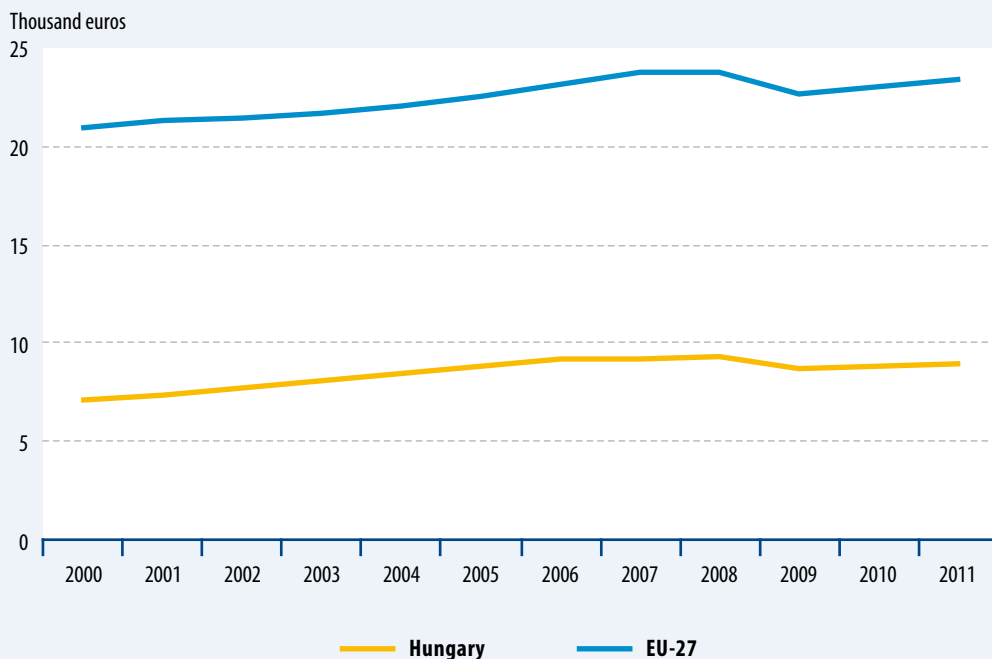
Source: Eurostat.

! *The growth trend of GDP per capita changed in nearly the same way as the EU average from 2000, and did not approximate that.*

Relevance The growth rate of GDP informs on the dynamism and competitiveness of the economy. A high GDP growth rate means that society can generate additional economic resources to meet the growing economic needs of the present generation, can invest in view of higher returns in the future, or can address other social and environmental concerns. Nevertheless, GDP per capita cannot be considered as a comprehensive indicator of well-being. A growing production can generate environment pollution or health problems, often leading to an increase in various expenditures, which have a positive impact on GDP but do not contribute to an improving quality of life.

Commentary Between 1997 and 2006 GDP grew by at least 3% in every year compared to the previous year. During this period the growth was mainly due the performance of industry. GDP

stagnated in 2007: the fall of services and agriculture was offset by the growth of industry. In the first half of 2008 industry performed well, but it started declining from the second half of the year because of the economic crisis. The performance of service industries stagnated, and agriculture grew by more than 50% due to outstandingly high yields in crop production thanks to favourable weather conditions. As a result of this the volume of GDP still increased that year (by 0.9%). In 2009 GDP decreased for the first time since 1993, by 6.8% compared to the previous year, then – due to the low level in the previous year – growing again in 2010 (by 1.3%). The performance of the economy was up by 1.6% in 2011, the driving force of which was agriculture and industrial exports.

International outlook The gross domestic product of the European Union expanded by 1.5%

GDP per capita in the European Union, in purchasing power standards, 2011 (EU-27=100.0), % ▶

LU	274
NL	131
AT	129
IE	127
SE	126
DK	125
DE	120
BE	118
FI	116
UK	108
FR	107
IT	101
EU-27	**100**
ES	99
CY	92
SI	84
MT	83
EL	82
CZ	80
PT	77
SK	73
EE	67
HU	**66**
PL	65
LT	62
LV	58
RO	49
BG	45

Figure 84.2.   Difference of per capita GDP value of regions from national average
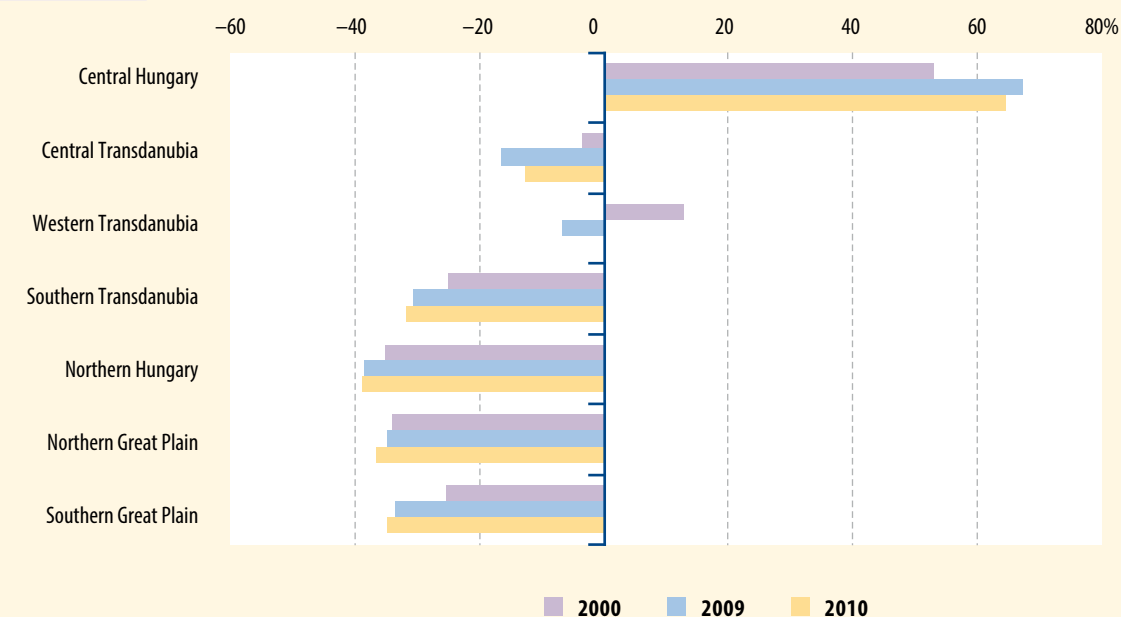
The differences between regions widened and the role of the capital city as the centre of the domestic economy grew in importance.

in 2011 compared to the previous year. More than the half of EU member states, including Hungary, showed a higher economic growth than the EU average. The volume of GDP declined in Greece and Portugal. Total GDP per capita in Hungary was EUR 16,423 in purchasing power standards in 2011, 65% of the EU-27 average.

Details The development indicator of Central Hungary was 2.36 times higher in 2000 and 2.69 times higher in 2010 than in Northern Hungary, the lowest in the rankings. In the examined period Central Hungary, Western Transdanubia and Central Transdanubia were in the first three places in the development rankings of the regions. Either Northern Hungary or Northern Great Plain had the last position, Southern Transdanubia took the fourth place, in advance of Southern Great Plain.

In 2010 the GDP per capita of Central Hungary was higher than the national average (164%), that of Western Transdanubia was at the level of the national average, while those of the other five regions fell behind to different extents (61%–87%). Leaving Central Hungary, due to its special position, out of the calculations a disparity of

43% was recorded between Western Transdanubia and the least developed Northern Hungary, to the advantage of the former, in gross domestic product per capita in 2000. This difference decreased to 39% in 2010.

The community average was only surpassed by the indicator of Central Hungary (by 5.5%) at regional level in 2010, those of the next two most developed regions (Central Transdanubia and Western Transdanubia) reached more than the half (56% and 64% respectively) of the EU average, and the performance of the four less developed regions ranged around four tenths (39%–44%) of the average.

The central region was outstanding only because of the capital city, the value of Pest county alone (after deducting Budapest) not reaching the national average (HUF 2.7 million) in 2010. The per capita GDP of Budapest was above HUF 6.2 million, while merely somewhat more than HUF 2.1 million in Pest county. The capital city was followed by Győr-Moson-Sopron and Komárom-Esztergom counties (HUF 3.0 million and HUF 2.8 million respectively), and Békés, Szabolcs-Szatmár-Bereg and Nógrád counties were at the end of the rankings, the latter with hardly HUF 1.2 million.

Figure 84.3.   **Per capita GDP by counties, 2010**

Thousand HUF/capita

	− 1 500.0
	1 500.1 – 2 000.0
	2 000.1 – 2 500.0
	2 500.1 – 3 000.0
	3 000.1 –
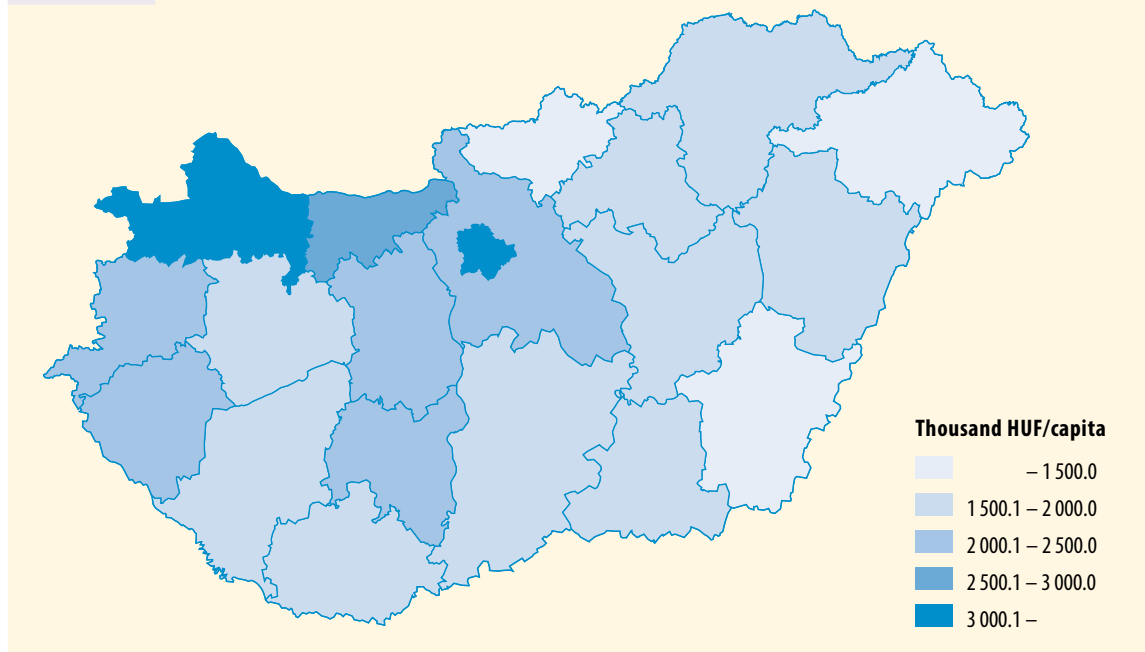
!   *There is a significant east–west division between counties.*

Definition The gross domestic product (GDP) is the sum of gross value added of resident producers (industries or institutional sectors), measured at basic prices, plus the balance of taxes less subsidies on products, which cannot be divided among industries or sectors.

Stadat tables

3.1.1. Value and volume indices of gross domestic product (GDP) (1991–2011)

3.1.2. Value of gross domestic product (GDP) in HUF, EUR, USD and PPS (1995–2011)

3.1.3. Per capita gross domestic product (GDP) (1995–2011)

3.1.4. Value and distribution of gross value added by industries – NACE Rev.2 (1995–2011)

3.1.5 Volume indices of gross value added by industries – NACE Rev.2 (1996–2011)

6.3.1.1. Gross domestic product (GDP, 2007–2010)

6.3.1.2. Gross domestic product per capita (2007–2010)

Gross national income (GNI)

Keywords **gross national income (GNI), compensation of employees, property income, reinvested earnings, interests, dividends, EU transfers**

| Figure 85.1. | **Gross national income to gross domestic product ratio** |
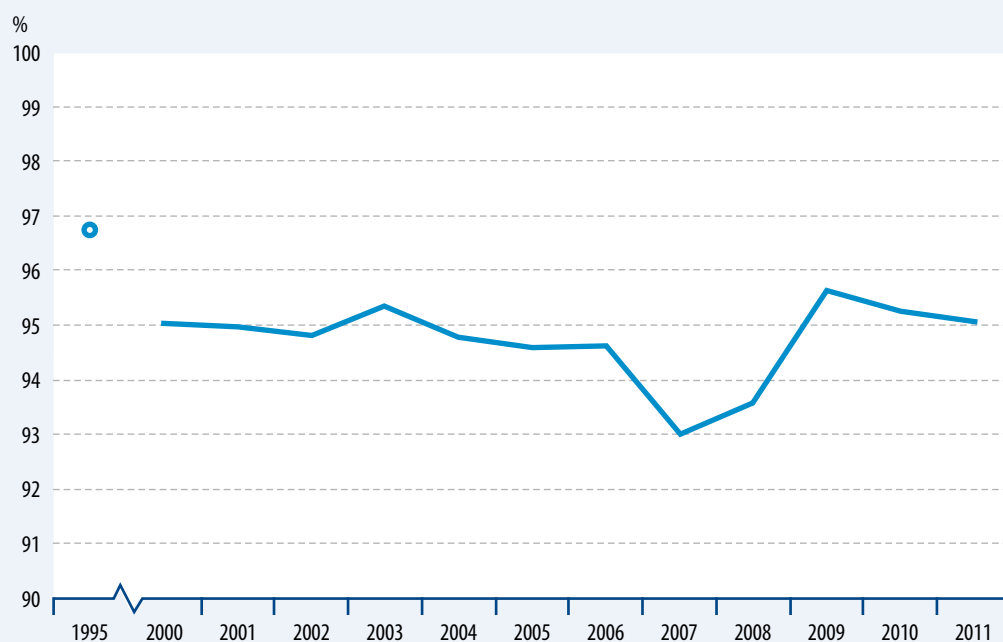
> ! *Before the crisis began the GNI to GDP ratio decreased, after that it temporarily rose, and then it started to decline again.*

Relevance Gross national income (GNI) does not include the property income produced by foreign equity investors in Hungary and the incomes of non-resident employees received from Hungary, but it contains the income of Hungarian investors and employees received from the rest of the world, as well as the balance of subsidies received from the EU and taxes paid to the EU.

Commentary GNI equalled 97% of GDP in 1995. In the period of 2000–2006 it was nearly at the same level (95%), but this ratio deteriorated to 93% by 2007. A slight increase of approximately 0.6 percentage point was recorded in 2008 and an additional improvement of 2.1 percentage points in 2009. The ratio of GNI to GDP deteriorated again in 2010 (95.3%) and 2011 (95.0%).

Details Among the items of transition from GDP to GNI, the balance of the compensation of employees increased GNI by HUF 39.7 billion in 1995, by HUF 217.2 billion in 2010 and already by HUF 254.5 billion in 2011.

The balance of property income is influenced by changes in the balances of reinvested earnings, dividends and interests.

From 1995 to 2000 the distribution of the above factors changed drastically. The balance of reinvested earnings approximately offset the balance of dividends in 1995, while interests had a considerable impact on property income, unparalleled ever since (93%). Until 2003, reinvested earnings exceeded dividends, they were nearly equal in 2004, but from 2006 the balance of dividends accounted for more than the half of property incomes. In 2008, earnings reinvested by investors were 7.5 % of property income, decreasing substantially (19.4%) compared to the 2007 figure. The share of interests in property incomes increased from 23% in 2007 to 37% in 2008. From then the proportion of the three factors of property incomes changed each year. In 2009, the balance of property incomes improved by HUF 451 billion. The largest change of HUF 1120.1 billion was in the balance of reinvested earnings. Net property income declined again in 2010, as well as in 2011, when it was down by HUF 234.4

billion compared to the previous year. The balance of reinvested earnings increased GNI by HUF 572.6 billion in 2010, and lowered that by HUF 12 billion in 2011. Net interests and net dividends grew every year following declines in 2009.

Since our joining the EU the balance of EU transfers gradually increased until 2006, and it stood at approximately the same level in the next two years. In 2009 a sharp increase of HUF 119.7 billion was measured. In 2011 the balance of taxes paid to the EU and subsidies received from the EU were up by HUF 85.1 billion compared to 2010.

Definitions

Gross national income (GNI) derives from GDP, it is the total of the primary income of sectors, property income transfers between resident sectors and the rest of the world, and the balance of subsidies received from the European Union and taxes paid to the European Union.

The compensation of employees is total remuneration, in cash or in kind, payable by an economic organisation to an employee in return for work done by the latter.

Property income is the income receivable by the owner of a financial asset or a tangible non-produced asset in return for providing funds to, or putting tangible non-produced assets at the disposal of, another institutional unit.

Interest is the amount that the debtor becomes liable to pay to the creditor under the terms of the credit agreement between them, over a given period of time, without reducing the amount of principal outstanding.

Dividends are a form of property incomes received by owners of shares, to which these owners become entitled as a result of placing funds at the disposal of corporations.

Reinvested earnings on direct foreign investment: the operating surplus of direct foreign investment enterprises increased by any property incomes or current transfers receivable by them and reduced by any property incomes or current transfers payable by them, including actual remittances to foreign direct investors and any current taxes payable on the income, wealth, etc. of direct foreign investment enterprises.
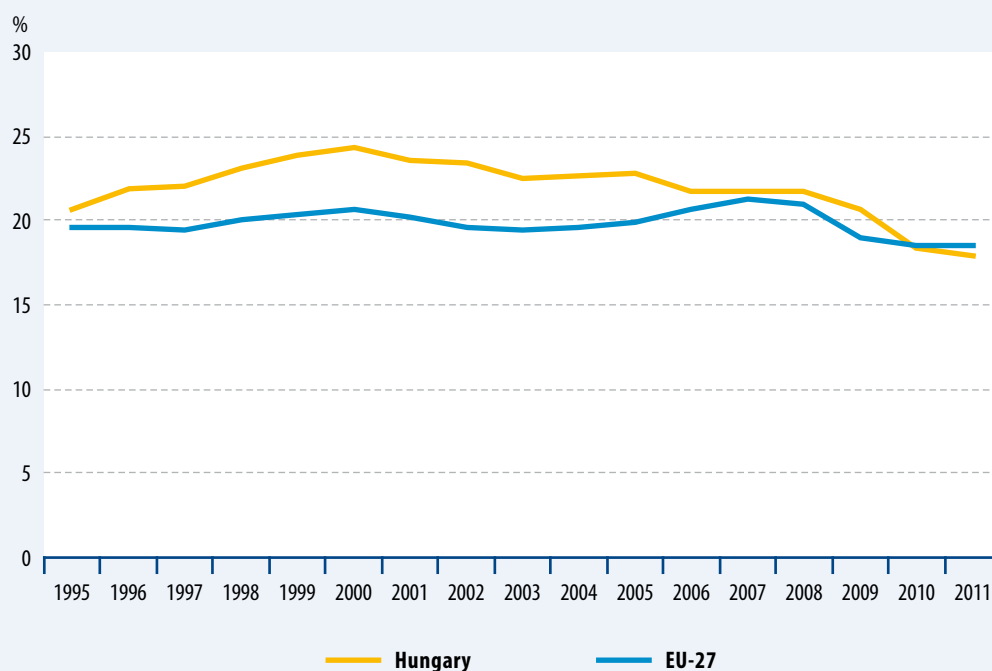
Stadat tables
3.1.10. Value and volume indices of gross national income (GNI), annual data (1995–2012)

Gross fixed capital formation

Keywords **gross fixed capital formation, gross fixed capital formation of government, gross fixed capital formation outside government, investment**

CZ	24.5
ES	22.9
RO	22.7
SK	22.2
SI	21.6
AT	20.5
BE	20.2
PL	19.9
LV, EE, IT	19.6
FR	19.3
PT	19.0
EU-27, FI	**18.9**
CY	18.6
NL	18.2
HU	**18.0**
SE	17.8
DE	17.5
DK	17.2
MT	16.9
LT	16.1
UK	14.9
IE	11.6

Investment to GDP ratio in the European Union, 2010, %

Figure 86.1. **Gross fixed capital formation as a percentage of GDP**

Source: Eurostat.

> **!** *Gross fixed capital formation declined in Hungary from 2005, its proportion of GDP was 18% in 2011.*

Relevance To increase natural, human and social capital it is indispensable to expand the economic (productive) capital stock, which can be realized solely through investments. The investments of enterprises (sector outside government), mainly domestic-owned ones, are of especially high importance within this. Fixed capital formation, owing to its developing and modernising activity, enhances competitiveness and has an impact on economic growth. In addition, environment-friendly investments are vital in the development of eco-efficiency, serving sustainable development.

