

Second Monitoring Report on the National
Framework Strategy on Sustainable Development
2015-2016

Drafted by the National Council for Sustainable Development
(NCSD)

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1. Message to the Readers

This is our second report which is based on observations and experiences collected on Hungary's sustainability processes and changes in the natural resources over a four-year time span. Although four years in the area of sustainability is a very short time to make any definitive statements, there are still some important conclusions to consider.

Despite the rising number of global crisis events, growing media attention, expanding educational programmes and professional literature, stronger warnings from religious leaders, an increasing number of international agreements and political commitments, the Earth's natural capital continues to decline at a very fast pace. Real socio-economic structural changes that do not have a subversive impact and do not destroy our traditions but reflect the severity of the negative tendencies have failed to occur at global, national or local levels. The depletion of the natural capital is absolutely senseless as people including Hungarians, are aware of and have the required technologies, patterns, institutions and – most importantly – values that can help to prevent or, as a first step, significantly slow down the destruction of our natural – and further – resources.

A solid evidence that successful actions can be taken towards sustainability is Hungary's efforts to reduce population decline (while the global concern is still the impacts of population growth). It has been proven that by coordinated national efforts, long term and high level political commitment and consistent government actions as well as science based achievements and our traditions, fertility may be visibly increased even in a relatively short time.

However, the same example also reflects that sustainability measures must (should) be system-wide and based on the consensus of multiple policy areas. Hungary's population decline could be even lower if along with the highly appreciated rise in the number of marital commitments and fertility, healthy life expectancy and the quality of health care had also been improved or if emigration among people of reproductive age was not at such a high rate.

One reason why our demographic policy sets a good example is that despite the praiseworthy results in certain sub-fields, Hungary continues to face a sustainability crisis. None of our four national resources are thriving; the majority of the relevant indicators are not only below the EU average but also worse than in the countries of the Visegrad Group, being similarly positioned historically and economically as Hungary.

It is important to notice that today's poor sustainability results lead to weaker social and economic welfare in the future. Prosperity, mental and emotional well-being, individual life quality, social consumption and public good cannot be generated from nothing or permanently from foreign sources; these are the products of our own national resources. For this reason, sustainability policies should reflect their strategic significance in all public, economic, private and family decisions making processes. A good starting point for this is the knowledge about our current national resources.

As sustainability does not have a universal set of criteria which is independent from time and place, the principle of subsidiarity is required to be applied in order to promote the transition towards sustainability. Sustainable development actions are fundamentally determined by the UN's Agenda 2030 setting out sustainable development goals, adopted in September 2015. Meanwhile, national sustainability goals and the regional-local response to specific sustainability challenges are equally crucial. A particular difficulty hindering the fulfilment of sustainability criteria in Hungary is that certain EU's actions are non-compliant with the principle of subsidiarity and are in conflict with what the state of Hungary's resources would require, or if the centralisation within the country restricts the possibilities of local governments to develop the resources.

Along with cooperation and coordination at global, European, national and local level, the division of work and the assumption of responsibilities among the various social players is also essentially important. The sustainability transition does not exclusively depend on government actions; corporate decisions and individual and community choices play also a key role.

As these decisions are always made by people, the achievement of sustainability necessarily has a moral aspect as well. However, an unbiased benchmark to measure the strength or weakness of the moral principles promoting sustainability in today's Hungarian and European societies was not available for the authors of this report. We are doubtful and concerned about whether the changes in values and certain communication impacts increase the ignorance and prevents the correct achievement of sustainability. To what extent do the practices, performance and achievements of the media, culture and science promote or prevent the achievement of sustainability?

As a single advisory body cannot make decisions on such issues on its own, we, the members of the National Council for Sustainable Development, having always been open for dialogue with the Hungarian political community, attribute an even more crucial role to joint thinking and debate in the years to come.

2. Recommendations to strengthen the sustainability transition

In order to promote the transition towards sustainability – and to support the achievement of NSSD's objectives – the present report makes the following recommendations:

- The promotion of value-based, value-preserving and ethical behaviour, mutual and strong trust among the members of a nation, the promotion of health, personal fulfilment in a community, personal responsibility, the emphasis of positive **values** and the acquisition of **knowledge** should continue to play a critical part in the **transition towards sustainability**.
- In general, awareness about the definition of sustainability agreed to in the Framework Strategy needs to be further raised and the application of this definition in public administration should be improved. As objectives of the Framework Strategy have only selectively, inhomogeneously guided certain policy decisions, the **commitment** of high level political leaders toward the promotion of sustainability should be strengthened and the coordination of policies on ministerial level should assume a real, functional role in the implementation of NSSD. Sectoral policies should be constantly revised in order to promote the objectives and the philosophy of the Framework Strategy.
- In order to improve the long term impacts of public policy decisions, the institution of preliminary **sustainability studies** should be introduced for which a professional approach has been elaborated by NCSD.
- In order to further improve demographic trends, the increase in the measures promoting childbirth should be complemented by ensuring wider publicity to benefits and allowances and by expanding the employability of and support to employees with young children. As the positive results of the measures focusing only on the promotion of higher fertility rates are expected to decrease, other solutions to disrupt population decline such as the **increase in healthy life expectancy** and the **reduction of emigration** (in particular among generations of reproductive age) should also be enhanced. Policies concentrating solely on raising fertility rates have very limited efficiency: even if fertility rates suddenly scored 2 in 2018, a stability in population would only be reached by 2053 (at a population level of 8.9 million people).
- In our education system, efficiency improvements are required as current measures have weakened the performance of institutions that had been more effective previously triggering a shift to alignment on a lower level. In order to **improve the problem solving skills** of students (as universal and important competency on the labour market), the qualitative transformation of the education is also necessary as, according to OECD surveys, Hungarian students are below the average in problem solving skills. It would be particularly important to enhance **the function of education to promote social mobility**, to reduce the selectivity of the education system as Hungary has very poor results across the developed countries in this area.
- Public education, higher education, training and retraining are especially critical to promote successful labour market participation of social groups facing exclusion and segregation and to prevent the regeneration of extreme poverty. Public employment programmes offer only partial response to and fail to address the employment problems of low-skilled workers in the long term. As training of workers in public employment programmes currently fails to efficiently promote their entry into the primary labour market, the **training system** is recommended to be potentially **revised** in order to focus more on personal skills and abilities

as well as market trends. The engagement of unemployed people in adult learning/training programmes helps improve the employment rate and mitigate poverty. This requires the allocation of higher funds for the training of unemployed people and offering more appealing programmes to choose from. However, low qualifications, typical of the majority of unemployed people, must also be considered.

- As the status of employees (salary level, turnover, stress at workplace, the effects of workplace conditions on health and wellbeing, competences, knowledge, also for competitiveness) is closely linked to many sustainability goals, it would be important to strengthen the system of **social partnership and dialogue**.
- As **lower early school leaving rates** help to ensure a better access to and more effective participation in the labour market, the school leaving age is currently set at the age of 16 is recommended to be revised and potentially reset to the former level of the age of 18. This importantly requires competency improvement in educational facilities to ensure the successful integration of young students potentially hindering the learning process in the classroom.
- In order to further reduce the rates of health care workers leaving Hungary and their chosen career, wages need to be raised, the health care infrastructure and institutional system needs to be properly developed and **the internal structure of the health care system needs to be transformed at system level**.
- Unhealthy behaviours including smoking and drinking – still being one of the leading causes of mortality – remain a key issue in today’s Hungarian society. To tackle these problems, stronger action, campaign and awareness programmes are necessary.
- To preserve and to improve our biodiversity and to mitigate the adverse impacts of climate change including damage caused by droughts and floods, much greater focus should be placed on sensible approaches to and **transformation of land use as well as on prohibition of the alteration of biologically active areas**. This should include a reduced pace of soil sealing (sound infrastructure investments, preference of brown field investments), the adjustment of land use rates shared among the various divisions of agriculture and also strengthened soil protection. In order to restore the good ecological condition of water, more efforts should be made to implement the EU's Water Framework Directive. The means of regulation and assistance in agriculture and rural development should be revised in order to ensure they more efficiently promote the protection of biodiversity and soil as well as small scale sustainable local production and consumption.
- Sectoral policies need to focus more on the reduction of material and energy consumption and the criteria of a **circular economy**. One key method supporting that is the **correct definition of the value of the use of natural resources** that could stimulate a shift toward more resource efficient and environmentally sound structures and patterns in production and consumption. The broader use of renewable energy sources is a positive trend but due to the conditionally renewable nature of biomass, fully renewable energy sources are recommended to be disseminated on a wider scale. A method needs to be developed to assess Hungary's total primary material consumption, and based on the relevant life cycle analyses, to identify the geographic distribution of the related emissions and the extent of impact of the use on other countries.
- Statistical data on built-up areas, the national summary overview of water condition evaluation – including quantitative, qualitative and ecological indicators –, water supply

availability and nutrient balance are required to be collected biannually. A survey to **assess** Hungary's entire vegetation-based **natural capital** is proposed to be launched and conducted at least every four years.

- Public water supply entities and the infrastructure managed by these service providers need to be monitored due to changing residential consumption patterns, the economic impacts of the utility cost reduction action by the government and the modernisation requirements of the outdated infrastructure present all real sustainability challenges. The financial and technical unsustainability of the system cause severe environmental sustainability issues. Along with the public water network, special attention needs to be paid to the energy sector as energy suppliers also face financial sustainability problems as highlighted in OECD's 2016 survey as well.
- In order to decrease the number of Hungarians leaving Hungary, wages need to be further raised. However, the necessary conditions must be available and here the government has various options including lowering taxes, altering the structure of public expenses and consequently raising wages of public employees and supporting the **improvement of the productivity** of businesses with Hungarian ownership. Additionally, the quality of education needs to be improved and the problems of our education system mentioned above need to be addressed as the productivity of low-skilled workers is as a rule poor, which restricts the income they can make.
- As ethical **research and development** has a positive impact on human and economic resources – and primarily on productivity –, it is important to increase the R&D spending of the public and the SME sector and to support their smart innovative solutions.
- Additional action is needed to **reduce** corruption and **rent seeking**. Measures aimed at enhancing transparency and establishing fair selection practices help strengthen social cohesion and the business environment. In order to help to achieve that goal, redistribution should be reduced and the state's participation in the economy as buyer or sponsor should be revised.
- Further improvement of the lending system including the expansion of potential beneficiaries could boost **investments** of the private sector, which in turn could strengthen Hungarian businesses, enhance productivity and increase gross fixed capital formation.
- In order to achieve a fair balance between local and global economic relations, the autonomy of local communities with regard to decisions related to food, energy and to social and economic issues in general should be increased. To that end, the development of the relevant **competences of the local communities** should be **promoted**. Local communities should be given better access to local ecosystem services and natural resources where the rights of use could be granted to local communities should be selected and reviewed.
- To create a sustainable pension system, the retirement age should be increased, the inflexibility of the age limit should be removed, the political exposure of the pension system should be reduced and the number of children raised should be considered (both the demographic dividend and the dividend of physical capital should be considered and the two sources can be combined).

3. Executive summary

3.1 Purpose of the National Framework Strategy on Sustainable Development

Pursuant to resolution Decree 6/2016 28th of the Parliament, the Framework Strategy (NSSD) is intended to

- contribute to developing a common agreement on the definition of sustainability;
- promote the determination of the first steps of the transition to sustainability; and
- provide long term strategy for public policy development and decision making.

NSSD is intended to define a system of political and policy goals and means that helps maintain (the quality and quantity of) our national resources on a level

- insuring Hungary's solid and sustained ability to successfully compete with other nations;
- facilitating the protection of our natural and cultural heritage for future generations; and
- ensuring appropriate enhancement of resources that may be increased.

The Framework Strategy sets forth responsibilities for the period ending in 2024.

NSSD has defined 34 strategic objectives and 77 tasks (instruments) for the four – human, social, natural and economic – resources.

3.2 Purpose of the monitoring report

This regular biennial monitoring report has been designed to


- monitor our national resources through indicators and qualitative analysis;
- review social responses and actions initiated and implemented in the last two years (the Government's complete report on government actions in 2015–2016 to promote the implementation of the Framework Strategy is included in *Annex 1*);
- update the public on the size of progress made in sustainability transition, which areas have improved substantially and which areas require more intense efforts.

The findings of the monitoring report will be presented according to the UN's Sustainable Development Goals adopted in September 2015 in *Annex 2*.

It is important to mention that the impacts of actions for sustainability typically appear with relatively long delays – occasionally after some decades – therefore the tendencies identified in the subject monitoring report do not always directly allow the fair evaluation of the decisions of social actors and government actions. This report reviews the period from 1 January 2015 until 31 December 2016.

3.3 Assessment of national resources as reflected by the 16 key indicators

Resource	Indicator	2012	2013	2014	2015	2016	Current state	Trend	EU average	V3 average
R.1.1. Population	Total fertility rate	1.34	1.34	1.41	1.44	1.49	below average		1.58	1.43
R.1.2. Knowledge	Expenditure on education as % of GDP	4.08	3.93	4.30*	4.35	N/A	below average		N/A	N/A
	Early school leavers (%)	11.8	11.9	11.4	11.6	12.4	poor		10.7	6.4
R.1.3. Health	Healthy life expectancy at birth (years), male/female	59.2/60.5	59.1/60.1	58.9/60.8	58.2/60.1	N/A	poor		62.6/63.3	N/A
R.1.4. Cohesion	Severe material deprivation rate (%)	27.8	24	19.4	16.2	N/A	poor		8.1	7.7
R.2. Social capital	Generalised trust scale (ESS, scale of 0 to 10)	4.8	N/A	4.2	N/A	N/A	below average		N/A	N/A
	Corruption index (Transparency Int., on a scale of 0 to 100)	55	54	54	51	48	below average		65	56
	Number of non-governmental organizations (thousand)	65.3	64.5	63.9	63.9	62.1	average		N/R	N/R
R.3. Natural capital, environmental conditions	Biologically inactive areas (as % of total area)	67	67	67	67	67	poor		N/R	N/R
	Natural resource productivity (GDP/DMC, €/kg)	1.15	1.02	0.83	0.87	1.05	below average		2.23	0.99
	Public exposure to particulate matter pollution [PM(10)] (µg/m3)	28.8	27.3	28.2	N/A	N/A	below average		22.5	N/A
R.4.1. Business capital	Employment rate of the population between the age of 20-64 (%)	61.6	63	66.7	68.9	71.5	average		71.1	69.2
	Investments: gross fixed capital formation (GFCF/GDP)	19.4	20.9	21.8	21.7	17.8	below average		19.8	20.1
	R&D spending (as % of GDP)	1.27	1.40	1.37	1.39	N/A	below average		2.03	1.25
R.4.2. Macroeconomic stability	Public debt (gross) as % of GDP	78.2	76.6	75.7	74.7	74.1	average		83.5	49.2

Resource	Indicator	2012	2013	2014	2015	2016	Current state average	Trend	EU average	V3 average
R.4.3 Generational balance	Old age dependency ratio	24.6	25.1	25.8	26.5	27.2			29.3	23.7

*As institutional reports for 2014 were amended to be based on government functions, the comparability of 2014 data with data from previous years is restricted. (KSH)

3.4 Progress towards the achievement of the national sustainability objectives

C	Resource	Objective	Current status (2016 year-end)	Key social/government actions (2015–2016)
1.1	Human resources/ Population	Promotion of family values	The number of marriages significantly increased (51805 weddings in 2016, the highest number since 1996). While this trend has been continuous since 2010, nearly 50% of the children are still born out of wedlock. The number of adoptions has risen.	Special focus on family values in government communications (e.g. “Marriage Week”) and launch of supporting EU bidding forms (e.g. “Family Friendly Country”). Further expansion of the broad variety of family allowances (HUF 1526 billion in 2016), availability of various support “channels” to offer assistance to families in different situations to have and raise children. Financial and legal support for child adoption. Government programmes (forums, handbooks, awards) to strengthen family friendly workplaces.
1.2		Reduction of migration from Hungary (competitive wages)	Migration from Hungary continued but its rate started to slightly decrease from 2014 and remigration has also increased to a minor extent (although the precise number of people returning to Hungary is unknown). The number of Hungarian citizens living outside of Hungary continued to rise despite the slight remigration trend (despite the changes described above more people continue to leave than to return to Hungary). At present, 500-600 000 Hungarian citizens live temporarily or permanently outside of Hungary. Although this is only 6% of the total population but these are typically young and more highly qualified people.	Higher wages paid in particularly in occupations affected by migration including by wage increase and scholarship programmes in the health care sector. <i>Youth Guarantee Programme</i> to improve the employment of people under 25. <i>Momentum Programme</i> of the Hungarian Academy of Sciences (relatively successful). <i>Come Back, Young Person</i> scheme (poor results, discontinued in 2016).

C	Resource	Objective	Current status (2016 year-end)	Key social/government actions (2015–2016)
1.3		Reduction of the population decline rate	Hungary's population continues to decline due primarily to the low number of births and the high rate of mortality. In 2015, the number of deaths was 40 000 higher than the number of births; in 2016, the rate of natural decline totalled 33 990 despite the number of live births growing for three consecutive years. In the four years since NSSD's adoption, fertility rates have significantly risen from 1.34 to 1.49. (Fertility was at its lowest in 2011 at 1.23.)	Expansion of family allowances: <ul style="list-style-type: none"> • Introduction of family housing allowance (CSOK) • Higher tax and contribution reductions for families with two children • Introduction of new day care system for children under 3 • Further increasing capacity of day care facilities for children under 3 • Increasing capacity of preschool facilities
1.4		Development of immigration policy	Compared to overall European rates, immigration into Hungary remains low. The rate of Hungary's foreign-born population is 4.6% (the EU 28 average is 11%), In recent years, there has been a growth in the number of immigrants from neighbouring countries moving to Hungary as Hungarian citizens and also from Asia. In 2015, a record number of refugee application was registered, however the majority of the applicants left Hungary before their application was processed.	The actual implementation of the Migration Strategy adopted in 2013 started only in a few partial areas. There has been no progress made in the elaboration of the Integration Strategy and in monitoring the integration of migrants living in Hungary. The naturalization of Hungarians living beyond the borders of Hungary continued. Effective measures have been taken to stop illegal migration.
1.5		Improvement of employment of elderly population	The major source of income for the elderly (retired people) remains almost exclusively their pension payment (from public transfers), yields from private capital (private savings) and financial support within the family are insignificant.	In recent years, the government has made adjustments in the pension system – revising the eligibility criteria for disability benefits and raising the retirement age – leading to a decrease in the number of people eligible for pension payment.
1.6	Human resources/ Knowledge	Quality education	The acquisition of new knowledge and the problem solving skills of our students continued to deteriorate and remain below the EU average while students have improved in reproducing the information learned at school. Students' abilities to practically apply their knowledge are declining; according to the 2015 PISA test, over 25% of the students are functional illiterates (performing below level 2). Wages paid to teachers – particularly to fresh graduates – remain low leading to staff shortages in many schools. In the short term, centralisation triggered a shift to alignment on a lower level in educational institutions.	The reform of the education systems started before 2015; one of the key actions of the government was to apply central control over educational institutions. A number of differentiated programmes (talent management, programmes supporting Roma students etc.) were launched to improve teaching performance. Government spending on education as % of the GDP was raised in order to enhance the efficiency of the present system. Teachers' wages are raised in a multi-step process, which started in 2013 and is planned to be completed in 2017. Higher wages are expected to retain teachers –

C	Resource	Objective	Current status (2016 year-end)	Key social/government actions (2015–2016)
1.7		Increase the period of formal learning	<p>The rate of early school leavers has further grown; while Hungary's indicator had been below the EU average until 2013, it has been above it since 2013. The number of unqualified young people entering the labour market is rising causing difficulties in their livelihoods and restricting their job prospects (the employment of unqualified workers is below the average in Hungary). The lowest age to discontinue formal education remaining 16 by law has significantly contributed to the growing number of early school leavers in recent years.</p> <p>The constant growth of the rate of the students in higher education was disrupted in 2015 and decreased in 2016 (33%) slowing down our progress to meet the indicative target of 40% defined by the EU by 2020 and positioning Hungary in the last 30% internationally.</p>	<p>including talented ones – and to attract new ones to choose this career.</p> <p>In order to support disadvantaged children, the government introduced mandatory preschool education from the age of 3 in September 2015 to ensure they stay at school until an older age. (This intervention is expected to have an actual impact over a longer time.)</p> <p>The government adopted a strategy to prevent students from leaving school without any qualification in 2014. In 2015–2016, EU-funded programmes were carried out to support the implementation of this strategy.</p>
1.8		Reduction of selectivity within the education system	<p>Our education system remains very selective being the second most selective across all OECD countries. One of the problems is that many parents decide to transfer their children to a different school based on their performance at a young age leading to the continued presence of quality gaps between schools.</p> <p>One of the areas where Hungary has one the poorest results across the OECD countries is the ability of schools to reduce differences in social backgrounds.</p> <p>However, the growing rate of children attending preschool is a very positive improvement resulting from the statutory obligation and the increased capacity of preschool facilities.</p>	<p>The government has continued to put its desegregation education policy in place over the time span of this monitoring report including by the introducing integrated education of Roma and non-Roma students in many places. The introduction of mandatory preschool education and the ongoing preschool development programme and the increase of the capacity of the facilities were important measures.</p>
1.9		More efficient use of knowledge within the society	<p>In dual vocational educational programmes, students complete their apprenticeships at companies collecting experience about working in general and about their profession to benefit from when they enter the labour market.</p>	<p>The government first introduced then reformed the dual training programme. Based on the needs of the society and businesses, the government revised the system of secondary education as well but that is only expected to make an impact in the years to come.</p>

C	Resource	Objective	Current status (2016 year-end)	Key social/government actions (2015–2016)
1.10		Sustainability introduced in lifelong learning	<p>The secondary school system has also been reformed: students in secondary vocational schools are now required to take school-leaving exams in their vocational subjects as well at the end of their studies.</p> <p>As a positive outcome of Hungary’s consistent sustainability policy, a network of preschool facilities (kindergartens) and schools embracing education for sustainability started to develop among institutions defined as “Green Kindergarten” and “Eco-School”. Their number and level of coordination is constantly rising. Primarily, they are the ones to use the increasingly popular accredited “Forest Kindergarten” and “Forest School” programmes and to take advantage of the related services. These institutions have a huge impact on their environment and the families of their students.</p> <p>The number of people in adult learning programmes has grown recently (7.1%), however they were mostly people who were already employed. In 2016, 7.9% of the population of Central Hungary participated in an adult learning programme while only 4.2% of the people living in Northern Hungary much more in need of such programmes attended any adult training courses.</p>	<p>EU funds were used to support knowledge transfer between higher education institutions and businesses.</p> <p>The government reviewed shortage occupations and market trends and extended the list of the government-funded training programmes (OKJ) supporting new courses, programmes and occupations. Using EU funds, the government placed special emphasis on improving digital knowledge and foreign language skills.</p>
1.11	Human resources/ Health	Health consciousness	<p>Despite four-fifth of Hungary’s adult population believing that one of the keys to staying healthy is consciously trying to pursue a healthy lifestyle, most people fail to do that in their everyday life. The majority of health issues in children under 15 is the result of adverse impacts of the risk behaviours displayed by adults.</p> <p>Social responses remain insufficient while the improvement of the health status of Hungary’s population has failed to become a common cause.</p> <p>Health issues caused by poor environmental conditions have so far failed to be addressed to the extent required (environmental health monitoring systems and environmental improvement programmes are lacking).</p>	<p>Government programmes launched in the previous period – enhancement of the prevention capacity of basic health care, involvement of pharmacists in health development activities, healthy food programme in public catering services in schools, actions to reduce smoking – have continued.</p>

C	Resource	Objective	Current status (2016 year-end)	Key social/government actions (2015–2016)
1.12		Reduction of chronic disease rates	Social responses are insufficient in this area as well. Despite a declining tendency in deaths caused by diseases and in health impairment of Hungary's population indicated by healthy life years, Hungary's indicators are very poor compared with indicators from the EU. The principal causes of the loss of healthy life years are the diseases of the circulatory system (21%), cancer (20%), musculoskeletal disorders (10%) followed by mental and behavioural disorders and injuries (9%).	Apart from screening programmes launched previously (colorectal screening by family doctors, cervical screening by health visitors), providing improved access to available medical tests (cancer tests) and carrying out infrastructure developments financed mainly from EU funds, the government enhanced basic healthcare services (new regulations, new sources of funding) and attempted to strengthen the management of health care facing major resistance.
1.13		Reduction of mortality rate (aiming to reach the EU average)	Principal progress toward this strategic objective has not been made. In the area of deaths preventable by optimal medical care, Hungary is positioned as one of the last countries in the EU. One-fourth of deaths in people under 65, 8600 cases, could have been avoided by optimal health interventions. The healthcare infrastructure remains underdeveloped and the emigration of healthcare workers to foreign countries continued. These trends, phenomena have some negative impact on mortality rates.	See objective "reduction of chronic disease rates".
1.14	Human resources/ Cohesion	Social solidarity, reduction of social exclusion	Following an increase between 2010 and 2012, inequalities slightly decreased between 2012 and 2014 and continued to decline between 2014 and 2016. The reduction of the rate of people living in workless households was significant in low-status groups at high risk of poverty. By contrast, the decrease in severe material deprivation is dominantly the result of the lowering risks of people having a (significantly) higher standard of living than the poorest population.	The following measures could have potentially led to the decline in poverty and social exclusion: public employment programmes targeting the lower segment of the labour market and reduction of private debt burden (bailout scheme for debtors). Additionally, higher income from work (significant increase of the minimum wage and extended tax credits) could have also stimulated a drop in social exclusion. Key government actions, programmes: free food for children in need in preschool facilities, integrated children programme, mandatory preschool education, complex developments to remove disadvantages faced by people living in segregated areas, micro-regional work start model programmes.
2.1	Social capital	Rearrangement of social structure	The rate of poverty and social exclusion had gradually grown (from 2008) until 2013 but has continued to fall since then every year. In early 2016, 26.3% of Hungary's population lived	The following measures, factors could have possibly contributed to the rearrangement of the social structure:

C	Resource	Objective	Current status (2016 year-end)	Key social/government actions (2015–2016)
			in poverty or social exclusion, which is the lowest value in the last ten years. While this improvement is primarily the result of the lower rate of people living in severe material deprivation, the rate of severe material deprivation remains extremely high compared to other EU countries, despite this positive trend.	public employment programme, reduction of the debt burden, rise of income from work.
2.2		Demonstration of good examples	(Certain methodological obstacles continue to prevent the quantitative or qualitative analysis of the implementation progress of this objective.)	A number of public and non-governmental campaigns have been lately launched, which importantly focus on the achievement and promotion of sustainability. Two of the campaigns included in the previous monitoring report – “Warmth of Home” and “Smart Heating” – continued during the period of the present report as well. New programmes include the “WasteLess”, LIFE, BISEL programmes and trainings on activities related to applications containing or using greenhouse gases.
2.3		Support to intermediate institutions promoting sustainability	The number of NGOs active in Hungary has fallen, their revenues have risen despite declining public (including EU) funds. Some lack of trust in relation with NGOs (or a select group of NGOs) prevails and their involvement is discouraged if political debate – normally happening in democracies – between the government and certain NGOs leads to extra administrative requirements and increased control by the authorities.	Public funds continue to be provided to NGOs through two special channels: the National Cooperation Fund and 1% of personal income tax dedicated by tax payers for special purposes.
2.4		Promotion of the infrastructure of trust	Hungary remains in the lower middle section among European countries with trust levels below the EU average. General trust had slightly grown between 2008 and 2012 but fell back to 2008 levels by 2014. Trust in the legal system started to rise again after hitting bottom low in 2008 but still remains below average. Trust is possibly diminished by the occurrences of rent seeking, abrupt changes in laws and regulations (frequent restructuring of institutions and changes in duties and powers) as well as by the rhetoric of political public discourse and political communication causing polarisation and distrust.	The government conducted trust building dialogues primarily in interest type groups and adopted an action plan on corporate social responsibility. In the fight against rent seeking/corruption, the government adopted the National Anti-Corruption Programme in May 2015.