Commentary Gross fixed capital formation (GFCF) as a proportion of GDP was 21% in the national economy and 20% in the EU in 1995. The proportion of GFCF was regularly 2–3 percentage points higher in Hungary than in the EU until 2005. Following the turn of the millennium this proportion started to decline, and its rate has increased since the crisis. From 2010 the share of GFCF was already below the EU average.

International outlook According to comparative EU data for 2010 the investment to GDP ratio was the highest in the Czech Republic, Spain, Romania and Slovakia (above 22%). It was only half as much in Ireland, and was considerably lower than the EU average in the United Kingdom as well as Lithuania.

Details The government sector's gross fixed capital formation as a proportion of GDP reached 4.9% in 2002. Following that the trend became fluctuating, and the value was 3.0% in 2011. The figures for Hungary between 2000 and 2011 were above the EU average (2.5% in 2011) all through the period.

The fixed capital formation of sectors outside government stagnated around 21% until 2001, and then amid continuous fluctuations plunged

Figure 86.2. **Gross fixed capital formation as a percentage of GDP by sectors**

Legend:
- **Hungary, government sector**
- **Hungary, sectors outside government**
- **EU-27, government sector**
- **EU-27, sectors outside government**
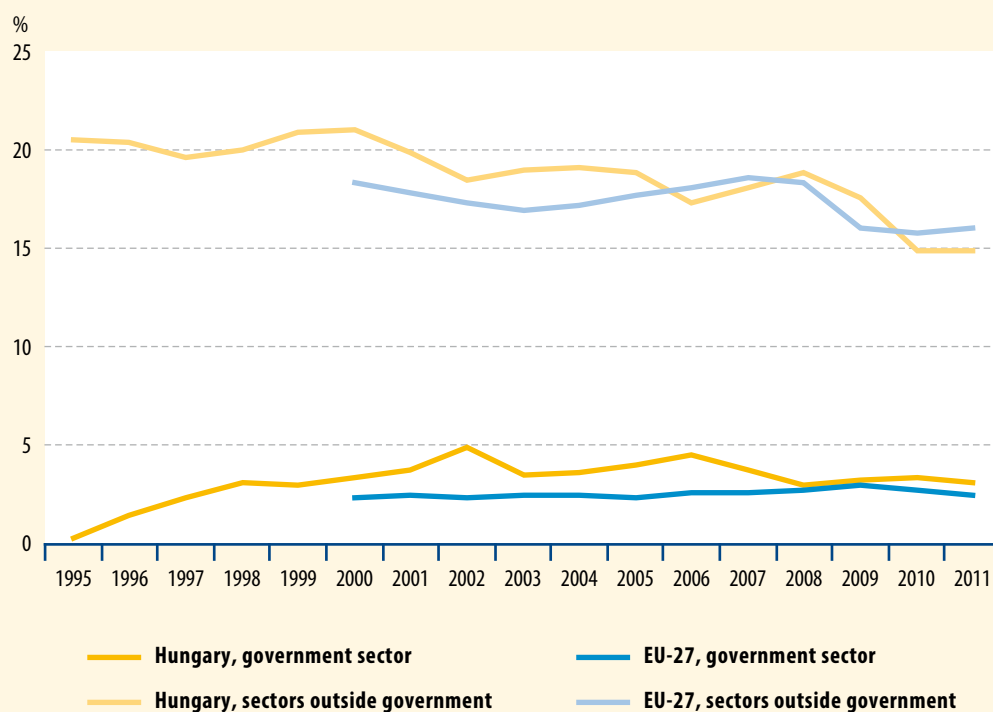
Source: Eurostat.

> ! *The crisis had an adverse effect on the fixed capital formation of both the government sector and sectors outside government.*

to 18% in 2009. Because of a marked decrease it fell to 15% in 2011.

Definitions

Gross fixed capital formation (GFCF) expresses the gross fixed capital formation of community and private sectors as a proportion of GDP. The indicator contains the value of purchased or own-produced tangible and intangible fixed assets, the value increase of used tangible assets, capital transfer in kind from abroad and the value of tangible fixed assets purchased through financial leasing, all in the accounting period. The proportion equals the part of GDP that the national economy spends on fixed capital formation.

Gross fixed capital formation of government: equals the part of GDP that the government sector spends on fixed capital formation.

The fixed capital formation of sectors outside government equals the part of GDP that sectors outside government spend on fixed capital formation.
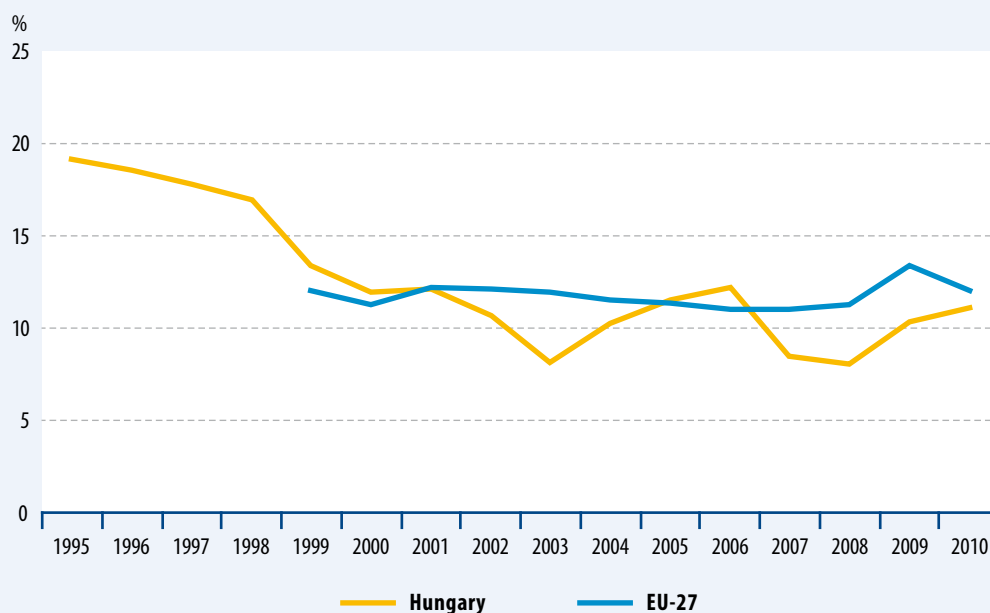
Stadat tables
3.1.6. Gross fixed capital formation – NACE Rev.2 (1995–2011)

Gross savings rate

Keywords **gross savings rate, savings, disposable income**

DE	16.5
FR	15.7
BE	14.4
SE	12.9
AT	12.6
IT	12.0
SI	11.9
NL	11.6
▶ EU-27 ◀	**11.1**
ES	11.0
IE	10.5
▶ HU ◀	**10.4**
PT	10.0
SK	9.9
CZ	9.6
CY	9.0
FI	8.6
DK	7.7
UK	6.0
EE	5.6
LT	1.9
LV	−1.6

Figure 87.1.   Gross household savings rate as a proportion of GDP

Source: Eurostat.

! *Between 1995 and 2003 Hungarian households' willingness to save declined. It rose from 2003 to 2006 and from 2008 on.*

Relevance By applying the prevailing savings rate one can define the available economic resources that can be mobilized to raise productive, natural, human and social capital, improving the well-being of future generations.

Commentary Gross household savings rate in Hungary in the examined period was the highest in 1995 (19%). In subsequent years it decreased continuously, i.e. households accumulated a declining proportion of their income. This lasted until 2003 (8.1%), from 2004 the willingness to save started to grow again to reach 12% in 2006, which surpassed the average of the 27 EU member countries. After that it began to fall again and equalled 8.1% in 2008, the main reason for which (and also the fall in 2003) was the change in the construction of dwellings, within capital formation making part of savings. From 2009 the indicator was up again.

International outlook The average savings rate for the 27 member states of the European Union is stable, representing around 12% year by year. Trends differ from one member country to another. The indicator has been about 16% in Germany, and it has fluctuated between 12% and 17% in Slovenia and between 6% and 11% in Slovakia since 2005.

Definition Gross household savings rate shows the percentage of households' disposable income – completed with the adjustment for the change in the net equity of private pension funds reserves – in a given period that they accumulate for the satisfaction of their later needs in financial assets or capital goods. The remaining part of the disposable income is spent on consumption, i.e. needs arising in the given period.

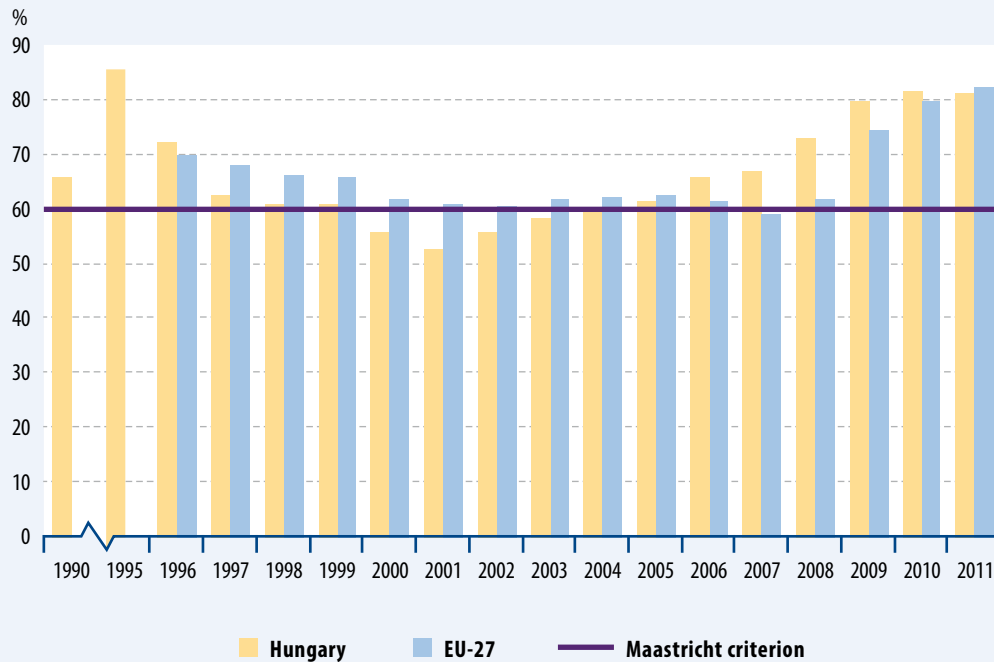◀ *Gross household savings rate in the European Union, 2011, %*

General government consolidated gross debt

Keywords **government debt, Maastricht criterion, internal and external debt**

Figure 88.1. **General government consolidated gross debt as a proportion of GDP**

Source: Eurostat.

! *Government debt rose uninterruptedly in Hungary between 2001 and 2010.*

|	
EL	170.6
IT	120.7
PT	108.1
IE	106.4
BE	97.8
FR	86.0
UK	85.0
▶ EU-27 ◀	82.5
▶ HU ◀	81.4
DE	80.5
AT	72.4
CY	71.1
MT	70.9
ES	69.3
NL	65.5
PL	56.4
FI	49.0
SI	46.9
DK	46.6
SK	43.3
LV	42.2
CZ	40.8
LT	38.5
SE	38.4
RO	33.4
LU	18.3
BG	16.3
EE	6.1

Relevance General government 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 gross debt must not exceed 60% of gross domestic product, but if it exceeds that then it has to be decreased and converged to this threshold to a sufficient extent and at a sufficient rate.

Commentary Government debt as a percentage of GDP decreased gradually and substantially in Hungary in the second half of the 1990s and reached its minimum of 53% in 2001, which is below the Maastricht threshold. Then it began to rise, in 2005 it exceeded again the 60% threshold, and in 2010 it reached its highest (82%). With a slight drop the indicator stood at 81% in 2011, which is lower than the average indicator measured for the 27 member states of the EU.

The average debt ratio of the European Union fluctuated between 59% and 63% in the 2000s until the crisis began, it rose to 75% in 2009 and has grown ever since, equalling 83% in 2011.

International outlook Among the member countries of the European Union government gross debt ratio was the highest in Greece (171%), Italy (121%), Portugal (108%) and Ireland (106%) in 2011. Hungary was somewhat below the average of the member states, and the lowest figures were recorded in Luxembourg (18%), Bulgaria (16%) and Estonia (6%).

Details Per capita debt at prices of 2011 reached its minimum (HUF 1.3 million) in 2001. It started to increase again in 2002, and it was already HUF 2.3 million in 2011. As for the composition of debt its larger part was internal back in
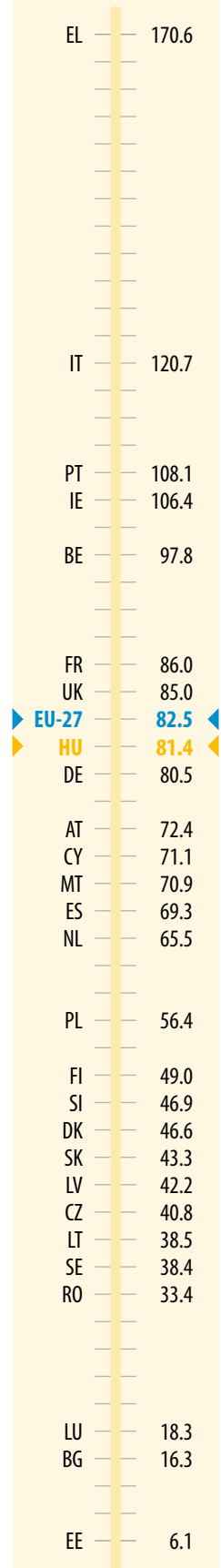
General government consolidated gross debt as a percentage of GDP in the European Union, 2011, % ▶

Figure 88.2. **General government consolidated gross internal and external debt per capita at 2011 prices**

Thousand HUF

Internal debt   External debt
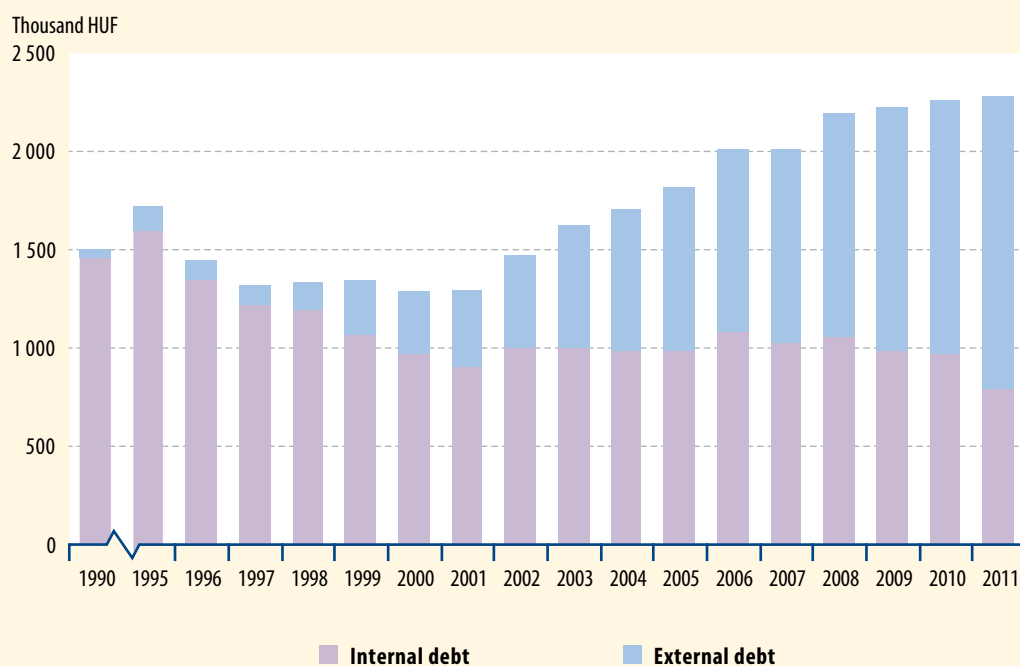
> **!** *The structure of debt shifted towards external debt.*

1990, the proportion of which, however, declined continuously to the advantage of external debt. Internal debt accounted for no more than 35% of total debt in 2011. Because of the increasing proportion of external debt it is important to note that the changes of exchange rates also influence the values expressed in HUF.
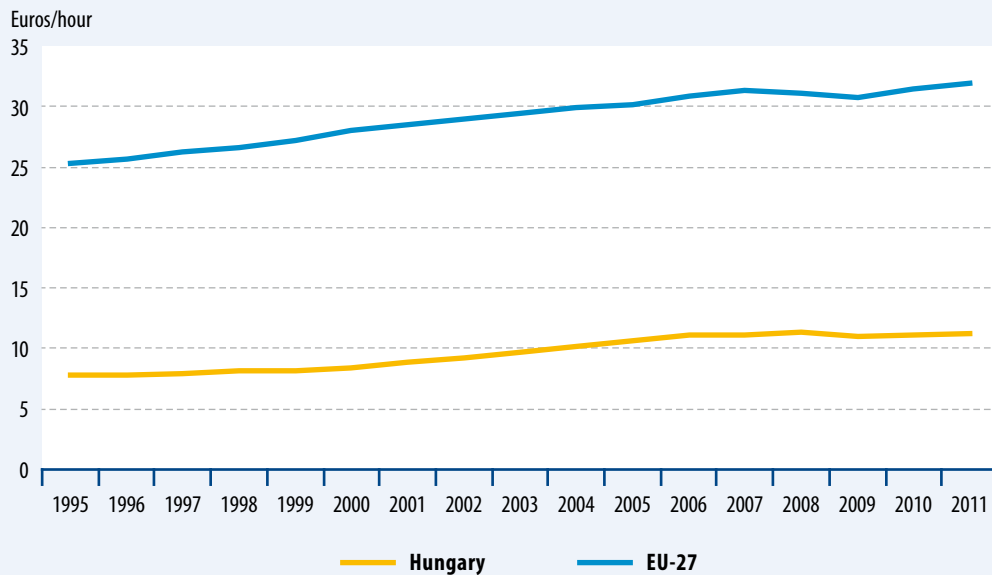
Definition This concept of debt does not include financial transactions within general government. It is gross, the sector's claims cannot be deducted from debt.

Labour productivity

Keywords **productivity, GDP, hour worked**

Figure 89.1. **Labour productivity**

Euros/hour

Source: Eurostat.

> **!** *Labour productivity in Hungary rose until 2006 and stagnated between 2006 and 2011.*

Relevance The growth of the indicator contributes to improving the competitiveness of the economy, which is a key objective of the Europe 2020 strategy. The European Union must increase its competitiveness against its global trade partners and competitors. In addition to the global level there are considerable differences between member states too. As a result of the economic openness of Hungary, i.e. its marked dependence on external market developments, to improve productivity and competitiveness is especially important.

Commentary Labour productivity in Hungary has risen by 44% since 1995, it was 11 euros per hour worked in 2011. The dynamics of the increase slowed down after 2005, and has stagnated since the fall in 2009. The average of the 27 member states of the European Union is considerably, nearly three times higher than the figure for Hungary.

International outlook Among the member countries of the European Union the difference between the first Luxembourg and the last Bulgaria was nearly 13-fold in respect of the indicator in 2011. Hungary and the other member countries that acceded in 2004 or 2007 are ranked at the bottom, 12 of the last 16 countries are new member states, and the remaining 4 are countries of the Mediterranean area. Between 2005 and 2010 the indicator increased in the majority of new member states, the rise in Hungary was moderate.

Definition Labour productivity is the quotient of gross domestic product (GDP) volume index and the input of hours worked, providing a figure of labour productivity in a country, also comparable internationally.

LU[a]	61.6
IE	51.8
DK	48.5
NL	46.2
BE[b]	45.8
FR	45.4
SE	44.4
DE	42.3
FI	40.0
AT	39.2
UK[b]	39.1
IT	32.5
EU-27	**31.9**
ES	30.4
CY	21.3
EL	20.3
SI	20.2
MT[b]	17.6
PT	16.5
CZ	13.5
SK	12.6
HU	**11.2**
EE	10.8
PL	9.8
LT	9.2
LV	7.8
RO[a]	5.3
BG	4.8

Labour productivity in the European Union, 2011, *euros/hour*

a) 2010.
b) 2009.