C	Resource	Objective	Current status (2016 year-end)	Key social/government actions (2015–2016)
2.5		Reduction of stress at workplace	(Certain methodological obstacles prevent the quantitative or qualitative analysis of the implementation progress of this objective.)	The government's Family Friendly Workplace Programme continued during the term of this report as well. There have been new initiatives launched for the corporate sector including the Family Friendly Company Award by the Three Princes, Three Princesses Movement.
2.6		Preservation of our heritage, strengthening our identity	<p>Funding and support for Hungarians living and Hungarian organisations located outside of Hungary continue to expand intending to allow Hungarians living beyond the borders of Hungary in larger enclaves or in dispersed communities to stay in their home countries and to strengthen the Hungarian identity of the diaspora focusing mostly on Hungarian language education, vocational and other training, NGOs and businesses run by young people and families outside of Hungary.</p> <p>Funding in 2016 totalled HUF 73.5 billion (compared to 18.9 billion in 2014).</p> <p>Meanwhile, the changes in the structure and fund distribution system of archaeological projects have a negative impact on the protection of our cultural, built heritage.</p>	<p>In 2015, the government launched the Kőrösi Csoma Sándor programme to promote the Hungarian ethnicity and the Petőfi Sándor programme to help Hungarians living in smaller communities around the Carpathian Basin and introduced programmes to support vocational education outside of Hungary. The state secretariat for national policy announced a memorial year for Áron Márton. The government named 2016 the year of young Hungarian entrepreneurs and allocated a fund of HUF 526 million for the programme. To support youth civil organisations located outside of Hungary, the government announced a grant in 2016 worth HUF 50 million in total.</p> <p>Funding for organisations located outside of Hungary was provided from the Bethlen Gábor Fund and a sum allocated for this purpose within the State Secretariat's budget. These funds were raised both in 2015 and 2016.</p>
3.1	Natural capital/ Ecosystem services, environmental quality	Regard for ecological limits	<p>Hungary experienced record breaking hot weather in 2014 and 2015: 2014 had the highest average temperatures ever recorded and mean temperatures in 2015 were only 0.1°C lower than in the previous year. Compared to other EU countries, Hungary is extremely vulnerable to climate change. One-fourth of the population live in areas affected by very high or high risk of heat waves.</p> <p>In 2015, the use of solid biomass in total exceeded 60 PJ/year equal to 6% of the total primary energy consumption. The use of solid biomass to heat residential buildings is particularly increasing reaching a rate of 15% in 2015, which presents the risks of air pollution and health issues.</p>	<p>The second National Climate Change Strategy has been adopted, which includes the national plan to reduce the emission of greenhouse gases. The Energy Strategy 2030 was updated during the term of this monitoring report. This document offers guidelines to address Hungary's current energy challenges.</p> <p>A strategic plan for water management called Kvassay Jenő Plan has been developed.</p> <p>Hungary's National Energy Efficiency Action Plan includes interventions concentrating on building energy and transport infrastructures to promote energy security and environmental sustainability.</p>

C	Resource	Objective	Current status (2016 year-end)	Key social/government actions (2015–2016)
			<p>As a result of an upturn in the construction industry, production rates grew in 2015 by 90% for gravel, 25% for sand and 60% for cement and whitewash materials compared to 2012 believed to be the worst year in the sector. As construction is the human activity that requires the most materials to be used, it threatens the protection of natural resources.</p>	<p>The Soil Information and Monitoring System is fully functional.</p> <p>A number of programmes, campaigns have been launch to improve environmental awareness in households and families.</p>
3.2		Promotion of sustainable production technologies	<p>In 2014 and 2015, 4.2 and 4.7 million tons of construction waste was generated respectively, compared with 3.9 million tons in 2009, the first year after the economic crisis. In the meantime, a positive trend has appeared in the management of construction, demolition waste – due to the transposition of EU regulations into Hungarian laws and the policy objectives included in various strategies – causing a shift toward recycling instead of disposal of waste.</p> <p>Energy consumption started to rise from 2014; the former positive trend in energy intensity turned into stagnation; the year-on-year growth of primary energy demand in 2015 significantly exceeded GDP growth (2.9%) interrupting – hopefully only temporarily – decoupling.</p> <p>In the period between 2009 and 2015, the share of renewable energy in gross final energy consumption was only 6-7% placing Hungary ahead of Cyprus and Luxembourg only in the EU.</p> <p>Solar energy production in 2014 was below 0.6 PJ (0.008% of final consumption) while the use of wind power was around 2.9 PJ (0.4% of the final consumption). In the meantime, the use of photoelectric solar power is dynamically growing doubling by 2015 compared with the previous year.</p> <p>Following a fall of nearly 30% between 2007 and 2009, fertilizer (active agent) use per hectare constantly grew after 2009 reaching its highest in 2016 in the last 16 years.</p> <p>Between 2011 and 2015, the use of plant protection products rose by nearly 14%.</p>	<p>Documents adopted during the term of the previous report remain effective or have been adjusted to reflect the relevant trends.</p> <p>To ensure the necessary circumstances, the government adopted the National Waste Management Plan and the regulatory system has also been modified. To manage spent fuel and radioactive waste and to decommission nuclear facilities, Hungary’s government adopted the document named “Hungary’s national programme on the management of spent fuel and radioactive waste”.</p> <p>To promote the sustainability of energy supply and structural change in energy use, Hungary’s National Energy Efficiency Action Plan has been adopted.</p> <p>The certification system for environmentally friendly products is fully functional.</p>

C	Resource	Objective	Current status (2016 year-end)	Key social/government actions (2015–2016)
			Hungary has so far failed to exploit opportunities offered by organic farming with a share of land used for organic farming compared to the total agricultural area hardly reaching 2.3% in 2015, which is lower than 50% of the EU average.	
3.3		Optimal value of natural capital use	In Hungary, similarly to the EU average, very low revenues are collected from taxes related to material and energy consumption and different types of pollution. Some industries relying heavily on the use of natural capital (e.g. Agriculture, construction industry) are not provided with any effective economic incentives to promote the protection of natural capital.	No fundamental interventions have been made to promote the optimal value of natural capital use.
3.4		Sustainable land use	Two-thirds of the land in Hungary's territory have little or no ecological value (covered areas or arable land) and especially areas used for infrastructure are growing dynamically (while the population is declining). The most striking change happening between 1990 and 2016 was the immense rise of areas removed from production – from 11% to 21% –, which is almost entirely the result of the growth of residential areas and infrastructure. The share of the various land use methods has not changed significantly either between 2013 and 2016; cropland having the lowest ecological value has the highest share.	To promote sustainable land use, the National Forest Strategy 2016–2030 was adopted during the term of this monitoring report, which focuses on forestation, professional training and various uses of forests.
3.5		Conservation of biodiversity	Biodiversity – primarily as the result of the growth of ecologically invaluable land uses – has decreased. Ecologically valuable land unintentionally spared until the regime change as the result of the centralised approach of the Socialist planned economy (in the 1990s, the Carpathian Basin was home to at least 25% the EU's vegetation-based biodiversity) is at high risk of slowly but constantly falling victim to the outrageous demand (hunger) for land.	To achieve this objective, the government adopted two strategic documents in the current period: the National Forest Strategy 2016–2030 and the National Biodiversity Strategy 2015–2020. The National Forest Strategy pays special attention to preserving the biodiversity of forests while the National Biodiversity Strategy – in harmony with the EU's biodiversity strategy – sets out the objectives to meet in order to preserve biodiversity. The government has improved the legal background regarding GMO free cultivation. A number of programmes have been launched to preserve Hungary's genetic material (gene banks).

C	Resource	Objective	Current status (2016 year-end)	Key social/government actions (2015–2016)
3.6		Reduction of environmental impact on human health	<p>Risk of human exposure to particulate matter in ambient air (PM10) in Hungary is higher than the EU average: PM-related illnesses reduce the statistical lifetime by over one year in Hungary.</p> <p>In some areas (e.g. Sajó Valley), coal and wood furnaces, burning of garden waste and the use of illegal fuels (e.g. household waste) cause local air pollution problems. National and long term data for air quality show a positive trend until 2016; the number of days exceeding the daily mean value is falling.</p> <p>In recent years, activities including the burning of solid fuels have become a major source of PM10 emission with residential heating (combustion) being particularly significant accounting for 40% of all emissions in 2015.</p> <p>According to data from the end of 2016, the health limit was exceeded in 466 instances measured in 33 sites around Hungary.</p>	<p>Thanks to government measures previously adopted, implemented during the term of this report and planned to be taken in the future, PM10 concentration has fallen and will continue to fall. The government's completed and planned actions are included in the document named Intersectoral Action Plan on the Reduction of Particulate Matter in Ambient Air 2015 (PM10). Current and planned interventions concentrate mainly on the transport sector but numerous present and future measures target the reduction of emissions caused by industrial, agricultural and household activities as well.</p>
4.1	Economic resources/ Business capital, innovation, employment	Balance of localization and international cooperation	<p>Contrary to extrapolation predictions, the GDP/GNI gap has not reversed; gross domestic product continues to be higher than gross national income. Added value generated by foreign capital continues to rise at a faster pace than added value created by Hungarian market players. This trend, however, still does not threaten the sustainability of Hungarian economic growth.</p>	<p>The current GDP/GNI rate continues to be mainly the result of the increasing influx of EU funds and remittances from a growing number of Hungarian people working abroad. The balance of trade has substantially risen; currently, more revenues are collected from the foreign sale of services than that of goods.</p>
4.2		Promotion of local economic relations	<p>The added value of local businesses has grown to a smaller degree than added value generated by foreign capital. Our balance of trade has further risen with the EU remaining our primary foreign trade partner.</p> <p>The output of local SMEs has increased in total due to the lending programmes of the Hungarian Central Bank and the reduction in non-performing loans.</p>	<p>Supported by Partnership Agreement. Supported by EU funds based on the National Development and Territorial Development Concept.</p> <p>During the period under review, SMEs had access to the Fund for Growth and the Market-based Lending schemes promoting their growth.</p> <p>The Development Programme for Small-sized Farms, launched in 2011, continued, to which the Farming Village Programme was added in 2015.</p>

C	Resource	Objective	Current status (2016 year-end)	Key social/government actions (2015–2016)
4.3		Reduction of rent seeking	<p>Measures recently introduced to eliminate the grey/black economy have led to reduced tax evasion.</p> <p>However, rent seeking continues to have a fundamental impact on Hungary's economy, which is inevitably facilitated by the large number of EU grants, the degree of central redistribution considerably exceeding the Eastern-Central European average and the placement of certain services under government control. (Every year, Hungary's government spends public funds worth nearly HUF 1900 billion on public procurement.) Gratuity remains an unavoidable concern in the health sector.</p> <p>In Hungary's society, there is a strong belief that progress and success primarily depends on the right relationships, rather than on hard work and talent.</p>	<p>In May 2015, the government adopted the National Anti-Corruption Programme.</p> <p>To address the problem of tax evasion, the government introduced the Electronic Public Road Trade Control System (EKÁER) and extended the scope of businesses required to use the online cash register system.</p> <p>In the period under review however, the higher volume of taxes payable forgiven by the tax authority (NAV) presented a conflicting trend. This phenomenon is expected to diminish in the future.</p>
4.4		Reduction of business burdens, barriers	<p>Taxes and contributions payable by businesses remain high and primarily affect SMEs, however, in 2016, the government decided to reduce the corporate tax rate by 9% and the rate of social security contributions payable by employers by 5 percentage points for 2017.</p> <p>Tax wedge remains high, around 50%, which is one of the highest values across EU countries.</p> <p>In 2015 and 2016, there were no effective changes in administrative burdens for businesses.</p>	<p>The Public Administration and Public Service Development Strategy, 2014–2020, adopted in 2015, sets out to reduce the length of time required for administration and completing procedures in public services by 20% and the fees and duties payable for services by 10%.</p>
4.5		Promotion of innovation	<p>Hungary's innovation performance remains below the EU average.</p> <p>The efficiency competence of large corporations controlled by foreign owners is not transferred across companies with Hungarian owners, mostly due to the lack of professionals skilled to adopt innovations.</p>	<p>Companies had access to the Fund for Growth and the Market-based Lending schemes to promote innovation and growth.</p>
4.6		Increase of employment	<p>As the result of a constantly positive trend, the employment rate of people aged 20–64 exceeds both the V3 and the EU average. The number of people in public employment programmes and working abroad also positively contribute to this rate.</p>	<p>The higher rate of employment is the result of increased demand for labour in the private sector, the larger number of people in public employment programmes and of Hungarian citizens working abroad, the raise of the</p>

C	Resource	Objective	Current status (2016 year-end)	Key social/government actions (2015–2016)
				retirement age and national policy and economic programmes.
4.7	Economic resources/ Macroeconomic balance, sound budgetary process	Control of budget deficit, decrease of public debt, promotion of financial awareness	<p>The government has further lowered the budget deficit in the recent period reporting 2% in 2015, 1.7% in 2016 complying with the limit of 3% according to the Maastricht criteria. The low level of the budget deficit promoted the reduction of the public debt, standing currently at 74.1% (above the rate set out by the Fundamental Law but at a sustainable level). The three leading credit rating agencies supported the management of public debt by upgrading Hungary into an investment grade category after a long time.</p> <p>The public's financial awareness remains poor.</p>	<p>The government has pursued prudent budgetary policies in recent years to improve public debt and public fiscal balance. In the period under review, Hungary met the limit of 3% for budget deficit according to the Maastricht criteria.</p> <p>The promotion of the public's financial literacy has been defined as an objective by the government (National Youth Strategy), the State Audit Office (engagement) and the Central Bank (Social Responsibility Strategy).</p>
	Economic resources/ Generational balance	Gradual restoration of generational balance, promotion of long term stability of the pension scheme	<p>The pension payments to GDP ratio declined in the period between 2014 and 2015 from 9.2% to 9%. This is mostly the result of the reduction of the system dependency ratio (number of pensioners to contributors). Despite the higher rate of people at or older than the retirement age, the system dependency ratio fell, partly due to the reduced rate of people eligible for pension and to the higher rate of employment.</p> <p>Despite the constant decline of the old age dependency ratio, forecasts on the sustainability of the pension scheme expect a stable pension expenditure to GDP ratio and a stable deficit around 1% of the GDP for the next 40 years. In the meantime, the retirement of generations strongly affected by the problems of unemployment and inactivity is predicted to increase the old-age poverty rate.</p>	<p>One of the most important elements improving the stability of the pension system was that the stricter criteria required for eligibility for pension payments before the full retirement age and the raises of the retirement age increased the real retirement age by 5 years.</p> <p>The government has adopted stricter criteria for eligibility for elderly care, which also helps improve the stability of the system but in Hungary there is much higher demand for these services than the available care giving system is able to meet at present.</p> <p>The improved system of cash grants to families has also contributed to the reduction of child poverty while the risk of child poverty remains high.</p> <p>Mandatory preschool education above the age of 3 and the extended network of day care facilities for children under 3 could lead to better generational balance in the long term, however, the government still needs to adopt measures to improve the poor effectiveness and significant inequalities of Hungary's public education.</p>

3.5 Assessment of the current state of the sustainability transition

The four years period since the adoption of the Framework Strategy offers a relatively appropriate time span to be able to demonstrate some tendencies in our report. Based on the expectations and objectives of the Framework Strategy, the report uses available data to describe the various trends.

General observations

- Hungary remains in an **unfavourable state of sustainability** facing serious problems in the area of the protection and increase of the quality and quantity of our national resources, despite some major progress made in certain minor areas. This predicts poorer socio-economic development for the future than what would be possible. (In the same way as our poor sustainability performance a few decades ago led to one of the worst economic convergence results among Central and Eastern European countries entering the EU.)
- Only 2 out of the 16 key indicators score have at least an average value and also show a positive trend. Since the previous monitoring report, there has been a **positive** change in the **education expenditure to GDP ratio** and in **natural resource productivity**. However, **negative tendencies have affected the following 6 indicators**: early school leaving rate, healthy life expectancy at birth, general trust scale, public exposure to particulate matter pollution, gross fixed capital formation rate of investments and R&D spending.
- There has been a **positive trend** and progress has been made to reach the desired target in 7 indicators, which are primarily related to **human and economic resources**. **Decline or stagnation at low levels** characterize our **social capital** and **national resources** in general.
- Hungary outperforms the EU average in the **employment rate** and the **reduction of public debt** while the **high rate of severe material deprivation, extensive rent seeking and the low level of trust** remain key issues. In **life expectancy at birth**, Hungary has one of the lowest values across all the 28 EU countries.
- Knowledge is a resource that, if of a high quality, stimulates other resources (healthy lifestyle frequency rises, environmental awareness improves, innovations expands, job supply increases, productivity and social mobility improves etc.). For this reason, it is especially alarming that the **ability to apply knowledge acquired in schools in practice is declining** and Hungary's school system is **one of the most selective** systems among the developed countries **retaining social differences at birth to the highest degree**.
- Successful measures appear to be the ones (e.g. in demographic policies, the reduction of deprivation, the increase in employment or in prudent fiscal policy) that are supported by **strong political and social commitment**, implemented by a **solid institutional system** and are based on **purposeful, coordinated, innovative and long term planning and implementation**. These actions could set an example for the approach to increase our national resources in the future.
- We have failed to use the leverage offered by the abundance of natural capital and biodiversity we have in the Carpathian Basin compared to the EU average. The trends that have developed and the Western patterns we have adopted since 1990 encouraged the **increase of anthropogenic land use at an increasingly fast pace** and the associated **loss of biodiversity**. In contrast to our rich traditions in agriculture, soil fertility is degrading, the rate of organic

farming is outstandingly low and the share of the various farming methods is precisely the opposite of the order of ecologically valuable farming methods. Similarly, the size of built-up areas (residential areas, industrial parks, commercial facilities, public road infrastructure) has considerably and steadily grown.

- The government has demonstrated strong commitment in certain areas specifically relevant for sustainability, such as actions in the field of demographic and macroeconomic policy, however, in the case of other resources, **interventions are generally selective and fractional** while coordinated and planned policy implementation and high level political commitment is lacking.

Ensuring proper government coordination for sustainability is not only a requirement resulting from the parliamentary recommendation related to NSSD but also from our commitment concerning the UN agenda (tasks 17.13 and 17.14 in the UN's Sustainable Development Goals).

- **The institutional system of sustainability remains imbalanced:** while many provisions of the Fundamental Law, the advocate of future generations, various advisory bodies (NCSD, the National Council for Environmental Protection, the National Competitiveness Council) and the sustainability directorate of the President's Office collectively establish a uniquely rich institutional system for sustainability in global terms, sustainability fails to be a strategic aspect in the executive branch. Effective government coordination is lacking and the related parliamentary recommendation has only been formally but not efficiently implemented. Laws enacted at times in a speedy manner frequently fail to consider and incorporate the opinions and feedback offered by the above institutions.
- Similarly, the role played by sustainability in economic and corporate decision making is also varied. It is important that there are positive examples, good practices and **businesses where all the dimensions of sustainability are considered** in decision making and the establishment of corporate practices. Some businesses are very actively involved in the dissemination of good sustainability practices assisted by the supporting business organisation, BCSDH (Business Council for Sustainable Development in Hungary).

However, sustainability policies are lacking or selective in the dominant part of the business sector with the frequent ignorance of sustainability areas on which the specific business has the largest impact. **No effective and overall change occurred in corporate practices most adversely affecting sustainability**, described in NSSD (the poor compatibility of parenthood and careers; corporate culture: low degree of delegation of responsibilities, high degree of stress at work; low natural resource productivity).

In **human resources**, one of the most urgent sustainability issues are the **demographic** trends. The government has introduced a number of measures since the previous report that had a positive effect both on fertility rates and the number of marriages. While actions targeting families with young children have not yet produced the desired effects, government interventions have overall improved the demographic prospects recorded in the previous report. Additionally, the population of Hungary has further aged. Hungary is still not a migration destination country; as the majority of the refugees and foreign citizens consider Hungary as a transit country, immigration is not notable. However, mass irregular migration could have placed an excessive pressure on Hungary's integration and transit capacity.

Life expectancy at birth, an indicator of the population's **health** status, declined in 2015 and improved in 2016. Healthy life expectancy at birth also fell in 2015 for both sexes. People with higher income and educational qualifications continue to report better health status indicating a strong correlation between self-reported health and social inequalities. The trend of healthcare workers leaving Hungary to live and work in a foreign country remains a severe concern for Hungary's healthcare system. To ensure sustainability in the healthcare system, the government has raised wages and invested in the infrastructure but further system wide measures are required.

The results of Hungary's **education** system have continued to decline since the previous report. This is reflected by the findings of the most recent PISA assessment as well: the performance of Hungarian students has fallen both in science and in reading comprehension remaining unchanged in Maths. The problem solving skills of the students remain below the OECD average. The rate of early school leavers has further climbed since the previous report leading to a higher number of unqualified young people entering the labour market and causing employability problems. Government measures taken in recent years have resulted in a higher rate of people in adult education but this mainly affected workers in employment. The participation of the inactive and unemployed population in adult training remains low and below the EU average.

The rate of people living in **poverty** and **social exclusion** has improved. The severe material deprivation rate has further decreased since the previous report affecting only every sixth person in 2016, the lowest data in the last ten years. However, still a very high number of our fellow citizens are exposed to exclusion compared with the EU average. In the area of differences in income levels, a frequent subject of public discourse, Hungary performs rather well with data showing differences not exceeding the EU average.

All the key indicators relevant for **social capital** show decline in the last two years. Some of the positive trends in social cohesion between 2010 and 2012 have taken a negative turn by 2014: trust alongside satisfaction with the democratic system have lowered. The only area with a higher value in 2014 than in 2012 was satisfaction with the present state of the economy.

Compared with other countries in the European Social Survey (ESS), the **lack of trust** is extremely high in Hungary. On the scale on trust from 1 to 11, Hungary only scored 4.2. Of the European countries participating in the survey, there were only three where the level of general trust is even lower than in Hungary. Trust in justice is also lower than the EU average with the rate being stable between 2010 and 2014 and higher than the indicator for the period between 2004 and 2008. Satisfaction with the democratic system was lower in 2014 than between 2010 and 2012 but not as low as the indicator for 2006 or especially for 2008 while still below the highest value measured in 2002.

Hungary's corruption perceptions index has further declined since the previous monitoring report remaining one of the worst rates throughout the EU. While multiple government actions have been taken to reduce tax evasion, the level of **rent seeking** remains high. Rent seeking is facilitated by the high degree of redistribution (exceeding the degree typical in other Central and Eastern European countries similar to Hungary by nearly 10 percentage points), the high level of government spending – including especially transfers to businesses – and the permanent presence of very sizeable EU funds compared to GDP.

The **activity of civil organisations** is slightly declining (measured by the number of NGOs).

The condition of **natural resources** shows no significant progress since the previous report; tendencies recorded at the time continue to prevail. It is a sustained trend in developed countries that environmental pollutions directly affecting the public, regardless of a few exceptions, in general decline while ecosystem services (depending on the size of natural capital and biodiversity) indirectly influencing the quality of life of the people are degrading; the physical size of the natural environment is shrinking and species become extinct.

In relation with the most important anthropogenic factor reducing natural capital, **land use**, almost the only positive tendency is the growth of forested land with 21% of Hungary's land covered by forests by 2016. The radical increase of the share of land removed from production is a negative tendency, occurring while the population is declining. In the area of agricultural land, there has been a constant growth since 2011, including grasslands, which have been rising since 2012 while the size of the least ecologically valuable arable lands is not decreasing either. On the positive side, the ratio of Natura 2000 areas to the total area of Hungary remains one of the best indicators in the EU, however, the protection of habitats having an unfavourable status has not changed and shown a declining trend since the previous report. Our most important natural resources include our soil and freshwater supply. The improvement of their quality promotes long term sustainability. The most serious threats to soil are erosion, the loss of nutrient balance and chemical contamination. In connection with this, the quality of our water supplies is also importantly determined by the quantity of nutrient input and other pollutions from various industrial and agricultural activities.

There have been significant institutional reforms in **waste management** and mining as well, which fundamentally affected these industries. In particular, the former faces numerous conflicts that pose a threat not only to the secure availability of the services but also to sustainability.

Vulnerability arising from **climate change** affects our resources in a variety of ways; the relevant responses are incorporated in adaptation strategies. Considering current tendencies, in the future, bigger focus should be placed on the spatially differentiated implementation of the measures included in this report. With its relatively low per capita emission of **greenhouse gases**, Hungary is at the forefront of the EU, however, the rise indicated from 2014 to 2015 is the highest proportionally in EU comparison and in the country's history, which definitely needs to be addressed.

The recovery from the economic crisis stimulated an increase in our **energy consumption** while energy intensity, following a positive trend is stalled. To achieve the objective defined for energy efficiency, a solid set of methods and instruments is essentially required. While the share of renewable energy sources has fulfilled the EU requirement of 14.65% agreed for 2020, the composition of this ratio is a cause for concern as four-fifth of these sources is produced in the agriculture and over 50% are used in power plants and as firewood in households. Air pollution caused by residential heating activities has frequently exceeded the safe limit in various parts of the country in recent years, which poses a serious threat to human health.

The performance of **Hungary's economy** has improved in many areas since the previous report reflected by the growth of GDP, employment and borrowing by SMEs as well as by the reduction of the public debt, non-performing loans, the indebtedness of the private sector and budget spending as percentage of the GDP. However, we must note that as the amount of loans is still below the sum of the loans repaid, **investments and developments do not reach the desired level**. Our economy remains highly dependent on foreign funds: public investments have decreased since the previous report due to the payment schedule of EU funds leading to the reduction of the gross fixed capital formation. While the reduction of the gross fixed capital formation has restricted our economic growth, GDP grew by 3% in 2015 and by 2% in 2016. Hungary's economy remains strongly dual divided into a block of highly productive large companies with foreign owners and a block of national small and medium enterprises with very low levels of productivity.

Employment has further grown in the period under review caused not only by the slight rise in the number of people in public employment programmes but also by various policy and economic programmes and the higher number of Hungarian workers coming from neighbouring countries. The employment of people in public employment programmes on the primary labour market remains low; the majority of the jobs these people find are not based on the trainings in the programme. Meanwhile, government measures adopted during the period of this report are expected to promote the employment of the participants of these programmes. The **migration** of Hungarian workers to foreign countries is expected to cause shortages of qualified staff and rising pressure on the care system. The government and the business sector have raised wages in recent years to mitigate this trend.

Research and development promote a country's GDP growth. The rate of Hungary's R&D spending has not changed since the previous report: large companies have raised their R&D spending as a percentage of GDP while public R&D spending has shrunk.

The partial reduction of certain **taxes** levied on businesses has promoted their increased competitiveness. However, administrative requirements and taxes in Hungary are high in general, affecting primarily Hungarian SMEs. In order to promote the competitiveness of SMEs, the government is planning to revise tax policies in the next period.

The improvement of the demographic indicators could positively influence the sustainability of the **welfare system**, in particular the pension and health insurance systems. However, we must note in this report that the current demographic situation is unsatisfactory as the total dependency ratio has further climbed. Meanwhile, measures targeting employment and the pension system have caused a further decline in the system dependency ratio; there were 10 active people (paying contributions) for 7 pensioners showing that interventions reduced the amount of taxes and contributions payable by active people. Pension spending relative to GDP is expected to remain stable in the next decades; the pension system could be kept on a sustainable path.

3.6 General conclusions - summary

Human resources

Positive trends	Risks
<p>After hitting bottom low in 2011, the number of live births has grown in Hungary in recent years despite a decline in the number of women of childbearing age. These two trends have collectively stimulated the improvement of the total fertility rate.</p> <p>Hungarian workers who had moved to another country earlier have started to return to Hungary.</p> <p>Migration from Hungary caused a rise in wages.</p> <p>The number of people in adult education – partly owing to various government measures – has significantly grown since the previous report, further approaching the EU average.</p> <p>The number of public funded vocational educational programmes has grown including many courses aiming to meet current labour market needs.</p> <p>The number of deaths attributable to chronic non-communicable diseases has fallen in the last few years but at a lower rate than the EU average.</p> <p>Higher wages paid to healthcare workers has lowered the rate of the migration of people employed in this sector from Hungary.</p> <p>The number of people living in poverty or social exclusion has declined since the previous report.</p> <p>Due to the government’s family welfare policy, child poverty has shown a declining trend since the previous report.</p> <p>Due to a broad range of economic policy measures including the conversion of foreign exchange loans, household debt has further decreased.</p> <p>In 2015 and 2016, the total fertility rate slightly rose compared to the previous years.</p> <p>The number of children aged 0–2 and the capacity of day care facilities for them as well as the number of people using the services of child protection institutions has grown.</p> <p>The poverty risk of two-parent households rearing three or more children has fallen.</p>	<p>The number of women of childbearing age (15–39) is expected to drop in the near future as the generation of the so-called “Ratko grandchildren” will soon turn 40 and stop having children.</p> <p>The continued migration of Hungary’s workforce to foreign countries will exert increasingly strong pressures on the social care system. The shortages of skilled workers caused by the migration will lead to lower productivity while young people leaving Hungary will have a negative effect on the demographic trends.</p> <p>The reading comprehension and science skills of Hungarian students have further degraded while the number of students not able to achieve even the satisfactory level has grown.</p> <p>Based on the results of the PISA assessment, Hungarian students appear to underperform in problem solving skills every time.</p> <p>The early school leaving rate has further grown in recent years caused by the reduction of the school leaving age to 16 to a significant extent. The unskilled workforce entering the labour market as a result leads to further employment problems.</p> <p>Participants in adult education dominantly include employed and more skilled workers.</p> <p>Deaths from substance abuse have not improved in recent years either.</p> <p>The positive trend of life expectancy at birth and healthy life expectancy at birth has been disrupted and a decline occurred last year.</p> <p>Failure to pursue a healthy lifestyle caused a rise in patients suffering from chronic non-communicable diseases.</p> <p>The migration and the decline of health care workers threatens the optimal functioning of Hungary’s health care system.</p> <p>Hungary remains a significantly deprived country despite the rate of the affected population lowering below 20%.</p> <p>The poverty risk of single parent households is high and has continued to rise.</p> <p>The employment rate of women with little children or with three or more children remains low and the rate of part-time employees has decreased.</p>

Social capital

Positive trends	Risks
<p>Hungarians living in scattered locations around the Carpathian Basin have access to increasing funds and the governments has launched a number of campaigns for Hungarians living beyond the borders of Hungary.</p> <p>Numerous campaigns promoting and supporting sustainable lifestyles, dominantly related to environmental sustainability, have been launched or continued.</p> <p>Sixty percent of public sector employees have been engaged in the integrity-based approach program designed to prevent corruption.</p>	<p>Hungarian people are one of the unhappiest nations in Europe and have low levels of trust towards other people and public institutions.</p> <p>Trust in justice remains unchanged at a low level. Satisfaction with the democratic system has decreased to one of the lowest levels relative to the EU average.</p> <p>Trust within business organisational systems is also low. Willingness to delegate authority to subordinates remains very low (placing Hungary at 88 in a ranking of 137 countries in the WEF's Global Competitiveness Report).</p> <p>Continuing the tendencies of recent years, Hungary has further dropped on the ranking monitoring corruption perceptions. According to the Executive Opinion Survey of the World Economic Forum, corruption was the second most frequently selected answer for problematic factors for doing business.</p> <p>There has been a slight decline in the activity of civil organisations.</p>

Natural capital

Positive trends	Risks
<p>Green areas, biodiversity, land use</p>	
<p>Biodiversity in the Carpathian Basin is above the EU average. As an example, the rate of Natura 2000 areas relative to the total territory of Hungary is one of the highest in the European Union.</p> <p>As the result of forestation and tree planting in unused areas, the rate of forested land in Hungary was 21% in 2016 compared to 18% in 1990, which has constantly grown since 2013.</p>	<p>New housing and infrastructure projects and growing cities lead to a radically increasing rate of land removed from production.</p> <p>There is a strong negative detachment between the size of the population (which is declining) and the size of built-up areas (which is exponentially growing) clearly signalling a tendency that threatens the share of natural, semi-natural and other green areas.</p> <p>The protection of nearly 60% of the habitats remains unfavourable and is declining in time. This means that a large number of plant and animal species continues to be protected.</p>
<p>Climate and energy management</p>	
<p>Hungary's share in the EU's total greenhouse gas emissions is lower than 1.5%; and based on per capita emissions, Hungary is one of the best across the EU countries.</p> <p>Our energy intensity relative to GDP had halved in 15 years until 2013. This represents lasting and significant detachment with the change of primary energy use in Hungary.</p>	<p>Between 2014 and 2015, the emission of greenhouse gases rose by 5% in Hungary; this is one of the highest growths in the European Union.</p> <p>Hungary's total national temperature rise measured from 1901 (1.3°C) exceeds the estimated global change in temperatures (0.9°C). Compared to other EU countries, Hungary is extremely vulnerable to climate change. With regards to field cultivation, nearly 50% of Hungary's territory is vulnerable land.</p>

	<p>One-fourth of the population live in areas affected by very high or high risk of heat waves.</p> <p>Biomass used to produce energy in households causes further energy, social, ecological and health problems related to PM10 generated by its use.</p> <p>The use of renewable energy sources is low in Hungary compared to the EU average placing Hungary in the last third across EU member states.</p>
Freshwater supply, water management	
<p>Hungary has abundant supplies of water even in European comparison.</p> <p>The share of communities with waste water collection services is constantly rising simultaneously with the rate of households supplied with waste water treatment services.</p> <p>Based on quality criteria of surface waters, Hungary ranks in the middle among EU member states by aggregate values for surface water bodies. Hungary is among the first third of countries based on ecological status.</p> <p>Out of our large lakes, the ecological and chemical status of Lake Balaton, Lake Fertő and Lake Velence is good.</p>	<p>Water bodies classified as poor, i.e. where withdrawals cause constant decrease in water reserves, are traditionally critical issues in Hungary's water management. In Homokhátság in the Danube-Tisza Interfluvium and the Nyírség, meteorological changes combined with the extraction of groundwater exceeding natural replacement while in Mátra- and Bükkalja, water extraction due to mining threaten the condition of shallow water bodies.</p> <p>One of the most critical water quality problems in Hungary is eutrophication. With regards to nutrients discharged into waters, 65% of Hungary's surface waters are in satisfactory condition based on the trophic state test while a high rate is still affected by poor quality potentially leading to serious challenges in water use (irrigation, tourism, fishing)</p>
Soil and agriculture	
<p>Being one of Hungary's most important conditionally renewable resources, soil totals 22% of all national resources according to expert estimates.</p>	<p>Between 2011 and 2015, the use of plant protection products rose by nearly 14%.</p> <p>Hungary has so far failed to exploit opportunities offered by organic farming with a share of land used for organic farming compared to the total agricultural area hardly reaching 2.3% in 2015, which is lower than 50% of the EU average.</p>
Forests and forest management	
<p>Since 2000, the share of forested land has grown 14%.</p> <p>Forest health appears to be good; there was a slight year-on-year decline based on the average degree of defoliation of the previous year. In 2015, turkey oaks and other deciduous hardwood trees appeared to be the healthiest.</p>	<p>The share of indigenous species in forests is only 63% and their rate fell nearly 2% between 2000 and 2013.</p> <p>The territory of afforested land has shown a decline in recent years with 2530 ha in 2013, 1287 ha in 2014 and a particularly low quantity of 318 ha in 2015.</p>
Air quality and health	
<p>National and long term data for air quality show a positive trend until 2016; the number of days exceeding the daily mean value is falling.</p>	<p>Risk of human exposure to particulate matter in ambient air (PM10) in Hungary is higher than the EU average: PM-related illnesses reduce the statistical lifetime by over one year in Hungary.</p> <p>In some areas (e.g. Sajó Valley), coal and wood furnaces, burning of garden waste and the use of illegal fuels (e.g. household waste) cause local air pollution problems, which is the indirect "sign" of the disadvantaged socio-economic conditions in these regions. According to data from the end of 2016, the health limit was exceeded in 466 instances measured in 33 sites around Hungary.</p>

Economic resources

Positive trends	Risks
<p>Public debt as a percentage of GDP has continued and is expected to further decrease.</p> <p>Public spending was lower than the planned expenditure and the budget deficit is projected to remain below 3% in the next period as well.</p> <p>The system dependency ratio has further declined since 2014, primarily due to the increased rate of employment.</p> <p>Private sector debt has fallen.</p> <p>Corporate borrowing has shown a positive tendency since the previous monitoring period. Loans borrowed by the corporate sector have been rising since 2016 reaching an annual growth rate of 4% by the end of the year.</p> <p>Measures designed to eliminate the grey/black economy resulted in the reduction of “soft taxation”.</p> <p>The number of the active population aged 15–64 has risen by around 240 000 since 2014 explained by various economic and policy trends.</p> <p>The integration of participants in public employment programmes into the primary labour market is improving, rising 1.1 percentage point since 2014 and exceeding 13%.</p> <p>The continued improvement of the balance of trade is explained by the higher export of services.</p>	<p>Due to the current trends in demography, the old age dependency ratio grew from 26.5% to 27.9% between 2014 and 2014 exerting extra pressure on the active population.</p> <p>The average number of people in public employment programmes has further increased since the previous report strongly contributing to the improvement of employment indicators.</p> <p>The training of participants in public employment programmes currently fails to fulfil its purpose to promote the successful integration of these people into the labour market.</p> <p>The migration of Hungary’s workforce to other countries remains significant leading to shortages of skilled workers and stronger pressure on the health care and social care system.</p> <p>The regulatory system and the taxation policy remain excessively complicated and SMEs continue to face significant burdens.</p> <p>In recent years, the tax authority (NAV) has forgiven increasingly high amounts of taxes payable resulting in less receipts collected by the government.</p> <p>The balance of trade is expected to decrease due to the projected rise of imports.</p> <p>The decline in fixed capital formation has substantially affected economic growth leading to investments relative to GDP falling shorter both of the EU and of the regional average.</p> <p>R&D spending has remained unchanged and below the EU average.</p> <p>Government R&D spending relative to GDP has further declined; large companies continue to drive innovation.</p>

IN-DEPTH ANALYSIS

4. Introduction

In order to promote sustainable development, to protect the possibilities of future generations and to ensure long term, responsible management of our national resources, as set out in the Fundamental Law of Hungary, in March 2013, the Parliament adopted the National Framework Strategy on Sustainable Development for the period of 2012–2024. Pursuant to resolution Decree 6/2016 28th of the Parliament, the Framework Strategy (NSSD) is intended to

- contribute to developing a common agreement on the definition of sustainability;
- promote the determination of the first steps of the transition to sustainability; and
- provide long term strategy for public policy development and decision making.

NSSD defines four national resources: human, social, natural and economic resources that are necessary to be preserved and increased in terms of quantity and quality in order to promote wealth and mental well-being of all generations. The promotion of transition toward the sustainability of these four resources is not only a political and government issue; it is the responsibility of the society as a whole – of each person, family, business and non-governmental organization as well.

The Framework Strategy defines three establishments to monitor the NSSD: the indicator report, the biennial parliamentary report (i.e. the monitoring report) and the review of the strategy every four years. Pursuant to articles 3. d) and 4. a) of resolution 18/2013 of the Parliament, the Monitoring Report is specifically mandated to

- inform about government actions promoting the implementation of the Framework Strategy every two years;
- monitor the implementation of the Framework Strategy, support the assessment of progress and provide information on implementation and progress to the Parliament every two years.

The government decree adopting NSSD mandates the National Council for Sustainable Development to draft the Monitoring Report.

After the adoption of the Framework Strategy, the first monitoring report was compiled for the period between 2013 and 2014, which offered an adequate initial form both in content and structure for the preparation of the current monitoring report for 2015–2016. The information collected in the four years since the Framework Strategy's adoption is sufficient to describe the tendencies for the majority of the resources but data are still lacking in certain areas preventing objective monitoring to some extent. Summary analysis for each resource is composed as follows:

- Each resource analysis includes a general overview based on the most recent data.
- This is followed by the presentation of relevant key indicator values and the assessment of current trends. To ensure comparability, the key indicators presented in this Monitoring Report have not been changed and comply with the ones in the previous report, based on available information.
- The objectives defined by NSSD for each resource have been identified first followed by the assessment of social and economic trends affecting sustainable development for each of these objectives. Some of the objectives have been combined while others have been analysed in more detail to highlight connectivity and interrelations.
- The assessment of social and economic trends included the identification of tendencies that affected the achievement of the specific objective. The role of the government, businesses,

non-governmental organizations and individuals has been studied depending on the importance of their impact on the resource.

- Resource analysis also focused on the most important government programmes and strategies affecting the specific resource.
- Each chapter is concluded by the collection of the most essential positive trends and key risks for each resource.

This Monitoring Report is based on the guidelines in the Monitoring Handbook written by Hétfa Research Institute (2013). Following its guidance, changes in each resource have been defined based on the following professional resource materials:

- Bálint L. – Gödri I. – Makay Zs. (2017): Szakterületi értékelések a Nemzeti Fenntartható Fejlődési Keretstratégia második előrehaladási jelentéséhez: Emberi erőforrások – Demográfia, KSH Népeségtudományi Kutatóintézet, Budapest, 59 o.
- Csapó B. (2017): Szakterületi értékelés a Nemzeti Fenntartható Fejlődési Keretstratégia második előrehaladási jelentéséhez, Emberi erőforrások, Tanulás és tudás. Cortex Informatikai Oktatási és Szolgáltató Bt. p. 36
- Oberfrank F. (2017): Előrehaladási Jelentés, A Nemzeti Fenntartható Fejlődési Keretstratégia végrehajtásának állása az Emberi erőforrások – Egészség területén, Integra Consulting Zrt., 42 o.
- Branyiczki R. – Tóth I. Gy. (2017): Fenntartható fejlődés Magyarországon, Társadalmi kirekesztés, szegénység és társadalmi kohézió, Második monitoring jelentés, Társadalmi, Budapest, 46 o.
- Tóth I. Gy. – Medgyesi M. – Gál R. I. (2017): Fenntartható fejlődés Magyarországon, Társadalmi újraelosztás, korosztályi számlák, gyermeknevelés finanszírozása, nyugdíjrendszer Második monitoring jelentés, Társadalmi, Budapest, 30 o.
- Pálvölgyi T. - André A. - Simon A. (2017): Szakterületi értékelések a Nemzeti Fenntartható Fejlődési Keretstratégia második előrehaladási jelentéséhez: Természeti erőforrások, Env-in-Cent Környezetvédelmi Tanácsadó Iroda Kft. 89 o.
- H-SOFT Kft. (2017): Szakterületi Értékelések A Nemzeti Fenntartható Fejlődési Keretstratégia Második Előrehaladási Jelentéséhez, Gazdasági erőforrások – Növekedés, K+F, tőkeállományok, makrogazdasági egyensúly, eladósodottság, Pécs, 112 o.

Az Előrehaladási Jelentés összeállítását a Hétfa Kutatóintézet Kft. támogatta.

5. Progress made in the achievement of the objectives under the National Framework Strategy on Sustainable Development

5.1 Human resources

5.1.1 General overview

While Hungary's population is declining at an alarming pace, the growing number of births in recent years appears to slow down this trend. Since 2012, the number of live births has shown year-on-year growth – except in 2013 – or at least remained unchanged. While the demographic impacts of the government's widespread family policy actions are positive (the fertility rate from the lowest [1.23] in 2011 grew to 1.49 by 2016), population stabilisation requires not only the stimulation of fertility rates but also the reduction of mortality rates and migration from Hungary.

Surveys show that the acquisition of new knowledge and the problem solving skills of our students have continued to deteriorate in recent years, which leads to negative spill-over effects in sustainability. The rate of students underperforming and the number of early school leavers have further risen, which will have a negative impact on their employability in the future. Meanwhile, the rate of high achieving students has fallen further reducing the selection base of higher education and scientific research. Schools add little to the knowledge students acquire at home continuing to confirm the strong correlation between school performance and social background. Changes in adult education are positive as the increase of vocational programmes has triggered a rise in the rate of the population engaged in adult education in recent years.

The health status of Hungary's population has declined compared to the years previously reviewed, as in 2015, disrupting the former trend, life expectancy at birth decreased for women and remained unchanged for men. The number of patients suffering from chronic, non-communicable diseases has grown, due to failure to pursue a healthy lifestyle, but on the positive side, the number of deaths from those diseases has fallen in the recent period.

There have been major improvements in social inequalities and poverty causing a substantial reduction in the rate of people affected by relative income poverty, severe material deprivation and living in a household with low work intensity. Child poverty has also positively changed since 2014 as the number of children affected by poverty has decreased.

5.1.2 Changes in key indicators

Indicator	Latest value	Value known at monitoring report for 2013–2014	Assessment of the changes in NSSD's key indicators
Total fertility rate	1.49 (2016)	1.41 (2014)	It has further risen compared to the previous period but is still significantly below the value of 2.1 required for population reproduction.
Expenditure on education as % of GDP	4.35 (2015)	3.93 (2013)	It is constantly growing compared to the previous period but remains below the EU average.
Early school leaving rate (%)	12.4 (2016)	11.4 (2014)	It has increased since the previous report; achieving target of 10% becomes even more improbable. It has risen for both sexes: 0.4 percentage point for men and 1.5 percentage points for women. Geographically, underprivileged regions are lagging even further behind.
Healthy life expectancy at birth (years; male/female)	60.1/58.2 (2015)	60.1/59.1 (2013)	It grew between 2010 and 2012 but the trend has changed since the adoption of NSSD. Compared to 2014, there has been a 0.7 year reduction both for men and women. Hungary is now falling further behind the EU average but is closer to the Central European average.
Severe material deprivation rate (%)	16.2 (2015)	23.9 (2014)	Compared to the previous period, it has significantly improved both nationally and internationally.

5.1.3 Objectives and challenges defined in NSSD

The National Framework Strategy on Sustainable Development defines the following **objectives** for human resources

1 Promotion of values related to partnership and family (education, institutions)	9 More efficient use of knowledge within the society and in the economy
2 Promotion of competitive wages in professions affected by critically high rate of migration	10 Incorporation of sustainability (values and practice) into lifelong learning as a whole
3 Reduction of the rate of population decline	11 Establishment of health conscious behavioural patterns
4 Development of immigration policy	12 Reduction of the number of chronic non-communicable diseases
5 Promotion of possibilities for the elderly population for social participation	13 Alignment with Central European average in the reduction of mortality
6 Quality education	14 Social solidarity
7 Increase of period of formal learning	15 Rearrangement of social structure

8 Reduction of selectivity within the education system	16 Increase of employment
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The above objectives will be discussed through **four main topics**:

1. **demographic trends,**
2. **education and knowledge,**
3. **health and social structure,**
4. **social cohesion.**

5.1.4 Social and economic developments affecting the objectives

5.1.4.1 Demographic trends

Childbirth

Demographic trends are critically influenced by fertility rates and the number of live births. Similarly to Western societies, Hungary has also been facing a decline in birth rates since the 1980s. The rate of live births remained steadily very low in the past decades and the onset of the global financial and economic crisis in 2008 caused a further decrease until 2011 when 88049 children were born in total. In recent years, this decline was disrupted and replaced by a positive trend. Since 2012, the number of live births has shown year-on-year growth – except in 2013 – or at least remained unchanged reaching 93 063 by 2016. In 2016, 1373 more children were born than in 2015 representing a growth of 1.5%. However, it is too early to draw any extensive conclusions as only the tendencies of the next few years will show whether the growth is truly the result of higher fertility rates (Figure 1).

Figure 1: Number of live births, 1990–2016

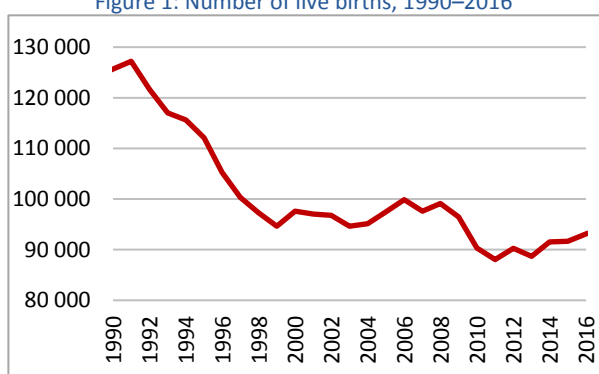
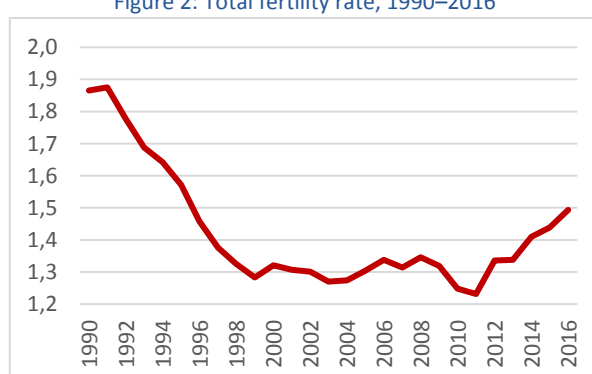


Figure 2: Total fertility rate, 1990–2016



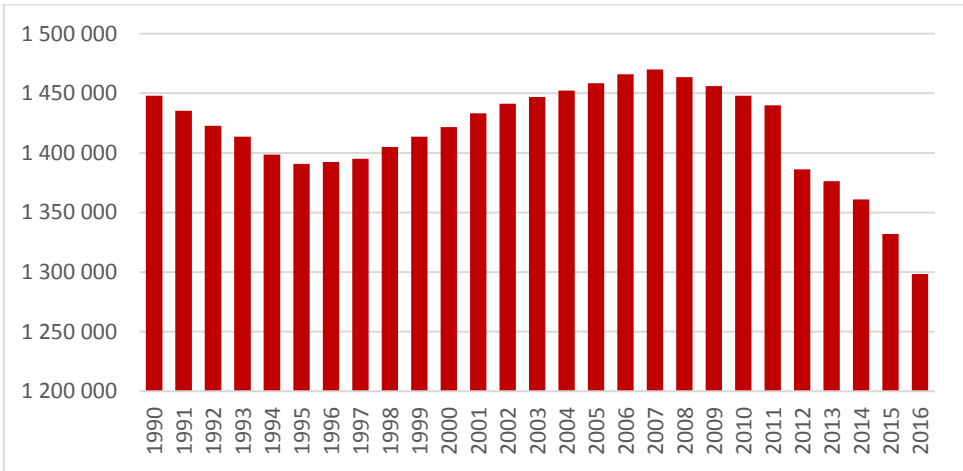
Source: KSH, Demographic Yearbooks

The Total fertility rate (TFR) offers a refined and at the same time more precise method to represent fertility. Total fertility rate (TFR) stood at 1.49 in 2016 (Data from KSH, quoted by Bálint, Gödri, Makay, 2017), the highest value in 20 years but still significantly below the level required for population reproduction (Figure 2).

The comparison of the total fertility rate and the number of live births shows that the change in TFR in recent years is more positive than the change in the number of live births explained by a notable drop in the number of women of childbearing age (15–49) leading to a higher number of births per woman.

In women of childbearing age between 20 and 39, the lower number is the result of the so-called “Ratko grandchildren” born between 1974 and 1978 exiting the childbearing age and will continue to be the result of their further exit in the next 1-2 years as well. Following the exit of this generation, no such decrease is projected in the number of women of childbearing age in the future. The number of women of childbearing age between 20 and 39 will further fall in the next period as the cohorts born in the mid-1970s will gradually exit the childbearing period. The degree of decline has grown in the recent period due to the above mentioned cohorts exiting the childbearing age (Figure 3).

Figure 3: Change in female population aged 20–39 between 1990 and 2016



Source: KSH, Demographic Yearbooks

Related to women of childbearing age, we must look at the average age of parents at the birth of their first child. Between the time of the regime change and 2011, the average age of women at the birth of their first child was growing resulting in many childless marriages and families with fewer children. After this period and until the previous monitoring report, this indicator remained unchanged, then slightly grew by 2015, which is expected to cause further demographic problems in the future (Bálint, Gödri, Makay, 2017).

Changes in childbirth are closely linked to changes in the number of marriages as statistics show that marriage has a positive impact on childbirth. The number of weddings has substantially grown in the last 7 years. While only a total of 35 520 marriages were registered in 2010, this number rose to 51 805 by 2016, which is an increase of nearly 46%. (Bálint, Gödri, Makay, 2017).

In general, the number of births has grown in recent years, which is potentially the result of the government’s recent family policy measures. In contrast with the previous period, a lower number of women of childbearing age appear to be more willing to have children and the number of marriages is rising. The present trend needs to be maintained and further action is required – to change the society’s current attitudes with various methods through education and to allow greater access to family benefits –, in order to ensure the reproduction of the population.

Family welfare system

Both national (see Gábos, 2003) and international (see Gábos et al. 2009; Bjöklund, 2007) literature suggests that higher cash grants have a positive impact on fertility in general, consequently welfare benefits may help improve childbirth rates. An efficient and predictable family welfare system promotes family planning. Accordingly, the government has adopted a number of population policy measures since 2010 encouraging people to have children including the re-introduction of the family tax benefit formerly discontinued (Act CXVII of 1995; 2010–2014.kormany.hu¹.) and payment of family allowance subject to school attendance (Act LXXXIV of 1998; State Secretariat for Public Education, 2016). Hungary spends 2% of the GDP on family benefits², which is an outstandingly high rate even in international perspective (e.g. EU-28 allocates 1.7% of the GDP to family benefits) (Eurostat [gov_10a_exp](#)).

In the period between 2015 and 2016, there was a minor change in the current family support measures. The family tax benefit was introduced in 2011 but it has been modified since then including its application for the social security contribution. To further support families with two or more children and encourage parents to have more children, since the beginning of 2016, the government has been providing more benefits to families with at least two children through this measure, following the amendment of Act XXXI of 1997 (Tóth, Medgyesi, Gál, 2017; Act CXVII of 1995; Act CCXXIII of 2015).

In line with the UN's sustainable development goals, the government has made several law amendments to promote the employment rate of people with young children. These amendments allowed access to various family benefits (child care allowance (GYED), child care benefit (GYES)) to working parents of young children. Additionally, since 2016, GYED has also been made available to working parents with children over 6 months replacing the former limit of one year (GYED Extra). The labour market activity of parents with young children is influenced by the widely accepted social norm that parents should stay at home with the children until their 3rd or at least 2nd birthday. The change of this attitude could stimulate the employment of women with young children. The eligibility rules of GYED were modified in 2015 and 2016 as well allowing access to more parents with young children by reducing the required number of days of paid work for the calculation of the amount of the allowance from 180 calendar days to 120 calendar days (Act CXI of 2014; Act CCXXIII of 2015).

Government actions also focused on the demand (employer) side to promote the employment of women with young children. These measures were designed to raise the employment rate of parents of young children as it is currently very low in Hungary on an international scale (Eurostat [lfst_hheredch](#)). Accordingly, in 2015, the rule of proportionality related to part-time employees ceased to be applicable to parents of young children, which means that the basis of the tax benefit is the gross salary with a limit of HUF 100 000 per month (Act CLVI Act XLIV of 2010).

A significant change in this area was the replacement of the pregnancy-maternity benefit (TGYÁS) by the child care fee (CSED) in 2015 (Act XXXI of 1997). CSED is slightly different from TGYÁS, the most

¹ Information on the taxation of families 10/02/2011: <http://2010-2014.kormany.hu/hu/gyik/tajekoztato-a-csaladi-adozasrol>

² Includes family and child benefits only.

important difference being that for the calculation of CSED, parents of young children are only required to have 120 days of paid work instead of 180 calendar days (Act LXXXIII of 1997).

One of the most important changes in the family welfare system is the introduction of the family housing allowance (CSOK) on 1 July 2015 (Government decree No. 256/2011 (6 December)) (kormany.hu³), replacing a former housing allowance (szocpol). This allowance is available for the purchase of new (from 1 July 2008) or used residential property. This allowance includes a reimbursable and a non-reimbursable amount depending on the number of children. In 2016, government decrees No. 16/2016 (February (10)) and No. 17/2016 (February 10) raised the available amount and introduced additional criteria the residential property to be built or purchased has to comply with including the floor space. CSOK has multiple goals including the boosting of the economy and supporting young people to plan and start families (Bálint, Gödri, Makay, 2017). While the real impacts of CSOK are too early to assess, it is fairly popular among young families. In the one and a half years since its introduction, over 34 000 applications have been admitted totalling HUF 81.5 billion (kormany.hu⁴). As not all young families are able to buy or build their own homes even with government support and additionally, as home ownership promotes the mobility of labour to a lesser extent than renting, similar focus should be placed on other channels of housing support for young people starting families (house rental options).

It is worth noting a possible conflict with the aspects of sustainability here. Housing support to promote childbirth is clearly favourable for the human aspect of sustainability. However, if the support criteria do not include environmental requirements (the supported home should be particularly energy efficient, the modernisation of existing housing should be preferred to building new homes, brownfield investment and district rehabilitation should be preferred to greenfield projects, the aspects of the circular economy should be considered [construction is the human activity that uses the most materials and thus the most natural resources]), human sustainability will rise while natural sustainability will decrease.

A concern raised about various family support instruments is that the public is not sufficiently familiar with them, confirmed by a survey conducted by Medián in 2016. This survey showed that familiarity with the various family support instruments was in general lower for all the instruments in 2016 than in 2010. The reasons are varied: there are types of family support instruments to which lower public attention is paid (GYES). Secondly, the name of certain family support measures has changed (e.g. Pregnancy-maternity allowance is now called child care fee). Thirdly, other forms of support received higher publicity, for example for families with three or more children, GYET was replaced by the family tax benefit and later CSOK. (Ignits, Kapitány, 2006; Kapitány, 2015). Low familiarity with certain family support measures is in a large part the result of the excessive complexity of the family welfare system. (Kapitány, Spéder, 2017).

³ A total of 42 000 families have applied for HUF 108 billion to buy or build their own homes, 05/05/2015: <http://www.kormany.hu/hu/miniszterelnoki-kabinetiroda/parlamenti-allamtitkar/hirek/42-ezer-csalad-108-milliard-forintot-igenyelt-mar-otthonteremtesre>

⁴ Even more funds available for housing in 2017, 27/12/2016: <http://www.kormany.hu/hu/emberi-eroforrasok-miniszteriuma/csalad-es-ifjusagugyert-felelos-allamtitkarsag/hirek/2017-ben-meg-tobb-penz-jut-otthonteremtesre>

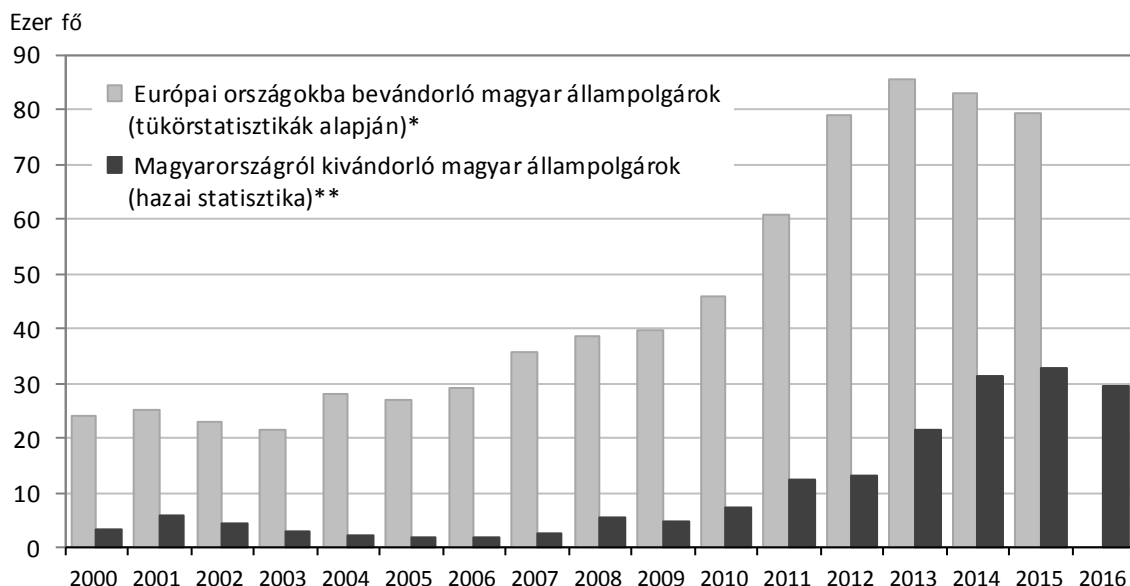
The government decided to amend family and child welfare services – Act XXXI of 1997 amended by Act CXXXIII of 2015 – in order to ensure access to statutory family and child welfare services for people in need in all communities across Hungary from 2016. Pursuant to this law, in each community, the local government operating the mayor’s office or in case of joint local governments, the local government according to the official seat is responsible for the provision of family and child welfare services. Communities above the administrative status of districts are required to establish and maintain family and child welfare centres. The amended law facilitated the integration of family and child welfare organisations in communities (family welfare services, health visitors).

In summary, both the number of the various forms of family support and the available funds have significantly grown since the adoption of NSSD. These family support forms are designed to promote childbirth, the labour market integration of parents of young children and to improve the financial and housing situation of families. The impacts of these family support measures may be improved by more effectively informing the public about them.

Migration

Demographic trends in Hungary are affected by both emigration and immigration. The number of foreign citizens in Hungary was over 150 000 at the end of 2016 (KSH – STADAT [i_wnvn001b](#)) including primarily Romanian, German and Chinese nationals. In line with the recent international trends – mainly the refugee crisis due to the civil war in Syria –, the number of migrants arriving in Hungary and applying for refugee status has grown and approached 2000 (1833)⁵(Data from the Immigration and Asylum Office). The number of Hungarian citizens moving to another country has considerably risen since Hungary joined the Schengen area totalling around 80 000 since 2012 based on mirror statistics and has been slightly decreasing since 2015 (Figure4).

Figure 4: People emigrating from Hungary and migrating into another European country



Source: *Eurostat database (last update: 26 May 2017), combined with German (DESTATIS) and Austrian (Statistik Austria) data from 2009; **KSH, Demographic Yearbooks (until 2009, personal data and permanent address records of the Central Office for Administrative and Electronic Public Services (KEKKH), after 2010, based on social security number records of the National Health Fund (OEP)), Bálint – Gödri – Makay, 2017.

⁵ Persons holding identity cards

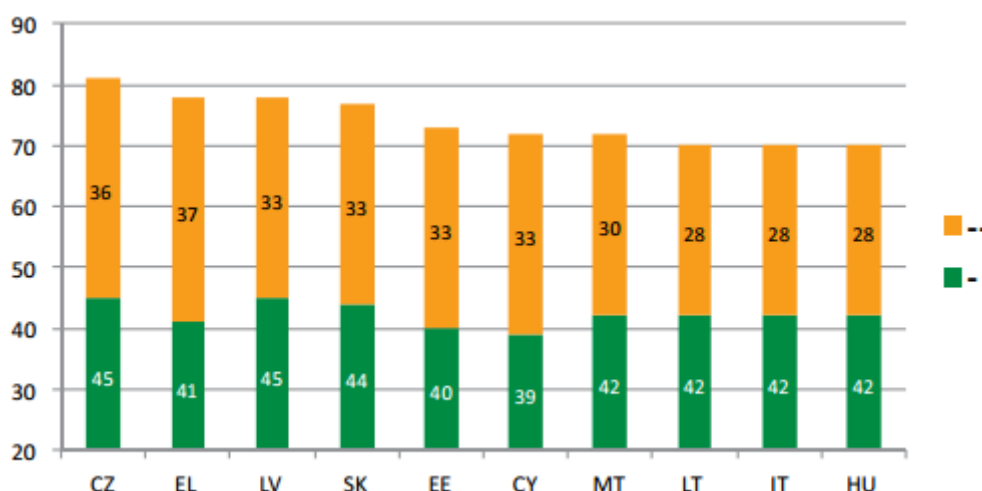
Note: Aggregate number does not include data from the United Kingdom after 2006 and from France after 2000.

Based on mirror statistics, the number of Hungarian nationals living in foreign countries was 330 000 at the end of 2014. These people lived in various countries across the European Economic Area (Gödri, 2015) and their number rose to 420 000 by January 2016, which represents a growth of 27% in two years. Three-fourths of these people lived in one of the three main destination countries: in Germany (40%), in the United Kingdom (20%) and in Austria (15%) (Bálint, Gödri, Makay, 2017, p. 49).