Domestic material consumption

Keywords **domestic material consumption, resource productivity**

NL	3.47
UK	2.90
FR	2.20
IT	2.01
DE	1.84
BE	1.75
DK	1.69
SE	1.66
▶ **EU-27**	**1.55** ◀
ES	1.47
AT	1.38
EL	1.23
SI	0.89
FI	0.86
▶ **HU**	**0.80** ◀
PT	0.76
IE	0.73
CZ	0.66
SK	0.63
LT	0.61
CY	0.60
PL	0.47
LV	0.39
EE	0.35
BG	0.22
RO	0.21

Figure 90.1. **Change in resource productivity and its components (DMC and GDP*)**
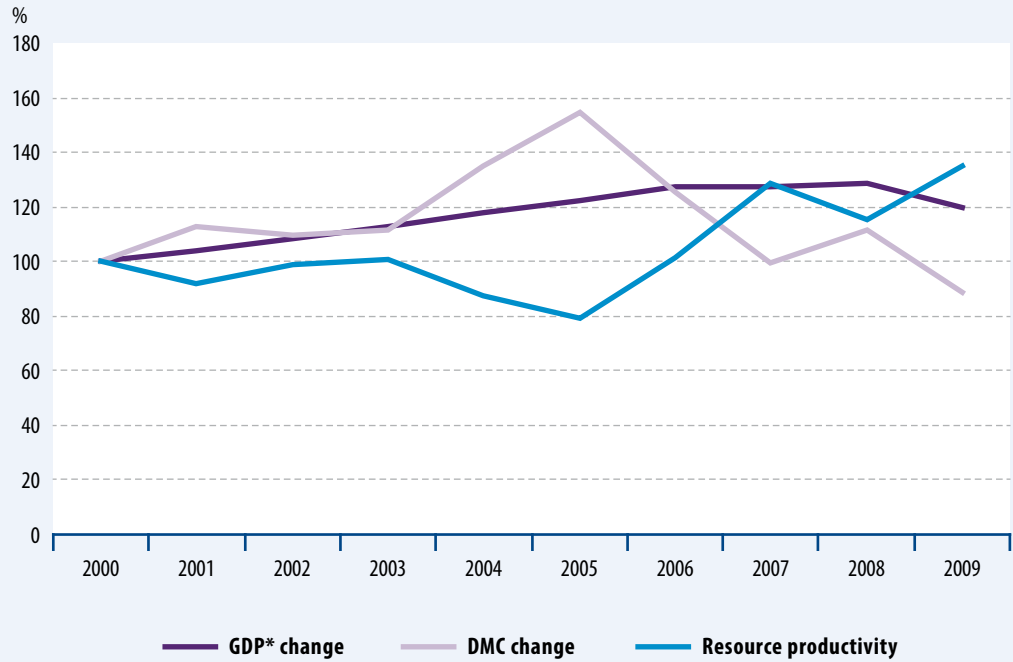
* At 2005 prices.

! *Resource productivity has been the highest in 2009 since 2000.*

Relevance Resource productivity is the ratio of GDP to domestic material consumption. With the help of the indicator one can determine the extent to which natural resources are used along with economic growth. The rise of the indicator signals the expansion of the productivity of available resources, which provides an economic growth with less environmental damage.

Commentary The use of 1 kilogramme of resources contributed to gross national product by 0.59 EUR in Hungary in 2000. By the end of the period of 2000–2009 the value of the indicator rose significantly compared to the beginning of the period (it was 0.8 EUR/kg in 2009), which was principally due to the decrease of material consumption.
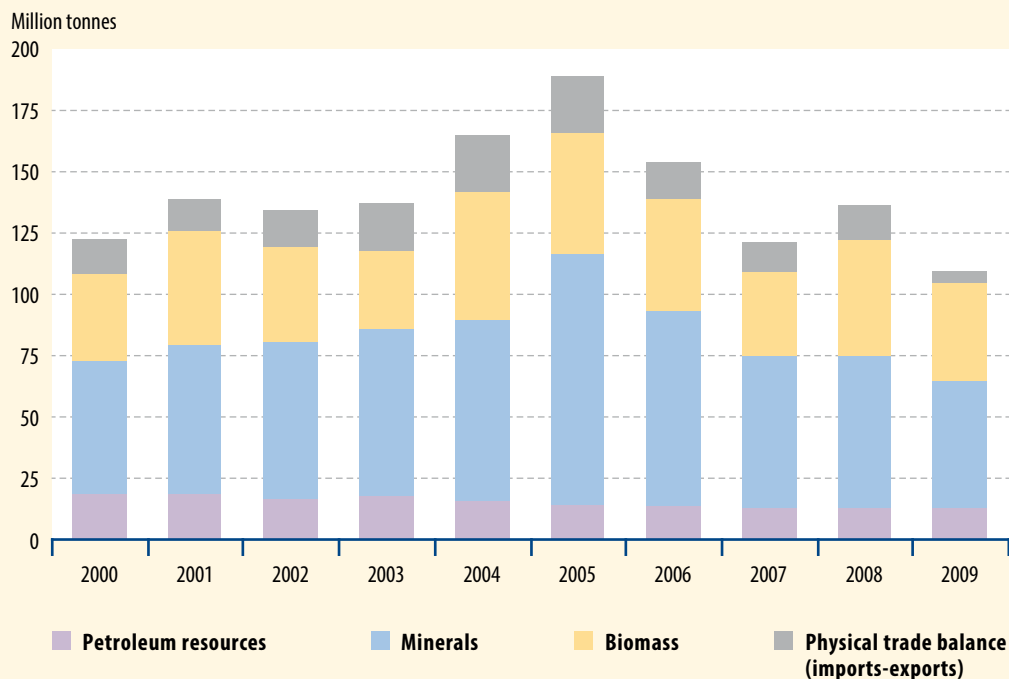
International outlook In general, when examining the year 2009, the value of the indicator is lower in countries having joined the EU in 2004 or after. The management of available (natural) resources is better in Western European countries than in the newly acceded ones. The value of Hungary's indicator is 0.8 EUR/kg lower than the EU-27 average.

Details The extraction of petroleum resources and metal ores declines, and the extracted amount of non-metallic minerals and biomass varies year by year. In some years (between 2004 and 2006), when the extraction of minerals increased significantly in line with upward demand (motorway constructions), and favourable weather conditions resulted in a higher-than-average quantity of biomass, the total of domestic raw material extraction was around 140–160 million tonnes.

◀ *Resource productivity in the European Union, 2009, euros/kilogramme*

Figure 90.2.   Components of domestic material consumption

Million tonnes

| | Petroleum resources | | Minerals | | Biomass | | Physical trade balance (imports-exports) |

> **!** *By 2009 the value of domestic material consumption sank below the level of 2000.*

Definitions

Domestic material consumption shows the total quantity of materials used directly in the national economy. According to the definition domestic material consumption 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.
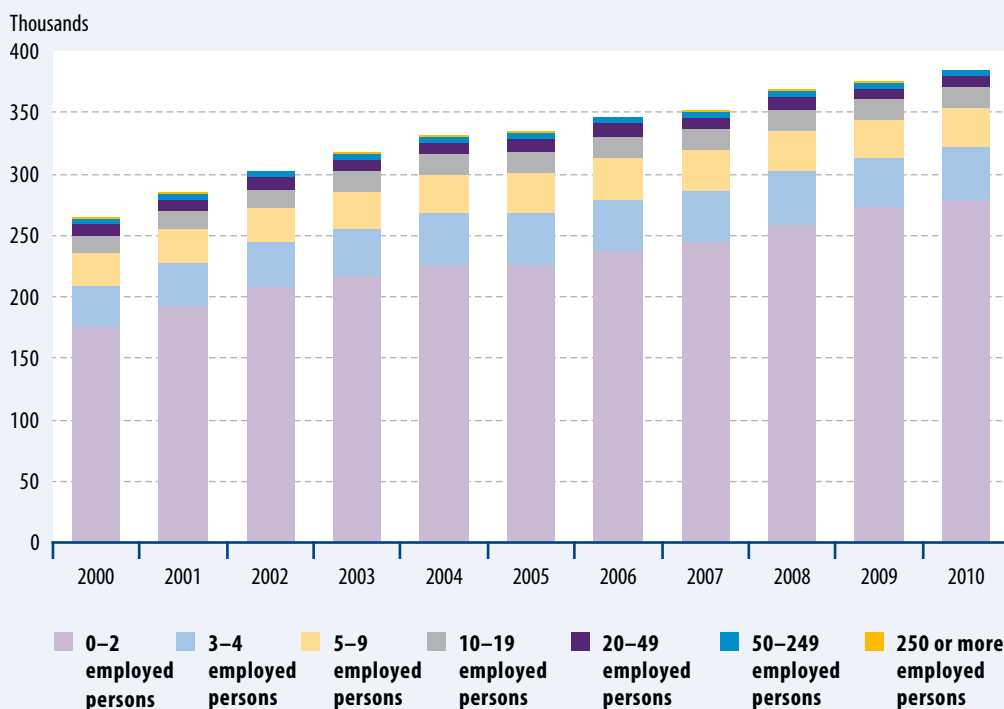
Stadat tables
5.10.2. Material flows (2000–2011)

Active enterprises

| Figure 91.1. | **Number of active business partnerships by staff categories** |

The number of active business partnerships has risen continuously since 2000.

Relevance Both large multi-national enterprises and small- and medium-sized domestic enterprises are present in the economy of Hungary. 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 by foreign-owned multinational enterprises too, and small- and medium-sized enterprises became more vulnerable as well. Nevertheless, small- and medium-sized domestic enterprises continue to account for the largest proportion of employment.

Commentary The vast majority of business partnerships in Hungary are small enterprises. Broken down by staff size 98% of active business partnerships were small enterprises in 2000, having less than 50 employed persons (within this the share of micro enterprises, employing less than 10 persons, was 89%, which is typical of the most member countries of the European Union, too).

The proportion of medium-sized enterprises, having 50–249 employed persons, was 2% and that of large enterprises, employing 250 or more persons, 0.4%. These proportions went on shifting continuously further to the advantage of small enterprises between 2000 and 2010, the share of which was 1 percentage point higher in 2010 than the value of start, while those of medium-sized and large enterprises shrank by 0.8 and 0.2 percentage point respectively.

Details The number of active business partnerships rose year by year, increasing by 45% in the last ten years, and their number reached 385 thousand by 2010. The rate of rise ranged between 5% and 7% in the years of start (2000–2004) and diminished gradually year by year. Since the crisis started the expansion has shown a value of around 2%. Compared to this an especially high rise (4.8%) was recorded in 2008, which was explained first of all by legislative changes.

Figure 91.2. **Number of registered business partnerships and proportion of those under bankruptcy, liquidation or dissolution proceedings**

Thousands / %

Business partnerships, thousands

Share of those under bankruptcy, liquidation or dissolution proceedings, %
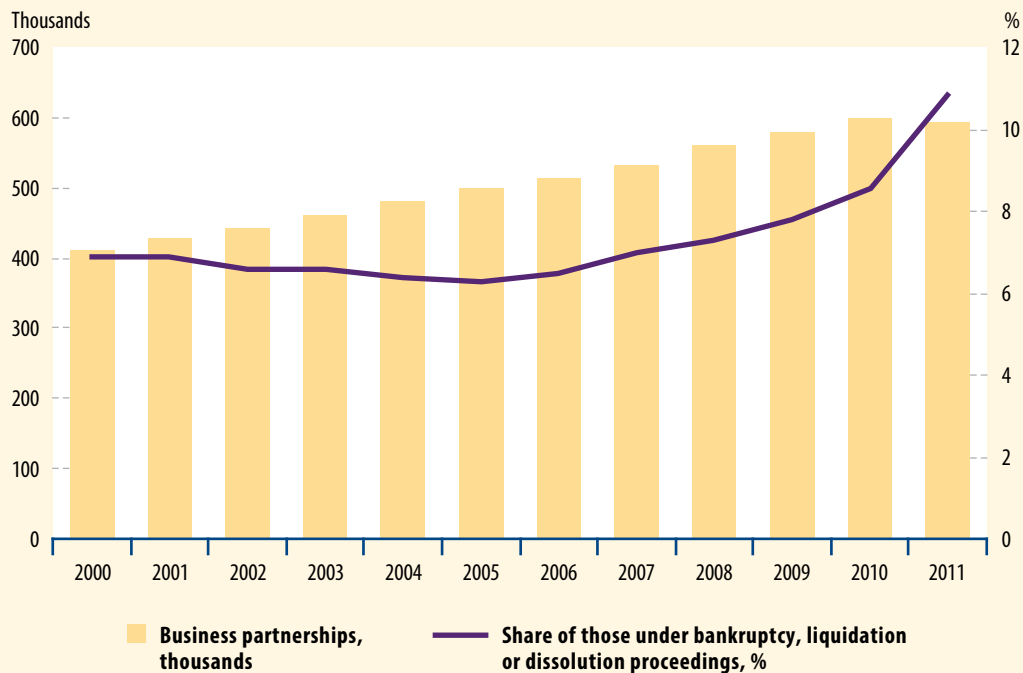
! *The proportion of enterprises facing cessation has grown by 3.6 percentage points since 2008 as an effect of the crisis.*

When starting an enterprise the simplicity of foundation, the amount of capital required for registration and the degree of responsibility are essential aspects. As the subscribed capital required for the foundation of limited liability companies and joint-stock companies was reduced substantially in 2007, their number rose significantly.

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 increased by 46% and the proportion of those under bankruptcy, liquidation or dissolution proceedings to 8.5% by 2010.

terms, having a tax number, including those under bankruptcy, liquidation or dissolution proceedings at the particular time.

Definitions

The number of active enterprises shows the number of registered enterprises – those existing in legal terms – performing economic activities in a particular year.

An enterprise is considered to be active if it had sales or employed persons in a particular year.

Registered units: units in administrative registers at the time of the survey, existing in legal

Stadat tables
3.2. Business units and non-profit organisations

FI	3.87
SE	3.42
DK	3.06
DE	2.82
AU	2.76
FR	2.26
SI	2.11
EU-27	**2.00**
BE	1.99
NL	1.83
IE	1.79
UK	1.77
LU	1.63
EE	1.62
PT	1.59
CZ	1.56
ES	1.39
IT	1.26
HU	**1.16**
LT	0.79
PL	0.74
MT, SK	0.63
BG, LV	0.60
CY	0.50
RO	0.47

Expenditures on research and development

Keywords **expenditures on research and development, R&D, innovation**

Figure 92.1. **Expenditures on research and development as a percentage of GDP**
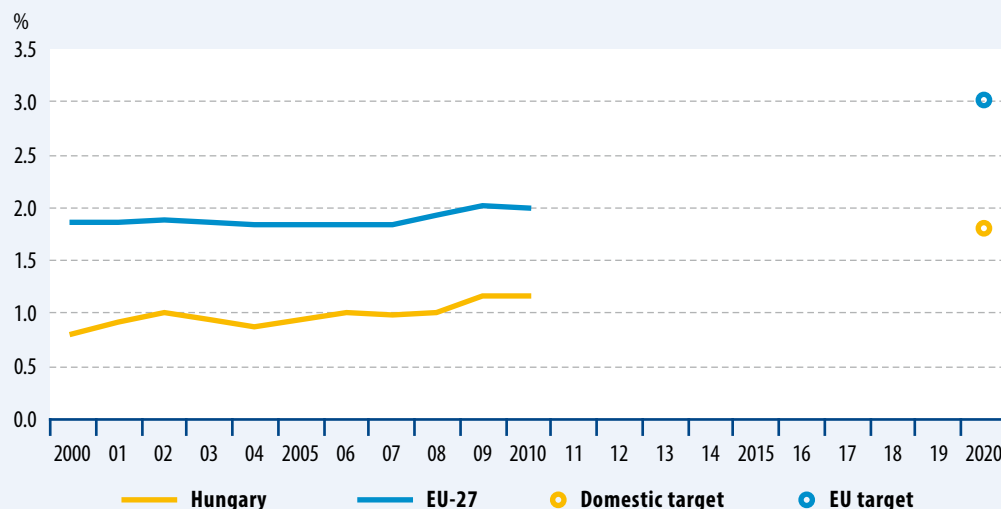
Source: Eurostat.

! *From 2000 on R&D expenditure slightly increased as a proportion of GDP.*

Relevance According to the Lisbon and then the Europe 2020 Strategies R&D expenditures should reach 3% of the GDP of EU member countries on average by 2020. The proportion of R&D expenditures in Europe was lower than the figures for the most significant competitors, above all the United States of America and Japan, which is primarily due to the low level of investments by enterprises. Europe should improve the conditions for investments by the business enterprise sector in R&D.

Commentary Research and development expenditures were below 1% of GDP throughout two decades in Hungary. Since 2008 this value has somewhat exceeded 1%. A dynamic growth occurred only in the business enterprise sector, and nearly two-thirds of R&D expenditures were already in this sector by 2011. In contrast the higher education sector was rather stagnant, and a constant decrease was registered in the government sector.

International outlook R&D expenditures as a proportion of GDP averaged 2.0% in the EU-27 in 2010, while the figure for Hungary did not reach 1.2%.

Details Expenditures on R&D activities in the business enterprise sector, which directly affects economic development, have increased constantly, above the average since 2004, and from 2007 they had a higher share alone than the other two – government and higher education – sectors together. More and more business enterprises perform R&D activities not only occasionally but continuously, thus contributing to the production of more up-to-date products, the introduction of more effective technologies and so the improvement of the competitiveness of the national economy.
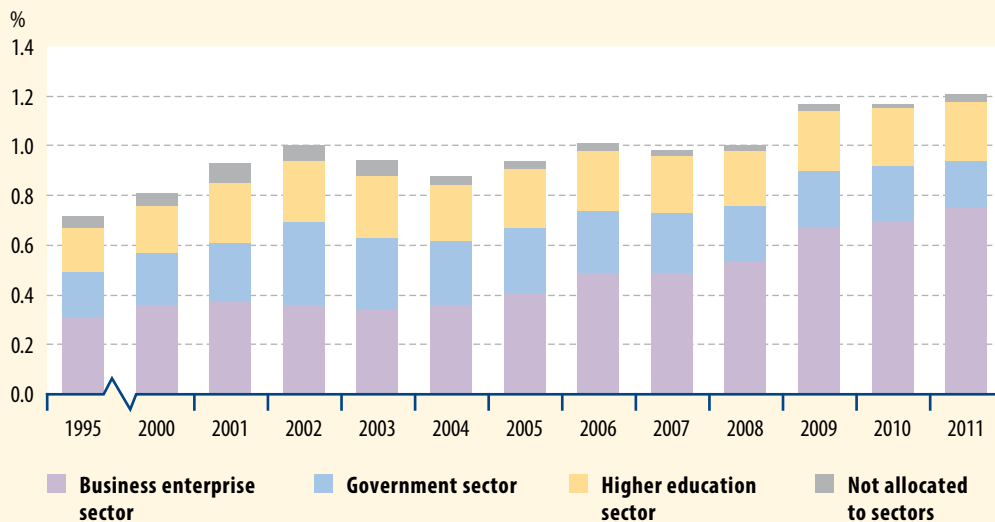
Sales revenues from innovation made up 14% of the total sales revenues of enterprises in Hungary in 2010, decreasing considerably compared to the result in 2008 (16%), but surpassing significantly the value in 2004 (7.0%).

Definitions

Expenditures on research and development are equal to the total amount of R&D current costs and R&D capital expenditure, not including VAT, coming from whatever domestic or foreign sources and irrespective of the fact whether the financial source was originally assigned for research, development or any other purpose.

Research and development expenditures as a percentage of GDP in the European Union, 2010, %

Figure 92.2. **Expenditures on research and development as a percentage of GDP by sectors**

■ **Business enterprise sector**　　■ **Government sector**　　■ **Higher education sector**　　■ **Not allocated to sectors**

! *R&D expenditures of the business enterprise sector have risen continuously since 2004.*

Figure 92.3. **Sales revenues from innovation as a proportion of total sales revenues of business enterprises**

■ **Hungary**　　■ **EU-27**
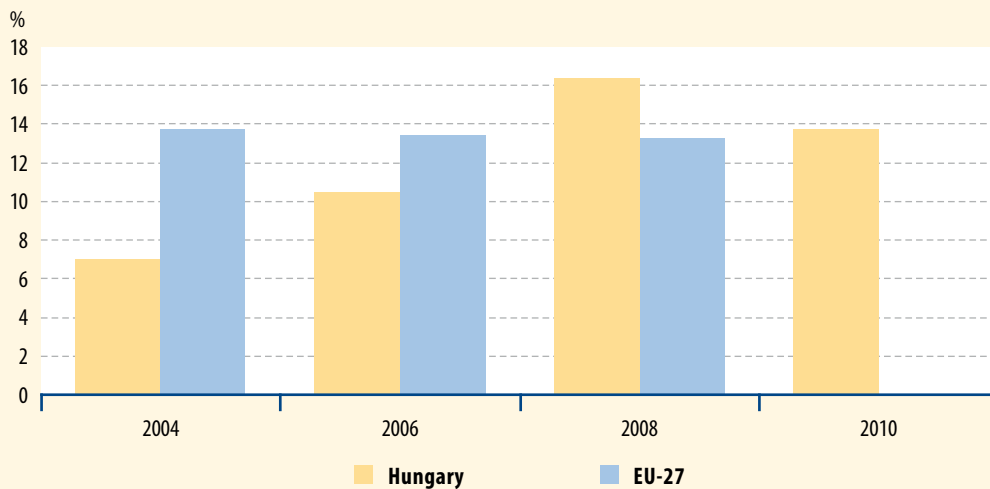
! *In 2010 the proportion of sales revenues from innovation declined compared to 2008.*

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.