As the result of the refugee crisis escalating in recent years, migration has become one of the most pressing social and economic issues in Europe. The critical importance of this issue is also highlighted in the European Commission’s study in 2016 and 2015 monitoring public opinion, which is at the centre of an in-depth analysis by Tárki Research Institute made in 2016. (European Commission 2016; Simonovits et al, 2016). As Hungary, a country located on an external border of the European Union, is particularly affected by this trend, addressing migration is a major challenge for the country. Additionally, special attention must be paid to Hungary’s negative migration balance, which has an adverse impact not only on social but also on economic trends in a country.

As the result of the ongoing refugee crisis starting around the end of 2014 and the beginning of 2015 and significantly affecting Hungary, public sentiment toward migration is rather negative and has worsened since the previous report. This is confirmed by the study compiled by TÁRKI Research Institute in 2016 based on the European Commission’s EU28 survey monitoring public opinion in 2015 (Simonovits et al. 2016; European Commission 2015). Based on surveys, 56% of the Europeans and 70% of Hungarian citizens have negative feelings toward the immigration of people from outside the EU, which is lower than in many other EU countries including the Czech Republic, Latvia and Slovakia where this indicator is close to 80% (Figure5).

Figure 5: Rate of people having negative feelings toward migrants from outside the EU among the ten highest scoring EU countries.



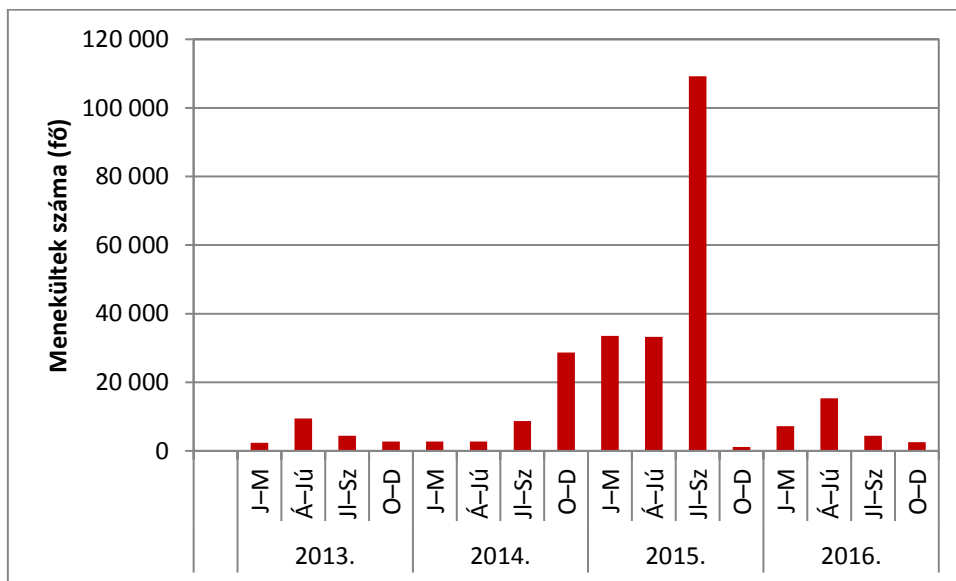
Source: Simonovits et al. 2016

Symbols explained: „-“ is very negative, „-“ is negative. Country abbreviations: CZ: the Czech Republic, EL: Greece, LV: Latvia, SK: Slovakia, EE: Estonia, CY: Cyprus, MT: Malta, LT: Lithuania, IT: Italy, HU: Hungary. The interview question was the following: Please tell me if you think migration from outside the EU has a positive or negative impact.

National institutes of public opinion have also found that the majority of Hungarian citizens reject migrants from outside the EU and resent illegal migration (Nézőpont Institute, 26/09/2016; Ipsos 11/08/2016; Századvég 18/01/2016).

To address this issue, Hungary’s government started to build a border fence in 2015 to divert irregular migration away from Hungary. After the fence on the Serbian border had been completed, higher numbers of refugees arrived in Hungary but after the construction of a fence along the Croatian border, their number decreased. In the meantime, instead of stopping migrants, the fence diverted them into other directions as refugees primarily considered Hungary and other countries in the region as transit countries (Juhász, Molnár, 2016; Bálint, Gödri, Makay, 2017). The change regarding the processing of asylum applications outside of the fence may have also contributed to the decline of asylum seekers (Act CXXVII Act XLIV of 2010). As KSH data reflect, the number of asylum applications submitted by refugees arriving in Hungary clearly shows a sizeable reduction in the number of refugees arriving in Hungary as the magnitude of the asylum applications was definitely smaller in 2016 than in 2015 (Figure6).

Figure6: Number of asylum seekers arriving in Hungary between 2013 and 2016



Source: KSH - STADAT [e_wnvn001](#)

Since the previous monitoring report, the number of foreign nationals residing in Hungary has grown totalling over 150 000 (KSH – STADAT [i_wnvn001b](#)). It is, however, worth noting that there was a decline between 2011 and 2013 explained by a new decision allowing people with Hungarian origin living in other countries to apply for Hungarian citizenship from 2010 and by the adjustment of 2012 data by the results of the census in 2011 (Bálint, Gödri, Makay, 2017; Act XLIV of 2010). Due to the above mentioned possibility of Hungarian citizenship, people living in neighbouring countries and having also Hungarian citizenship are not included in the statistics of the specific country (e.g. Romania). Additionally, Hungary does not appear to be a primary destination of immigration reflected by the rate of foreign citizens in the population not even reaching 2% in 2016, which is a modest number compared to the more popular and inclusive Western European countries such as Sweden or the Great Britain (Eurostat [migr_pop1ctz](#)). (Bálint, Gödri, Makay, 2017). A notable fact is that the EU

failed to propose a comprehensive European strategy to address migration in the period under review either (European Commission, 2017a).

The other challenge Hungary is facing in connection with migration is the migration of our workforce abroad. The employment of Hungarian citizens in foreign countries is critical for Hungary as a number of studies have recently shown that primarily higher skilled young people leave to work abroad leading not only to shortages of skilled workers but also higher pressure on the health and social care system and adverse demographic trends. To prevent their employees from leaving to work abroad, companies have raised wages applying a solution recommended in the previous monitoring report (Bodnár, Szabó, 2014; Hárs, 2016; NCSO, 2015). The countries where Hungarian workers go to work have remained the same in recent years with Germany, Austria and the Great Britain being the primary destinations. The number of Hungarian people working abroad has further risen in recent years; while 350 000 were estimated to work in foreign countries at the beginning of 2013, 520 000 were estimated to be employed outside of Hungary in 2016. Based on various data, the rate of Hungarians returning to Hungary has grown in recent years, which is a positive trend but there are no accurate numbers as records are only kept about people who register in the health security system both at the time of their departure and return (Bálint, Gödri, Makay, 2017).

In summary, Hungary has faced tremendous migration pressure in the last two years as the result of the refugee crisis. Reflecting the dominant public opinion, the Hungarian government used its own strategy to tackle this issue while the EU has so far failed to adopt a comprehensive position about the problem. To mitigate emigration, a number of – government and business – schemes have been started recently increasing the rate of Hungarians working abroad returning and lowering the number of people leaving but further action is needed. Hungary needs a carefully designed migration strategy to respond to the decreasing number of children and shortages of workers in order to fill in the demographic gap resulting from the trends described.

5.1.4.2 Education and knowledge

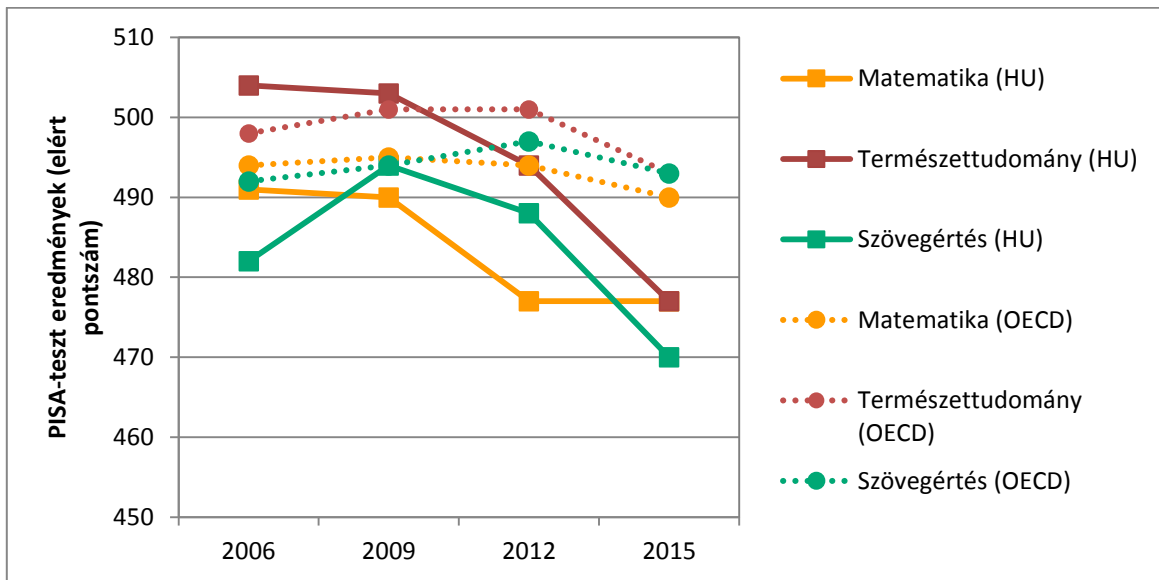
As education is the most important aspect of socio-economic development, an efficient education system is indispensable for sustainable growth. To ensure efficiency, special focus must be placed on the quality of education and its optimisation as the knowledge base of a society dominantly influences the direction of growth, environmental awareness, consumption and innovation.

Changes in student school performance

Changes in the performance of students at school reflect the quality of education delivered by a country's school system. The quality of education is assessed by a number of international organisations in a number of international tests including the PISA assessment conducted in OECD countries, which offers comparability on international level for Hungary. This international test assesses student performance in three key areas (science, mathematics and reading comprehension). These three key areas are equally important for a person's employability, further education and training and private life. The declining trend identified in the three key areas in 2012 has further deteriorated in reading comprehension and science and remained unchanged in mathematics (Figure7) (OECD, 2016a).

The PISA assessment also indicates the rate of low-performing students. Low performers are students failing to reach level two of proficiency.⁶ As for Hungary, compared with the previous report, the results of our students have declined in science and reading comprehension and remained unchanged in mathematics. The rate of low performers in all three areas was over 25%, which is worse than the OECD average by multiple percentage points. The gap between the performance of Hungarian students and the OECD average was 4.6 percentage points in mathematics, 4.7 percentage points in science and 7 percentage points in reading comprehension (Figure8) (OECD 2016).

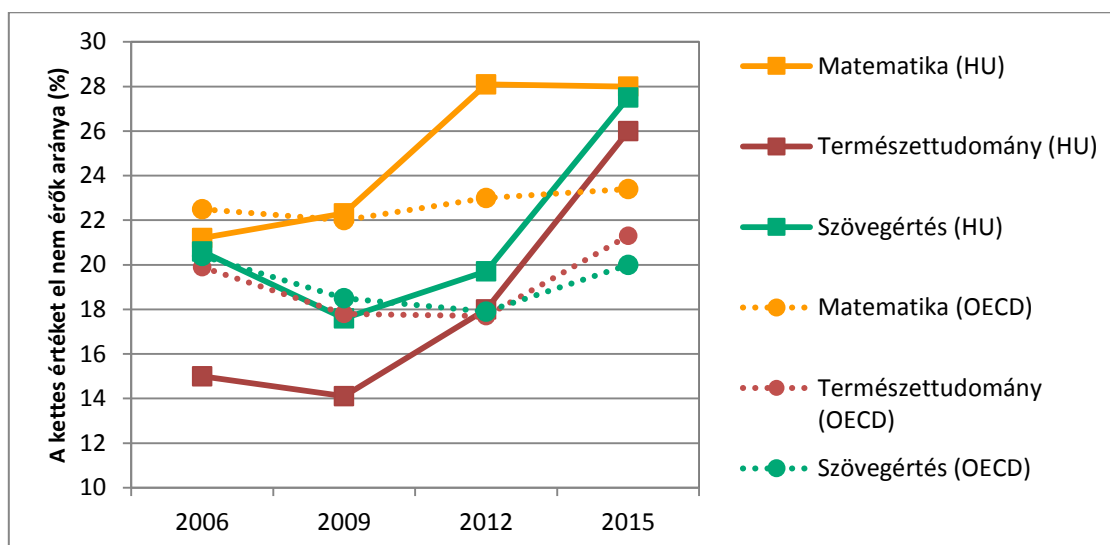
Figure 7: PISA results in Hungary and across OECD countries on average in selected locations between 2006 and 2015



Source: OECD 2007, OECD 2016.

⁶ The OECD classifies the score points of 15-year-old students on a scale from 1 to 6. On this scale, levels 1a and 1b are below the baseline and students in this category are classified as low-performers.

Figure 8: Rate of students performing below level 2 in PISA assessment in Hungary and across OECD countries on average, 2006–2015

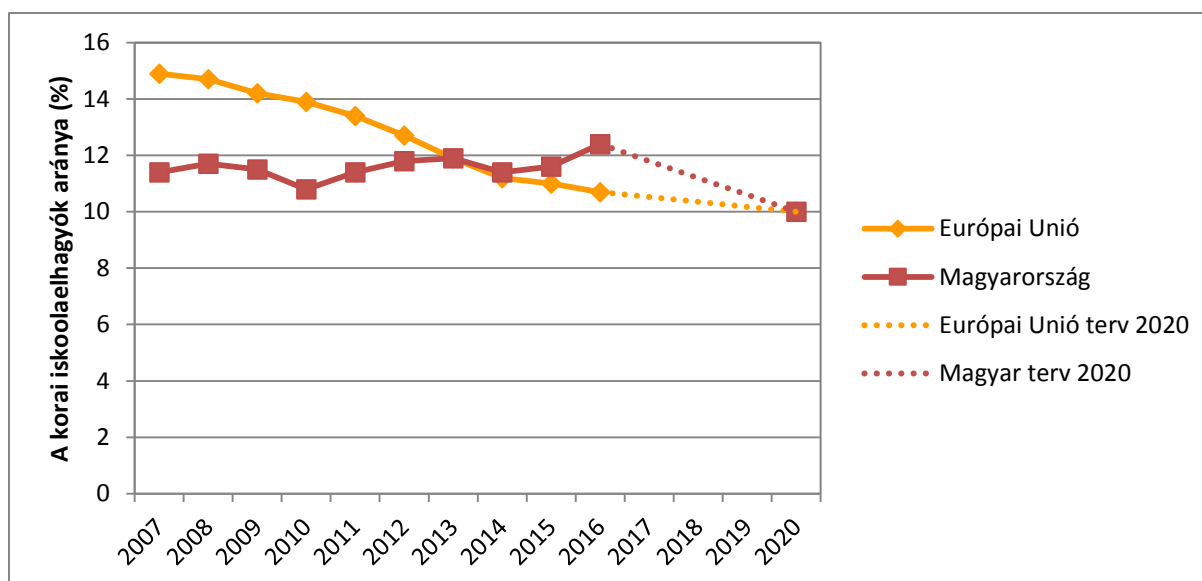


Source: OECD 2007, OECD 2016.

This negative tendency is not primarily the result of the knowledge acquired but of the poor application of this knowledge as the problem solving skills of Hungarian students is significantly worse than the OECD average, which indicates learning methodology problems (Csapó, 2017).

The PISA assessment is designed to evaluate the quality of education systems through student performance but is not intended to improve the quality of education. Both the EU and the United Nations are committed to improving the quality of education reflected by a range of related objectives and targets in various documents. The EU 2020 aims to reduce the early school leaving rate below 10%, a goal also set out in NSSD. In Hungary, the early school leaving rate rose from 11.4% in 2014 to 12.4% (Figure9), declining 1 percentage point (KSH [indi2_2_4](#); Eurostat [[edat_lfse_14](#)]). The reasons include child poverty affecting primarily disadvantaged – especially Roma – families. Disadvantaged people have been increasingly compelled to find unskilled jobs, also promoted by the reduction of the school leaving age to 16 (European Commission 2016a; Hermann, Varga, 2012). The threats posed by the reduction of the school leaving age were already highlighted in the previous monitoring report (NCSD, 2015). Consequently, the rate of young people entering the labour market lacking the most fundamental competences and skills is growing (Csapó, 2017) leading to growing challenges in their employability (KSH, 2011).

Figure 9: Early school leaving rate in Hungary and the EU between 2007 and 2016



Source: Eurostat [\[adat lfse 14\]](#)

Related to the previously described trends is the changes in government spending on education in recent years. Between 2008 and 2013, public spending on education relative to GDP decreased but it rose in 2014 and 2015 (KSH [indi2_2_2](#)). The impacts of higher amounts spent on education will not be measurable until a few years later (Kezdi, Szabó, 2016)

In summary, the performance of students at school and early school leaving rates in Hungary are determined by the family background of students (Szepesi, Herczeg, 2017), the government spending on education relative to GDP and the applied learning methodologies. At present, negative tendencies affect all the various areas of education but the family welfare system and the growth of education spending relative to GDP may help improve these trends.

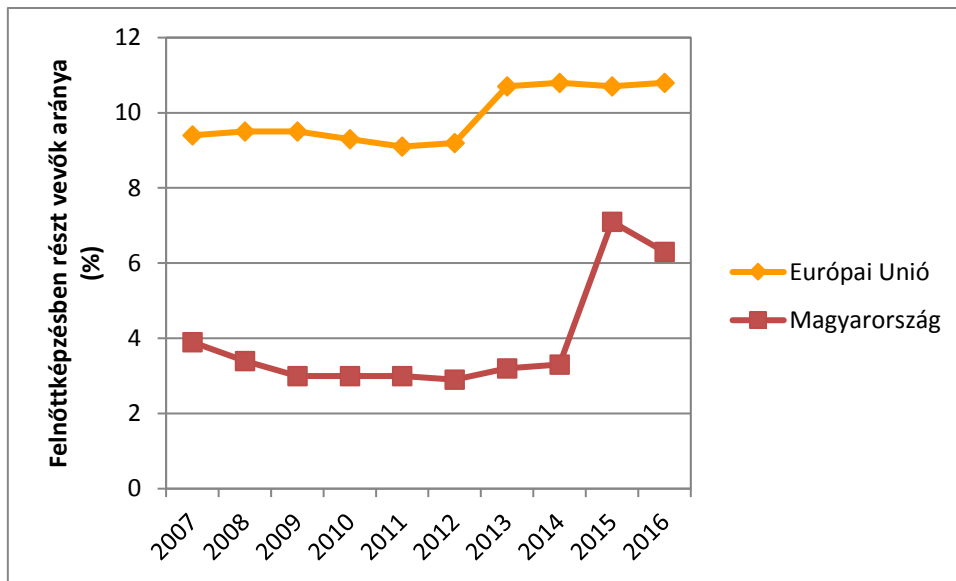
Lifelong learning

Nowadays, the term, knowledge based society is an apparently normal routine in the majority of developed countries. Both market and public players agree that formal education in schools is not always sufficient to address the potential challenges. Along with the school system, the potential of adult education also needs to be utilised.

Since the previous report, the number of Hungarian adults participating in adult education has considerably risen. This is primarily due to the methodology revised in 2015⁷ and the vocational programmes started after 2014. As the result of the new methodology, data from 2015 are not comparable with data from previous years but government measures led to the rate of the population aged 25–64 in adult education grow to 7.1% by 2015 then fall to 6.3% by 2016 helping Hungary approach the EU average (Figure10).

⁷ In 2015, new questioning techniques were introduced in order to collect more efficient and accurate information about adult education. These changes triggered a radical increase of the indicator preventing the data from 2015 from being compared with data from previous years

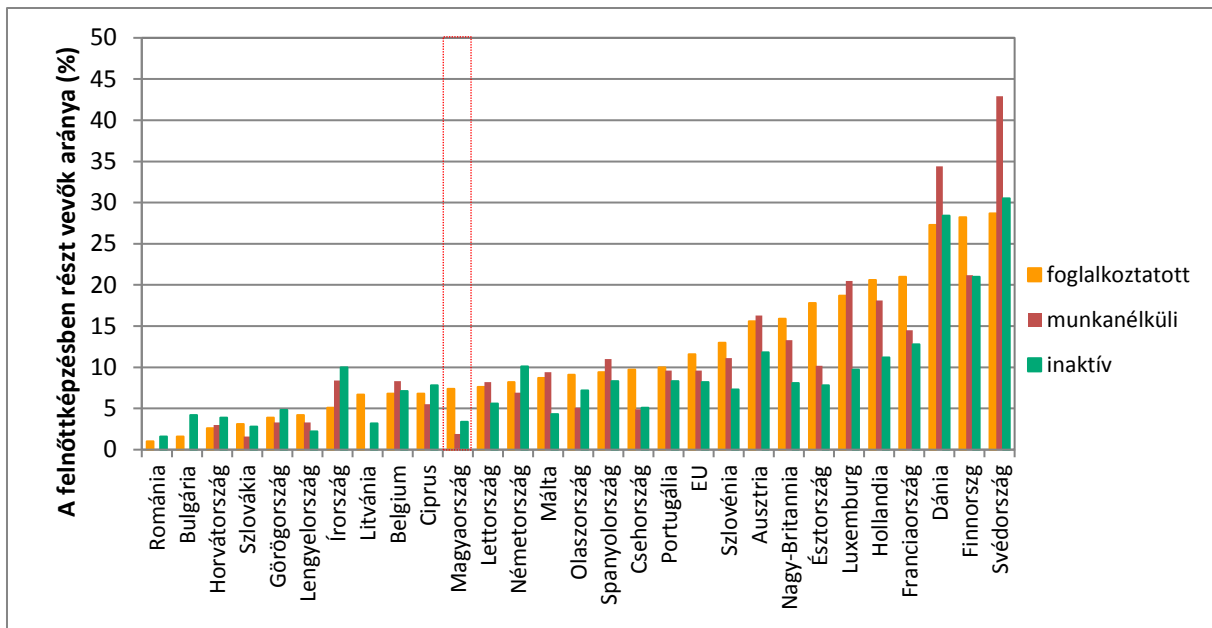
Figure 10: Rate of population aged 25–64 in adult education in Hungary and the EU between 2007 and 2016



Source: Eurostat [[trnq_lfse_02](#)]

Data divided based on employment show that the growth since the previous report has primarily affected the active population while the indicator has declined for the unemployed population and remained unchanged for the inactive population. In order to remain professionally up-to-date – higher skilled workers are more motivated to continue to learn –, maintain their competitiveness and to be able to respond to new challenges, the active population participate in adult training in higher numbers than the two other groups. Hungary has made huge progress compared to other EU countries as well moving from place 24 to place 18 (Figure11). Meanwhile, there has been no improvement concerning unemployed people as there were smaller funds dedicated to training unemployed people than active people or participants in public employment programmes. The EU provides funds to train unemployed people as well but the majority of unemployed people are low skilled or unskilled (63.2%) (KSH – Information Database) who are much less motivated to study than higher skilled people. This lower degree of motivation is dominantly the result of social circumstances such as family background and lack of self-confidence (Nyilas, 2017). As the recent rise in the early school leaving rate will further worsen the already gloomy situation, trainings should be made more appealing in order to improve the rate of unemployed people participating. It is important to raise the funds dedicated to training unemployed people and to put more focus on trainings as one of the active labour market measures.

Figure 11: Rate of population aged 25–64 in adult education based on employment in the EU in 2016



Source: Eurostat [trng_lfse_02]

In summary, adult education appears to be more popular among Hungarian employees and employers but the rate of unemployed people in adult education programmes remains low. This trend is determined by the availability, the inadequate publicity and appeal of the programmes as the majority of low skilled workers fail to attend the trainings designed to meet their specific needs. In order to promote the integration of the unemployed into the labour market, the number of government-funded training programmes (OKJ) is constantly rising (494 in 2014, 562 in 2016; website of the National Office of Vocational Education and Training and Adult Learning). Apart from government measures, the private sector also offers training programmes to employees and unemployed people but some may not be able to afford them. Additionally, the lack of programmes supporting special needs workers also hinders the employment of low skilled unemployed people. If appropriate responses are given to these issues in the near future, it may have a positive impact on Hungary's knowledge base.

Changes in Hungary's education system, efficiency improvements

A number of reforms have been made in Hungary's education system in recent years. These reforms equally intend to improve the efficiency of education and the society's factual knowledge. As the majority of these reforms have been implemented in the last few years, their impacts may not be definitely identified; only their implications may be assumed based on certain professional documents but in the meantime there are former changes whose effect occurred in the previous period.

Following the education policy reform in 2010, the government moved educational institutions from under local into central control; they are now operated and funded by KLIK (Klebsberg Institution Maintenance Centre). These reforms have failed to improve the quality of low performing schools but led to a decline in quality delivered earlier by schools that used to have access to larger financial resources explained by the inability of richer schools to offer better conditions and other extras. The

poorer performance of the schools that used to have access to more funds resulted in a shift of educational institutions to align on a lower level (Jakab, Urbán, 2017).

The provision of Act CXC of 2011 requiring four hours of preschool education every day for all children over 3 came into force in September 2015. This measure could help improve the prospects of children growing up in disadvantaged families by potentially extending the time spent in formal education and could reduce inequalities but the impacts will only show in the future (Tóth, Medgyesi, Gál, 2017).

OECD conducts a triennial survey in its member states and partner countries testing 15-year-old students to evaluate the efficiency of public education systems. The results of the 2015 assessment shows that the efficiency of our education system has further declined, i.e. the recent reforms have failed to deliver the desired effects. The factors affecting this trend include that parents choose schools for their children over 10 based on the child's performance leading to differences between the various types of secondary schools. Moreover, the performance of students from more advantaged homes is better than of children from less advantaged backgrounds (Education Office, 2016). As a result of the government's desegregation and education policy, more and more institutions – such as religious schools – introduce the integrated education of Roma and non-Roma children (Kallai, Papp, Vízi, 2017).

In response to the needs of Hungary's labour market, the government launched the dual training programme in tertiary education in the 2015-2016 school year. (Government Decree (No. 22/2016 28th August); European Commission, 2016a). The dual training programme means that students are placed for a specific part of their practical training in companies helping increase the work experience and professional competence of participants. Along with dual training, the government also reformed vocational education from the 2016-2017 school year. The curricula and the names of the institutions of secondary public education changed: secondary vocational schools are now called vocational grammar schools, apprentice training schools are now called vocational schools and special apprentice training schools are now called apprentice training schools (No. 22/2016 Decree of the Ministry of Human Resources (24th March). One of the most notable changes is that vocational grammar schools require students to take school leaving exams in their vocational subjects as well from 2017, which will correspond to certificates granted by the government-funded training programmes (OKJ). As these changes have failed to be gradually rolled out, the time available for students taking their school leaving exams in 2017 was shortened. Due to the time of their introduction, the impacts of these measures will not be measurable until a few years later.

In 2013, the government started the largest pay rise programme for teachers after the regime change, which will cause the wages of teachers to go up by nearly 50% between 2013 and 2017. (kormany.hu⁸). Between 2013 and 2016, the wages of white collar workers in the education sector – dominantly teachers – rose overall by 29%, based on KSH data (KSH-STADAT [i_qli034](#)). The functional teacher career path model – designed to raise the wages of teachers – has failed to deliver the desired effects. In many areas including most importantly science, there are shortages of labour (European Commission, 2016a).

⁸ *Wages paid to teachers rise again from September, 06/01/2016: <http://www.kormany.hu/hu/emberi-eroforrasok-miniszteriuma/hirek/szeptembertol-ismet-nonek-a-pedagogusberek>*

Another important change is that the government assumed control of all public education institutions which had been in the authority of local governments, which further centralised public education. Centralisation efforts lead to the addition of 58 school district centres to the institution maintenance system. These changes allow school principals to decide which teachers are eligible for higher rise of wage supplement based on their performance (European Commission, 2016a).

The necessary human resources to achieve sustainability should be ensured primarily through the recognition of knowledge and work as well as the improvement of the quality of education by quality assurance programmes, which essentially requires support from higher education and academic research. A particular obligation of all higher education institutions is to implement sustainability as a horizontal principle in all their programmes. It would also be important to differentiate the appraisal of scientific achievement (beyond the number and citations of publications) considering the aspects of research ethics and the public good.

In summary, the current education system does not fully support the achievement of the objectives of NSSD; further measures are needed to improve the early school leaving rate and the quality of education. The accurate assessment of the impacts of the recently transformed education programmes will only be possible in the years to come.

5.1.4.3 Health

A person's health and lifestyle determine healthy life expectancy at birth and the prevalence of chronic non-communicable diseases. As various environmental hazards (e.g. sunlight, air pollution) or unhealthy lifestyles adversely affect people's health, it is extremely important to address these issues and to prevent the related diseases, e.g. by healthy eating habits. Measures designed to promote good health are expected to increase the number of healthy years and reduce health expenditure. In Hungary, the majority of health related indicators – healthy life expectancy at birth and chronic non-communicable diseases – have been declining since the previous monitoring report. In order to analyse these negative trends, the health conscious lifestyle of Hungary's population is required as this may offer background information about some of the tendencies.

The basis of health conscious lifestyles is the correct self-perceived health status. The majority of Hungary's adult population are satisfied with their health status or perceive it as fair, which contradicts reality. While men tend to have a much better perception of their health, women appear to care more about their health in general and live trying to avoid risks to a higher degree than men, in which group, the prevalence of substance abuse (smoking, drinking), excess weight and obesity is significantly higher. Behavioural patterns more typical in men explain the higher mortality rate of men, which entirely contradicts their self-perceived health status. On EU level, the rate of people satisfied with their health has not changed since the previous report: 59.8% of the men (99.6% of Hungarian men) and 48.9% of women (32.5% of Hungarian women) perceived their health as good or very good. Naturally, self-perceived health is affected to a great extent by a person's financial situation and educational attainment level (Oberfrank, 2017).