Sales revenues from innovation express the sales of products new to the enterprise or new to the market as a proportion of total sales revenues of enterprises.

Innovation is the implementation of a new or significantly improved product (good or service) or process, a new marketing method, or a new organisational method, in business practices, workplace organisation or external relations.
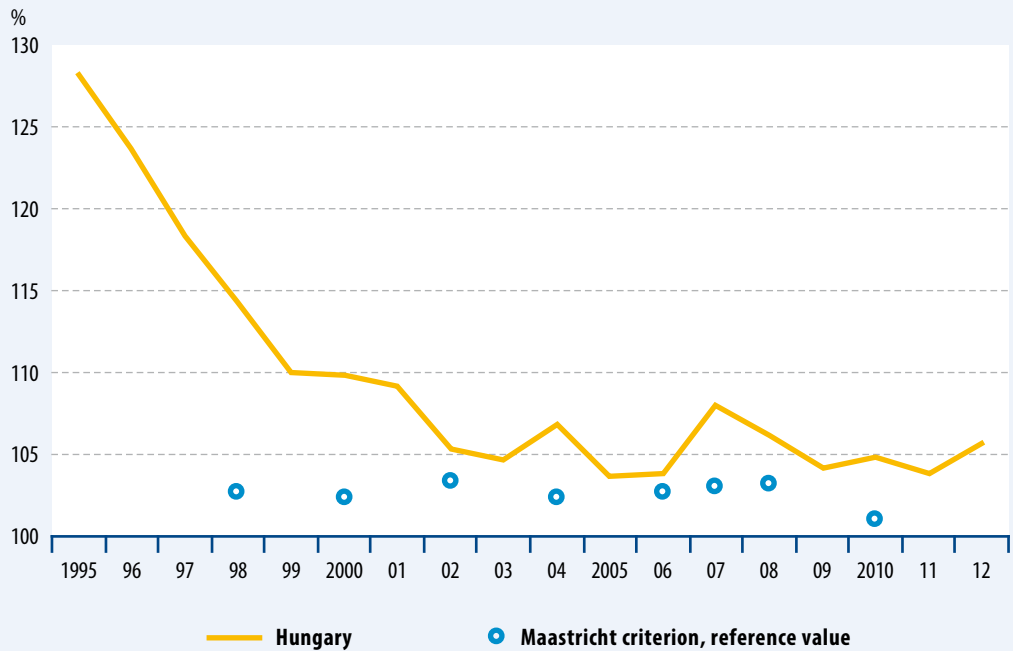
Stadat tables
3.4. Research and development

Consumer price index (inflation)

Keywords **consumer price index, inflation, consumer prices, food prices, fuel prices, energy carrier prices**

HU	105.7
EE	104.2
PL, SK	103.7
CZ	103.5
RO	103.4
IT	103.3
FI, LT, MT	103.2
CY	103.1
LU	102.9
NL, PT,	102.8
SI, UK	
EU-27,	102.6
AT, BE	
BG, DK, ES	102.4
LV	102.3
FR	102.2
DE	102.1
EL	101.0
SE	100.9

Figure 93.1.   Consumer price index

> **Hungary**   ⊙ **Maastricht criterion, reference value**

> **!** *The annual average increase of consumer prices has been continuously higher in Hungary than the reference value required by the Maastricht Treaty.*

Relevance Inflation causes serious damage if it stands at a high level and fluctuates. Instability is disadvantageous to the economy, consumers as well as business enterprises. In case the inflation rate fluctuates, i.e. the change of prices differs significantly from time to time, the result is uncertainty. Because of fluctuating and unpredictable rates of inflation it is more difficult for consumers and enterprises to plan in the long-term, the volume of investments and 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 member states shall not surpass by more than 1.5 percentage points the inflation rate of the three best performing EU member states.
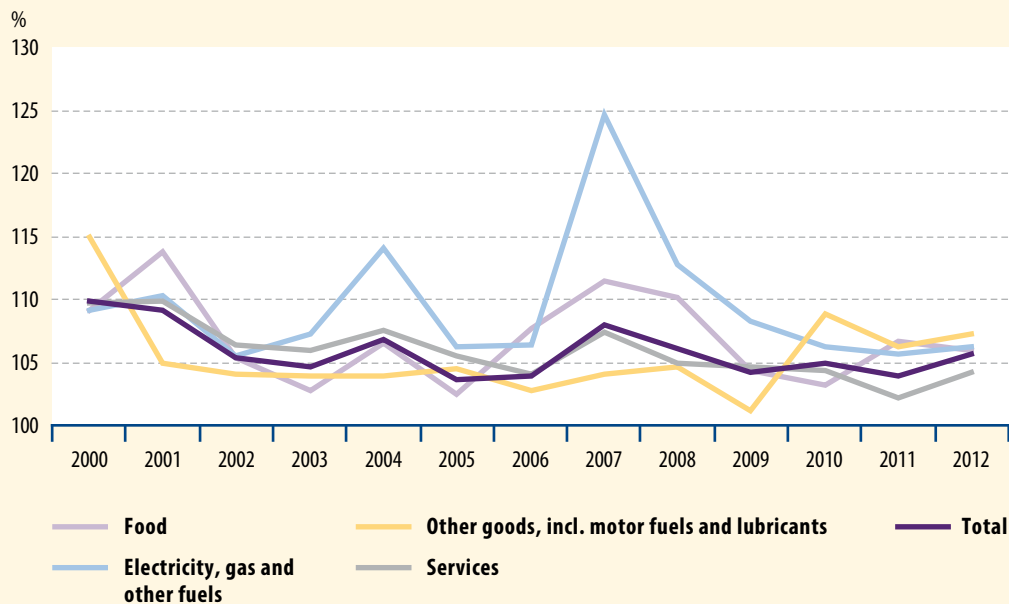
Commentary The annual rate of increase of consumer prices decelerated continuously from the sec-

ond half of the 1990s, and fell below 10% in 2000 for the first time after a long period. Although due to the change of the VAT and excise duties this trend was temporarily interrupted in 2004, it continued in 2005, and inflation fell to the lowest level (3.6%) in the examined period. Acceleration was observed in 2006 again, predominantly as a consequence of the change of VAT and other taxes on products. Consumer prices rose at a considerably higher rate – close to the 2001 level – in 2007 than in previous years, by 8.0%, which stemmed from administrative measures introduced at the beginning of the year and the price rise of food. The annual growth rate of prices decelerated somewhat further in 2008 and 2009, which was broken again in 2010 (4.9%). One of the most important factors of this price rise was the increase of excise tax from 1 January, in addition, the higher price rise of motor fuels than in previous years also had an impact. In 2011 prices rose by an average 3.9% over a year. The rate of annual inflation was this low for the last

◀ *Harmonised index of consumer prices (HICP) in the European Union, 2011 (previous year=100.0), %*

Figure 93.2. **Consumer price index in selected main groups**

%

Food — Other goods, incl. motor fuels and lubricants — Total

Electricity, gas and other fuels — Services

> **!** *The evolution of the consumer price index was dominated by the price rise of food and motor fuels – both representing large weight in the consumer basket in the last few years.*

time five years earlier, in 2006, and since 1995 it has fallen below this level only in 2005 (3.6%).

International outlook The annual average consumer price increase in the European Union (EU-27) rose from 2.1% in 2010 to 3.1% in 2011 according to the harmonised index of consumer prices. In most of the countries acceleration was measured, inflation slowed down only in Hungary, Greece, Sweden and Romania over a year. The highest price rise was in Romania (5.8%), in addition, prices went up considerably in Estonia (5.1%) and the United Kingdom (4.5%). The annual average consumer price decrease in 2010 turned into a rise in both Ireland and Latvia in 2011: the rate of annual inflation was 1.2% and 4.2% respectively, however, the lowest prise rise was recorded even so in Ireland. The rate of the annual average consumer price increase – compared to the rest of the European Union member states – was lower in Sweden, too (1.4%).

Details One of the most significant factors in the development of the consumer price index is food, accounting for some one quarter of the consumer basket. As a result of bad weather conditions in recent years and higher increases in administered prices the price rise of food was substantially higher

than the average in essentially all years. The group of other goods, including motor fuels, also has a significant weight in the consumer basket. In the past two years the price of motor vehicle fuels rose at a higher rate than in previous years and compared to the average, influenced primarily by the evolution of oil prices on the world market and the movement of the USD/HUF rate. In case of electricity, gas and other fuels administrative price measures typically resulted in above-average price rises between 2000 and 2012. Services have the largest weight in the consumer basket, and their annual price change was generally above the average.

Definitions

The consumer price index is an indicator measuring the monthly average consumer price changes of goods purchased and services used by households.
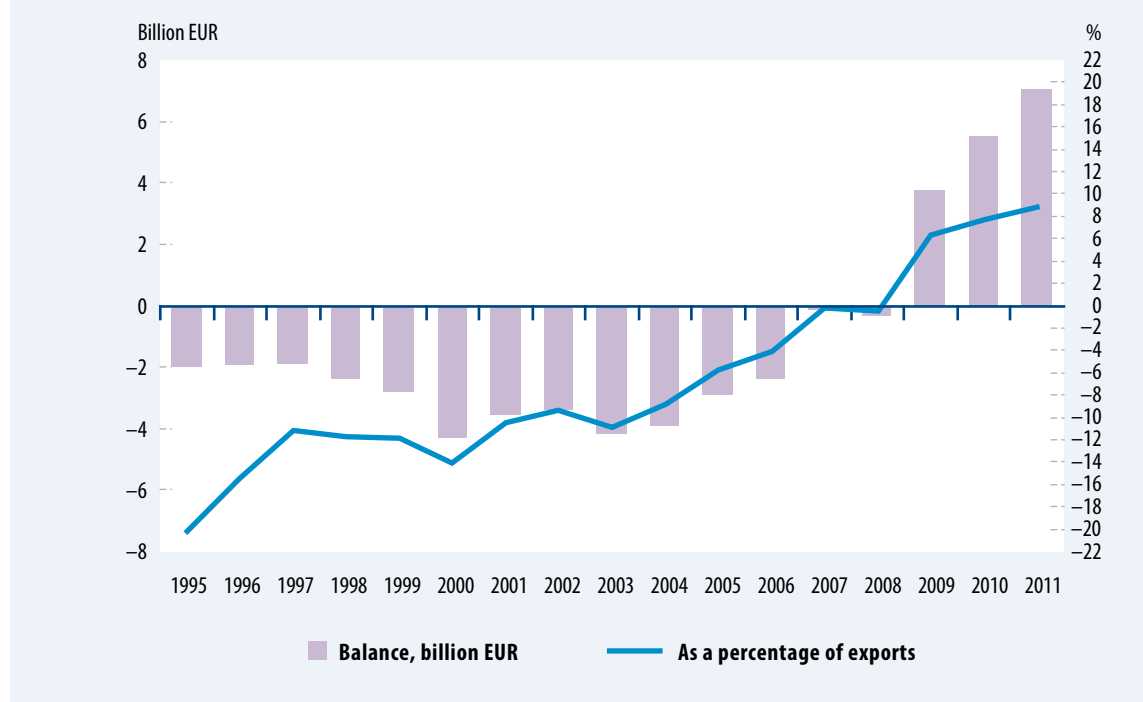
Harmonised index of consumer prices (HICP): a consumer price index reflecting EU recommendations, aimed to ensure international comparisons across the member countries of the European Union.

Stadat tables
3.6. Prices

Balance of external trade in goods

Keywords **external trade in goods, exports, imports**

Figure 94.1. **Balance of external trade in goods**

> The balance of external trade improved considerably following EU accession, large and growing surpluses were registered in 2009–2011.

Relevance The indicator shows the difference between exports and imports, that is the balance of trade in goods. The balance shows a surplus in case of a positive value and a deficit in case of a negative value. The balance of external trade in goods is an important component of the current account.

Commentary Between 1995 and 2008 the balance of external trade in goods was in deficit in Hungary. Following EU accession the balance gradually improved and came close to equilibrium in 2007. In the three years following the outbreak of the 2008 financial crisis the balance of external trade improved spectacularly along with the stagnation and then fall of domestic use. In the second half of the 1990s large foreign capital inflows and later the accession to the common market basically altered the structure of the economy and extended the possibilities of enterprises. Companies founded with foreign capital made investments in Hungary, which implied the growth of imports as well as the deficit. The deficit on the balance of external trade was EUR 4.3 billion at the end of the turn of the millennium, EUR 2.3 billion more than in 1995. The deficit as a percentage of exports went up to 14% compared with one-tenth in the preceding years.

After the recession in the year 2001 the gap between the dynamics of exports and imports widened, which caused the increase of the deficit. Following the accession in 2004 exports grew at a more rapid pace than imports thanks to export-oriented production. In 2007 the balance of external trade was nearly in balance. From 2009 the balance of external trade of Hungary had a higher and higher surplus year by year. The reason for the improvement of the balance was the decrease in imports for consumption and the increased exports of communication and car industry products. In 2011 the balance exceeded EUR 7 billion, and the surplus as a percentage of exports equalled nearly 9%.

International outlook The global economic boom deteriorated substantially in 2001. The

Figure 94.2. **Balance of external trade of the European Union**
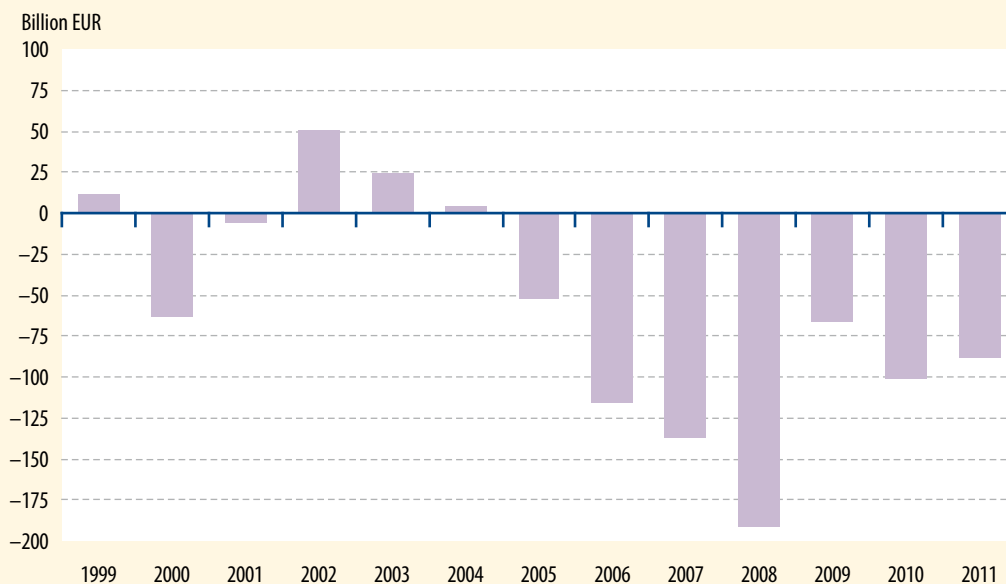
Source: Eurostat.

! *According to the balance of external trade in goods the deficit in the European Union decreased after the global economic crisis.*

economic growth of the United States stopped in the second half of that year, and the European Union, our most important trade partner, could not back out of the unfavourable impacts either. Following the recession a marked expansion was recorded in the external trade of member countries, lasting until the outburst of the 2008 financial crisis. The majority of member states fell into recession in 2009, however, a significant growth was observed in the area in 2010 thanks to the low base. In 2011 the dynamics of trade broke because of fiscal disequilibria, and the more marked deceleration of imports than that of exports resulted in the improvement of the balance in member countries.

Definitions

The balance of external trade in goods shows the difference between the value of exports and imports, i.e. the balance of trade in goods.

The relative balance of external trade is the proportion of the balance to goods exports, expressing the relative size of external trade deficit or surplus.
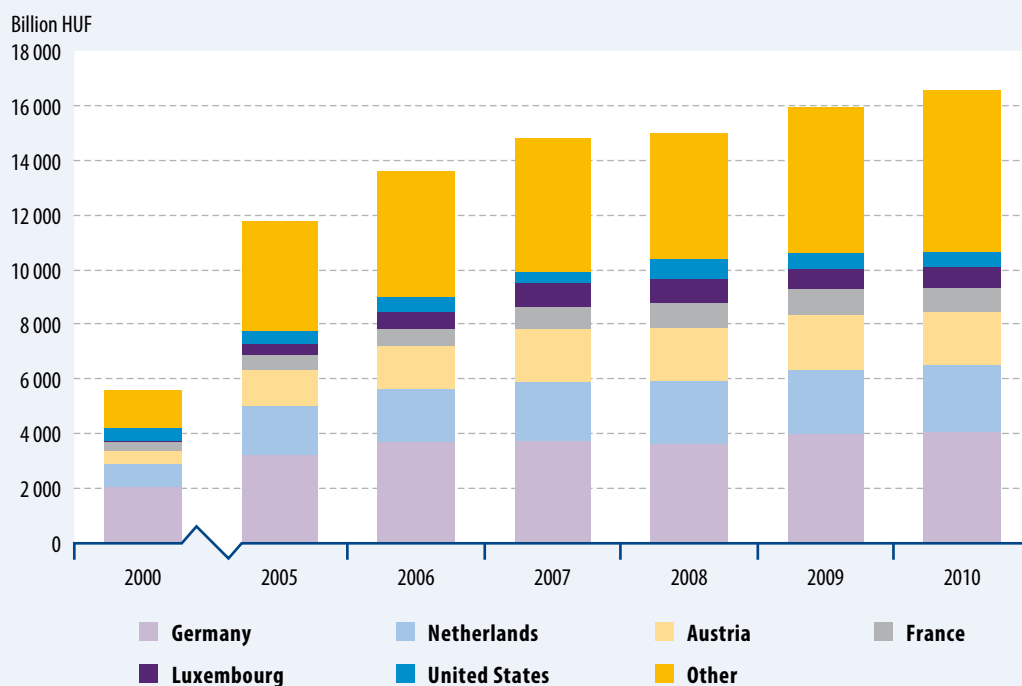
Stadat tables
3.5. External trade

Foreign direct capital investments

Keywords **foreign capital, working capital, capital investments**

Figure 95.1. **Foreign direct capital investment stock in Hungary by home countries**

Billion HUF

Legend:
- Germany
- Netherlands
- Austria
- France
- Luxembourg
- United States
- Other

Source: National Bank of Hungary.

! *A substantial part of the capital stock comes from EU countries.*

Relevance The free movement of capital plays an important role in world economic trends. The inflow of foreign capital during the restructuring of the Hungarian economy since the change of regime contributed significantly to the recovery of the economy, the modernization of technology, and the improvement of employment and export capacities. Hungarian capital investments abroad became a relevant item in addition to foreign capital investments in Hungary.

Commentary The stock of foreign direct capital investment inflows to Hungary was HUF 16,528 billion at the end of 2010, some 3.7% higher than in the previous year. Inward foreign direct capital grew markedly in the first half of the last decade (by 24% in 2003), while the expansion was already much more modest in the second half of the decade as an impact of the global economic crisis.

More than the half of foreign direct capital investments in 2010 was recorded in services branches, within which wholesale and retail trade

and the repair of motor vehicles and motorcycles (12%), professional, scientific and technical activities (11%) and financial and insurance activities (11%) were especially important. Manufacturing accounted for 37% of investments, within which the most significant area was the manufacture of transport equipment (13%).

Hungary's direct capital investments abroad were HUF 3497 billion at the end of 2010, 18% higher than in the previous year. The amount of Hungary's investments is remarkably smaller than that of foreign capital investments in Hungary. It accounted for only 6% of foreign capital in 2000, while this proportion grew to 19% in 2008 and to 21% in 2010. However, the rate of increase of Hungary's investments abroad is essentially higher than that of foreign investments implemented in Hungary.