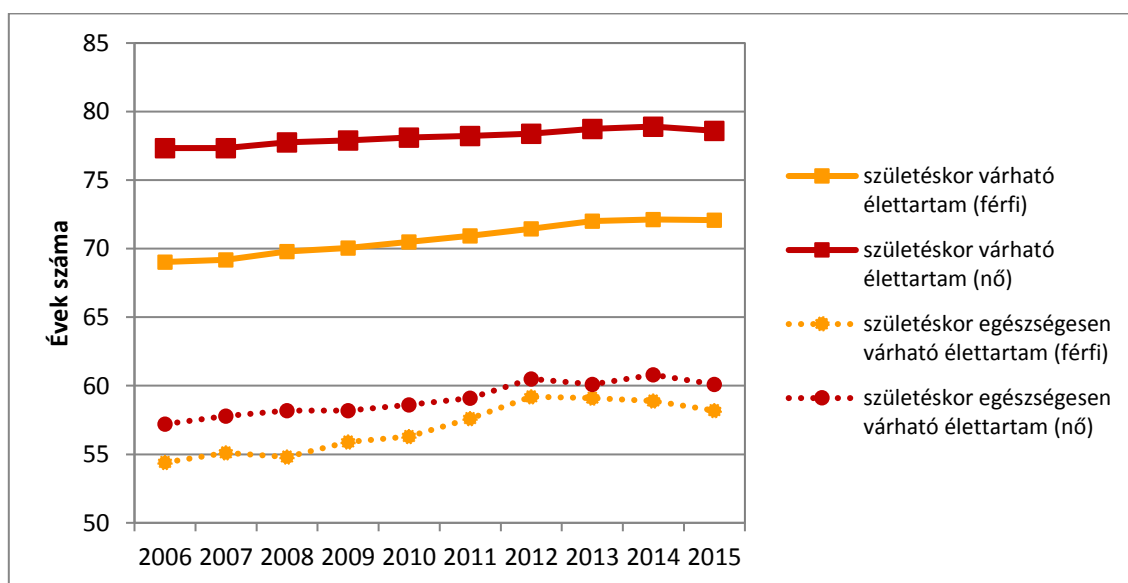
Accordingly, Hungary's government continued to implement the prevention programmes, measures, and the education of the public about products adversely affecting health and to improve the health care system started before 2015-2016 in the period under review as well. These measures include the public catering programme effective since 1 September 2015 (Decree No. 37/2014 of the Ministry of Human Resources (30th April)) aimed at serving healthy food to children in public education facilities and promote healthy eating habits. In 2015, the government – besides other minor changes in the health care system – made further improvements in basic care that accelerated tests conducted on potential cancer patients by allowing them access to services within 14 days. Nevertheless, the health education of the public remains incomplete, people are exposed to intolerable stress at work, in the society and in the family, public funds available for health care are insufficient, the total reconstruction of medical facilities has not been performed, and certain professions and devices are significantly outdated and have declined. (Oberfrank, 2017).

Changes in life expectancy at birth

Besides being a key measure of a country's socio-economic development and the health status of the population, life expectancy also sheds a light on mortality patterns. In recent decades, modern medical treatments and devices have helped increase life expectancy at birth in Europe as well.

In Hungary, life expectancy at birth slightly decreased by 2015 compared to 2014 potentially explained by a spike of deaths caused by a flu epidemic at the end of the year. The flu epidemic and the associated complications of circulatory and respiratory diseases mostly affected the elderly population and caused higher mortality in women (Bálint, Gödri, Makay, 2017). As the result of the flu epidemic affecting women to a greater extent, life expectancy at birth for women decreased by 0.3 year (78.61 years) and for men by only 0.04 year (72.09 years) in 2015 (Figure 12) but the indicator improved in 2016 for both genders exceeding the value included in the previous report. Life expectancy at birth for women rose to 79.21 years and for men to 72.43 years. (KSH – STADAT [h_wdsd001b](#)).

Figure 12: Changes in life expectancy at birth in Hungary between 2006 and 2015



Source: KSH – STADAT [h_wdsd001b](#), Eurostat [hlth_hlye](#).

On European level, Hungary ranks in the bottom third concerning life expectancy at birth and also fails to take a good position in Central Europe. We are lagging behind the EU average by 4.9 years, which is slightly smaller than in 2013. The gap between Central Europe and Hungary has narrowed as the region has experienced a larger decline than Hungary (Eurostat [tps00025](#)).

Since 2014, healthy life expectancy at birth has equally **declined** for women (60.1 years) and men (58.2 years) in Hungary. Our position in the Central European region has not changed as the Czech Republic has experienced a decrease both for women and men, Slovakia has reported growth for women and a decrease of equal size for men while Poland has seen a slight increase both for women and men. In the EU, healthy life expectancy at birth has grown by 1.8 years for women (63.3 years) and 1.2 years for men (62.6 years), i.e. the **gap** between the EU average and Hungary has **widened** (Eurostat [hlth_hlye](#)).

In summary, life expectancy at birth was higher for both genders in Hungary in 2016 than in 2014 confirming that the decline in 2015 was a single occasion but we are still significantly lagging behind other countries in the EU. As regards healthy life expectancy at birth, Hungary's position did not change compared to other countries in the region but the gap between the EU average and Hungary widened. These data consequently show that Hungary has not made any progress in the past two years towards achieving the strategic objective.

Tobacco, alcohol and drug use

Smoking as a behaviour with adverse impact on health affects a large fraction of Hungary's population as nearly every third adult is a casual or daily smoker. Based on the tendencies of recent years, the rate of smokers fell by both 2012 and 2014, which is primarily the result of a decline in smoking by men. If divided by gender, the rate of male smokers is higher (KSH, 2015a; OECD, 2014; Eurostat [hlth_ehis_sk3e](#)). According to WHO estimates, the standardized death rate (SDR) linked to smoking per 100 000 is over two times higher in Hungary (387.3) than in other EU member states on average (175.53) (KSH, 2017e). Data are not available for 2015 and 2016 but only a slight decrease is predicted for smoking if any (Oberfrank, 2017).

Alcohol consumption as a behaviour adversely affecting health is also a serious problem in Hungary. A large fraction of Hungary's population (63%) drinks alcohol at least on rare occasions while the rate of heavy drinkers is 4.6%. (KSH, 2017c; Oberfrank, 2017). In 2011, the standardized death rate linked to alcohol was nearly two times higher (100.43) in Hungary than the EU average (57.18) (KSH, 2015a). Data are not available for 2015 and 2016 but as no significant improvement is predicted for the next few years in Hungary, progress toward the objective defined in NSSD has not been made (Oberfrank, 2017).

According to some surveys, as many as one in ten Hungarian adults may have already tried drugs while the rate of young adults (aged 18–34) is at least two times higher but it is even more frequent in the younger generation (a survey from 2014 found that 18.7% of students in grades 9–11 have already tried marijuana). Along with illicit drugs (most frequently marijuana), the combined use of legally available sedatives/sleeping pills and alcohol is also very common. It is a significant cause for concern

that the number of necessary medical treatments due to the so-called designer drugs has increased; their use has become more intensive and the age of users has fallen. (National Drug Focal Point, 2016)

Reduction of the number of chronic non-communicable diseases

Chronic non-communicable diseases are hypertension, ischaemic heart disease, diabetes mellitus, asthma and obesity. With regards these diseases, Hungary is classified as an “unhealthy” country. The most prevalent diseases are the disorders of the circulatory system, in particular hypertension. (Oberfrank, 2017). Between the previous monitoring report and 2015, the number of all the chronic non-communicable diseases further grew. Between 2001 and 2015, the prevalence of ischaemic heart disease and diabetes mellitus rose by 76% and 113% respectively while the number of asthma patients more than doubled (KSH, 2017e).

The leading cause of death linked to chronic non-communicable diseases was diseases of the cardiovascular system in recent times in Hungary followed by cancer and respiratory illnesses for both sexes. The fourth most common cause of death for women is linked to gastrointestinal diseases while for men, it is linked to the external causes of morbidity and mortality (6%) and gastrointestinal illnesses (6%). Between 2005 and 2013, most of these problems improved in Hungary but the gap between Hungary and the EU average in a number of diseases considerably widened confirmed by Eurostat data from 2014 (Eurostat, [hlth_cd_aro](#),) (Bakacs et al. 2017).

Health care workers

In addition to the availability of the necessary infrastructure, health care workers are similarly important players of the health care system as their expertise and experience significantly affect the health and mortality of Hungary’s population. **Between 2014 and 2015, the overall number of health care workers substantially fell with an especially high drop of 2716 in the number of doctors (Table1).** Another issue is that this sector has been affected by ageing for years now. According to the license registry, the age-based division of physicians shows that 26.1% of all registered physicians are below 40, 43.4% are aged 40–60 and 30.5% are over 60 years of age (National Health Care Services Centre (ÁEEK), 2016, p. 29)

Table 1: Changes in the number of health care workers between 2011 and 2015

Qualification	2011	2012	2013	2014	2015
Medical doctors	29462	30529	31454	32801	30085
Dentists	5226	5580	5892	6206	5769
Pharmacists	6976	7193	7544	7598	6962
Clinical professionals	803	872	979	998	1057
Health care professionals	93961	93997	97165	97372	96249

Source: General Directorate of Human Resources Development (ENKK), 2016

The **migration** of health care workers is a long-standing global phenomenon that affects Hungary’s health workforce as well. The reasons are partly related to the wages paid in this sector and the available health care infrastructure. These professionals move to countries where they find higher wages and better conditions in the health care system than in Hungary (Eke et al, 2009). Migration due to low wages or departure from the medical profession primarily affect young doctors partly explained by the fact that positions in the health care sector only become vacant when someone dies or retires

(Varga, 2015). Official data show that the number of people planning migration declined as the quantity of official certificates issued to Hungarian citizens and required for employment in a foreign country fell from 635 in 2014 to 532 in 2016 (ÁEEK data, available at: <http://www.enkk.hu/hmr/index.php/migracios-statisztikak/eves-statisztikak>).⁹

The number of vacant positions in the health sector remains high (Oberfrank, 2017). As labour shortages total approximately 2000 (Lantos, 2017), further interventions and investments are necessary.

In response to the growing rate of migration among health professionals, the government have recently made efforts to modernise the health infrastructure and raise the wages of health care workers and continued to implement the medical programmes – colorectal screening by family doctors and cervical screening health visitors – launched in the previous period. In 2015, primary care physicians were offered access to an additional grant to be able to buy practice rights and a wage supplement was provided to young specialist doctors in the “Support Programme for Young Specialist Doctors” (Government Decree No. 162/2015 (30th June)) (Ajtónyi et al. 2016). Between 2010 and 2015, the wages of doctors, health professionals and other health professionals rose by 46%, 26% and 25% respectively, i.e. the wages of health care workers went up by 30% on average (ENKK, 2016). From September 2016, the government raised the wages of health care workers in a multi-phase system (Government Decree No. 256/2013 5th July) (Chamber of Hungarian Health Professionals, 24/06/2016).

5.1.4.4 Social structure and social cohesion

Rate of people at poverty risk or social exclusion

Member States have agreed to reduce the number of people living in severe material deprivation and social exclusion and the number of people at high risk of poverty and social exclusion by 20 million throughout the European Union by 2020. Hungary has accordingly agreed to reduce the number of the affected population by 450 000 to 2.38 million.

The EU 2020 strategy uses three indicators to assess the efficiency of the fight against poverty and social exclusion:

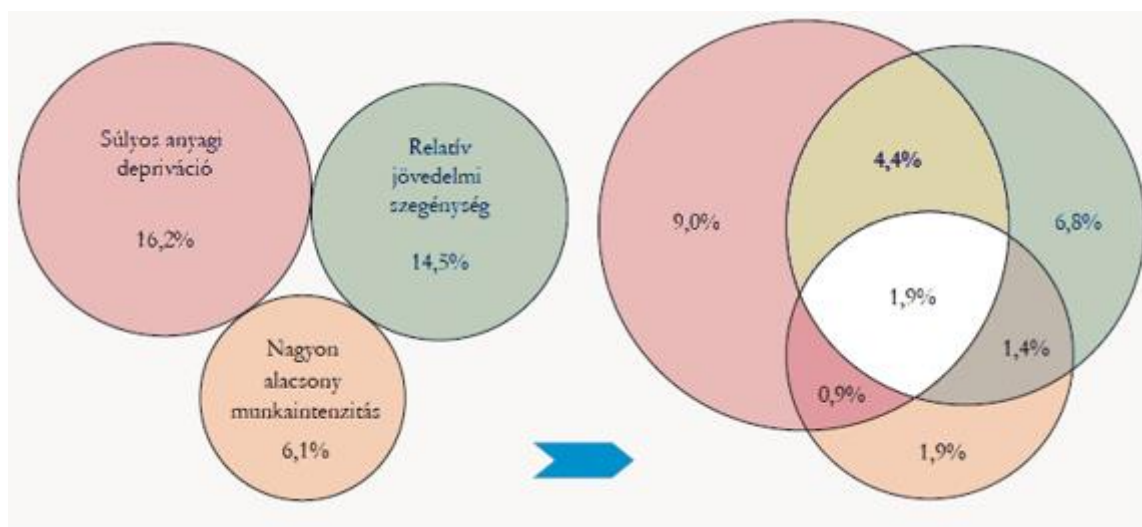
1. Relative income poverty: the equalised disposable income in a household is lower than the poverty threshold
2. Severe material deprivation: the household is affected by problems defined by a total of nine fundamental indicators or the lack of assets
3. Low work intensity: the working-age members of the household worked maximum 20% of their potential in the reference year.

⁹ Offers only a weak estimation for the number of health professionals working abroad because it does not imply the actual employment in a foreign country and it includes foreign citizens studying in Hungary and university students as well.

The resulting headline indicator equally reflects professional aspects and the political compromise of member states as there are significant differences across the member states regarding these three components. This allows the identification of the indicator that has the highest impact on the headline indicator in each member state (NCSD, 2015). In Hungary – similarly to most Central and Eastern European countries –, the rate of people living in severe material deprivation is the highest (16.2%) (Branyiczki, Tóth, 2017). Based on KSH’s publication “Household Living Standards 2016”, the composition of people living in poverty or social exclusion has changed as follows (Figure 13). The rate of population affected by severe material deprivation, relative income poverty and very low work intensity is 16.2%, 14.5% and 6.1% respectively. The overlaps of the various categories show that 1.9% of the population is affected by all the three problems while 6.7% are affected by two disadvantages, which means that 8.6% of the people are in the most severely affected group. In total, 26.3% of the population are at risk of poverty or social exclusion.

Based on Eurostat data, the rate of people living in poverty or social exclusion has declined from 31.8% in 2014 by 8.5 percentage points to 26.3% (Table 2). While data for the EU 28 are only available until 2015, the gap between Hungary’s rate and the EU average is shrinking having decreased from 7.4 to 4.5 percentage points between 2014 and 2015.

Figure 13: Single and multi-dimensional presentation of the rate of people at risk of poverty or social exclusion, 2015



Source: KSH, 2016a, p. 16

Table 2: The rate of people living in poverty or social exclusion in the EU and Hungary, 2007–2016

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
European Union	n.a.	n.a.	n.a.	23.7	24.3	24.7	24.6	24.4	23.7	n.a.
Hungary	29.4	28.2	29.6	29.9	31.5	33.5	34.8	31.8	28.2	26.3

Source: Eurostat [ilc_peps01](#)

Note: The reference date for this table is 1 January of each survey year.

In summary, positive trends have been identified for this indicator and considerable progress has been made to achieve the objective defined in NSSD.

Income poverty

In statistics, relative income poverty is defined based on a relative poverty threshold. The most widely used indicator sets the threshold at 60% of the median of equalised household income.¹⁰

In Hungary, the rate of people living in relative income poverty had grown between 2007 and 2014 and then fell by 0.5 percentage point between 2014 and the beginning of 2016. Despite this decline, Hungary dropped in the ranking of EU countries but continues to report a better income poverty rate than the EU average (Figures 14-16). In summary, there has been a decline since the previous monitoring report.

Figure 14: Changes in relative income poverty rate in Hungary between 2007 and 2016

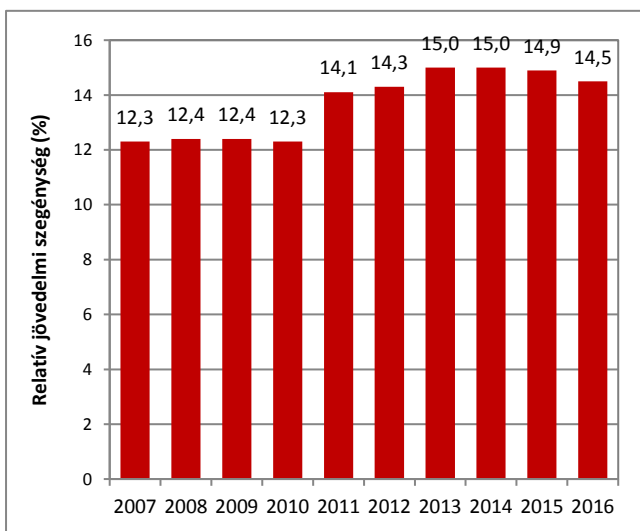
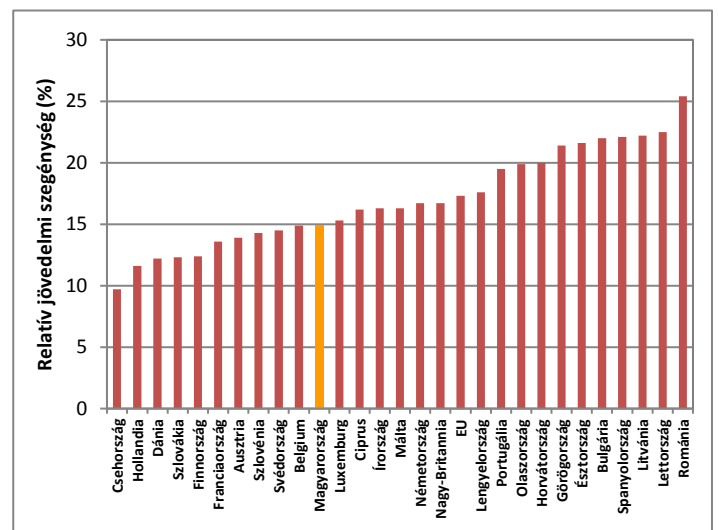


Figure 15: Relative income poverty across EU countries in 2015

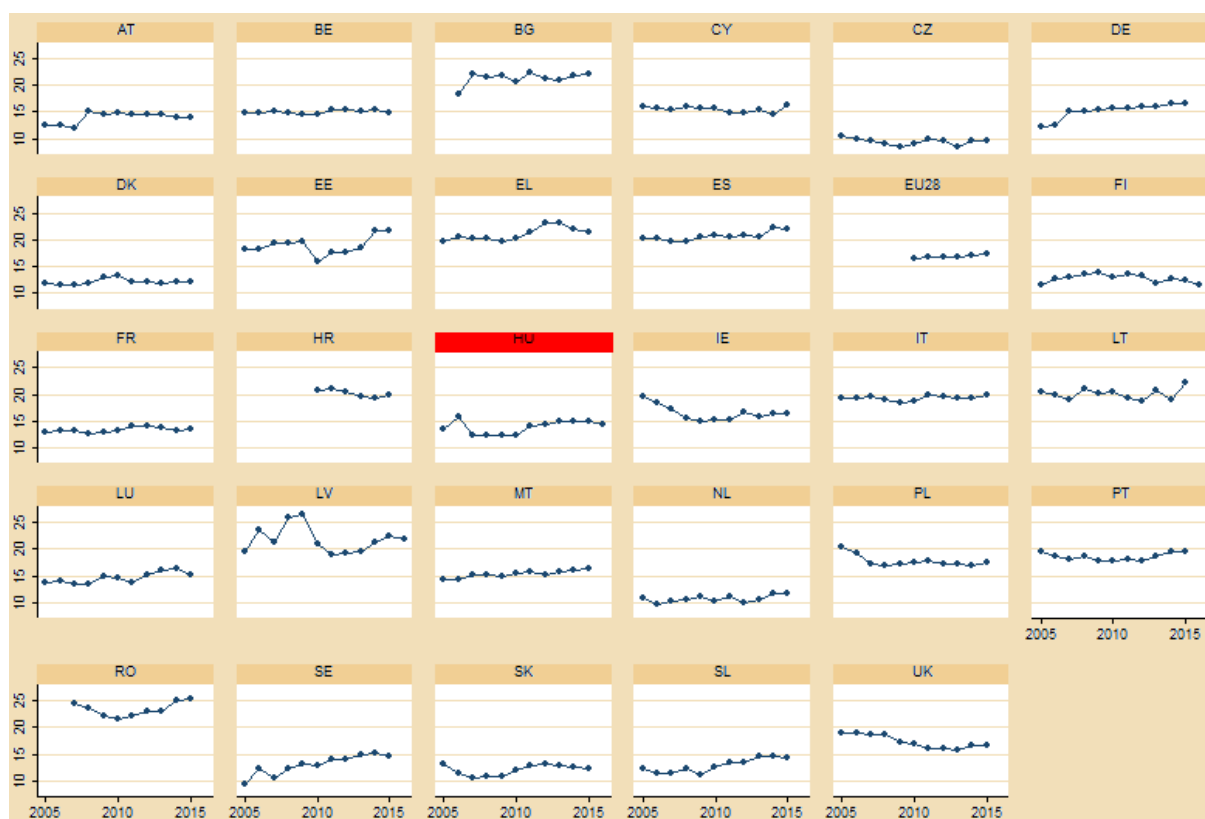


Source: Eurostat [tessi010](#). The share of persons with an equalised disposable income below 60% of the household median equalised disposable income.

Note: The reason why data in this report are different from data in the previous report is that KSH retrospectively adjusted data reported for Hungary between 2011 and 2014 based on data collected in the 2011 census. The reference date is 1 January of each survey year.

¹⁰ Using equivalence scales, the equalised household income considers the variations in consumption needs of household members of different age as opposed to the per capita household income method. This indicator has been calculated based on the OECD-modified scale. This assigns a value of 1 to the household head, of 0.5 to each additional adult member and of 0.3 to each child.

Figure 16: Changes in relative income poverty rate across EU countries 2005-2015



Source: Branyiczki, Tóth, 2017. p. 20

Severe material deprivation

In contrast to the relative nature of income poverty, severe material deprivation offers a better understanding of the differences in living standards across countries. Compared with the rest of Europe, the Hungarian society is affected by a high degree of deprivation (Figures 17-19), however, the number of people living in severe material deprivation has significantly fallen in recent years shown by an improvement of 3.1 percentage points between 2014 and 2015 (Table 3). This is most probably explained by the improvement of living standards in recent years, which is the result of higher real wages, lower taxes and government actions (Branyiczki, Tóth, 2017).

Table 3: Fundamental indicators of severe material deprivation in Hungary between 2012 and 2015 (%)

Indicator	2012	2013	2014	2015
Arrears on mortgage payment or housing expenses	26.2	24.9	21.6	19
Lack of resources to cover unexpected expenses	74.2	75.2	70.7	50.7
Can't afford to buy a telephone	2.0	1.7	1.4	1.3
Can't afford to buy a colour TV	0.3	0.4	0.4	0.6
Can't afford to buy a washing machine	1.0	0.9	1.0	1.0
Can't afford to buy a car	24.6	23.9	19.8	20.6
Lack of one week's annual holiday away from home	66.6	59.6	55.1	50.6
Lack of meal with meat, chicken, fish every second day	33.0	27.2	23.7	19.1
Lack of heating to keep home adequately warm	13.7	11.2	9.6	9.1
Severe material deprivation (at least 4 items)	26.8	23.9	19.3	16.2

Source: KSH, 2014a, 2016.

Figure 17: Percentage of total population affected by severe material deprivation in Hungary between 2007 and 2016

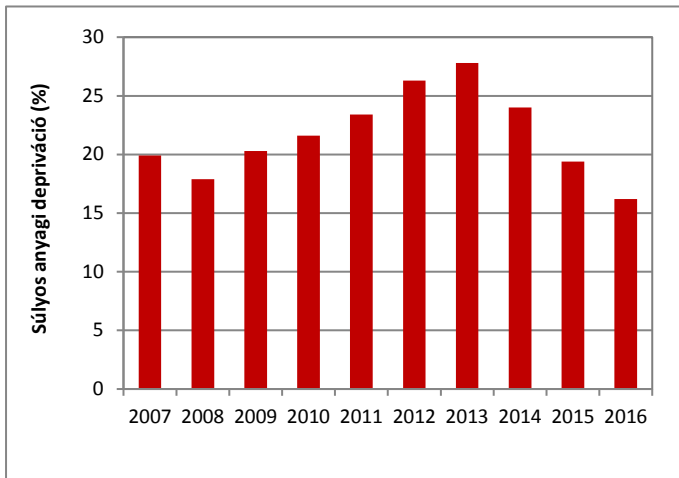
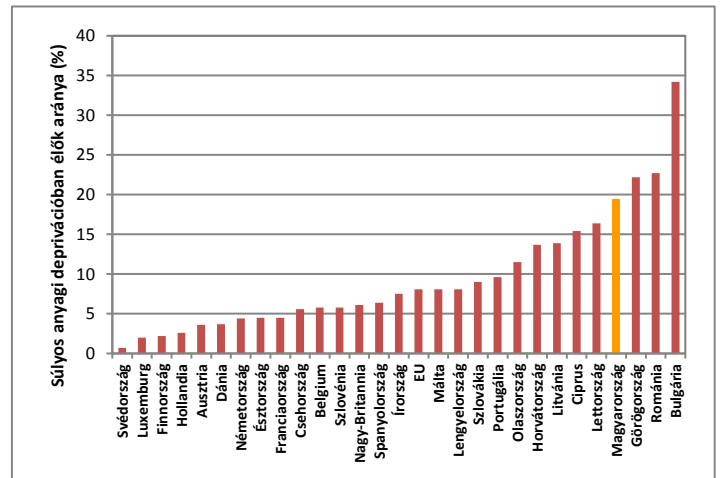
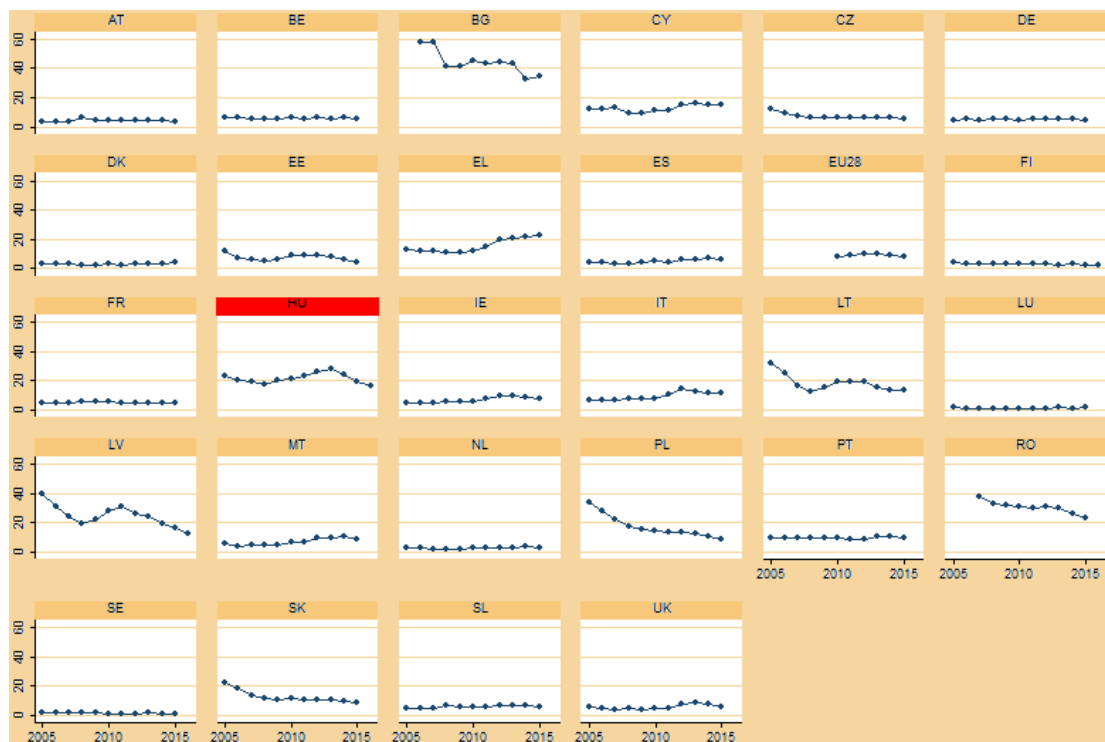


Figure 18: Percentage of population affected by severe material deprivation across EU countries in 2015



Source: Eurostat [tsdsc270](#)

Figure 19: Percentage of population affected by severe material deprivation across selected EU countries between 2005 and 2015



Source: Branyiczki, Tóth, 2017, p. 21

Note: The reference date for the previous three tables is 1 January of each survey year.

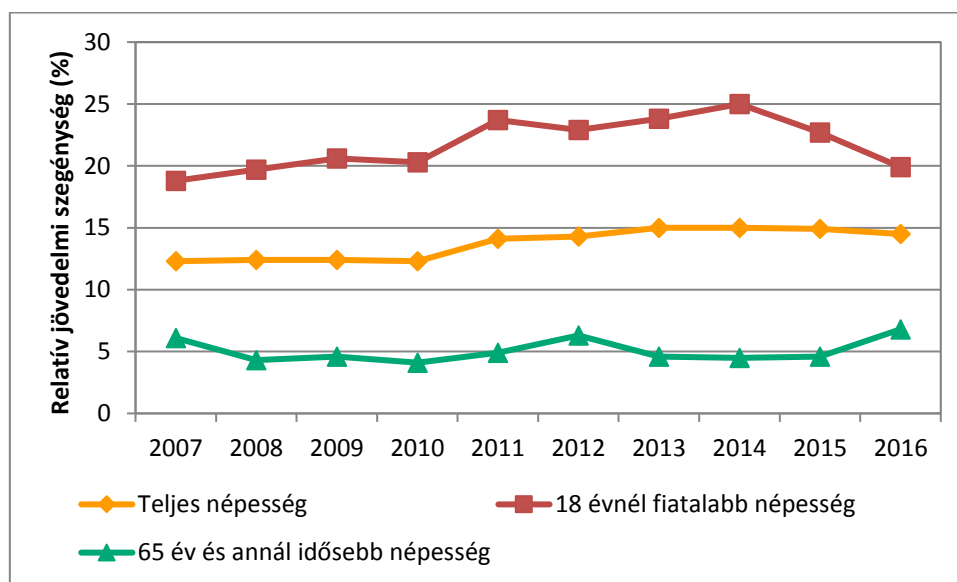
Child poverty

The differences in the rate of poverty among the various generations have an impact on the social structure. As child poverty has a long term adverse effect on children's performance at school and their labour market success, its reduction is one of the key pillars of sustainable welfare systems. Poverty

studies have all found that children and young people are the most vulnerable group and that the risk of poverty decreases with age.

Since the previous monitoring report, the government has introduced additional measures affecting families with children (including young and older children): increased amount of the family tax benefit, extended availability of free food for children under 6 in preschool facilities, free textbooks in schools, availability of (free) food for children during summer and other school breaks etc. which helped reduce child poverty. This trend is reflected by the rate of relative poverty¹¹ broken down by age. While the relative income poverty rate of people under 18 decreased by nearly 5 percentage points from 25% to 19.9% between 2014 and early 2016, this rate rose by over 2 percentage points from 4.6% to 6.8% for the elderly population (Figure 20). The gap between the poverty rate of children and elderly people has shrunk.