The distribution of the foreign direct capital stock of Hungarian investors by branches in 2010 was different from the distribution of foreign direct capital coming to Hungary. The share of

Figure 95.2.   Hungary's outward foreign direct capital by largest host countries
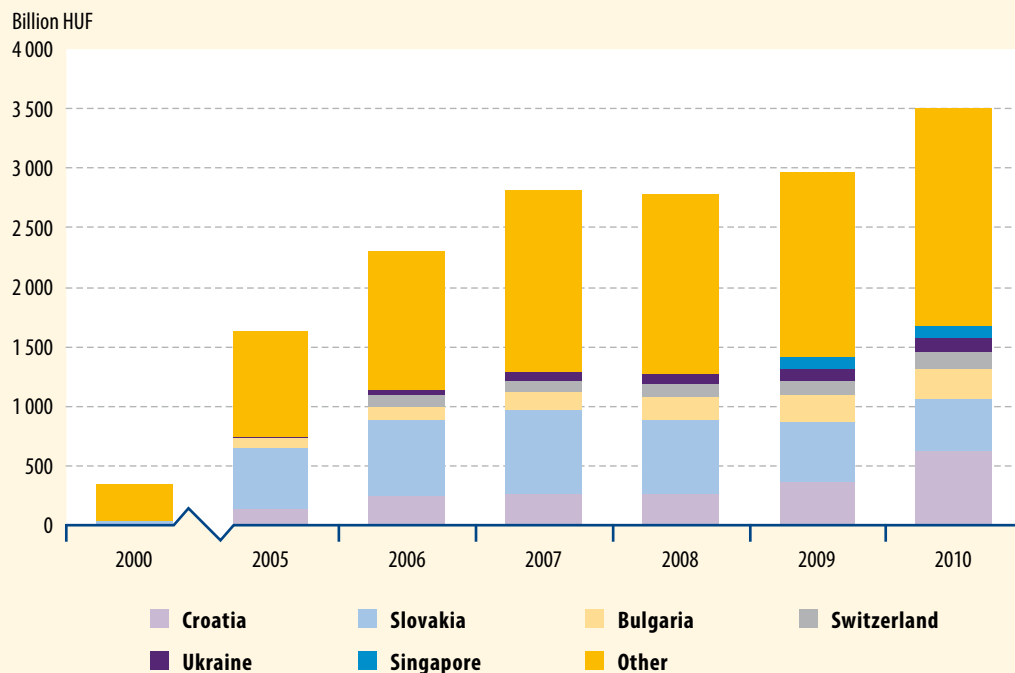
Source: National Bank of Hungary.

! *The most important target countries of Hungary's capital exports are states in the region.*

manufacturing in Hungary's capital investments abroad is smaller than in foreign direct capital in Hungary, it was only 21% in 2010. The proportion of Hungary's investments abroad was the highest in financial and insurance activities (23%), followed by administrative and support service activities (20%), then mining and quarrying (17%), and the manufacture of coke and refined petroleum products (9%).

Details Since foreign capital first emerged in Hungary the largest part of the direct capital stock has come from Germany, the Netherlands and Austria. Their share of foreign direct capital was 25%, 15% and 12% respectively in 2010. These three largest investor countries together made up more than the half of investments. Investments form France (5.6%), Luxembourg (4.2%) and the United States (3.4%) were also considerable. Over three-quarters of the direct capital stock came from the European Union in 2010.

More than two-thirds of Hungary's direct capital was invested in Europe, and some one-quarter of all direct capital in the European Union. The largest capital recipient country in 2010 was Croatia (18%), Slovakia came to position 2 (12%), followed by Bulgaria (7.3%).

Definition Direct foreign investment enterprise: an enterprise with or without legal personality, in which an investor resident in another economy owns 10% or more of the ordinary shares or voting power or has a corresponding share. Data do not refer to enterprises in which the share of foreign direct investments is under 10% and those pursuing activities abroad with the passive function of channelling funds.

Stadat tables
3.1.19. FDI of direct foreign investment enterprises by industries – TEÁOR'08 (2008–2010)
**3.1.20. FDI by countries and groups of countries of origin (1998–2010)**
3.1.21. Hungary's direct investment abroad by economic branches – TEÁOR'08 (2008–2010)
3.1.22. Hungary's direct investment abroad by countries and groups of countries of destination (1998–2010)

Income paid as dividends to the rest of the world

Keywords **dividends, property income, special purpose entities (SPEs)**

Figure 96.1. **Income paid as dividends to the rest of the world, including SPEs**

Billion HUF
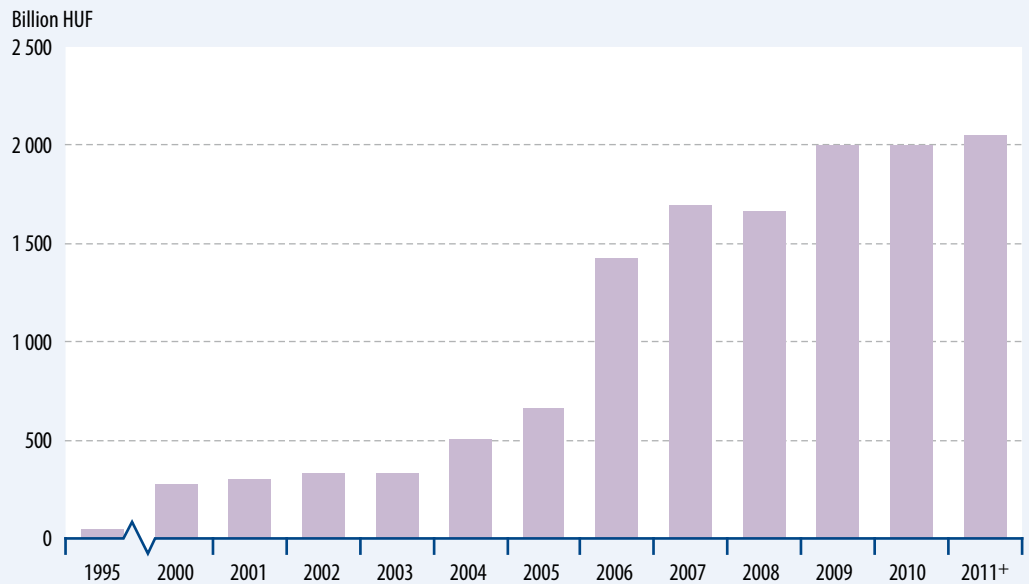
> **!** *Income paid as dividends to the rest of the world grew considerably after 2005.*

Relevance 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, had an impact on property incomes either received from or paid to the rest of the world.

Commentary The amount of dividends paid to the rest of the world increased more than six times from 1995 (HUF 46 billion) to 2000 (HUF 279 billion). It stagnated until 2003, and went substantially up from 2004, by HUF 175 billion and HUF 163 billion in 2004 and 2005, respectively, compared to previous years. A more than two-fold rise occurred in dividends paid to the rest of the world in 2006, unparalleled to date. Dividends paid to the rest of the world expanded by a further HUF 267 billion in 2007, they slightly fell in 2008, and grew again in 2009 (by 20%). The value of dividends paid to the rest of the world in 2010 was nearly the same as in the previous year,

while it was slightly up again in 2011 according to preliminary data.

Definitions

Dividends are forms of property incomes received by the owners of shares to which these owners become entitled as a result of placing funds at the disposal of enterprises.
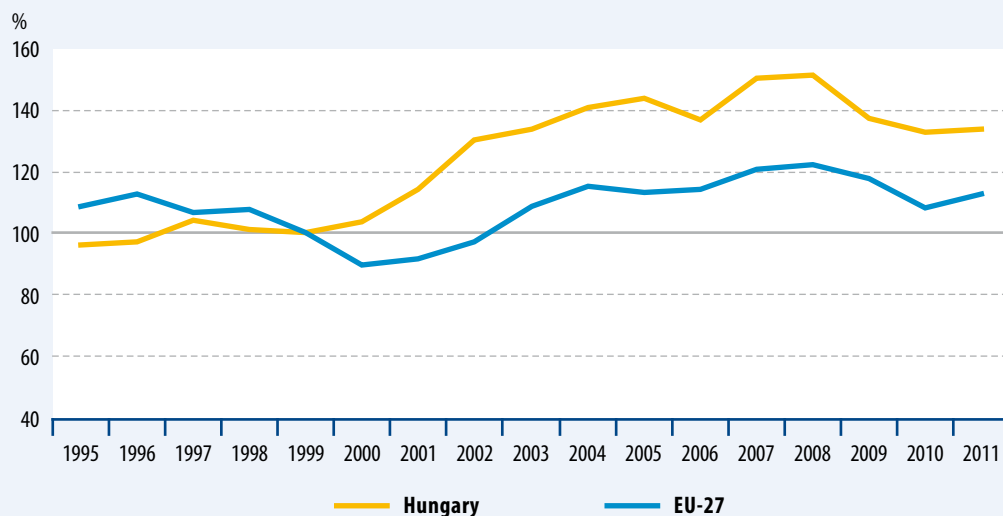
SPEs: enterprises in which the share of foreign direct investments is under 10% and those pursuing activities abroad with the passive function of channelling funds.

Index of international price competitiveness

Keywords **price competitiveness, exchange rate, productivity, labour costs**

| Figure 97.1. | **Real effective exchange rate index** | (1999=100.0) |

Source: Eurostat.

! *The real effective exchange rate index of Hungary improved by nearly 20 percentage points between 2008 and 2011.*

Relevance Out of the key indicators of sustainability international price competitiveness affects first of all the indicators of economic resources, directly influencing the development of GDP and indirectly changes in government debt and in employment rate. In addition to ensuring a higher level of life for current generations and making the national economy more resistant to regional or global, as well as environmental or economic crises, sustainable national resource management contributes at the same time to long-term competitiveness, too.

Commentary The index increased significantly, by more than a half in Hungary from 1995 to 2008, with a temporary decrease in 2006. An improvement started following 2008, which lasted until 2011. The positive change after 2008 was primarily due to the HUF weakening by more than 20% between the beginning of 2008 and the end of 2011.

International outlook The performance of Hungary is similar to the EU-27 average, though is 20 percentage points lower than that. The worst-performing member state in the Community is Romania, which is caused by the strikingly low productivity and the significantly increased labour costs. The best indicators are recorded for the United Kingdom and Germany, two of the strongest economies in the EU.

One can say in a regional comparison that Austria, related to Germany in many areas, has an especially good performance, furthermore, the indicators for Poland and Slovenia are also higher than the EU-27 average. Hungary, with already a below-average performance but an improving trend in the last few years, overtakes the surrounding countries.

Definitions

The international price competitiveness index is used to assess a country's (or currency area's) price competitiveness relative to its principal competitors in international markets.

To asses the indicator the real effective exchange rate (REER) index is used, which takes into account the change of labour costs per unit and the productivity of the particular country in addition to the change of the nominal effective exchange rate (NEER). An increase in the index indicates the deterioration of competitiveness.

Real effective exchange rate index in the European Union, 2011 *(1990=100.0), %*

Country	Value
RO	178.7
CZ	167.4
BG	154.4
EE	142.9
LV	134.4
HU	**133.8**
LT	121.0
MT	117.0
IE	116.0
CY, DK, IT	115.2
EU-27	**112.8**
ES	111.4
SI, NL	110.9
PT	110.8
FR	108.1
EL	106.6
FI	106.1
PL	103.0
SE	101.3
AT	95.9
UK, DE	88.9

Energy import dependency

CY, LU	100.9
IE	85.6
IT	83.8
LT	81.9
BE	76.8
ES	76.7
PT	75.5
EL	69.1
SK	63.1
AT	61.8
DE	59.8
HU	**58.3**
EU-27	52.7
FR, SI	49.3
FI	48.1
LV	41.6
BG	40.3
SE	36.5
PL	31.5
NL	30.7
UK	28.3
CZ	25.6
RO	21.7
EE	12.9
DK	−18.2

Figure 98.1. **Energy import dependency**
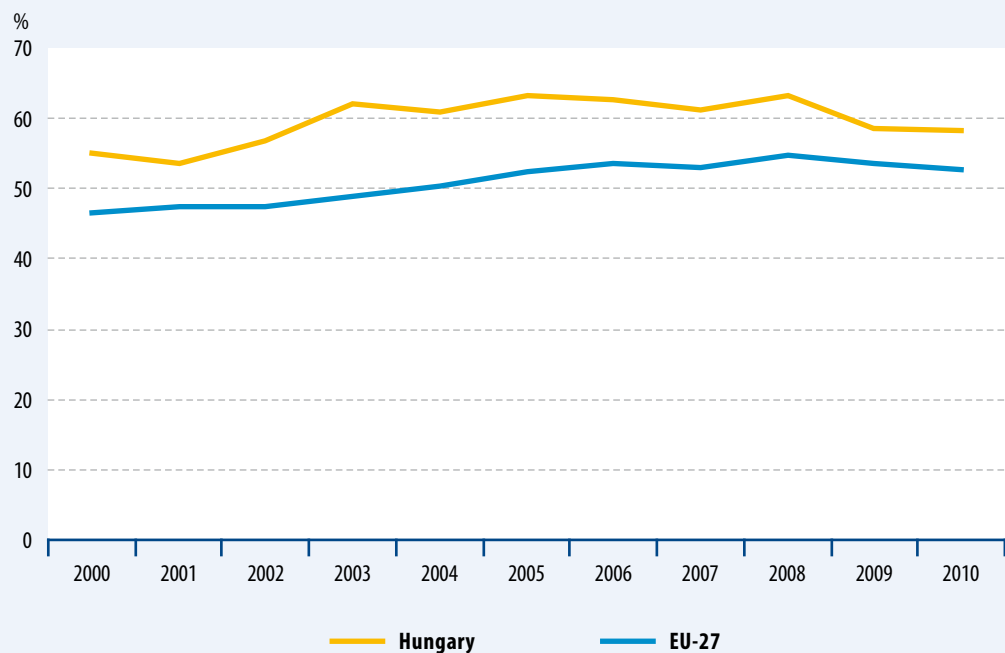
Source: Eurostat.

> **!** *Our energy import dependency is around 60%, not substantially exceeding the EU average.*

Relevance The use of fossil fuels, the imports of fuels and the resulting risk of safety of supply set significant tasks for our energy management. To make supply safe it is indispensible on the one hand to increase the share of renewable energy sources – in line with endowments, and to reduce one-way dependency, to diversify import sources on the other. The climate and energy package of the European Union, and the energy strategy for 2020 also underline these objectives.

Commentary Hungary is in need of substantial imports of primary energy sources, 58% of domestic use came from imports in 2010. We import not only primary but also secondary energy sources (petrol, electricity).

Energy dependency was above 60% from 2003, and moderately declined from 2009.

Within imports the volume of hydrocarbons (measured in terajoules) is the largest, with a special regard to that of natural gas, 80% of which comes from imports, mainly from Russia. 37% of domestic energy consumption is based on natural gas, which is the second highest proportion in the EU.

The economically exploitable crude oil stock is also scarce in Hungary: domestic production accounted for 22% of the quantity used in 1995 and 12% in 2010.

The use of coal is on the decrease as a result of shutting down and converting conventional power plants, however, even along with a decline in use, a growing proportion of coal comes from imports.

International outlook The energy import dependency of the EU grew continuously in the past decade, principally because of expanding energy needs and the increasing importance of natural gas imports. More than 50% of the energy used in the EU has come from imports since 2004.

◀ *Energy import dependency in the European Union, 2010,* %

Figure 98.2.   **Production of primary fuels in calorific value**

Calorific value, PJ

Legend:
- Renewable energy
- Nuclear power
- Natural gas
- Coal
- Crude oil
- Other fossil fuels
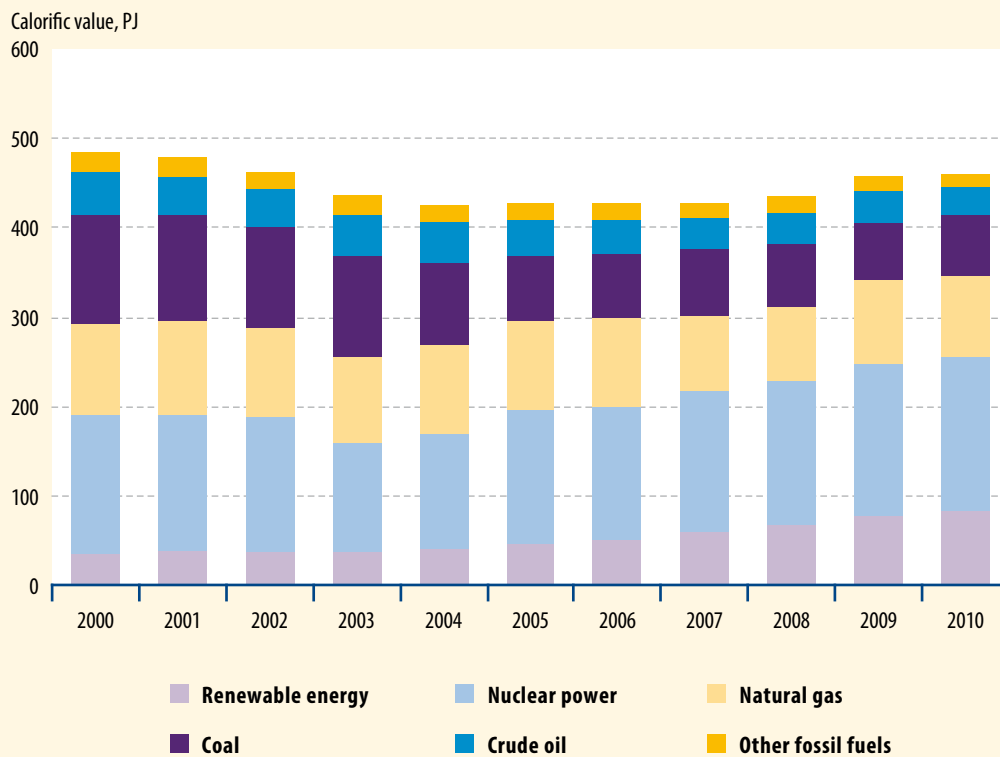
! *The falling extraction of fossil fuels is offset by the expansion of electricity production in the nuclear power plant and by the increasing renewable energy utilization.*

Dependency on imported energy was above 50% in 14 of the 27 member states of the EU, while this proportion was considerably lower than 50% in case of 12 member countries – primarily in Northern and Eastern Europe. Import dependency was around 100% in smaller countries (Malta, Cyprus and Luxembourg), and as a result of export surpluses energy dependency was negative only in Denmark (–18%). Hungary, somewhat exceeding the EU average, belongs to the group of moderately energy-dependent countries. The lower the proportion of imports, the more significant the own extraction of a country.

Details Hungary's conventional fuel stocks (hydrocarbons and coal) have been largely exhausted over the last decades. The domestic extraction of natural gas and crude oil declined by 10% and 36% respectively, and that of hard coal was down to slightly more than the half in calorific value between 2000 and 2010. Present-day coal production in Hungary is limited to lignite and

brown coal, black coal mining ceased in 2005. The falling extraction of fossil fuels is offset by the rising share of nuclear power in electricity production and by the increasing renewable energy utilization.

Definitions

The indicator of energy import dependency expresses the extent to which a particular country relies on imported energy sources in order to meet domestic energy needs. The indicator can be calculated by dividing the volume of net imports by the sum of gross domestic energy use and stock formation. Net imports are the difference between total imports and total exports.

Energy dependency can also have a negative sign – in case of a net exporter –, and a positive value above 100% refers to stock formation.

Stadat tables
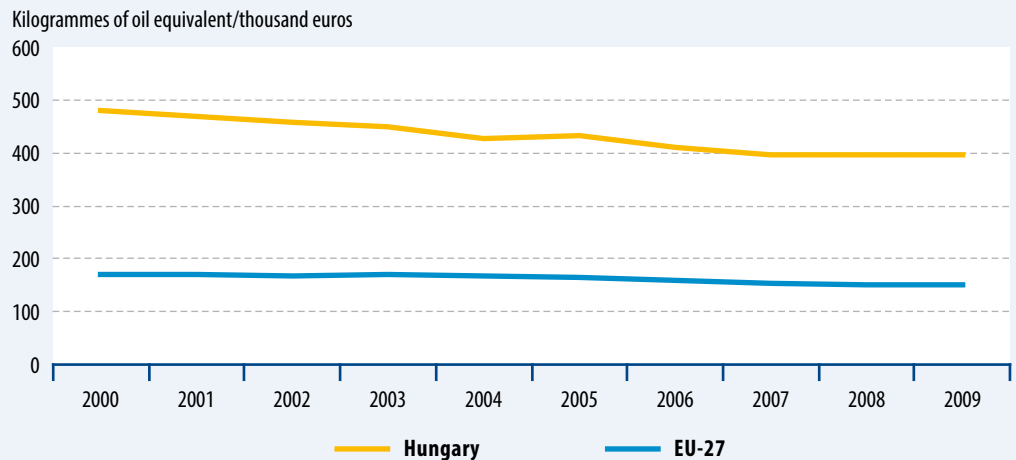**5.7.2. Primary energy production in calorific values**
3.8.1. Energy balance

Energy intensity

Keywords **energy intensity, direct energy use**

BG	671.1
EE	545.9
RO	395.5
CZ	374.6
SK	371.3
LV	363.3
PL	330.5
LT	311.1
▶ HU	295.5 ◀
SI	231.4
FI	225.3
BE	190.8
CY	177.6
MT	169.2
SE	159.4
NL	157.8
PT	154.5
▶ EU-27	152.1 ◀
FR	151.6
EL	147.5
DE	141.9
LU	140.3
ES	137.0
AT	131.8
IT	123.6
UK	111.9
DK	93.7
IE	92.8

Figure 99.1. **Energy intensity**

Kilogrammes of oil equivalent/thousand euros

Source: Energy Centre Non-profit Ltd., ODYSSEE database.

! *Energy intensity fell by 17% between 2000 and 2009.*

Relevance Energy use as a proportion of GDP informs on the energy need of economic development. The general aim is to make these two independent from each other, taking into account both energy supply and environmental aspects. However, energy intensity is capable to characterize energy efficiency on the level of the national economy only with limitations, the internal structure of the economy (e.g. energy-intensive divisions), the composition of energy sources used (fossil or renewable sources), and the geographical endowments of a country (e.g. climatic conditions) can influence the indicator.

Commentary Hungary's indicator of energy intensity fell by 17% between 2000 and 2009, which was influenced by the significant restructuring of the economy and the increase of efficiency of energy production and use, too.

International outlook Despite the considerable decrease the figure for Hungary is more than 2.5 times as high as the EU average. The largest decrease in terms of energy intensity was observed in Lithuania (37%), Slovakia (37%) and Bulgaria (36%) among the 27 member states of the EU between 2000 and 2010, but because of the high

base the indicators for these countries were still high. In 2010 energy use per unit of GDP was the lowest in Ireland and Denmark.

Details Energy intensity declined by 26% in industry in the past ten years, for the share of energy-intensive divisions fell considerably, and they were replaced by modern manufacturing sub-divisions producing products with less energy demand and high value added. Energy use stagnated in these latter sectors along with the growth of production indices. The energy intensity of agriculture has decreased substantially, by some 57% since 2000, and that of the services sector has lessened by 27%. This latter consumes the least energy compared to gross value added (90 kilogrammes of oil equivalent/thousand euros).

Direct energy use in Hungary was practically unchanged after the fall following the regime change, while the shares of industry and transport were rearranged. It was the proportions of households (34%) and transport (nearly 30%) that were the highest in final energy use. Heating accounted for 40%–45% of the final energy use of households. Within direct energy use gaseous and liquid hydrocarbons have a dominant role.

Energy intensity in the European Union, 2010, *kilogrammes of oil equivalent/thousand euros*

Figure 99.2. **Indicators of energy intensity for selected sections**
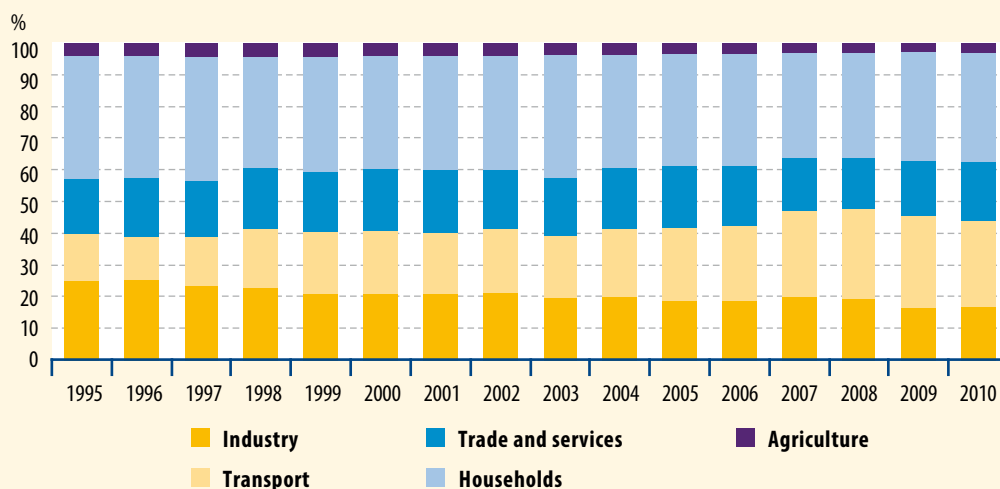
Kilogrammes of oil equivalent/thousand euros
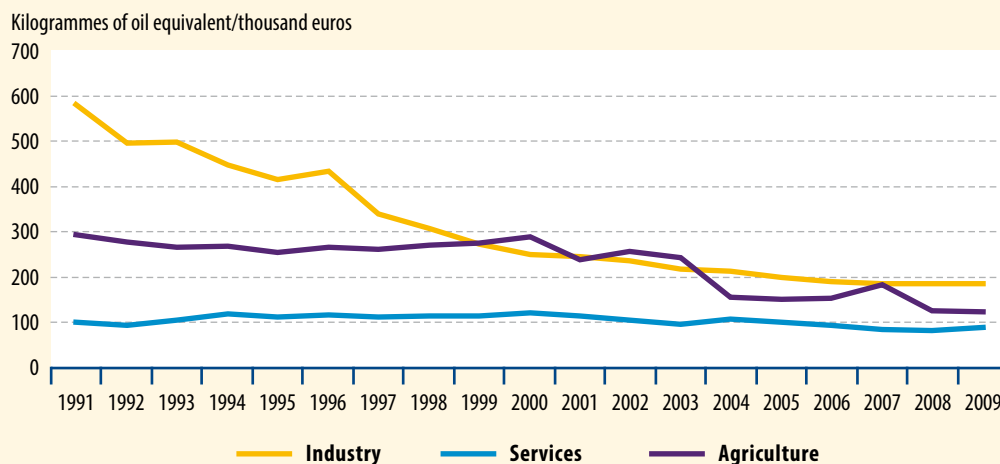
Source: Energy Centre Non-profit Ltd., ODYSSEE database.

> **!** *The energy intensity of industry has decreased significantly since the regime change because of the restructuring of production.*

Figure 99.3. **Direct energy use by sectors**

%

Source: Energy Centre Non-profit Ltd.

> **!** *The shares of industry and transport were exchanged by the end of the period.*

Definitions

Energy intensity is the quotient of gross inland energy use and GDP in a particular calendar year, where energy use is given in kilogrammes of oil equivalent. Gross value added is calculated at constant prices of the year 2000.

The indicator for agriculture, industry or services is the quotient of the final energy use and the gross value added of the particular section.

The indicator of direct (final) energy use gives the direct energy use of the different divi-

sions in tonnes of oil equivalent (one tonne of oil has a net heat equivalent of 41,868 megajoules), including the sum of final energetic, and non-energetic and material-type use, excluding use with the purpose of transformation into other fuels.

Stadat tables
5.7.1. Final energy consumption (1995–2010)

SE	47.9
LV	32.6
FI	32.2
AT	30.1
PT	24.6
EE	24.3
RO	23.4
DK	22.2
SI	19.8
LT	19.7
BG, ES	13.8
FR	12.9
▶ EU-27	12.5 ◀
DE	11.0
IT	10.1
SK	9.8
PL	9.4
CZ, EL	9.2
▶ HU	8.7 ◀
IE	5.5
BE	5.1
CY	4.8
NL	3.8
UK	3.2
LU	2.8
MT	0.4

Renewable energy sources

Keywords **renewable energy sources, electricity**

Fig. 100.1. **Share of renewable energy sources in total energy use**
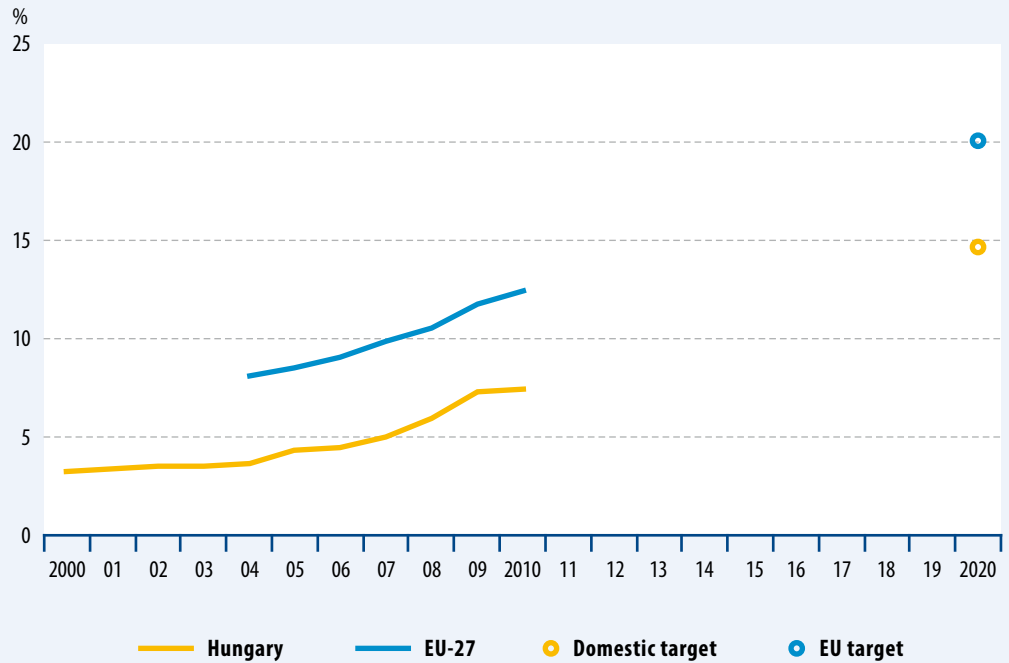
Source: Energy Centre Non-profit Ltd., Eurostat.

! *Hungary must increase the share of renewable energy sources to 14.65% until 2020 according to the Renewable Energy Utilisation Action Plan.*

Relevance The aim of the energy policy of the European Union is to reduce dependence on fossil fuels, in addition, to cut the emissions of many different pollutants, including particularly greenhouse gases. Enhancing the use of renewable energy sources contributes to meeting these targets. A directive of the European Union (2009/28/EC) established national targets to be achieved by 2020, and Hungary must increase the share of renewables within gross national energy consumption to 13%. However, the target set in the Renewable Energy Utilisation Action Plan of Hungary is 14.65%.

Commentary Primary energy produced from renewable energy sources more than doubled in Hungary in the last ten years, their share was 7.4% in energy use in 2010, more than the half of the set target. The most important renewable energy source is biomass, which is the source of

nearly 80% of production based on renewable sources. No significant progress was made in the use of geothermal energy. The use of wind power and biofuels grows fast in absolute terms, but their importance (2.4% and 7.4% respectively) is still not high. Biogas production rose dynamically as well from 2007, its share was 2%. The present-day, increasing utilisation of solar energy is still only a very small fraction of solar thermal and photovoltaic energy potential considering irradiation conditions in Hungary, its use spreads slowly.

International outlook The share of renewable energy sources within total energy use was 12.5% in view of the 27 member states in 2010, almost two-thirds of the target set by 2020. The value of Hungary was 3.8 percentage points lower than the EU average, similarly to the figures of the Czech Republic and Greece. Sweden gains nearly

Share of renewable energy sources in total energy use in the European Union, 2010, %

Fig. 100.2. **Energy produced from renewable energy sources**

Legend:
- Hydroelectric power
- Wind power
- Wood, wood waste, other solid waste
- Geothermal
- Biogas
- Solar thermal energy
- Solar photovoltaic energy
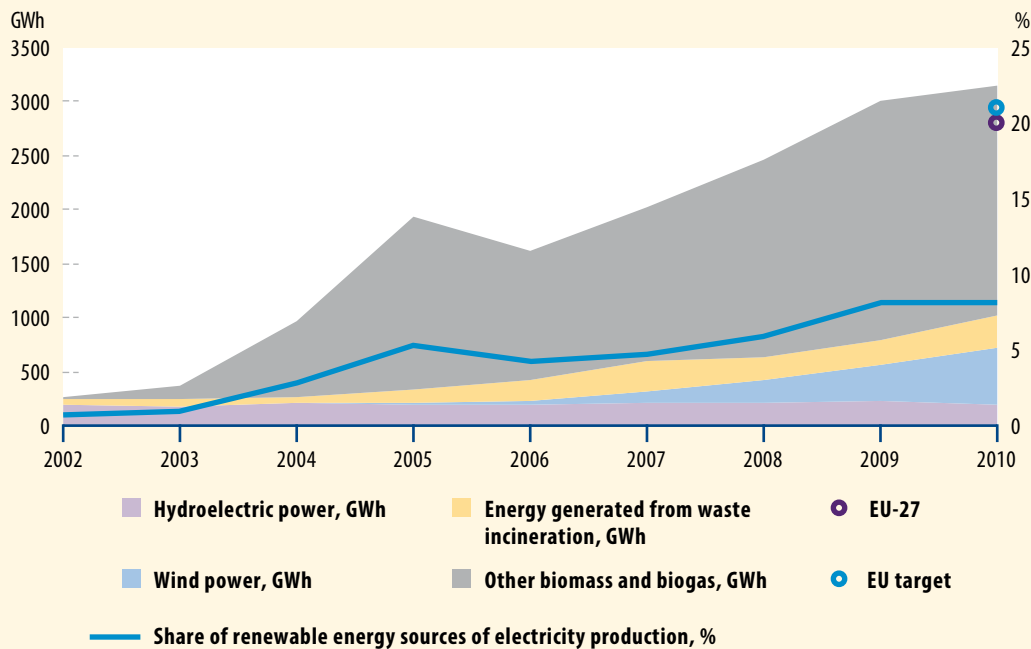- Renewable municipal waste
- Biofuels

Source: Energy Centre Non-profit Ltd.

> **!** *The most important renewable energy source is biomass, the source of nearly 80% of energy production based on renewable sources.*

Fig. 100.3. **Volume and proportion of electricity produced from renewable energy sources**

Legend:
- Hydroelectric power, GWh
- Wind power, GWh
- Energy generated from waste incineration, GWh
- Other biomass and biogas, GWh
- EU-27
- EU target
- Share of renewable energy sources of electricity production, %

Source: Energy Centre Non-profit Ltd., Eurostat.

> **!** *Thanks to the favourable price subsidy scheme the volume and share of electricity produced from renewable energy sources have increased dynamically since 2003.*

the half of its energy use from renewables (thus almost meeting the national target of 49%), and is the first in the ranking of member countries. The second and third positions are held by Latvia (33%) and Finland (32%).

Details In electricity production the use of fossil fuels fell by 12%, the share of renewables reached 8.1% in 2010, which was below 1% back at the beginning of the decade. The share of "green electricity" has grown dynamically since 2003, thanks to the introduction of the scheme of compulsory reception at subsidised prices. The increase largely comes from former coal fired power plants having been switched to biomass (at Pécs, Ajka and Kazincbarcika) or mixed fuel (at Tiszapalkonya and in the Mátra Mountain).

The proportion of formerly dominating hydroelectric power and municipal wastes (96% together in 2000) has fallen considerably in green electricity production in the past few years, and nowadays biomass (mostly made up of fuel wood and wood waste) became dominant, with a share of around 70%. The number of wind power plants and the proportion of electricity gained from them (17% in 2010) increased markedly from 2007.

Biomass can come from by-products generated in crop production or sylviculture, from animal husbandry, food industry (vegetable oil industry), and municipal as well as industrial wastes. The predominant proportion of biomass is used for heat production, while the smaller part for electricity generation.

Definition
The indicator shows the share of renewable energy sources (hydroelectric and wind power, solar thermal and photovoltaic energy, geothermal energy, biomass, biogas, biofuels, municipal waste) within total gross energy use.

Stadat tables
5.7.3. Share of renewable resources of electricity production (2000–2010)
5.7.4. Production of energy from renewable energy sources (1995–2010)

Energy use of transport

Keywords **energy use, transport**

Fig. 101.1. **Energy use of transport as a proportion of GDP** (2000=100.0)
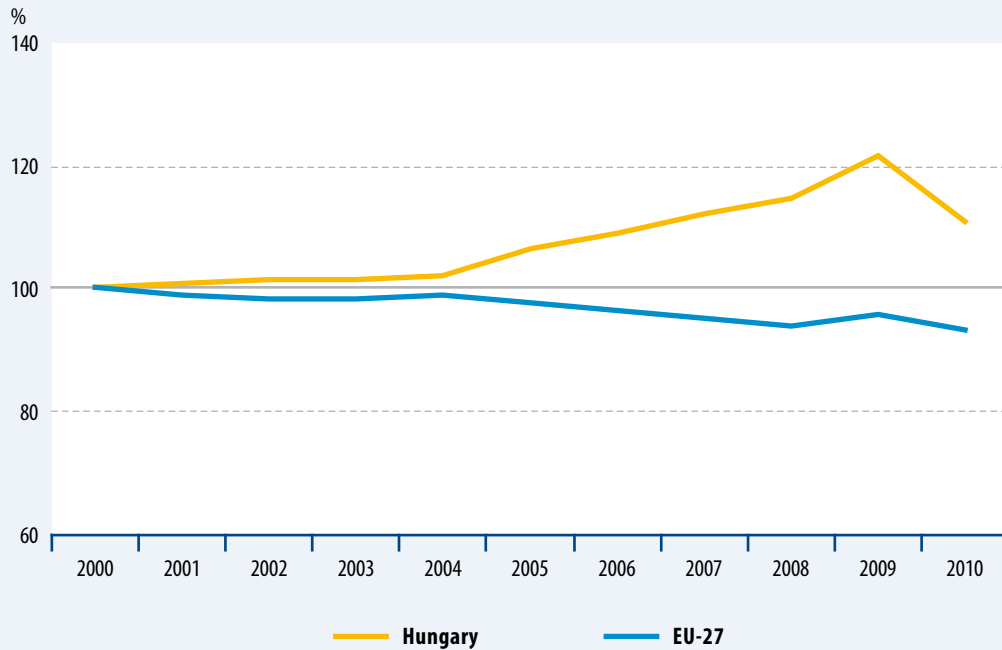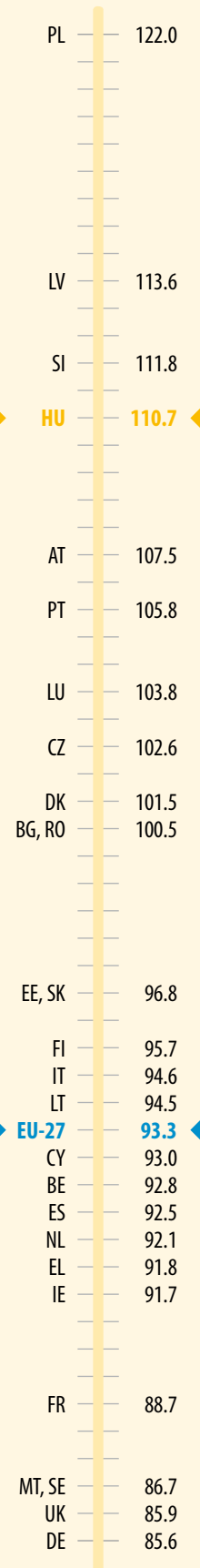

Source: Eurostat.

! *Since our EU accession the energy use of transport has grown at a pace exceeding the rate of our economic development.*

Relevance Current transport practices have inherent negative side effects, it would be desirable to create a transport system being in equilibrium with economic growth, but increasing at a slower pace than that. The programme formulated at the Gothenburg Summit of the European Council is related to this, according to which measures should be introduced to separate increase in traffic and growth rates of GDP. In addition – in accordance with the strategy of sustainable development – the sustainable energy consumption of transport should be established as well as declining greenhouse gas emissions.

In absolute terms the separation of energy use and GDP is achieved when only economic performance increases and environmental pressure does not do so. A relative separation occurs when the growth rate is positive for both components, but energy use increases at a lower rate than GDP.

Commentary The value of the index grew by 11 percentage points by 2010 compared to 2000, which is due to the increase of energy use of the transport sector (34%) considerably surpassing the growth of GDP between 2000 and 2010. Out of the modes of transport the energy use of road transport, with a share of over 90%, so influencing the value of the index the most, expanded 1.4-fold.

International outlook The separation of energy use and economic performance can be best observed in Germany and the United Kingdom, where the value of the index fell by more than 14% between 2000 and 2010. The other extreme is represented by Poland, where the two phenomena still follow strongly similar paths. Hungary belongs to the countries having the highest values as opposed to the decreasing EU average.