Figure 20: Changes in relative income poverty across selected age groups in Hungary between 2007 and 2016



Source: Eurostat *ilc_li02*.

Note: The reference date for these data is 1 January of each survey year.

Public attitude toward differences in income levels

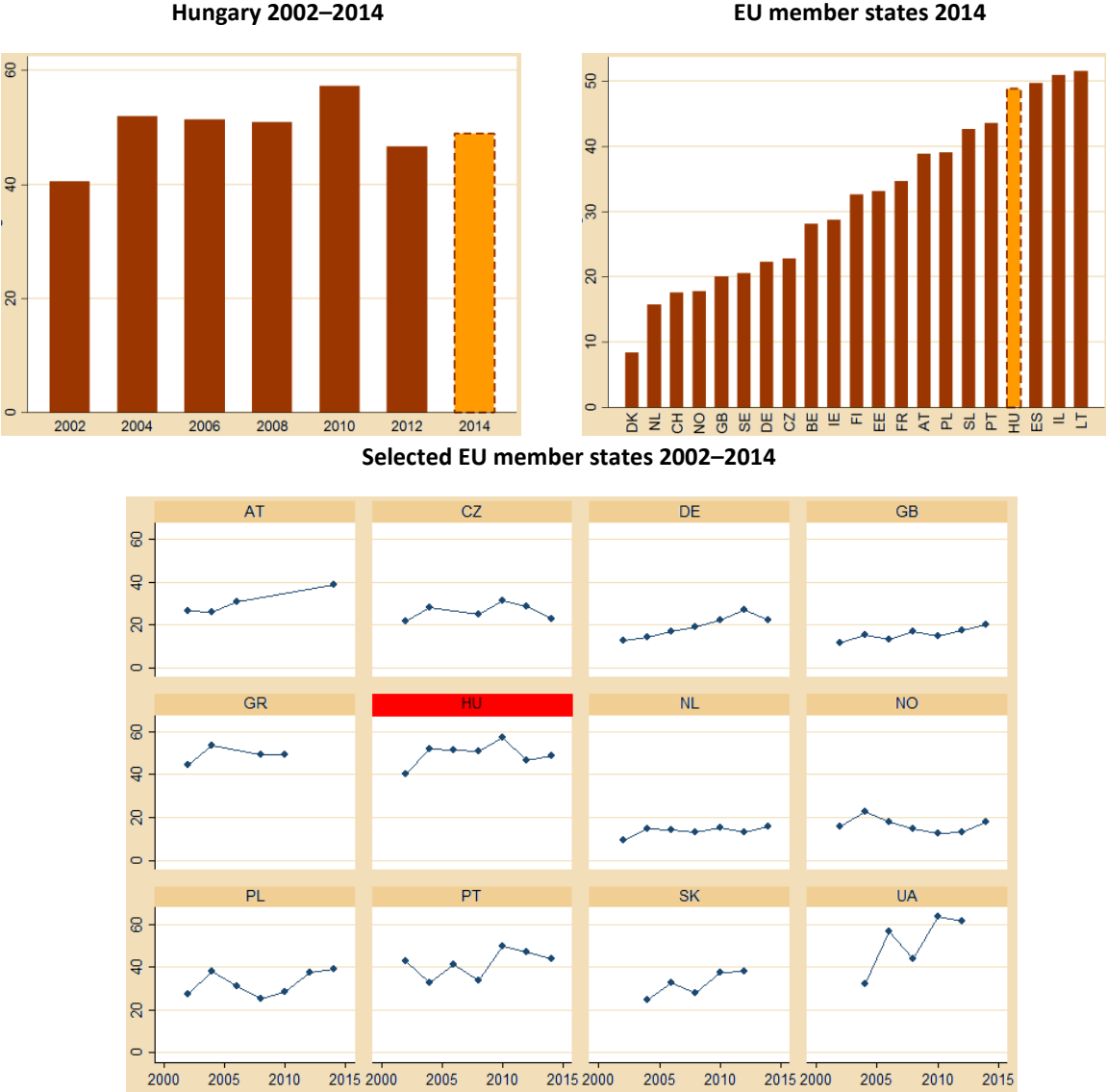
One striking characteristic of Hungary's society is the very low level of tolerance toward differences in income levels despite the fact that objective indicators of differences in income levels are not particularly high in the European Union (Fábián and Tóth, 2014). This is confirmed by the Gini coefficient, a measure of income inequalities that stood at 28.2 in Hungary in 2015 while the EU average was 31.0, which means that income inequality is lower in Hungary than in the EU (Eurostat *tessi190*).

Value analyses specifically conducted for Hungary, related to this topic and generally linked to demand for redistribution have shown that demand for public redistribution in line with trust trends toward institutions has become strongly over-politicised in Hungary (Keller, 2014).

¹¹ People are considered at risk of poverty by the European social statistical definition when their income is below 60% of the median equivalised household disposable income.

In 2014, nearly 50% (48.9%) of the adult population “strongly agreed” with the statement that “the government should take measures to reduce differences in income levels”, which is slightly higher than the percentage in 2012 (46.9%) (Figure 21). This is extremely high compared with the other countries surveyed; higher rates were determined for only four countries in 2012 and only three countries in 2014 (Branyicki and Tóth, 2017). As no survey is available for 2016, further changes in data included in the previous report may not be included in this report.

Figure 21: Percentage of respondents that “strongly agreed” with the statement that “the government should take measures to reduce differences in income levels”.



Source: Branyicki and Tóth, 2017 p. 39 Based on the results of the European Social Survey 2014
 Note: Question: Using this card, please say to what extent you agree or disagree with each of the following statements. The government should take measures to reduce differences in income levels. Respondents could choose from five different grades. This figure shows the proportion of respondents strongly agreeing with the statement.

Household debt

The assessment of household debt is extremely important as this is one of the indicators of deprivation measures where Hungary has quite bad results while it also presents sustainability challenges in terms of generational balance. In the recent period, household debt has followed a number of different trends (Kaiser, 2016). It had been growing slowly and steadily between 1995 and 2002 followed by a more intense rise between 2003 and 2009 when the indicator reached 117.5% as percentage of GDP. After 2009, there was a constant decline in household debt which accelerated after 2013 reaching 77.4% by 2016¹², which positioned Hungary in the proximity of the regional value (Figure 22-23). The reduction in household debt has been confirmed by the European Commission’s country report as well. This decrease is the result of the conversion of foreign currency denominated mortgages and the introduction of new, fair banking principles (European Commission, 2016b.).

Figure 22: Private sector debt as % of GDP in Hungary between 1995 and 2016

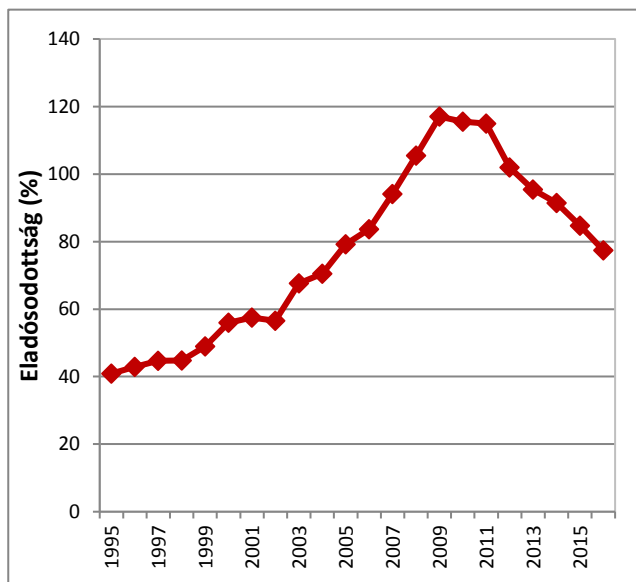
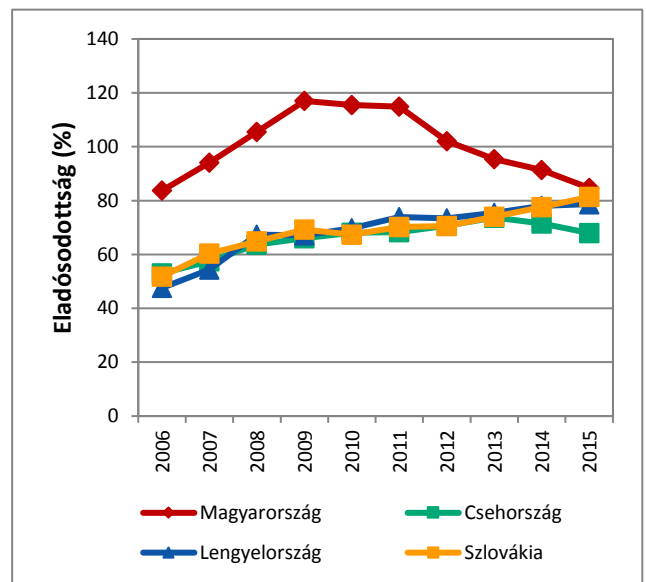


Figure 23: Private sector debt as % of GDP across V4 countries between 2006 and 2015



Source: Eurostat [tipspd20](#).

This positive change has led to higher propensity to save and has promoted the start of the transfer to a consumption and growth path through improving retail consumption. Households’ demand for credit is forecast to grow due to the positive outlook in the economy and the increase of households’ real income, which will boost household spending (European Commission, 2016b).

¹² Data show private sector debt including the indebtedness of non-financial corporations, households and not-for-profit organisations servicing households.

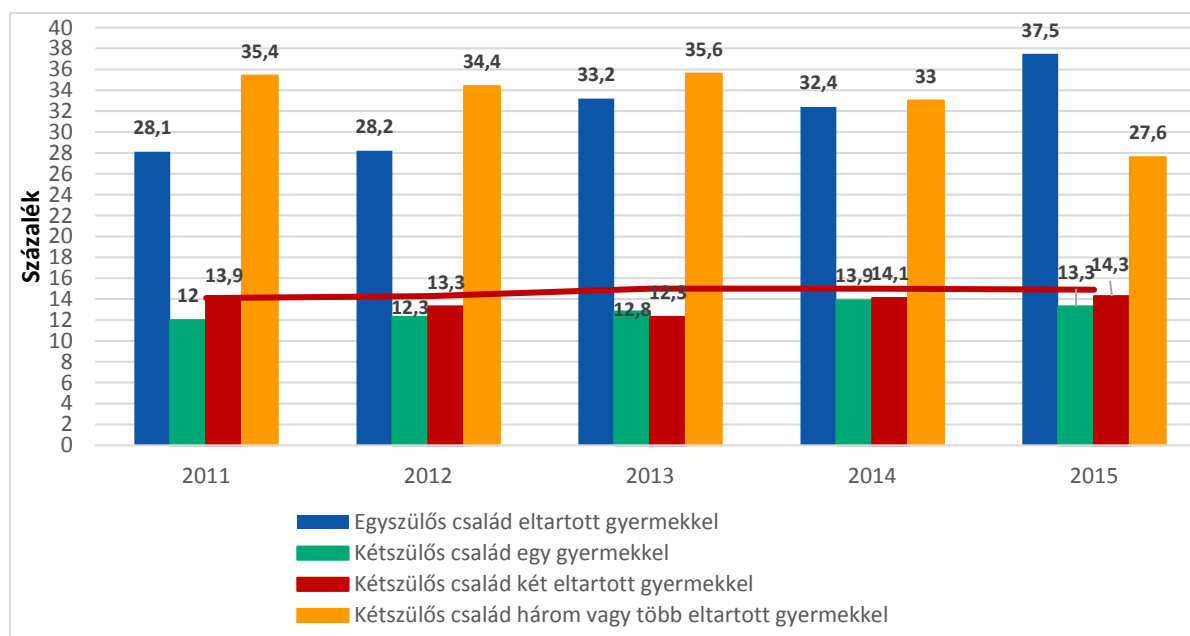
5.1.4.5 Compatibility of work and family

Family allowances¹³

In European comparison, Hungary's family support system¹⁴ is rather generous as families with young children receive some kind of allowance for a period of three years regardless of the family's financial situation and the mother's previous position in the labour market. In recent years, the family policy has further increased benefits and allowances available to families with children, focusing primarily on families with regular income and higher work intensity.

Both national (see Gábos, 2003) and international (see Gábos et al. 2009) literature suggests that higher cash grants have a positive impact on fertility in general, and along with other important factors, welfare benefits may help improve childbirth rates. In Hungary, the total fertility rate has shown a positive trend in the past year rising from 1.25 in 2010 to 1.49 by 2016. However, more detailed analysis would be required to determine the role cash grants given to families played in this increase. In addition to higher fertility rates, the reduction of child poverty in recent years was another positive tendency. Despite this decrease, however, Hungary's indicator remains high in international comparison and families with three or more children together with single parent families continue to be exposed to particularly high risk of poverty (the indicator for single parent families is still growing) (Figure 24) This may be partly due to the fact that the government has failed to raise the family allowance (schooling and educational support), which is available for all families, for years, and these families have a lower work intensity meaning that they have restricted access to forms of support based on income from work (e.g. family tax credit).

Figure 24: Poverty risk of different types of families with children (relative income poverty rate based on household types)



Source: KSH – Information Database

¹³ Parts of this chapter are based on a 2017 study by Tóth, Medgyesi and Gál.

¹⁴ For the description of the various components of the Hungarian family support system see a paper written by Makay (2015).

Compatibility of work and family

The compatibility of family and work is key for family planning decisions and careers which are more compatible with child rearing may help improve fertility rates. The rate of female employment started to rise (75.3%) but the employment rate of women with three or more children remains very low (48.8%) despite a slight growth. Similarly, the employment rate of women with little children remains low (Table 4). The growth of atypical forms of work may also help promote compatibility of family and work.

Table 4: Changes in indicators related to the compatibility of family and work between 2011 and 2016

	2011	2012	2013	2014	2015	2016
Female employment rate (aged 25–49)	66.2	68.4	69.3	72.4	73.4	75.3
Employment rate of parents with 3 or more children (aged 25–49)	37.3	39.3	40.3	44.9	44.8	48.8
Employment rate of women (aged 25–49) with children aged 0–2	12.4	14.1	12.8	14.8	14.8	14.2
Employment rate of parents (aged 25–49) with children aged 3–5	60.7	63.2	66.1	69.6	69.5	71.9
Gender pay gap (%)	15	17	15	13	16	NA
Rate of part-time workers (aged 20–64)	6.4	6.7	6.4	6.0	5.7	4.8

Source: KSH – Information Database Note: income gap in full-time employees

Hungary continues to have a typically low number of people working part-time (4.8% and 6.8% for women) or in other atypical forms of work. A key step in interventions to increase part-time employment was the introduction of a requirement for employers in the public sector in 2010 to offer part-time employment for employees with children under 3 upon the employee's request. Since 2012, this requirement has been applicable to the private sector as well. Nevertheless, the rate of part-time employment has been declining since 2013. This tendency may be affected by the increasing rate of full-time employees in public employment programmes. It is also important to note that the gender pay gap is 16% and shows no change compared to the previous period.

Daytime child care services

Labour market activity of women with young children is substantially influenced by the availability of daytime child care services.¹⁵ At the time of the regime change, Hungary had a very large network of day care facilities for children under 3 totalling a little over 1000 in 1990. After the regime change, the number of these facilities run by businesses for employees or local governments decreased but their number and their capacity have been constantly growing since 2015. Based on KSH data, a total of 749 day care facilities for children under 3 were functional in 640 communities in 2015 (736 in 2014) with a capacity exceeding 39 000 (Table 5). Between 2014 and 2015, the capacity of these facilities grew by

¹⁵ For the description of institutions providing daytime care services for children see Makay 2015.

nearly 2000 and their development remains a government priority. Since 2017, cities with a population over 10 000 have been required to run day care facilities for children under 3 and until the end of 2018, all communities where at least five families with children under 3 request this service or where the number of residents under 3 exceeds 40 will also be required to establish such facilities Decree 6/2016 of the Ministry of Human Resources (24th March). Apart from providing funds to increase the capacity of these day care facilities, it would be equally important to stabilise their operations and to raise the amount of their normative financing.

Table 5: Ratio of the number of children aged 0-2 years to capacity of day care facilities for children under 3

Year	Number of children aged 0–2 (on 1 January)	Capacity of day care facilities	Permitted capacity of family day care centres	Number of children under 3 on roll in day care facilities	Number of children under 3 on roll in family day care centres	Total capacity relative to children aged 0–2
2011	284,076	35,450	6,253	36,685	2,744	14.7%
2012	274,265	36,635	7,365	37,163	3,305	16.0%
2013	266,971	37,654	7,991	36,819	3,522	17.1%
2014	268,122	38,614	8,209	37,269	4,452	17.5%
2015	274,996	39,519	8,508	37,906	5,166	17.6%
2016	280,226	39,944	8,125	38,123	5,322	17.5%

Source: KSH – Information Database, own calculation

The other form of daytime care for children is family day care centres. In 2015, a total of 7 344 children were on roll in family day care centres with 70% younger than 3 which means family day care centres were mostly alternatives for day care facilities for children under 3 while before 2013, they used to work as preschools rather than day care facilities for children under 3. (Source: KSH: Report on Daytime Child Care Services for Young Children, 2015)

In accordance with laws and regulations effective since 1 September 2015, (Decree No. 37/2014 of the Ministry of Human Resources (30th April); Act XXXI of 1997) all children attending day care facilities for children under 3 who receive regular social welfare child benefit, live with a chronic illness or disability or live in a family rearing a child with chronic illness or disability are not required to pay for meals served in the facility. In addition, children who live in a family rearing three or more children or in a family where the monthly income per capita is below the 130% of the net minimum wage (HUF 89 408 in 2015) based on the parents' statement are not required to pay for meals served in the facility either. Children in day care facilities who have been placed under the care of child protective services due to the suspension or lack of parental legal guardianship are automatically eligible to receive their meals free of charge. While, based on KSH data, 15% of the children enrolled (on 31 May 2015) before the amendment of the regulation received their meals free of charge and another 15% had to pay half price for their meals, only 30% of the children on roll had to pay full price by the end of December (KSH, 2016c).

In 2017, the regulations regarding day care facilities for children under 3 changed allowing the establishment of mini, family and workplace facilities apart from the traditional ones. Between 2014 and 2020, the government is planning to provide funds worth HUF 100 billion to increase the capacity

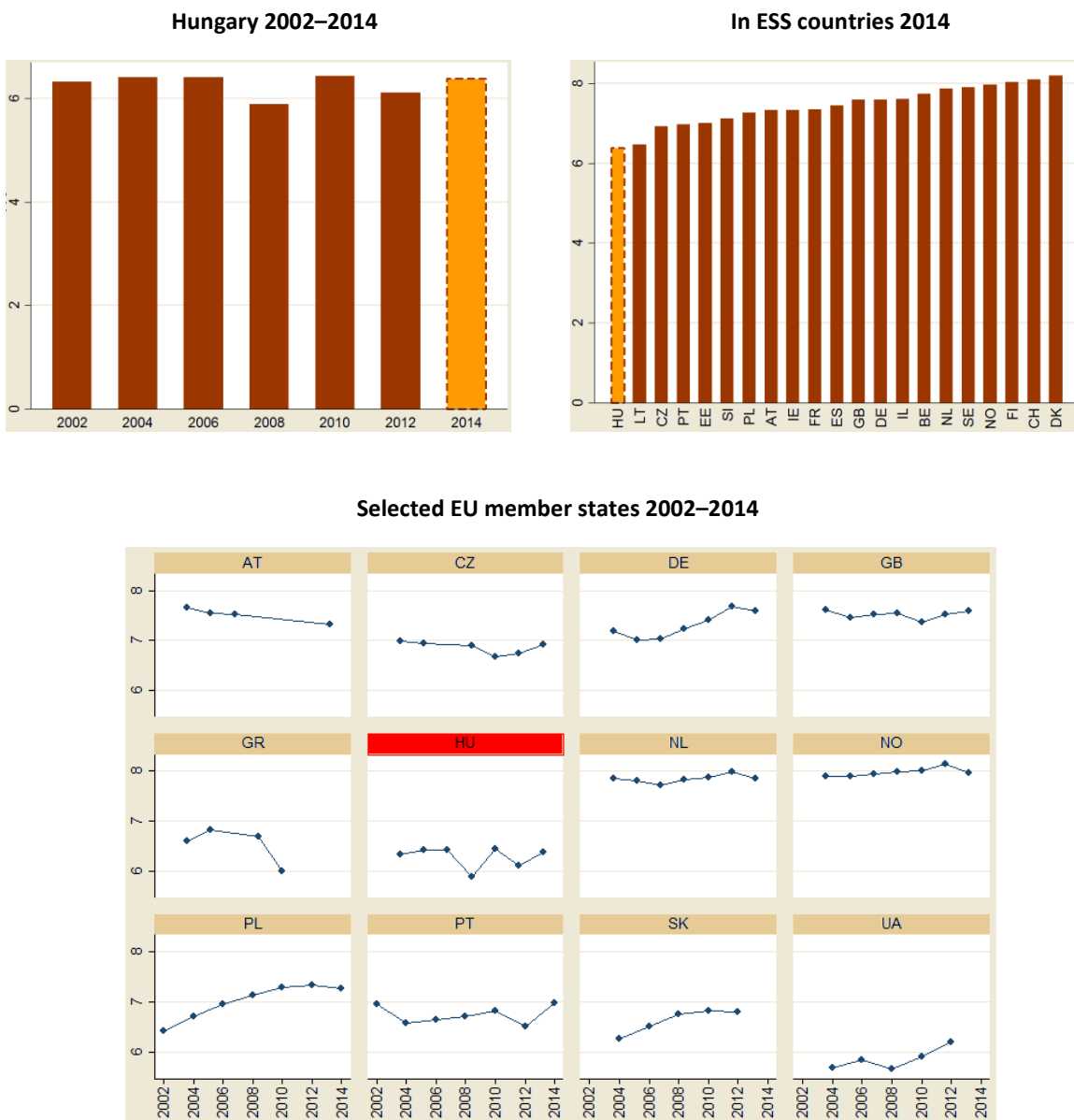
of these facilities. This is expected to raise their capacity up to 60 000. In 2016–2017, a number of EU grants were available. The calls for proposals: TOP-6.2.1-15: Development of family friendly institutions and public services supporting labour market integration, TOP-1.4.1-15: The improvement of employment and the quality of life by the development of family friendly institutions and public services supporting labour market integration and VEKOP-6.1.1-15: Enhancement of the labour market activity of parents of young children allow access to funds HUF 15.455 billion, HUF 37.672 billion and HUF 7.392 billion respectively.

In summary, the lack of access to day care facilities for children under 3 and family day care centres and to flexible forms of labour remains a serious challenge and a major obstacle preventing women with young children from working, especially in Budapest and in larger cities around Hungary.

Personal happiness

Hungary scores around 6 in personal happiness on a scale of 0 to 10. This is a strikingly low value across all the countries surveyed. In 2014, Hungary scored the lowest across all the countries surveyed although it is true that no data was available on Bulgaria which ranked last in 2012. The average level of happiness in the majority of the ESS countries is above 7. In 2014, Hungary was directly preceded by Lithuania, the Czech Republic and Portugal. Since the economic crisis, this indicator has shown slight fluctuation (Figure 25).

Figure 25: “How happy would you say you are?” Average scores in Hungary and in countries participating in the European Social Survey



Source: European Social Survey (ESS) Question: Taking all things together, how happy would you say you are? Please use this card. On the scale of responses, 0 means extremely unhappy and 10 means extremely happy. Higher average score on the graph represents higher level of satisfaction.

5.1.5 Government measures

Since the previous monitoring report, the government has renewed its strategy in relation with human resources in the following areas:

- The “Framework Strategy for the Policy of Lifelong Learning” has been developed in order to provide access to workers including disadvantaged workers to education and training offering knowledge and skills to meet the requirements of a knowledge-based society and the labour market. One of the key objectives of the strategy is to boost employment in and the

competitiveness of Hungary through the improvement of human resources (State Secretariat for European Union-funded Development, 2016).

- The concept “Global Citizenship Education in Formal and Non-formal Learning in Hungary” introduces a new approach in the education of Hungarian children. The objectives of this new approach include the promotion of lifelong learning and the continuing education of teachers (Ministry of Human Capacities, 2016a).
- The “Change of Pace in Higher Education” strategy defines development and competition options for Hungary’s higher education until 2030. The strategy aims to implement specialisation to help each institution of higher education to have a specific training profile where high quality education is provided while also intending to strengthen research and development activities and expand capacities (Ministry of Human Capacities, 2016b).
- The “Mid-term Strategy Against School Leaving Without Qualification” has been designed to prevent early school leaving and consequently the entry of Hungarian students into the labour market without any qualification or skills. This document defines the improvement of the quality of the education system as one of the methods to reduce the rate of early school leaving (Ministry of Human Capacities, 2016c).
- The document “T.E.S.I. 2020 Strategic Measures for Physical Education in Health Promotion” intends to promote quality physical education focusing on education and training, qualification and the conditions of teaching physical education in the public education system. The government expects that quality physical education can help young generations learn health attitudes and lead healthy lives (Ministry of Human Capacities, 2016d).
- The “Healthy Hungary 2014–2020” Health Sector Strategy defines the development concept of health care until 2020. The strategy focuses on the improvement of Hungary’s health situation including prevention and the promotion of recovery prospects as top priorities. It aims to improve the health of the Hungarian population, to increase healthy life years by two years, to enhance the private and social value of physical and mental health, to promote health conscious behaviours, to reduce regional differences in health and to improve access to a health care system based on social risk sharing (Ministry of Human Capacities, 2015).

Since 2016, children in need have been eligible for meals at school free or at a discounted price even during the winter break. The government has amended the Child Protection Act in order to promote parental engagement. Additionally, the Ministry of Human Capacities announced the expansion of the network of the Sure Start Children Centres by another 50 units using EU funds worth HUF 8 billion.

In recent years, the government has made intense efforts to support families with children. In 2010, the family tax benefit was re-introduced and in 2014, a population policy package including multiple measures (Child Care Allowance Extra (GYED Extra), Child Care Allowance paid based on the number of young children at home) was adopted. Public spending on family benefits in Hungary is higher than the OECD average. Changes in the family benefit system continued in 2015 and 2016 as well. On the one hand, the government has been gradually raising the amount of family tax benefit for families with two children. The amount families with two children were allowed to deduct from their aggregate tax base of their personal income was HUF 62 500 per month and dependent child in 2015, increased to HUF 83 300 in 2016 and gradually growing until reaching HUF 133 000 by 2019. On the other hand, the family housing allowance was also introduced, which is a non-repayable government grant to be used to build or buy new or used homes whose amount is subject to the number of children (live and

planned). Since the introduction of GYED Extra in 2014, parents of children older than 6 months receiving GYES or GYED have been allowed to work without restrictions.

5.1.6 Initiatives of market players and civil organisations

Both employees and employers can participate in a number of programmes promoting healthy lifestyles designed to raise awareness about the health of employees. One of these successful initiatives is the “Bike to Work” (Bam!) campaign organised by the Hungarian Cyclists’ Club as part of the National Cycling Programme supported by the Ministry of National Development, which initiated the campaign and holds the rights to the trademark. The European Agency for Safety and Health at Work organises yearly campaigns including the Healthy Workplaces for All Ages 2016–2017 campaign, which promoted healthy and sustainable working conditions.¹⁶

Several Hungarian organisations, institutions and businesses offer flexible and family friendly working conditions for their employees (e.g. working from home part time, family friendly workplaces). Family friendly workplaces typically strongly support practices that apply not only to expectant female employees and mothers with young children but also to fathers and workers looking after old or sick relatives.¹⁷

¹⁶ Source: <https://osha.europa.eu/hu/healthy-workplaces-campaigns/2016-17-campaign-healthy-workplaces-all-ages>

¹⁷ Source: <https://www.hrportal.hu/hr/csaladbarat-munkahelyek-2017-ben-20171004.html>

5.1.7 Summary conclusions

Positive trends	Risks
<p>After hitting bottom low in 2011, the number of live births has grown in Hungary in recent years despite a decline in the number of women of childbearing age. These two trends have collectively stimulated the improvement of the total fertility rate.</p> <p>Hungarian workers who had moved to another country earlier have started to return to Hungary.</p> <p>Migration from Hungary caused a rise in wages.</p> <p>The number of people in adult education – partly owing to various government measures – has significantly grown since the previous report, further approaching the EU average.</p> <p>The number of public funded vocational educational programmes has grown including many courses aiming to meet current labour market needs.</p> <p>The number of deaths attributable to chronic non-communicable diseases has fallen in the last few years but at a lower rate than the EU average.</p> <p>Higher wages paid to healthcare workers has lowered the rate of the migration of people employed in this sector from Hungary.</p> <p>The number of people living in poverty or social exclusion has declined since the previous report.</p> <p>Due to the government’s family welfare policy, child poverty has shown a declining trend since the previous report.</p> <p>Due to a broad range of economic policy measures including the conversion of foreign exchange loans, household debt has further decreased.</p> <p>In 2015 and 2016, the total fertility rate slightly rose compared to the previous years.</p> <p>The number of children aged 0–2 and the capacity of day care facilities for them as well as the number of people using the services of child protection institutions has grown.</p> <p>The poverty risk of two-parent households rearing three or more children has fallen.</p>	<p>The number of women of childbearing age (15-49) is expected to drop in the near future as the generation of the so-called “Ratko grandchildren” will soon turn 40 and stop having children.</p> <p>The continued migration of Hungary’s workforce to foreign countries will exert increasingly strong pressures on the social care system. The shortages of skilled workers caused by the migration will lead to lower productivity while young people leaving Hungary will have a negative effect on the demographic trends.</p> <p>The reading comprehension and science skills of Hungarian students have further degraded while the number of students not able to achieve even the satisfactory level has grown.</p> <p>Based on the results of the PISA assessment, Hungarian students appear to underperform in problem solving skills every time.</p> <p>The early school leaving rate has further grown in recent years caused by the reduction of the school leaving age to 16 to a significant extent. The unskilled workforce entering the labour market as a result leads to further employment problems.</p> <p>Participants in adult education dominantly include employed and more skilled workers.</p> <p>Deaths from substance abuse have not improved in recent years either.</p> <p>The positive trend of life expectancy at birth and healthy life expectancy at birth has been disrupted and a decline occurred last year.</p> <p>Failure to pursue a healthy lifestyle caused a rise in patients suffering from chronic non-communicable diseases.</p> <p>The migration and the decline of health care workers threatens the optimal functioning of Hungary’s health care system.</p> <p>Hungary remains a significantly deprived country despite the rate of the affected population lowering below 20%.</p> <p>The poverty risk of single parent households is high and has continued to rise.</p> <p>The employment rate of women with little children or with three or more children remains low and the rate of part-time employees has decreased.</p>

5.2 Social resources¹⁸

5.2.1 General overview

A nation's social resources include moral standards and values; relations between individuals and trust; organizations, networks established by individuals, institutions; cultural activities and cultural heritage.