Energy use of transport as a proportion of GDP in the European Union, 2010 (2000=100.0), %

PL	122.0
LV	113.6
SI	111.8
▶ HU	110.7 ◀
AT	107.5
PT	105.8
LU	103.8
CZ	102.6
DK	101.5
BG, RO	100.5
EE, SK	96.8
FI	95.7
IT	94.6
LT	94.5
▶ EU-27	93.3 ◀
CY	93.0
BE	92.8
ES	92.5
NL	92.1
EL	91.8
IE	91.7
FR	88.7
MT, SE	86.7
UK	85.9
DE	85.6

Fig. 101.2. **Per capita energy use of transport by mode of transport**

GJ/capita

Road transport   Rail transport   Air and inland waterway transport
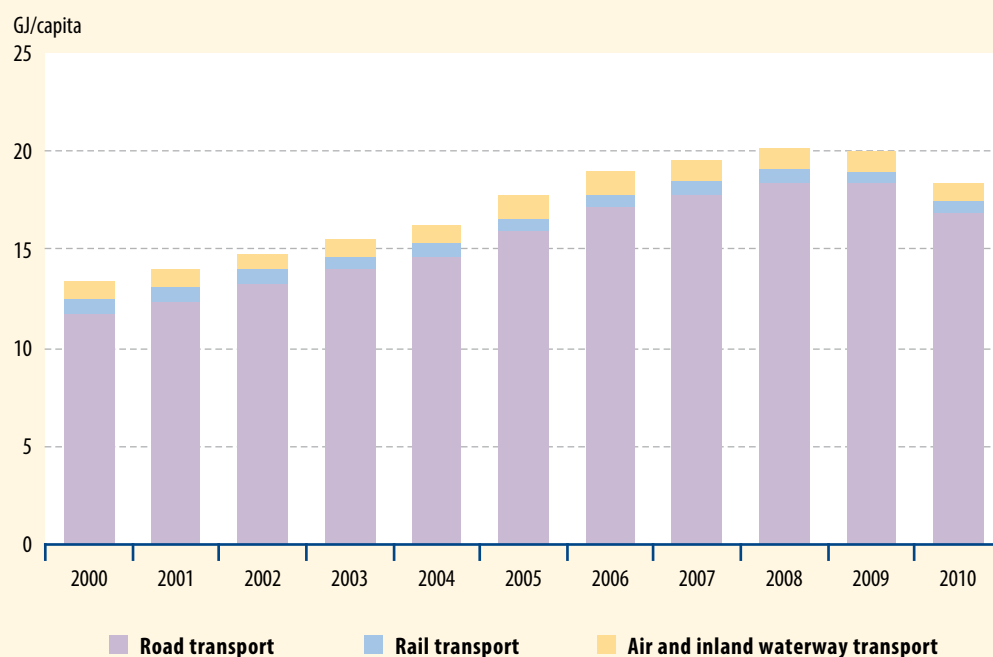
Source: Eurostat.

! *Expanding per capita energy use of transport fell as a consequence of the crisis.*

Details The continuous growth of per capita energy use of transport stopped in Hungary after the crisis started in 2008. Considering the transport sector as a whole energy use rose by 37% between 2000 and 2010, however, because of the fall it did not reach the 2006 level. Looking at the different modes of transport it was the energy use of road transport that increased the most (by 43%), while at the same time the per capita use of rail as well as air and inland waterway transport hardly changed. Since 2009 passenger traffic has also lessened consistent with the crisis.

Definition The indicator is calculated as the quotient of energy use of transport and GDP (2000=100.0). Energy use includes commercial and individual modes of transport (road, rail, inland waterway and air transport), but excludes maritime and pipeline transport.

Biofuel use in transport

Keywords **biofuel, transport, renewable energy**

Fig. 102.1. **Proportion of biofuel use in transport**

%
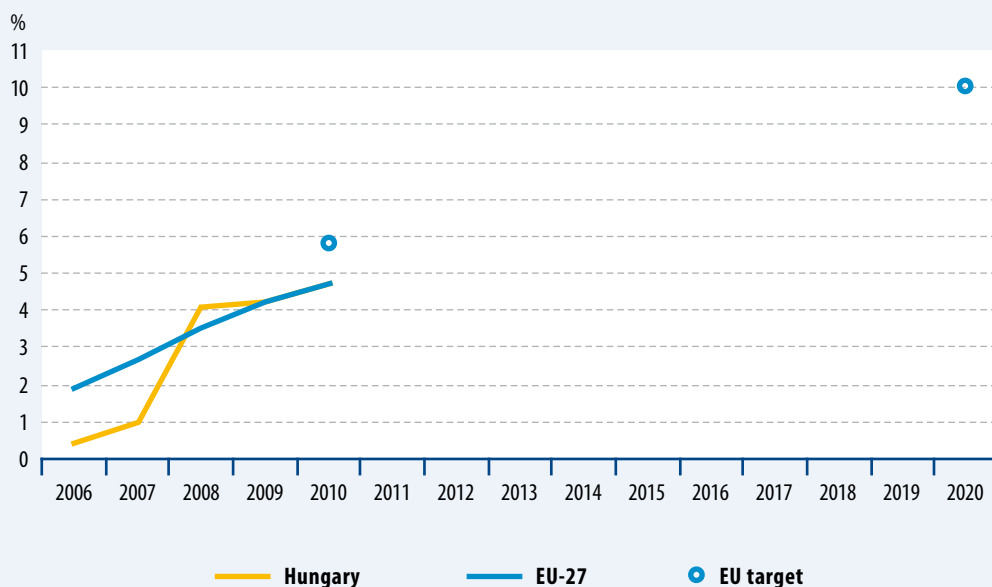
Source: Eurostat.

! *The share of biofuels was only 0.4% of total fuel use in 2006, however, it already reached the EU-27 average (4.7%) by 2010.*

Relevance The use of biofuels needs to be increased to at least 10% in each EU member state by 2020.

The renewed directive puts a high emphasis on the sustainability, too, of the target. No biofuels can be applied which in their life cycle bring a less than 35% saving of carbon dioxide compared with fossil fuels, and exert a negative effect on biodiversity, food production and land use.

Transport is one of the largest energy-using sectors, more than the quarter of the total final energy use of the country is devoted to transport purposes.

Commentary Biofuel use in transport has been regulated in Hungary since 2005. In the first period, lasting until 2009, the use of biofuels was encouraged by a tax allowance, which changed for compulsory distribution later on.

The use of biofuels is still low but on the increase in Hungary: their proportion within total fuel use was only 0.4% in 2006, however, it reached already the EU-27 average (4.7%) by 2010, almost the half of the target set for 2020.

Liquid biofuels in Hungary are produced predominantly from maize and rape, and to lower extents from sunflower and other cereals.

International outlook As for the EU-27 the proportion of biofuels is still not high in transport but grows at a rapid rate. Sweden – where biogas is used to fuel trains in addition to passenger cars and buses – reached the highest share in 2010 (7.7%), some one and a half times the EU average. The second place is held by France (6.1%). Sweden is a frontrunner in bioethanol use as well, while Germany and Austria are the largest users of biodiesel. The use of renewable energy sources as fuels is the least widespread in Estonia, Denmark and Malta, where the share was very little, below 1% in 2010.

Definition The indicator of biofuel use in transport is defined as biofuel use as a proportion of total fuel use in the transport sector.
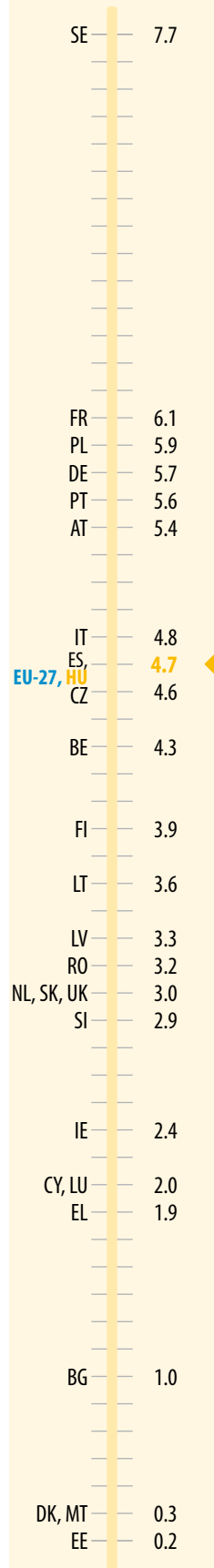
Proportion of biofuel use in transport in the European Union, 2010, %

SE	7.7
FR	6.1
PL	5.9
DE	5.7
PT	5.6
AT	5.4
IT	4.8
ES,	
EU-27, HU	**4.7**
CZ	4.6
BE	4.3
FI	3.9
LT	3.6
LV	3.3
RO	3.2
NL, SK, UK	3.0
SI	2.9
IE	2.4
CY, LU	2.0
EL	1.9
BG	1.0
DK, MT	0.3
EE	0.2

Economy / Energy

Combined heat and power generation

DK	49.2
LV	45.0
FI	36.2
LT	34.6
NL	33.2
HU	19.6
PL	17.6
BE	16.0
SK	15.9
AT	15.4
CZ	14.2
DE	13.2
SE	12.5
PT	11.8
EU-27	11.7
IT	11.5
RO	10.8
EE	10.3
LU	9.6
BG	8.0
ES	7.4
SI	6.9
IE	6.7
UK	6.2
EL	4.3
FR	2.8
CY	1.0
MT	0.0

Fig. 103.1. Proportion of electricity generated by CHP systems
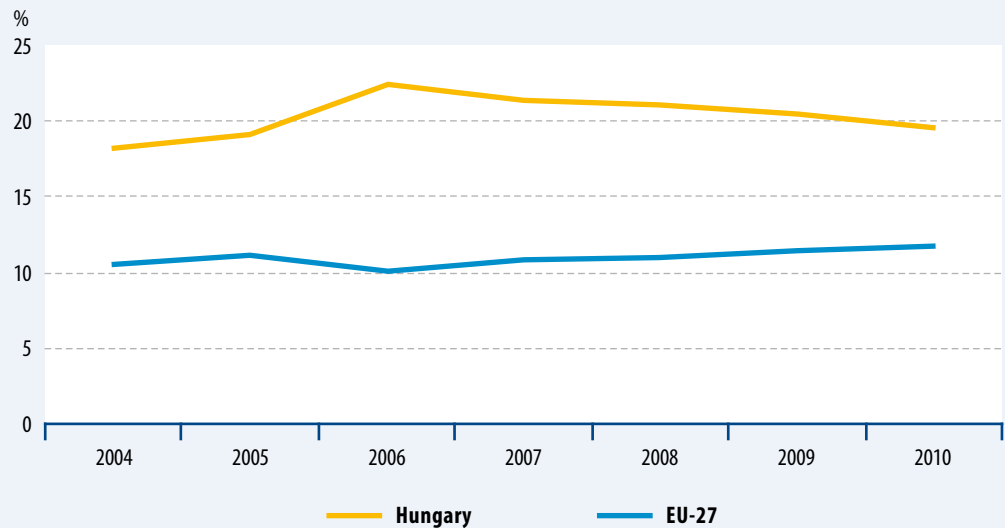
Source: Eurostat.

! *The proportion of combined heat and power generation in Hungary has been nearly twice as high as the EU average for years.*

Relevance In classic heat and power generating systems power plants produce power, while heating centres heating and hot water. In case of classic power plants the heat generated is usually considered waste heat, and is dissipated through cooling towers by evaporating and cooling cooling water. Cooling therefore causes further losses of electricity and water.

CHP *(Combined Heat and Power)* systems conduct the steam – generated typically by combusting fuel – to turbines, generate electricity, and use the remaining heat for heating purposes, too, through heat exchangers. So the 30%–40% energy utilisation efficiency of conventional condensing power plants can be increased to 75%–80%.

According to the relevant EU directive (2004/8/EC) combined heat and power generation is to be promoted since this technology implies primary energy savings, reduces considerably network losses, has lower emissions of pollutants and enhances the safety of supply.

Commentary Renewable electricity production and combined heat and power generation have been supported in Hungary by compulsory reception and guaranteed administered prices since 2002. Although the proportion of electricity produced in co-generation systems has stagnated in Hungary since 2006, the figure for 2010 (20%) was even so substantially higher than the EU-27 average (12%).

International outlook The share of combined heat and power generation in gross electricity production increases only slowly in the EU-27, expanding by 1.2 percentage points between 2004 and 2010. Countries at the top are Denmark, Latvia, Finland, Lithuania and the Netherlands. The first Denmark produces almost the half (49%) of its electricity in CHP systems, and several of its district heating supply systems, too, are based on co-generation technology. It is striking that the proportion of co-generated electricity nearly tripled in Lithuania from 2009 to 2010, thus the country overtook the Netherlands. The technology is the least widespread in Malta and Cyprus.

Definition The indicator shows the quantity of electricity produced by combined heat and power generating (CHP) systems as a proportion of total electricity produced.

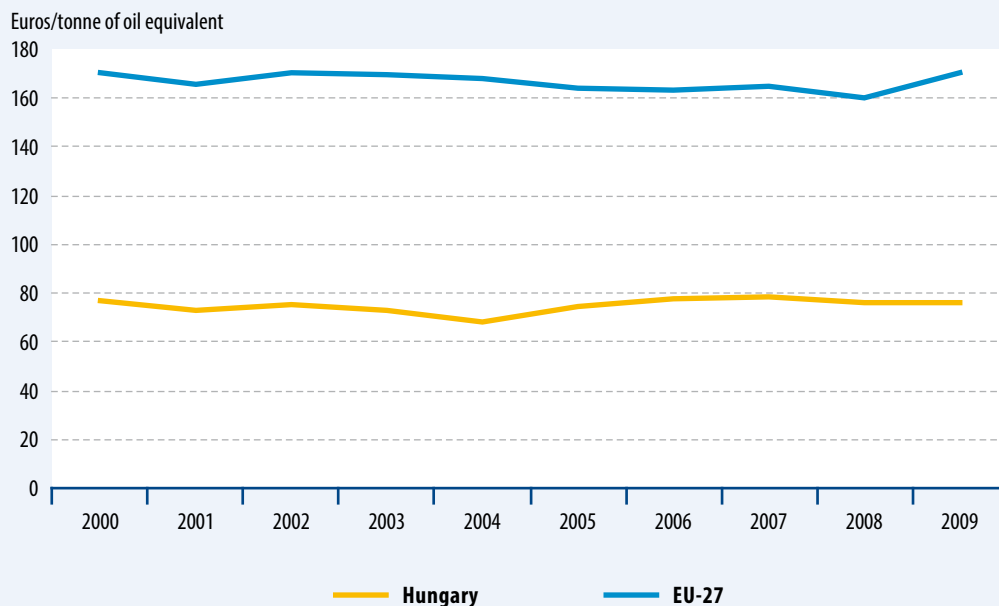*Proportion of electricity generated by CHP systems in the European Union, 2010,* %

Implicit tax on energy

Keywords **implicit tax on energy, energy use**

| Fig. 104.1. | **Tax revenues from energy use per final energy use** |

Euros/tonne of oil equivalent

Source: Eurostat.

! *The value of tax revenues from energy use has stagnated in Hungary in the last ten years.*

Relevance Many countries apply energy taxes, which is one way of implementing the "polluter pays" principle. According to a recommendation of the EU Sustainable Development Strategy to Member States, taxes on labour should be more and more shifted to taxation on resource and energy consumption and environment pollution, thus promoting the increase of employment along with the reduction of negative environmental impacts, in a cost-effective way. Through these taxes the attitude of consumers can be influenced, they are encouraged for more energy-efficient use and to use cleaner energy sources.

Commentary The average tax revenues from a unit of energy use were essentially unchanged in Hungary between 2000 and 2009, these types of taxes did not reach even the half of the EU average. An income-type tax structure burdening labour is typical in Hungary, similarly to the Visegrád countries.

International outlook The tax per tonne of crude oil equivalent of final energy use declined on average in the EU-27 from 2003, and returned to the 2000 level in 2009 (171 euros/tonne of oil equivalent). Tax revenues from a unit of energy used were the highest in Denmark (283 euros/tonne of oil equivalent) and the lowest in Slovakia (50 euros/tonne of oil equivalent).

Definition The indicator of implicit tax on energy shows tax revenues from energy use relative to final energy use. The measurement unit of the indicator is euros/tonne of oil equivalent, where tax revenues are calculated in euros (values adjusted by final use deflator) and the quantity of energy used in tonnes of oil equivalent.

Implicit tax on energy in the European Union, 2009, euros/tonne of oil equivalent ▶

DK	283.2
UK	270.2
SE	228.3
IT	210.9
NL	195.3
DE	191.8
SI	183.5
LU	175.0
MT	171.4
▶ EU-27 ◀	170.6
IE	159.7
FR	151.4
AT	144.9
PT	143.0
ES	119.7
CY	114.8
FI	112.5
EL	105.4
BE	105.2
PL	91.9
EE	88.7
LT	82.6
CZ	80.7
▶ HU ◀	76.2
BG	73.3
LV	69.6
RO	64.7
SK	49.6

Volume of freight transport

Keywords **distribution of freight transport, freight tonne kilometres**

SI	160.2
PL	139.7
HU	**131.6**
LT	128.5
PT	121.8
EL	120.6
ES	111.5
LV	107.0
RO	105.8
DE	102.4
EU-27	**98.6**
IT	90.3
SE	87.9
SK	85.8
CZ	85.7
MT	85.4
NL	85.3
LU	82.0
AT	80.5
FI	78.1
UK	76.1
FR	73.9
IE	68.2
EE	67.1
CY	67.0
BE	66.5
DK	62.5

Fig. 105.1. **Volume of freight transport relative to GDP**   (2000=100.0)

Legend: GDP — Freight tonne kilometres — Freight tonne kilometres/GDP
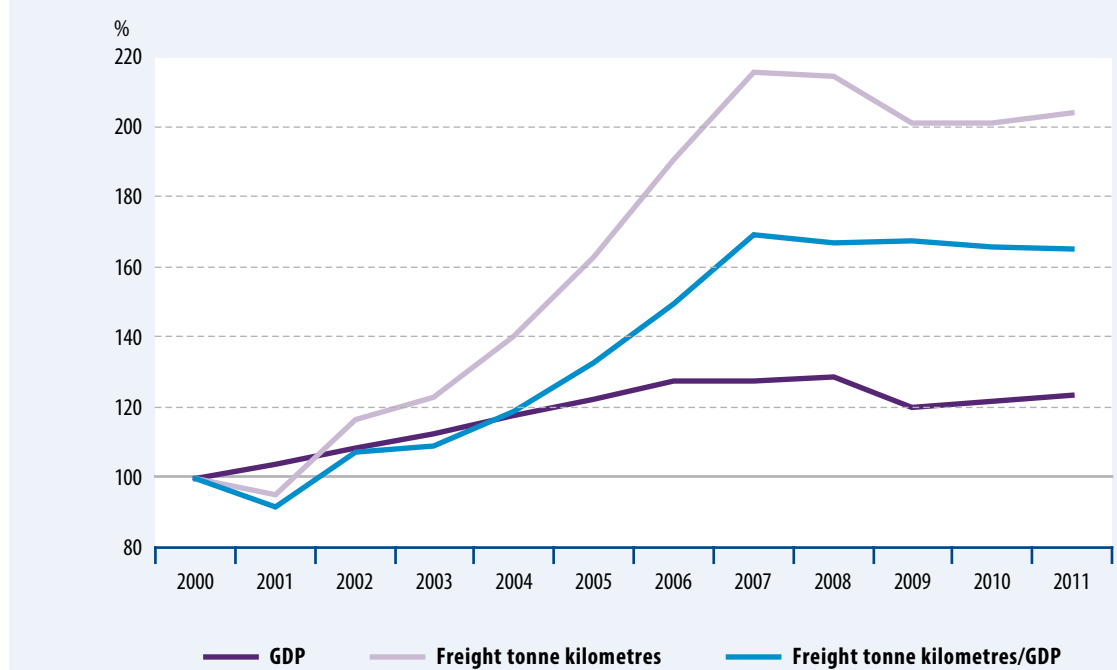
! *The growth rate of freight transport volume surpassed significantly that of GDP in the 2000s.*

Relevance According to the EU transport policy objective approved in 2011 freight transport over 300 kilometres of distance should be shifted from road to rail or other modes of freight transport until 2030. According to the national strategy, too, the objective is a change in the composition of transport, a shift to more environment-friendly modes of transport in the medium and the longer run. In freight traffic, rail and water transport may be helped instead of road traffic by tariffs reflecting environmental costs, the establishment of logistic centres, i.e. the organisation of transport sub-divisions into a common system and their co-ordination. In case of rail transport the aim is to apply up-to-date technologies and enhance punctuality and reliability.

Commentary The volume of freight transport has surpassed economic development. GDP rose by 23% between 2000 and 2011, while the volume of freight transport grew to a considerably higher extent, to more than the double measured in freight tonne kilometres. The trend in which the economy moved from warehousing to flow-based production continued. The average growth rate was 2.1% in case of GDP compared with 8.6% for the volume of freight transport. The growth was not even, due to the economic crisis there was a decrease in case of both indicators in 2009 compared to the previous year, and they slightly rose later.