Data collected for ESS 2014/2015 show a decline in the level of general trust in Hungary. Compared to the rest of Europe, Hungary is positioned in the second half of the list directly following Croatia and preceding Portugal. Traditionally by now, Nordic countries are at the top of the list led by Denmark scoring 6.7 on a scale of 1 to 11. The latest monitoring report on NSSD informed about a positive tendency in this area but that was interrupted by the latest survey results.

The corruption perceptions index has also declined compared to 2014: Hungary is 57th (going head-to-head with Romania) on the list of the 176 countries surveyed and has the highest score across the V4 countries.

5.2.2 Changes in key indicators

Indicator	Latest value	Value known at monitoring report for 2013–2014	Assessment of the changes in NSSD's key indicators
Generalised trust scale (ESS, scale of 0 to 10)	4.2 (2014)	4.8 (2012)	There has been a 0.6 point decline compared to ESS 2012.
Corruption index (Transparency Int., on a scale of 0 to 100)	48 (2016)	54 (2014)	This indicator has been constantly declining since 2012, which reflects growing corruption.
Number of non-governmental organizations (thousand)	62.1 (2015)	64 (2014)	There has been a slight decrease compared to the period between 2008 and 2014.

5.2.3 Objectives and challenges defined in NSSD

NSSD defines the following objectives for social resources:

1. Rearrangement of social structure¹⁹
2. Demonstration of good examples for the general public
3. Support to (civil, professional, religious) organisations representing favourable behavioural patterns for sustainability
4. Promotion of the infrastructure of trust
5. Increase of satisfaction with working conditions, enjoyment

¹⁸ This chapter is based on studies by Branyiczki and Tóth (2017), Tóth, Medgyesi and Gál (2017) and Bálint, Gödri and Makay (2017).

¹⁹ The current situation in social structure is discussed under human resources.

6. Nourishment of our heritage, strengthening of identity

5.2.4 Social and economic developments affecting the objectives

5.2.4.1 Sustainable lifestyles and life strategies

Many government programmes have been launched to promote sustainable lifestyles and life strategies since the previous monitoring report. The most important ones include:

- the “WasteLess” project to reduce the amount of food waste;
- the “Warm Homes” programme continued, which offers funds to replace large household appliances by energy saving devices;
- the “Smart Heating” social campaign continued;
- with the engagement of the National Climate Protection Authority and the training centres controlled by the Ministry of National Economy, trainings on activities related to applications containing or using greenhouse gases have started.
- as part of the EU’s environment and climate policy programme (LIFE), human capacity building projects have started with the involvement of the Ministry of National Development and the Ministry of Agriculture.
- the programme “BISEL – bioindication in education” started in 2001 has been relaunched.

Hungary’s higher education institutions and faculties continue to launch and announce continuing professional development courses in environmental protection, which also help promote sustainable lifestyles and life strategies.

5.2.4.2 Role of non-governmental organisations

The influence of the civil society is reflected by the number, the degree of organization and activities of NGOs. As a result, changes in the size, the social and economic power of the non-profit sector are shown by the number of non-profit organisations, the real value of revenues and the number of employees. In Hungary, civil society participation is below the EU average. Based on KSH data, 62 152 NGOs were active in Hungary in 2015 with nearly 30% (21 044) operating as foundations and the rest (41 108) as non-profit associations. The foundations were engaged in three key areas: education (32.6%), social care (16.0%) and culture (14.0%) (KSH – STADAT [i_qpg003](#)).

The aggregate revenues of NGOs have been rising in recent years (in 2015, all the organisations generated revenues worth HUF 1 543 million) while the share of government (including EU) funds is decreasing (33%) and more revenues are being collected from their basic and business activities (KSH – STADAT [i_qpg005b](#)). The two special forms through which public funding is granted to civil organisations are the National Cooperation Fund (hereinafter NEA) and 1% of personal income tax dedicated by tax payers for special purposes. NEA’s total budget was HUF 5.406 billion in 2015 and HUF 4.896 billion in 2016.

5.2.4.3 Trust

Generalised trust and trust in the legal system

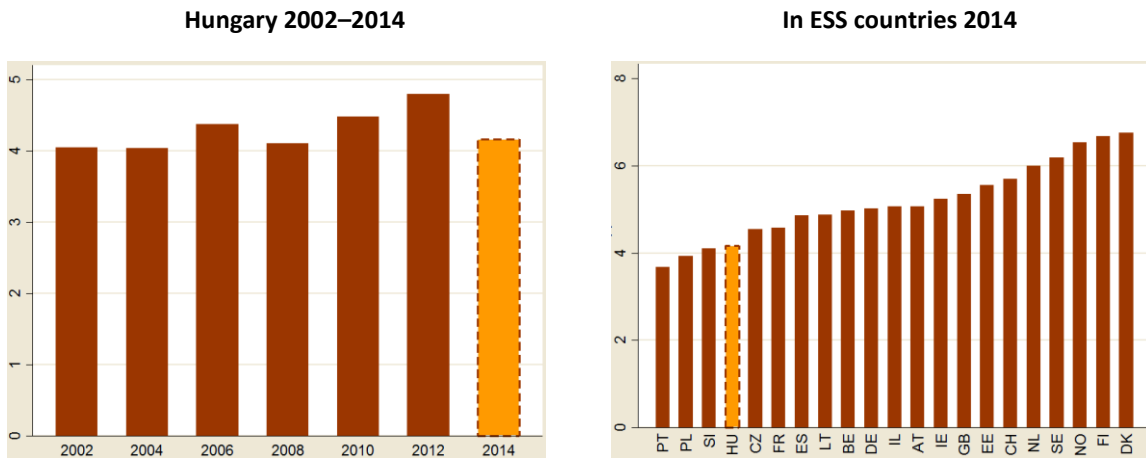
Generalized trust, i.e. our general view of other people's trustworthiness is one of the key components of social capital. Scientific literature on social capital suggests that generalized trust promotes

collective political participation, supports civil society organisations and improves social tolerance (Stolle, 2002). However, the direction of the cause and effect relationships may be questioned and some say that higher levels of cooperation generate higher trust (Dang, 2011).

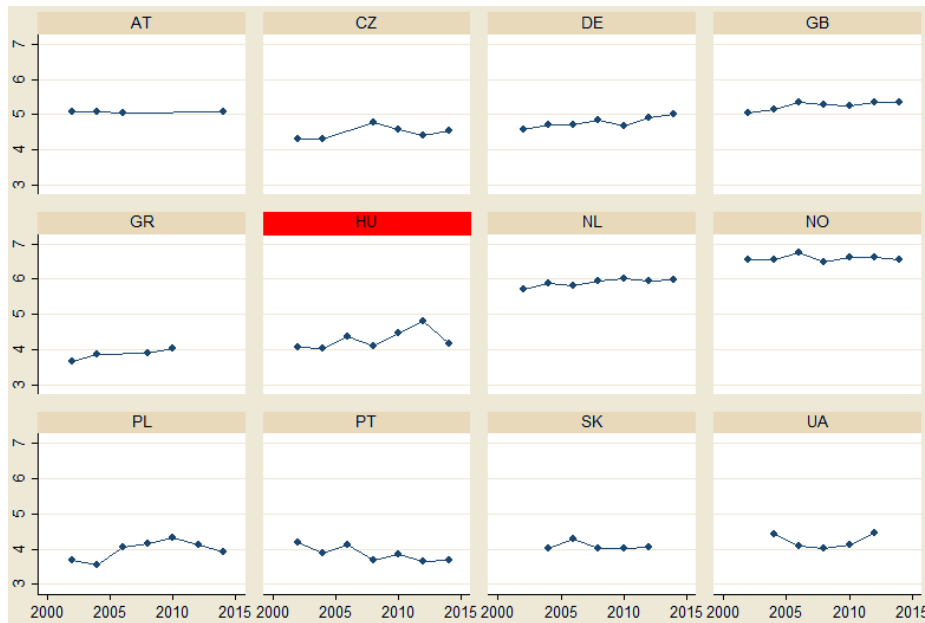
Compared to other European countries, the level of generalised trust in Hungary remains low (Figure 26). While the score of 4.8 on the EES scale in 2012 showed a slightly improving tendency, the 2014/2015 survey found decline again with our score standing at 4.2, which once again placed Hungary at the rear end of the European list. Scandinavian countries continue to have the highest levels of trust.

Trust in the legal system was highest in Nordic countries including Denmark and Norway across all the countries participating in the European Social Survey. On a scale of 0 to 10, the level of generalised trust was higher than 7 in these countries both in 2012 and 2014 while Hungary's indicator was 4.7 and 4.6 respectively. Hungarian people's trust in the legal system fell from 5.1 to 3.7 on average between 2002 and 2008 then rose to 4.6 after 2010 and has not changed since then indicating the lack of any significant progress in the field of justice and legislation since the adoption of NSSD.

Figure 26: General trust in people on a scale of 0 to 10 in Hungary and in other countries participating in the European Social Survey

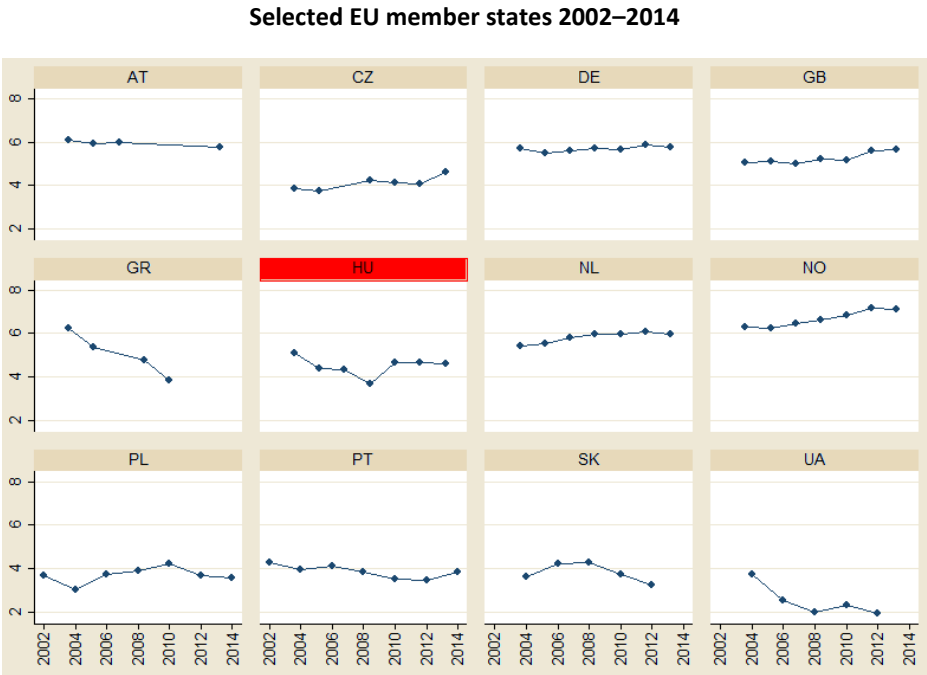
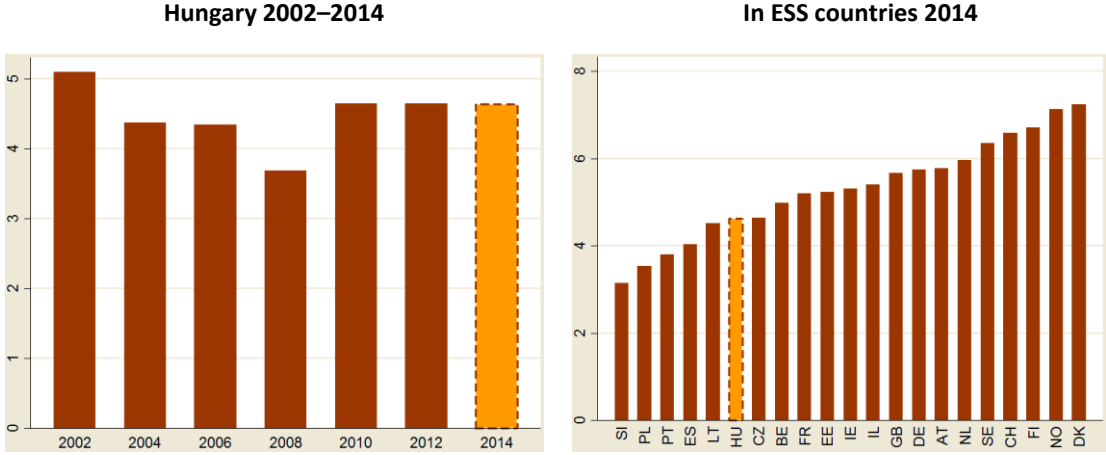


Selected EU member states 2002–2014



Source: European Social Survey (ESS) Question: Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people? Please tell me on a score of 0 to 10 where 0 means you can't be too careful and 10 means that most people can be trusted. Higher average score on the graph represents higher level of trust.

Figure 27: Trust in the legal system in Hungary and in countries participating in the European Social Survey

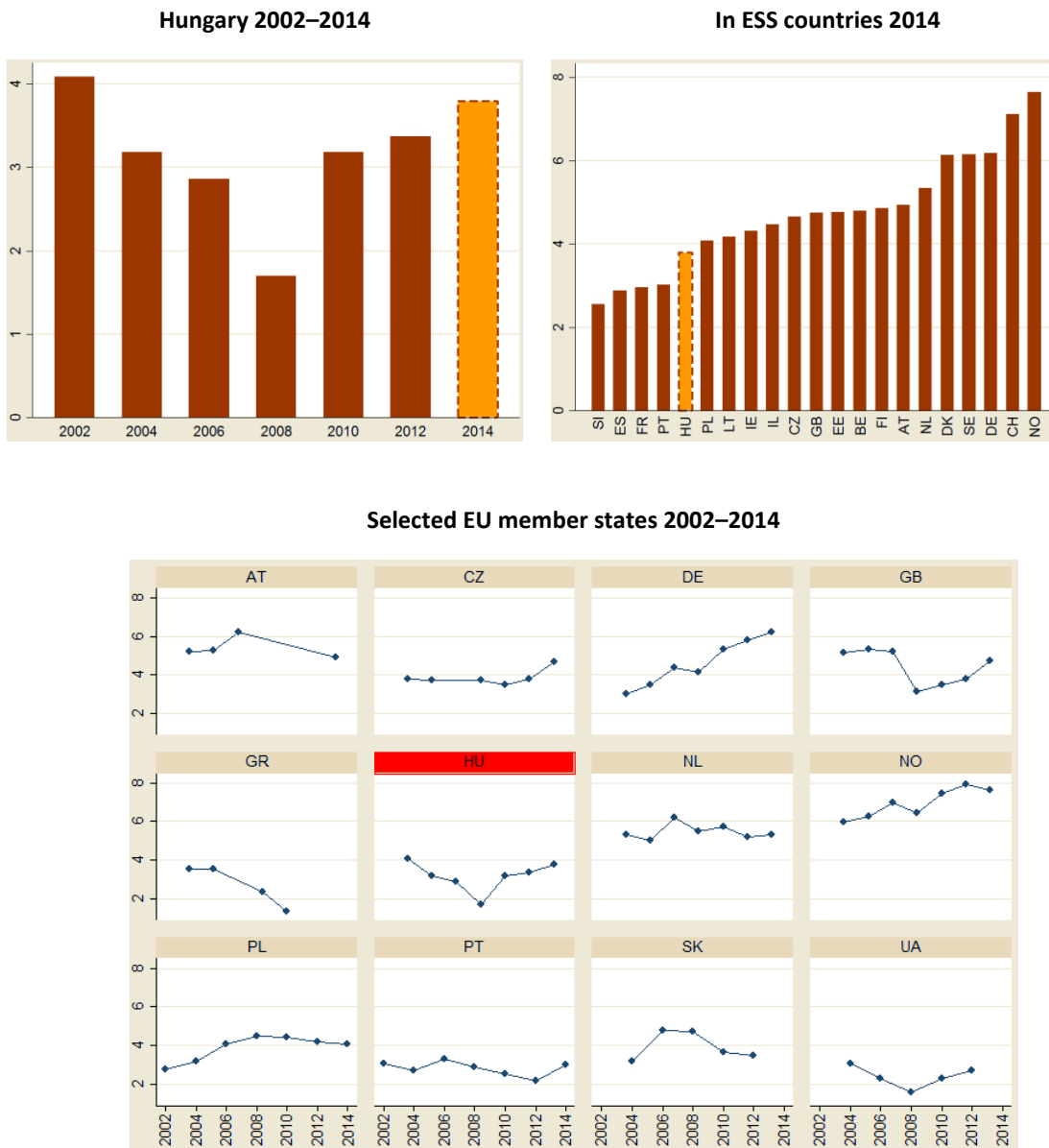


Source: European Social Survey (ESS) Question: Using this card, please tell me on a score of 0–10 how much you personally trust each of the institutions I read out. 0 means you do not trust an institution at all and 10 means you have complete trust. Firstly, how much do you trust in’s legal system? Higher average score on the graph represents higher level of trust.

Satisfaction with the state of the economy

Based on the ESS, satisfaction with the state of the Hungarian economy gradually decreased between 2002 and 2008 from 4 to 1.78 on a score of 0 to 10. Despite a constant improvement in satisfaction with the economy after that time, the indicator failed to score in the middle section of the scale of 0 to 10 standing at 3.4 in 2012 and 3.8 in 2014 showing a rise in dissatisfaction with the state of the economy in spite of better objective indicators.

Figure 27: Satisfaction with the present state of the economy in Hungary and in countries participating in the European Social Survey

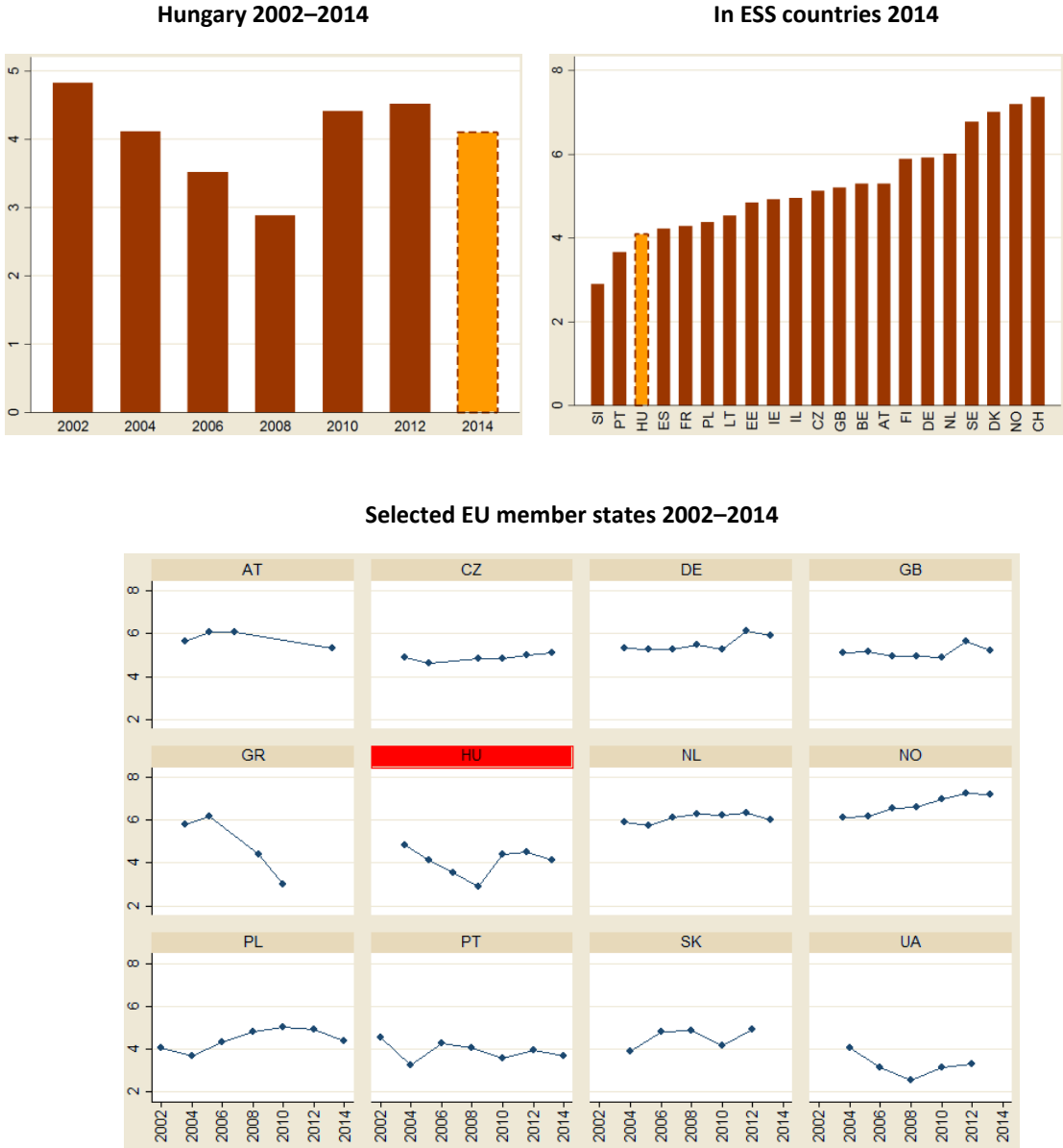


Source: European Social Survey (ESS) Question: On the whole, how satisfied are you with the present state of the economy in (Hungary)? Please answer using this card where 0 means extremely dissatisfied and 10 means extremely satisfied. Higher average score on the graph represents higher level of satisfaction.

Satisfaction with the democratic system

Between 2002 and 2008, simultaneously with growing dissatisfaction with the state of the economy, satisfaction with the way democracy works in Hungary started to fall as well dropping from a medium (4.8) to a low level (2.9) on a scale of 0 to 10. This indicator began to rise after 2010 but failed to reach the 2002 level even by 2012 (4.5). As satisfaction fell again by 2014 to 4.1, Hungary was placed the last but three across ESS countries. This indicator shows much smaller variations in other European countries with maybe the only exception of Greece most badly hit by the economic crisis and the Ukraine teetering on the brink of civil war Swiss, Danish and Norwegian citizens are the most satisfied with the democratic system where the average score is above 7 (Figure 28).

Figure 28: Satisfaction with the democratic system in Hungary and in countries participating in the European Social Survey



Source: European Social Survey (ESS) Question: On the whole, how satisfied are you with the way democracy works in Hungary? Please answer using this card where 0 means extremely dissatisfied and 10 means extremely satisfied. Higher average score on the graph represents higher level of satisfaction.

Corruption and rent seeking

Transparency International (TI) determines the Corruption Perceptions Index (CPI)²⁰ every year that measures public sector corruption in a country based on interviews of experts and businesspeople examining the degree of infection in public institutions, the economy and the society. In 2016, Hungary scored worst after 2010 reaching 48 points dropping to rank 57 on the global list. It fell 7 and 10 places compared to 2015 and 2014 respectively. Hungary's position has declined both in the European Union and the region of Central and Eastern Europe. In 2016, across EU countries, Hungary shared places 24 and 25 with Romania preceding Greece, Italy and Bulgaria. Similarly to the trends of previous years, Nordic countries topped the list in 2016 as well.

Market players are also concerned about corruption in Hungary. Based on the latest survey of the World Economic Forum, Hungary was the 69th most competitive country in 2016 while ranking 28th in 2001, which shows a huge decline. In addition to that, satisfaction with public institutions is extremely low indicated by a drop of 78 places from 2001 to 2016 to rank 114. The businesspeople surveyed identified regulatory uncertainty and corruption as the key obstacles to running a successful business in Hungary (Transparency International 25/01/2017)²¹.

5.2.4.4 Culture and national unity

In the area of national policy, the simplified preferential naturalisation procedure introduced by Act XLIV of 2010 appears to be one of the most important measures leading to a rise in the number of Hungarian citizens by 920 000 by late 2016 according to government announcements (kormany.hu)²².

In 2015, the Kőrösi Csoma Sándor programme designed to strengthen the Hungarian identity of the diaspora continued and the Petőfi Sándor programme supporting Hungarians living in dispersed communities in the Carpathian Basin was launched. The government has also developed programmes to promote vocational training in Hungarian outside of Hungary and designated 2016 as the year of young Hungarian entrepreneurs living outside of Hungary allocating a funding of HUF 526 million for the programme. At the end of 2015, the state secretariat for national policy announced a memorial year for Áron Márton offering access to funding to organise conferences, extraordinary history lessons and contests for young people. To support Hungarian youth civil organisations located outside of Hungary, the government announced a grant in 2016 worth HUF 50 million in total.

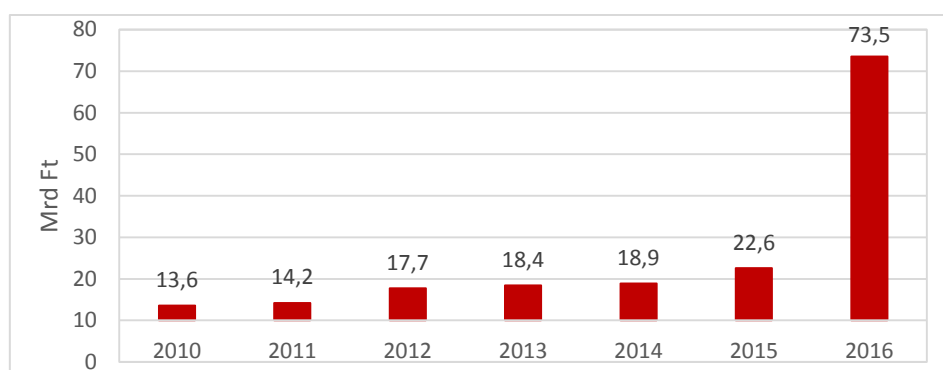
Funding for organisations located outside of Hungary was provided from the **Gábor Bethlen Fund** and a sum allocated for this purpose within the State Secretariat's budget. Funds worth HUF 27.6 billion and up to 73.5 billion were available for this purpose in 2015 and 2016 respectively (Figure 29).

²⁰ <https://transparency.hu/adatok-a-korrupcirol/korrupcio-erzekelesi-index/>

²¹ <https://transparency.hu/adatok-a-korrupcirol/korrupcio-erzekelesi-index/cpi-2016/>

²² Hungary has 920 000 new citizens 30/11/2016 <http://www.kormany.hu/hu/a-miniszterelnok-helyettes/hirek/a-honositas-kezdetek-ota-920-ezer-uj-allampolgar-lett>

Figure 29: Funds dedicated to national policy between 2010 and 2016



Source: ME.

Note: State Secretariat for National Policy and Gábor Bethlen Fund collectively.

5.2.5 Government measures

In the period between 2015 and 2016, the government did not adopt any documents comparable in scale to the Hungarian National Social Inclusion Strategy or the National Anti-corruption Programme, however these remain effective government strategies, which are in principal constantly monitored and their action plans are being implemented.

The State Audit Office (ÁSZ) compiled an integrity survey for 2016 with the involvement of 3002 institutions. Thus, 61.3% of all public sector employees have been engaged in the integrity-based approach program designed to prevent corruption (ÁSZ, 2016).

Act CXLIII of 2015 on Public Procurement introduced a new requirement effective from November 1 2015 regarding the retrospective reviews of the delivery of concluded contracts and the implementation of contract amendments. Act CXLIII of 2015 mandates the Public Procurement Authority to run the **Public Procurement Database (KBA)**, the central archive for public procurement procedures allowing public access to all public procurement documents.

5.2.6 Good practices from market players

Within the business sector, typically companies with larger multinational background are placing increasingly stronger emphasis on ethical corporate governance and are engaging employees through their so-called 'sustainable career' programmes. The business sector is aware that any form of corruption distorts fair competition and definitely causes damage for the society. Many (large) companies are developing internal procedures and introduce policies to promote and maintain ethical business operations.²³

²³ Source: <http://bcsdh.hu/7001-2/>

5.2.7 Summary conclusions

Positive trends	Risks
<p>Hungarians living in scattered locations around the Carpathian Basin have access to increasing funds and the governments has launched a number of campaigns for Hungarians living beyond the borders of Hungary.</p> <p>Numerous campaigns promoting and supporting sustainable lifestyles, dominantly related to environmental sustainability, have been launched or continued.</p> <p>Sixty percent of public sector employees have been engaged in the integrity-based approach program designed to prevent corruption.</p>	<p>Hungarian people are one of the unhappiest nations in Europe and have low levels of trust towards other people and public institutions.</p> <p>Trust in justice remains unchanged at a low level. Satisfaction with the democratic system has decreased to one of the lowest levels relative to the EU average.</p> <p>Trust within business organisational systems is also low. Willingness to delegate authority to subordinates remains very low (placing Hungary at 88 in a ranking of 137 countries in the WEF's Global Competitiveness Report).</p> <p>Continuing the tendencies of recent years, Hungary has further dropped on the ranking monitoring corruption perceptions. According to the Executive Opinion Survey of the World Economic Forum, corruption was the second most frequently selected answer for problematic factors for doing business.</p> <p>There has been a slight decline in the activity of civil organisations.</p>

5.3 Natural resources

5.3.1 General overview

Biologically inactive areas cover 67% of Hungary's total area and this rate has not changed significantly since 2013, i.e. the size of cropland and uncultivated land has not grown substantially to the detriment of biologically active areas. Meanwhile, the size of built-up areas has increased considerably since the 2000s, which contradicts the decline in population. The economic upturn led to improved material consumption but remains worse than the EU average. Public exposure to particulate matter pollution also improved until 2014 but data for the period under review are still unavailable.

5.3.2 Changes in key indicators

Indicator	Latest value	Value known at monitoring report for 2013–2014	Assessment of the changes in NSSD's key indicators
Biologically inactive areas (as % of total area)	67 (2016)	67 (2012)	As no significant change has occurred in the size of uncultivated land and cropland in recent years, the size of biologically inactive areas has also failed to change to a considerable extent.
Natural resource productivity (GDP/DMC, €/kg)	1.05 (2016)	0.98 (2013)	Lower material consumption and Hungary's growing economy has led to an improvement in the indicator since the previous report but higher increase across the EU has caused Hungary to move away from the EU average.
Public exposure to particulate matter pollution [PM(10)] (µg/m3)	26.5 (2014)	27.3 (2013)	Positive trend induced primarily by the recent reduction in household emissions.