International outlook Freight tonne kilometres relative to GDP increased continuously in the European Union between 2003 and 2007 in the period before the economic crisis. The growth of the volume of transport exceeded the expansion of GDP, which means an increase in the transport demand of economic development. As an impact of the recession a temporary fall was recorded but

Volume of freight transport relative to GDP in the European Union, 2010 (2000=100.0), %

Fig. 105.2. **Distribution of freight transport by modes of transport, based on data in freight tonne kilometres**

Freight transport is dominated by road transport.

the value of the indicator went up again in 2010. The volume of transport in new member states of Central and Eastern Europe increased at striking rates between 2000 and 2010, which indicates the shift of production to the east.

Details In Hungary freight transport is dominated by freight road transport, and its trend increasing since 2004 was broken in 2009. In parallel with this the share of rail transport declined continuously from 1995 to 2009, after which it rose somewhat. The share of inland waterways transport is negligible. These changes occurred along with an increasing volume of transport (freight tonne kilometres) from 2000 to 2007. As an effect of the economic crisis the volume of transport fell from 2008 to 2010. The signs of recovery were observed in 2011 but the volume was still lower than the 2007 level.

The share of freight road transport was 71% on average in Hungary between 2000 and 2010. The proportion of the EU-15 was substantially higher (79%), while using the data of the EU-27 the share (76%) was already closer to Hungary's average. The share of the domestic

freight rail transport was significantly higher in 1995 and 2000 than the community average, though this advantage decreased considerably by 2010. The share of waterways freight transport in Hungary was lower than the EU-27 average – the difference was 1.4 percentage points on average between 2000 and 2010.

Definition The indicator of freight transport volume relative to GDP (2000=100.0) is the data of freight road, rail and waterways transport – measured in freight tonne kilometres (delivery of one tonne of goods over one kilometre) – compared to GDP. Data on rail and inland waterways transport refer to inland transport, regardless of the registered markings on the vehicle or vessel. The figures of freight road transport contain the performance of vehicles registered in the country, irrespective of whether that was realized in national or international markets.

Stadat tables
4.6.3. Goods transport, total (2001–2011)

Volume of passenger transport

Keywords **passenger transport, passenger kilometres, GDP, distribution of passenger transport**

LT	—	113.8
EL	—	107.9
CY	—	106.5
LU	—	101.5
MT	—	100.2
IE	—	98.1
DE	—	96.8
BE	—	96.2
FI	—	95.6
FR	—	95
▶ EU-27	—	**94.6** ◀
IT	—	94.3
DK	—	94.1
AT	—	93.8
SI	—	92.3
NL	—	91.2
ES	—	91.0
EE	—	88.6
SE	—	88.1
UK	—	87.4
RO	—	86.7
▶ **HU**a)	—	**84.7** ◀
BG	—	84.6
LV	—	71.8
CZ	—	70.7
SK	—	58.4

Fig. 106.1. **Volume of passenger transport relative to GDP** (2000=100.0)

Legend: GDP — Passenger kilometres — Passenger kilometres/GDP
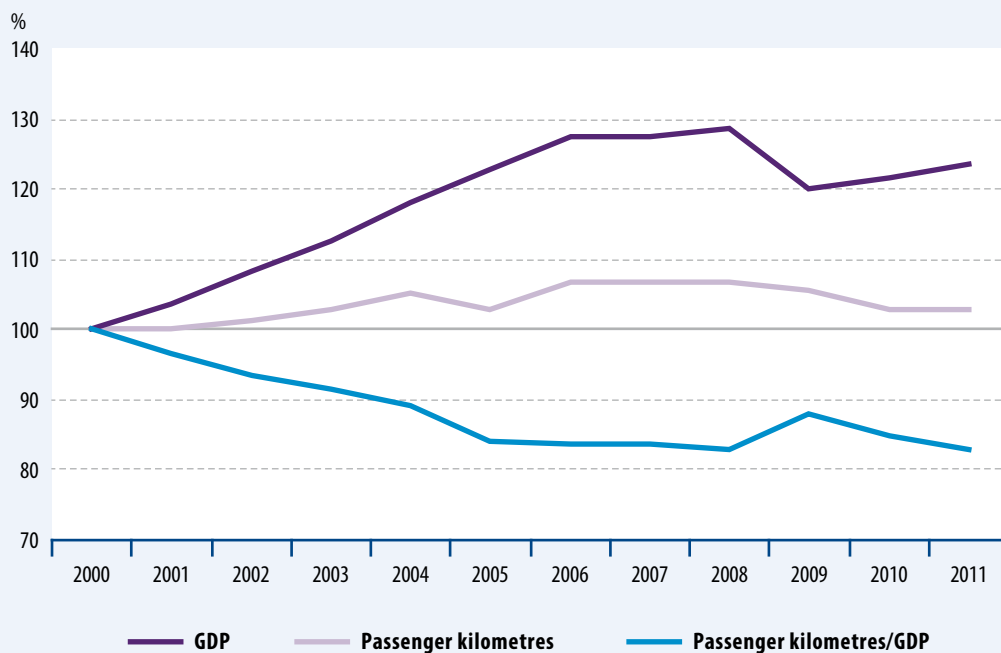
> **!** *The growth rate of passenger transport volume was lower than that of the economy in Hungary between 2000 and 2011.*

Relevance A national objective of sustainability in the field of passenger transport is to develop interurban and long-distance public transport and the modes of fixed track transport: to create long lines, to put stops and stations in order, to create simple and closely located transfer options and to organise the different technical facilities into a common system.

Commentary The volume of passenger transport measured in passenger kilometres rose by 2.7%, while gross domestic product by 23% between 2000 and 2011. The changes were uneven. Both passenger transport, expressed in passenger kilometres, and GDP grew the most in 2006, the former by 3.5% and the latter by 4%. The sharpest fall occurred in 2009 regarding GDP and in 2010 as for passenger transport (6.8% and 2.6% respectively). The annual average growth rate was 0.2% in the volume of passenger transport and 2.1% in GDP within the examined period.

The indicator comparing the volume of passenger transport to GDP decreased by 17% between 2000 and 2011, which indicates that the expansion of the economy did not require the volume of passenger transport in Hungary to rise at the same or a higher rate than the increase of gross domestic product.

International outlook Gross domestic product grew faster than the volume of inland passenger transport – measured in passenger kilometres – in the EU on average between 2000 and 2010, so the indicator comparing the volume of passenger transport to gross domestic product was continuously below 100% in these years.

Details The share of passenger vehicle traffic in inland passenger transport rose from 62% to 68% in Hungary between 2000 and 2011, but even so it is considerably lower than the EU average (of around 84%). The transport of domestic pas-

a) Based on Hungarian methodology.

◀ *Volume of passenger transport relative to GDP in the European Union, 2010 (2000=100.0), %*

Fig. 106.2. **Distribution of passenger transport by modes of transport**

%

Passenger vehicles Bus Rail
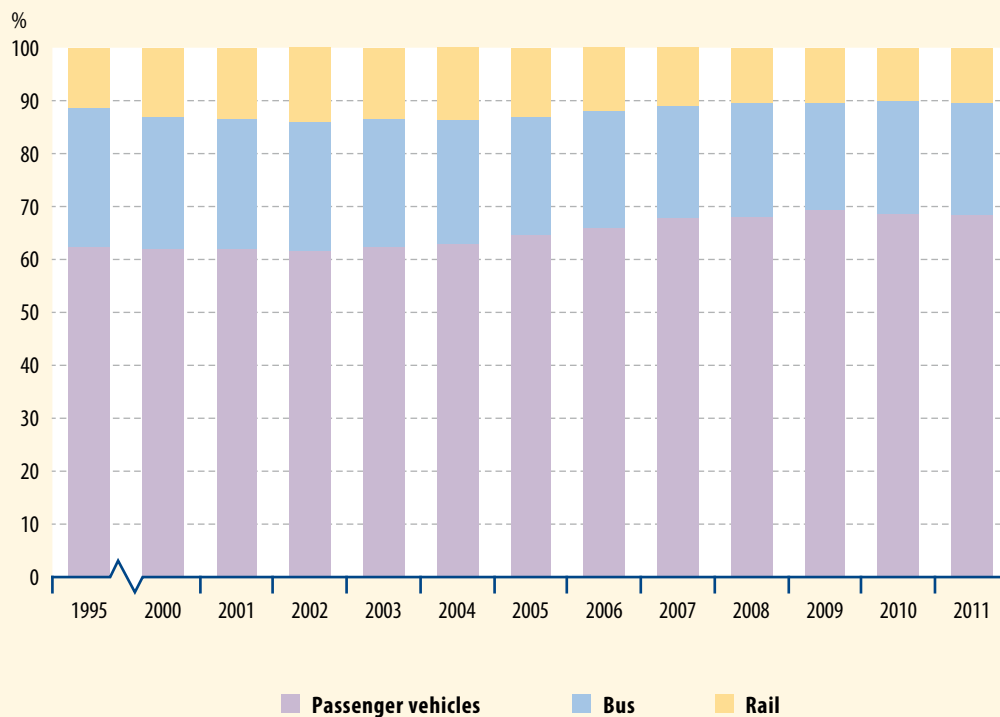
> ! *One-third of passenger transport is represented by public traffic and two-thirds by passenger car traffic.*

sengers by bus and rail both represented a higher share than the community average: bus transport was two and a half, while rail transport one and a half times higher than the EU average. The EU and the member states introduced measures to improve the economic and environmental performance of all modes of transport, including the shift of traffic from public roads to rail and waterways. Solutions include the possibility of changing production and logistics processes and transport habits, and as good interconnection of the different modes of transport as possible.

Definitions

The volume of passenger transport is a figure measured in passenger kilometres (transport of one passenger over one kilometre), while the GDP indicator is the volume index of gross domestic product at prices of 2000. The indicator compares the growth rates of these two to each other. Land passenger transport covers the volume data (passenger kilometres) of inland transport by passenger cars, buses and trains.

The percentage distribution of passenger transport contains passenger kilometres covered in the national area by passenger vehicles, buses and trains, irrespective of the markings on vehicles. The methodologies of data collections of the different member states are not harmonised at community level.

Eurostat's and HCSO's indicator system of sustainable development

With respect to the structure the domestic indicator system of sustainable development has closely followed the system of Eurostat in the last few years. The indicators of the European indicator set form a hierarchical system, at three levels. (Headline) indicators at level one provide an overall view of major trends in the different areas. Level two corresponds to the sub-themes of the system, and – together with the indicators of level one – measures the fulfilment of the main objectives. Indicators at level three (analysis indicators) allow for the deeper analysis of the different sub-themes. In contrast to the problem-oriented approach preferred by the EU, which classifies the indicators by branch policy, our present publication applies a thematic breakdown.

Eurostat's indicator system			Domestic indicator system*
Theme	Level one		Indicator number and name
	Sub-theme	Level two	Indicator number and name
		Level three	Indicator number and name

The light background colour of indicators of the domestic indicator system refers to the three parts of the publication. Green: environment; claret: society; blue: economy.

Comparability with the EU's indicator system and the latest, 2011 publication of HCSO is ensured by the table below.

Eurostat's indicator system			Domestic indicator system
Socio-economic development		Real GDP per capita, growth rate and totals	84. Gross domestic product (GDP)
	Economic development	Investment by institutional sectors	86. Gross fixed capital formation
		Dispersion of regional GDP per inhabitant	84. Gross domestic product (GDP)
		Net national income	85. Gross national income (GNI)
		Household saving rate	87. Gross savings rate
	Innovation, competitiveness and eco-efficiency	Real labour productivity growth per hour worked	89. Labour productivity
		Total R&D expenditure	92. Expenditures on research and development
		Real effective exchange rate	97. Index of international price competitiveness
		Turnover from innovation	92. Expenditures on research and development
		Energy intensity of the economy	99. Energy intensity
	Employment	Total employment rate	45. Employment rate
		Employment rate, by sex	45. Employment rate
		Employment rate, by highest level of education attained	45. Employment rate
		Dispersion of regional employment rates, by sex	45. Employment rate
		Unemployment rate, by sex	47. Unemployment rate
		Unemployment rate, by age group	47. Unemployment rate

Eurostat's indicator system			Domestic indicator system
Sustainable consumption and production	Resource productivity		90. Domestic material consumption
	Resource use and waste	Generation of waste excluding major mineral waste	32. Municipal solid waste
		Components of domestic material consumption	90. Domestic material consumption
		Domestic material consumption by material	90. Domestic material consumption
		Municipal waste generation and treatment, by type of treatment method	32. Municipal solid waste; 34. Modes of municipal waste treatment
		Generation of hazardous waste, by economic activity	35. Generation of hazardous wastes
		Emissions of sulphur oxides (SOx), by source sector	4. Emissions of acidifying compounds
		Emissions of nitrogen oxides (NOx), by source sector	4. Emissions of acidifying compounds
		Emissions of non-methane volatile organic compounds (NMVOC), by source sector	5. Emissions of ozone depleting compounds 6. Ozone precursors emissions from transport
		Emissions of ammonia (NH3), by source sector	4. Emissions of acidifying compounds
	Consumption patterns	Electricity consumption of households	62. Household electricity consumption
		Final energy consumption by sector	99. Energy intensity
		Consumption of certain foodstuffs per inhabitant	58. Nutrient and food consumption
		Motorisation rate	64. Passenger car fleet
	Production patterns	Organisations and sites with EMAS registration	
		Ecolabel licenses	38. Eco-labelled products
		Area under agri-environmental commitment	25. Proportion of areas subject to agri-environmental measures
		Area under organic farming	24. Ecological farming
		Livestock density index	21. Livestock density
Social inclusion	People at risk of poverty or social exclusion		
	Monetary poverty and living conditions	People at risk of poverty, after social transfers	51. At-risk-of-poverty rate
		Persistent-at-risk-of-poverty rate	51. At-risk-of-poverty rate
		People at risk of poverty, after social transfers, by sex	51. At-risk-of-poverty rate
		At-risk-of-poverty rate, by age group	51. At-risk-of-poverty rate
		At-risk-of-poverty rate, by household type	
		Severely materially deprived people	
		Relative median at-risk-of-poverty gap	52. Relative at-risk-of-poverty rate
		Inequality of income distribution	53. Inequality of income distribution

Eurostat's indicator system			Domestic indicator system
Social inclusion	Access to labour market	People living in households with very low work intensity	54. Rate of persons living in jobless households
		In-work-at-risk-of-poverty rate	
		Long-term unemployment rate, by sex	48. Long-term unemployment rate
		Gender pay gap in unadjusted form	50. Gender pay gap
	Education	Early leavers from education and training	77. Early school leavers
		At-risk-of-poverty rate, by highest level of education attained	
		Persons with low educational attainment, by age group	75. Persons with low educational attainment
		Life-long learning	80. Life-long learning
		Tertiary educational attainment, by sex, age group 30–34	
		Low reading literacy performance of pupils	76. Low reading literacy performance of pupils
		Individuals' level of computer skills	79. Computer skills of individuals
		Individuals' level of internet skills	63. Internet use
Demographic changes	Employment rate of older workers		
	Demography	Life expectancy at age 65, by sex	66. Life expectancy
		Total fertility rate	40. Total fertility rate
		Crude rate of net migration plus adjustment	41. Internal migration 42. International migration
	Old-age income adequacy	Aggregate replacement ratio	
		At-risk-of-poverty rate of elderly people	51. At-risk-of-poverty rate
	Public finance sustainability	General government gross debt	88. General government consolidated gross debt
		Duration of working life	49. Average age at the time of leaving the labour market
Public health	Healthy life years and life expectancy at birth, by sex		66. Life expectancy
	Health and health inequalities	Death rate due to chronic diseases, by sex	73. Death rate by major causes of death
		Healthy life years and life expectancy at age 65, by sex	66. Life expectancy
		Suicide death rate, total by age group	72. Suicide death rate
		Suicide death rate, males by age group	72. Suicide death rate
		Suicide death rate, females by age group	72. Suicide death rate
		Self reported unmet need for medical examination or treatment, by income quintile	69. Failed medical examinations due to financial reasons

Eurostat's indicator system			Domestic indicator system
Public health	Determinants of health	Index of production of toxic chemicals, by toxicity class	
		Urban population exposure to air pollution by particulate matter	10. Population exposure to air pollution by particulate matters 8. Particulate matter emissions
		Urban population exposure to air pollution by ozone	7. Population exposure to air pollution by ozone
		Proportion of population living in households considering that they suffer from noise	
		Serious accidents at work	
Climate change and energy		Greenhouse gas emissions	1. Greenhouse gas (GHG) emissions
	Climate change	Greenhouse gas emissions by sector (including sinks)	1. Greenhouse gas (GHG) emissions
		Greenhouse gas emissions intensity of energy consumption	2. Greenhouse gas intensity of energy consumption
		Projections of greenhouse gas emissions	
		Global surface average temperature	11. Annual mean surface temperature
	Share of renewables in gross final energy consumption		100. Renewable energy sources
	Primary energy consumption		
	Energy	Energy dependence	98. Energy import dependency
		Gross inland energy consumption by fuel	
		Electricity generated from renewable sources	100. Renewable energy sources
		Share of renewable energy in fuel consumption of transport	102. Biofuel use in transport
		Combined heat and power generation	103. Combined heat and power generation
		Implicit tax rate on energy	104. Implicit tax on energy
Sustainable transport		Energy consumption of transport relative to GDP	101. Energy use of transport
	Transport and mobility	Modal split of passenger transport	106. Volume of passenger transport
		Volume of freight transport relative to GDP	105. Volume of freight transport
		Volume of passenger transport relative to GDP	106. Volume of passenger transport
		Modal split of freight transport	105. Volume of freight transport
		Energy consumption by transport mode	101. Energy use of transport
		Investment in transport infrastructure by mode	

Eurostat's indicator system			Domestic indicator system
Sustainable transport	Transport impacts	Greenhouse gas emissions by transport mode	3. Greenhouse gas emissions from transport
		Emissions of nitrogen oxides (NOx) from transport	
		People killed in road accidents	
		Emissions of particulate matter from transport	9. Particulate matter emissions from transport
		Average CO_2 emissions per km from new passenger cars	
Natural resources		Common bird index	26. Changes in the population of farmland birds
	Biodiversity	Sufficiency of sites designated under the EU Habitats directive	28. Protected natural areas
		Deadwood	31. Defoliation
	Fresh water resources	Surface- and groundwater abstraction as a share of available resources	14. Public water abstraction
		Population connected to urban waste water treatment with at least secondary treatment	15. Municipal sewage treatment
		Biochemical oxygen demand in rivers	16. Biochemical oxygen demand of rivers
		Fish catches taken from stocks outside safe biological limits: Status of fish stocks managed by the EU in the North-East Atlantic	
	Marine ecosystems	Size of fishing fleet	
	Land use	Build-up areas	17. Change in land use
		Forest increment and fellings	30. Net annual increment and felling
		Forest trees damaged by defoliation	31. Defoliation
Global partnership		Official development assistance as a share of gross national income	
	Globalisation of trade	EU imports from developing countries, by income group	
		EU imports from developing countries by group of products	94. Balance of external trade in goods
		EU imports from least developed countries by group of products	
		Aggregated measurement of support for agriculture	
	Financing for sustainable development	Total EU financing for developing countries, by type	
		Foreign direct investment in developing countries, by income group	95. Foreign direct capital investments
		Official development assistance, by income group	
		Untied official development assistance	
		Bilateral official development assistance by category	
	Global resource management	CO_2 emissions per inhabitant in the EU and in developing countries	

Eurostat's indicator system			Domestic indicator system
Good governance	Policy coherence and effectiveness	New infringement cases	
		Transposition of EU law, by policy area	
	Openness and participation	Voter turnout in national and EU parliamentary elections	
		E-government on-line availability	83. E-government availability
	Economic instruments	Shares of environmental and labour taxes in total tax revenues from taxes and social contributions	104. Implicit tax on energy

Further indicators in the domestic indicator system	
12. Amount of precipitation	56. Proportion of flats with no bathroom
13. Number of heat days and freezing days	57. Structure of consumption
18. Sales of fertilizers	59. Retail trade
19. Sales of pesticides	60. Utility services
20. Nutrient balance	61. Residential water consumption from public water supply
22. Floods and inland inundation	65. Tourism
23. Areas exposed to drought	67. Perceived health
27. Natural vegetation assets of Hungary	68. Chronic diseases in the population
29. Population of indigenous trees	70. Percentage rate of smokers
33. Packaging waste	71. Alcohol consumption
36. Proportion of environmental taxes	74. Standardized mortality ratio (SMR)
37. Environmental protection expenditures	78. Disadvantaged (D) and multi-disadvantaged (MD) students
39. Dependency ratio	81. Capacity of kindergartens and infant nurseries
43. Rate of urban population	82. Civil society organisations
44. Economic activity	91. Active enterprises
46. Atypical employment	93. Consumer price index (inflation)
55. Gross debt-to-income ratio of households	96. Income paid as dividends to the rest of the world