5.3.3 Objectives and challenges defined in NSSD

NSSD defines six objectives for natural resources. Transition to sustainability to achieve these objectives may be assessed through seven different natural resources of primary importance for Hungary:

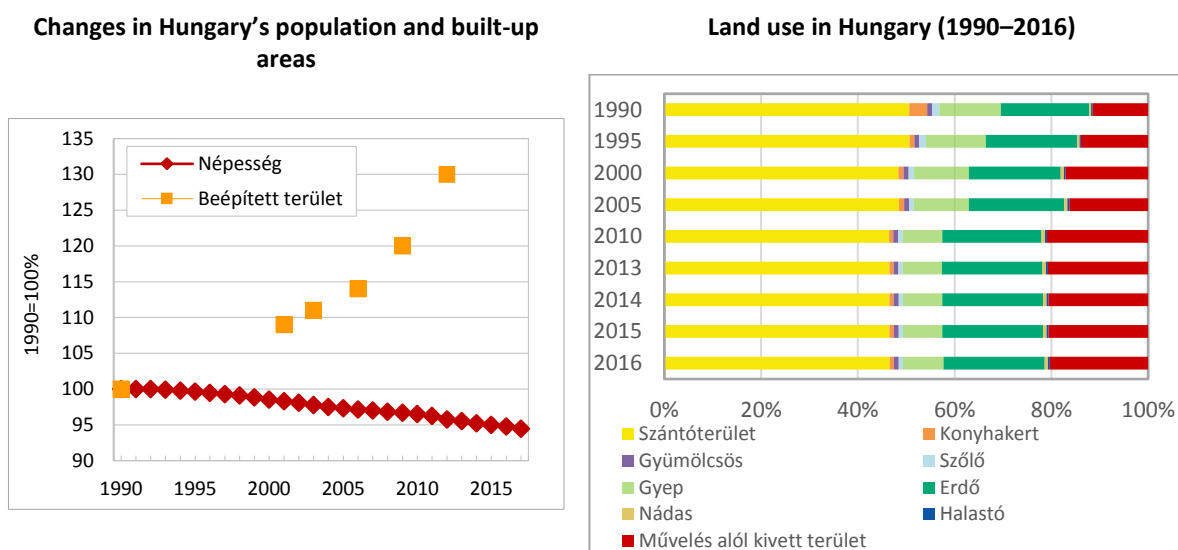
NSSD objectives in natural resources	Key sustainability areas in natural resources
Application of restrictions on use of natural resources	Green areas, biodiversity, land use
Application of production technology restrictions or product standards	Mineral resource management
Correct pricing of natural resource use	Climate and energy management
Promotion of environmentally sound technologies and land use methods	Freshwater supply, water management
Prevention of degradation of biodiversity, soil capacity and ecosystem services	Soil and agriculture
Reduction of environmental impact on human health	Forests and forest management
	Air quality and health

5.3.4 Socio-economic and environmental developments affecting the objectives²⁴

5.3.4.1 Green areas, biodiversity and land use

In the last 20 years, land use has changed extensively. On the one hand, residential areas (re-classification of land), industrial activity, mining and infrastructure (road construction) have significantly grown. The size of agricultural land has decreased while forest areas have increased (OFTK, 2013) (Figure 30). The strong decline in the size of grassland is partly explained by changes in statistical methodology: The requirement to collect information on unused grassland was cancelled in 2010.

Figure 30: Built-up areas and land use



Source: KSH – STADAT [h_wdsd001a](#), Eurostat [tsdnr510](#)

Source: KSH – STADAT [i_omf001a](#)

In the last two and a half decades, agricultural land use has fallen while built-up areas are growing. The most radical change was the growth of uncultivated land from 11% in 1990 to 21% in 2016. The share of agricultural land (cropland, vegetable gardens, orchards, vineyards, grassland) fell from 70% to 58% including cropland in a large part representing 51% of the total land use in 1990 and decreasing to 47% by 2016. The size of grassland was reduced by a third in this period. By 2016, forestation efforts including forestation of unused areas resulted in the share of forest areas to rise to 21% in Hungary. Between 2013 and 2016, no substantial change occurred in the distribution of land use modes (Figure 30).

The aggregate area of natural land of national relevance, protected by specific laws and protected natural areas and natural monuments of local relevance is 890 000 ha representing 9.5% of Hungary's total territory. In addition to the land protected by specific laws in Hungary, a total of 1.2 million ha land has been designated as Natura 2000 sites. The two types show an overlap of 42.4% and the total size of protected areas is 1.99 million ha (21.4%) (Nature conservation data, 2015). Only 6.7% of protected natural areas of national relevance has a published management plan that promotes long

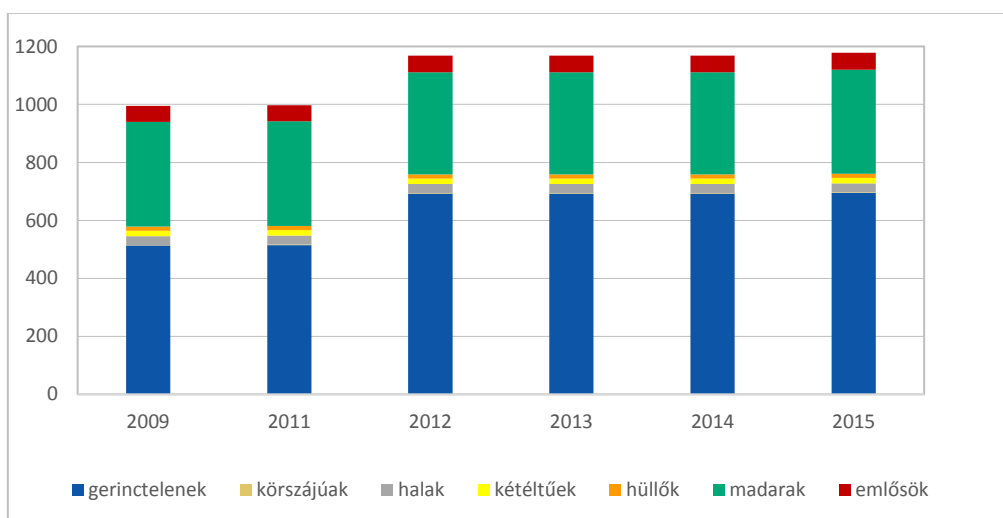
²⁴ This chapter is based on a special assessment by Pálvölgyi, André and Simon (2017).

term sustainability and the improvement of ecological quality (National Nature Conservation Master Plan IV, 2015).

The rate of habitats and species with favourable status appears to improve over time in Hungary exceeding the EU average. Meanwhile, the **conservation status of habitats with unfavourable status** has remained unchanged or declined (60%) since the previous report. On the positive side, the rate of habitats and species with highly unfavourable (poor) conservation status in Hungary is much better than the EU average.

Natura 2000 sites are home to 105 animal species, 36 plant species and 46 habitat types. The protection of a total of 101 bird species living in Hungary and of Community importance and migrating through Hungary in large numbers is supported by 56 special bird protection sites. The number of protected animal species has nearly doubled in 20 years by the addition of certain invertebrates to the protected animals list (Figure 31).

Figure 31: Number of protected animal species in Hungary



Source: Ministry of Agriculture Deputy State Secretariat for Environment (2016):

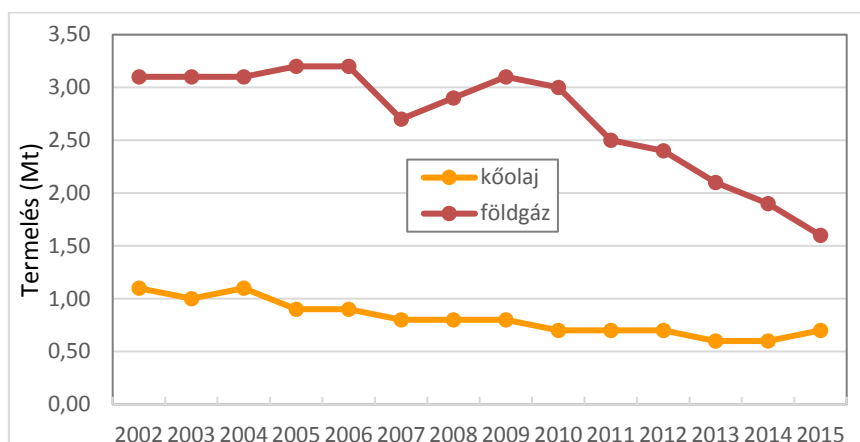
5.3.4.2 Mineral resource management

Ore mining in Hungary has been diminished by decreasing local reserves, the availability of raw materials in the global market at lower prices and more stringent environmental regulations. Bauxite production – following the red sludge disaster in Kolontár – radically fell in 2013 due to the dissolution of MAL Zrt. and dropped below 10 000 tons by 2015. No significant change has occurred in the last 2 years regarding the other mineral resources (Hungarian Office for Mining and Geology (MBFH), mineral asset database).

Comparing local **hydrocarbon** production (0.6 million tons petroleum and 1.9 billion m³ natural gas in 2015) and import data shows that Hungary's dependence on petroleum and natural gas has strongly grown in the last 15 years and local production of petroleum and natural gas only satisfies 10% and 20% of domestic demand respectively. Non-conventional natural gas reserves total 3923.3 billion m³, of which 1565.3 billion m³ could be extracted. New explorations could time by time update these

figures; they have been decreasing in the last few years, new production has not been started anywhere in Hungary (Pálvölgyi, André and Simon, 2017) (Figure 32).

Figure 32: Hydrocarbon production tendencies in Hungary



Source: MBFH mineral asset database, as at January 1 2016

Based on the records of the Hungarian Office for Mining and Geology²⁵ (MBFH), the amount of explored non-metallic raw minerals is 10 791 million m³, of which 6.297 million m³ could be extracted. In 2015, Hungarian mining companies produced 27.2 million m³ resulting in a 50% rise in the production of non-metallic raw minerals compared to the bottom low in 2012. This is explained by the recovery of the local construction industry and higher demand for construction materials induced primarily by transport infrastructure projects, production investments and the recent growth of residential construction. In the meantime, non-metallic raw mineral mining still remains far below the record high results of 2005 when Hungary's total production was over 100 million tons (Pálvölgyi, André and Simon, 2017).

Resource productivity as a key indicator is the ratio of domestic material consumption (DMC) to GDP. This indicator measures the use of natural resources in parallel with economic growth. In Hungary, this indicator has increased since the previous monitoring report to 0.83 €/kg in 2014 and 1.05 €/kg in 2016 (Eurostat, [nama_10_gdp_env_ac_mfa](#)) showing a rise in the productivity of available resources. This promotes economic growth with lower environmental impact. In summary, economic growth in Hungary has been achieved with lower material consumption and consequently lower environmental impact, however we have moved further away from the EU average as other EU countries have improved to a larger extent in total.

Waste management

In 2015 and 2016, Hungary's waste management system was substantially reformed induced partly by the utility cost reduction action of the government and the requirement to comply with EU

²⁵ The independent central office of the Hungarian Office for Mining and Geology (before July 1 2017, Hungarian Office for Mining and Geology and Hungarian Institute of Geology and Geophysics) and the government office of Baranya, Borsod-Abaúj-Zemplén, Jász-Nagykun-Szolnok, Pest and Veszprém counties (together with General Department for Mining Supervision and the mining departments of general controlling departments) are collectively responsible for national mining and geology obligations.

regulations in 2011. The latest legislation is Act CCXXI (published on December 22 2015) on the amendment of Act CLXXXV of 2012 on waste laying down the foundations of a universal not-for-profit public service system based on a break-even business principal. The practical challenges encountered during the implementation of this system has created uncertainty for public service providers and local governments in the last few years. The future objective is to promote a proper environment for green and recycling oriented waste management (National Waste Management Public Service Plan, 2016).

At present, 46% of household waste is recycled in some form (positive change compared to 2013–14) and 21.4% was collected selectively in 2015. Nearly 50% of the waste generated by industrial and other economic organisations is utilised in some form (negative tendency) while 97% of agricultural waste is recycled (positive tendency) (KSH—STADAT, i_ur006).

Construction and demolition waste is generated by the building industry in quantities determined by the industry's performance. The economic crisis led to a reduction of this type of waste but with the recovery of the building industry the amount of waste has significantly increased: In 2014 and 2015, 4.2 and 4.7 million tons of construction waste was generated respectively while this amount was only 3.9 million tons in 2009, the first year after the economic crisis. This is due to the adoption of the EU regulations and the increasing dominance of waste treatment methods and recycling. (Pálvölgyi, André and Simon, 2017).

5.3.4.3 Climate and energy management²⁶

The issue of climate and energy – despite its comprehensive impact on various socio-economic activities on nearly all environmental aspects – requires an integrated approach in order to improve the amount and the condition of the four national resources.

Based on surveys by the National Meteorological Service (OMSZ), **mean annual temperature changes in Hungary** are in line with global tendencies: The national temperature rise of 1.3°C measured since 1901 exceeds the global estimate of 0.9°C. The last 30 years show intensive warming; the review of seasonal changes indicate that summers have become warmer in the first place, nearly by 2°C on average nationally. Summers are measured to be warmer by over 2.5°C in the east northern region and by over 2°C in the eastern and southern parts of the Great Plain, in the broader Dunamenti region and around the Mecsek Mountain. In 2014 and 2015, Hungary experienced record hot weathers: 2014 was the year with the highest average temperature ever recorded while the average temperature was only 0.1°C lower in 2015.

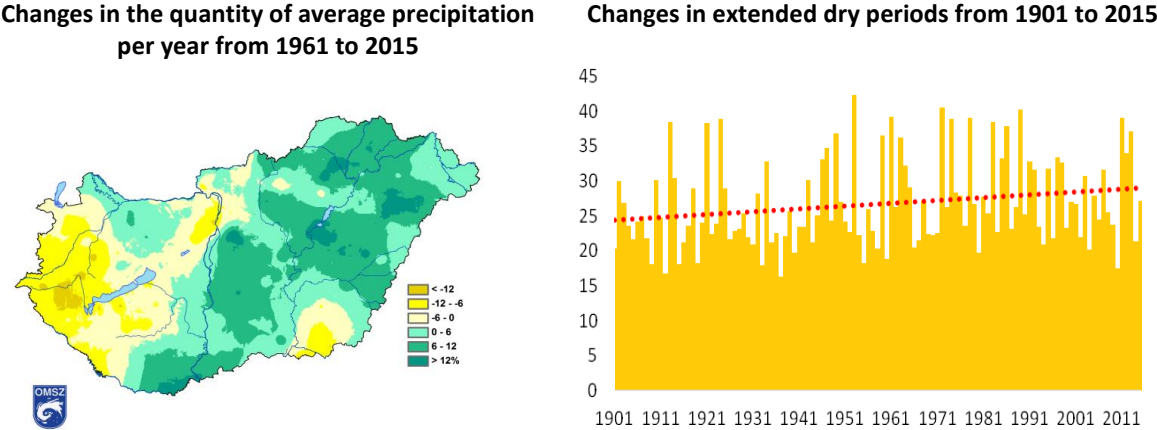
Changes recorded in extreme temperatures indicate that the climate change entails the obvious increase of extreme hot weather and the decrease of extreme cold weather. In the period under review, the number of summer days ($T_{max} > 25\text{ °C}$) and of excessively hot days ($T_{mean} > 25\text{ °C}$) went up by 12 and more than 8 respectively. The highest increase affects Hungary's central region and the southern part of the Great Plain where hot weather lasts for over two weeks in large areas. Simultaneously, the number of freezing degree days ($T_{min} < 0\text{ °C}$) has also fallen since 1901, by typically 14 days on average nationally.

²⁶ This chapter is based on the second National Climate Change Strategy of the Ministry of National Development (2017).

In the last few years, extreme weather conditions have become dominant with more intensive rains in the summer leading to reduced absorption capacity, higher loss of soil and stronger surface runoff. One of the wettest years in Hungary was 2014 (Figure 33), especially between May and October when the amount of rainfall was almost twice as high as the multi-year average. On the contrary, 2015 had less rainfall including 7 months with unusually drier weather, especially in April which was the fifth driest April in Hungary in the last 115 years.²⁷

The probability of extended periods of extremely dry weather has grown, dramatic temperature fluctuations have been experienced in the past few years and Hungary needs to be able to respond to rainfalls causing floods and lack of rainfall causing droughts.

Figure 33: Precipitation tendencies in Hungary



Source: OMSZ.²⁸

The local and regional consequences of the climate change are primarily characterised by **vulnerability**, which considers that climate change affects Hungary’s regions in a different way (*spatially differentiated exposure*, i.e. geographical distribution of the climate change); the natural environment of each region responds to climatic changes with various degrees of sensitivity (*spatially differentiated sensitivity*) and each region is able to adapt to potential impacts to a varied extent depending on their socio-economic development and specific circumstances (*spatially differentiated adaptivity*). With regards to field cultivation, nearly 50% of Hungary’s territory is vulnerable land. One-fourth of the population live in areas affected by very high or high risk of heat waves. Vulnerability significantly varies from region to region and affects Hungary's disadvantaged areas to a larger extent. The general methodology background of the vulnerability assessment, the indicators and databases used are described in the second National Climate Change Strategy in detail.

The replacement of imported **energy sources (fossil fuels)** by the increase of local production contributes to improved energy supply security, could support the reduction of energy dependency and has a number of other economic benefits. As the only high capacity **brown coal deep mine** was

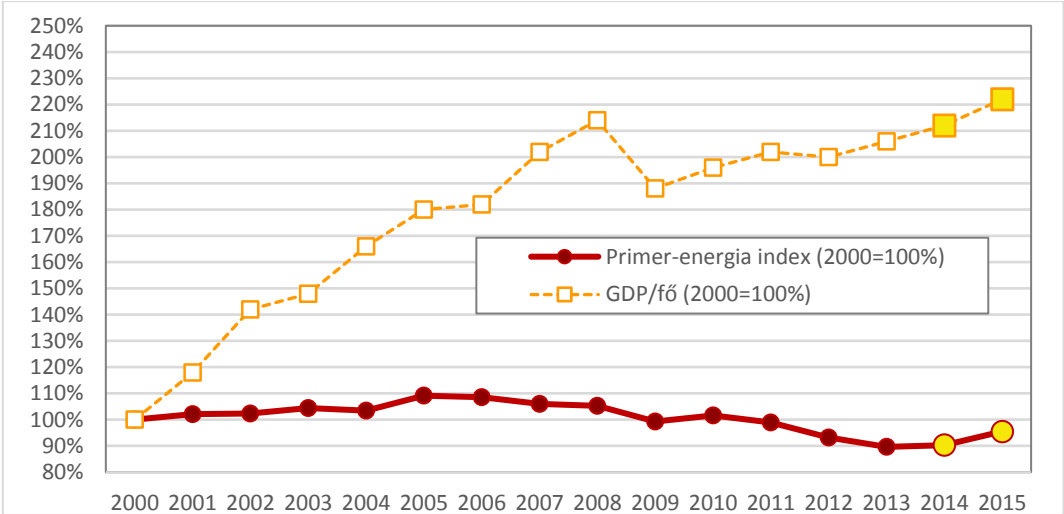
²⁷ Report on the climate and extreme weather events of the years 2014 and 2015 based on section 2 subsection (1) e) of Government decree No. 277/2005 (February 20) on the National Meteorological Service

²⁸ Report on the climate and extreme weather events of the years 2014 and 2015 based on section 2 subsection (1) e) of Government decree No. 277/2005 (February 20) on the National Meteorological Service

closed in 2014, lignite production by surface mining is practically the only remaining operation of coal mining in Hungary. Between 2010 and 2015, domestic natural gas production fell by about 40% primarily due to the favourable price of import gas and the growth of the use of biomass as a substitute for natural gas. Hungary’s **petroleum and natural gas** deposits totalling cca. 600 are concentrated in Zala County and the southern part of the Great Plain (KSH, 2014b; KSH – STADAT [i_int066](#), [i_ui010b](#)).

Since the early 2000s, **energy used** for the production of one unit of domestic product has fallen by 50% in Hungary as the result of the economic restructuring. Energy intensive industries have been downsized while services, and more energy efficient activities that create higher added value have become dominant.

Figure 34: Detachment of primary energy consumption index (2000=100%) and GDP/capita (2000=100%)

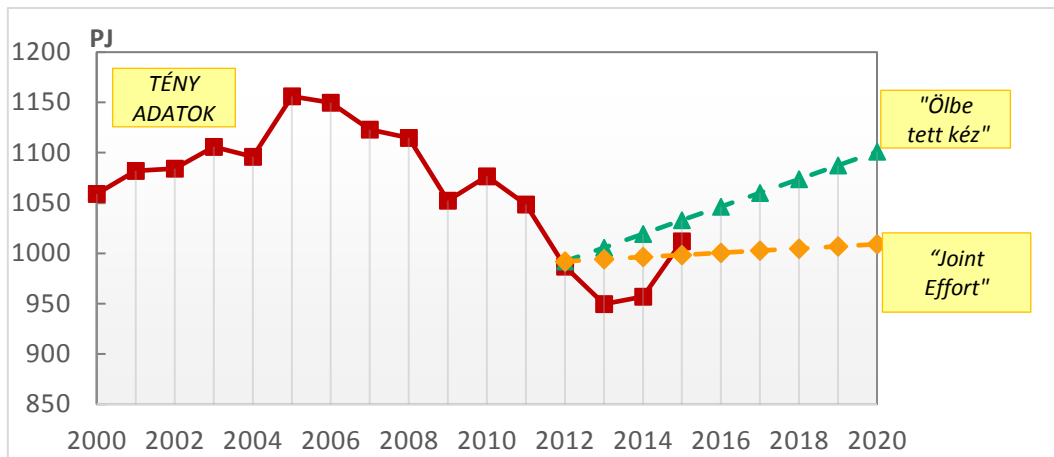


Source: Revision of the National Energy Strategy²⁹, Hungarian Energy and Public Utility Regulatory Authority data (MEKH Pálvölgyi, André and Simon, 2017 editor’s note)

Since 2014, **energy consumption** has been rising and the former positive tendency for energy intensity has been replaced by stagnation. In 2015, the year-on-year growth of primary energy demand (5.8%) was significantly higher than GDP growth (2.9%) and the detachment has stopped. Changes in Hungary’s primary energy demand in the future are critical and the related scenarios are included in the revision of the National Energy Strategy (Figure 34). The scenario “Joint Effort” forecasts 92 PJ/year of “intended” energy savings until 2020 – relative to the baseline –, which is an ambitious target while the availability of the required resources (financial funds, action plans, monitoring mechanisms) to achieve this is uncertain (Figure 35).

²⁹ Government resolution No. 1160/2015 (March 20) on the update of energy consumption forecasts in the National Energy Strategy

Figure 35: Mid-term primary energy demand scenarios (until 2020)



Source: Revision of the National Energy Strategy³⁰, MEKH, Pálvölgyi, André and Simon, (2017) editor's note

The share of final energy consumption in 2015 of households, transport, industrial operations, commerce and public services and agriculture was 31%, 27%, 25%, 14% and 4% respectively. A high amount of energy is used to heat households (73%), which is 23% of the total final energy consumption. Overall, household heating has the highest share in final energy consumption (182513,6 TJ). This is explained by the energy efficiency of residential buildings.

PAKS II

Hungary is planning to build new nuclear reactor blocks estimated to start normal operations between 2025 and 2026.

The strongest argument for this investment is that decommissioning of many ageing, low efficiency traditional power plants in the future will require the substitution of their missing capacity. The extension will also have environmental benefits as greenhouse gas and other hazardous material emissions remain low with this technology. Based on certain professional opinions, the high rate of import energy in electricity consumption is a severe burden, which will not rise further if we maintain our local energy production capacity (Hungarian Electrical Works (MVM)³¹).

The government project has received many critical comments including the lack of the system-wide introduction of green alternative energy sources, the reduction of energy dependency, the loans from Russia to ensure capacity maintenance and the resulting dependence on Russia and the absence of a broad professional and public dialogue. Many civil organisations believe that an energy strategy based on green energy sources would represent a more economical and environmentally friendly solution than Paks II.³²

The primary sustainability risks involved with this project are the disposal of spent nuclear fuel (environmental sustainability risk), project financing and uncertainty regarding future electricity prices (economic sustainability risk).

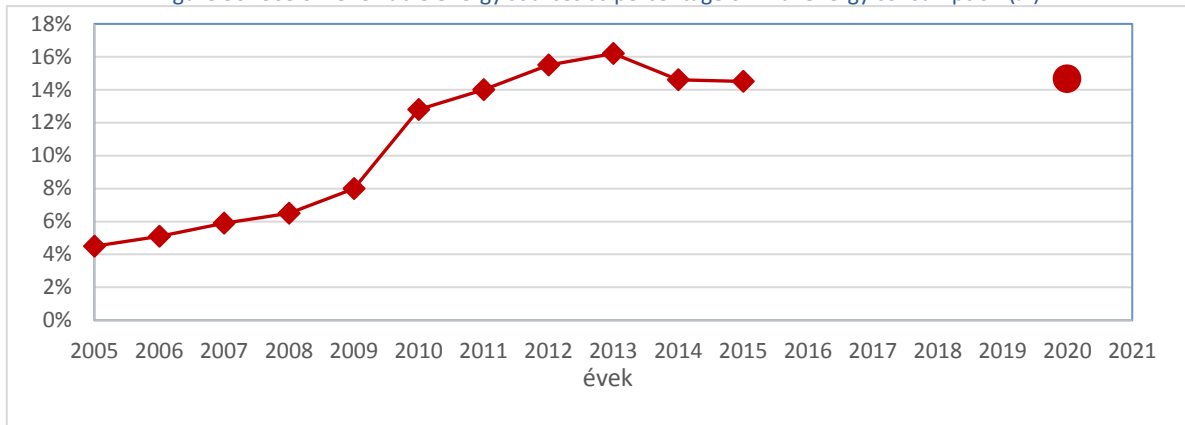
³⁰ Government resolution No. 1160/2015 (March 20) on the update of energy consumption forecasts in the National Energy Strategy

³¹ MVM website: <http://www.mvmpaks2.hu/hu/technikai-menupontok/gyik/Lapok/default.aspx>

³² Energiaklub: <http://energiaklub.hu/hirek/egy-megujulokon-alapulo-energiarendszer-olcsobb-valasztas-lenne-paks-ii-nel-4447>

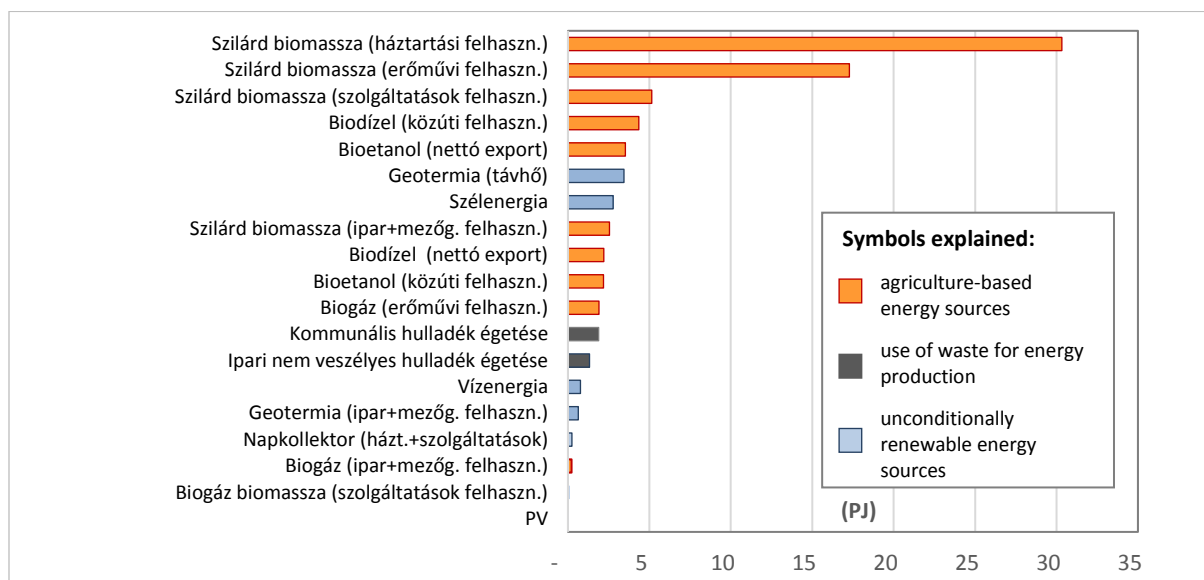
The share of **renewable energy** consumption in Hungary was over 14% of the final energy consumption in 2015, which is a promising sign for the fulfilment of the requirement of 14.65% of the RED Directive³³ (Figure 36).

Figure 36: Use of renewable energy sources as percentage of final energy consumption (%)



Source: Pálvölgyi, André and Simon (2017), page 37 (based on MEKH's energy balance)

Figure 37: Use of energy from renewable sources by sector (2012)



Source: Source: Pálvölgyi, André and Simon (2017), page 37 (based on MEKH's energy balance)

By 2020, the European Union aims to increase the share of renewable energy to at least 20% of the final consumption. To achieve this target, member states have developed national action plans and determined indicative targets for the share of renewable energy sources: Based on its commitments, Hungary is positioned in the last third among EU countries. We are faring even worse in electricity generation from renewable sources: in the period between 2009 and 2015, the share of renewable

³³ Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC (Text with EEA relevance)

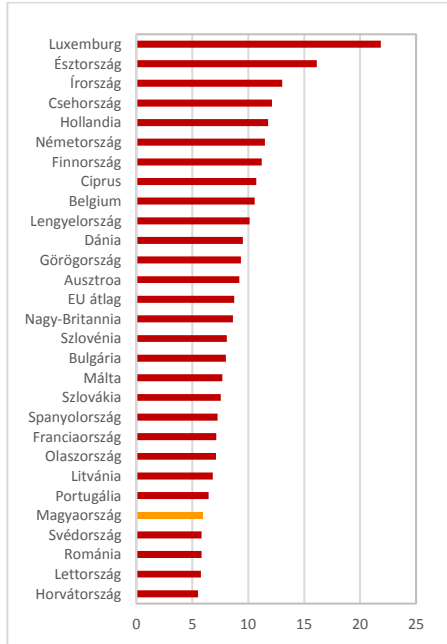
energy in gross final energy consumption was only 6-7% placing Hungary ahead of Cyprus and Luxembourg only in the EU.

With regard to the sustainability transition, the unbalanced composition of renewable energy sources is very concerning (Figure 37). Four-fifth of our renewable energy sources is produced by the agriculture and over 50% of renewable energy sources are used in power plants and as firewood in households. Meanwhile, photoelectric solar energy production in 2014 was below 0.6 PJ (0.008% of final consumption) while the use of wind power was around 2.9 PJ (0.4% of the final consumption). The use of photoelectric solar power is dynamically growing doubling by 2015 compared with the previous year. (KSH_stadat 5.7.4)

The emission of **greenhouse gases (GHG)** fell at the very beginning of the 1990s as a consequence of the termination of “Socialist” heavy industry operations and the economic restructuring. The substitution of coal with natural gas starting in the early 1990s and the ongoing efficiency improvement efforts led to favourable conditions. The global economic crisis starting in 2008 affected the changes in greenhouse gas emissions in Hungary. Between 2008 and 2009, our emission rates fell by 8.6% while there was slight rise in the economy after 2010. GHG-levels declined again in 2012 and started to rise afterwards. As an overall result, GHG-emissions in Hungary decreased by 35% between 1990 and 2015.

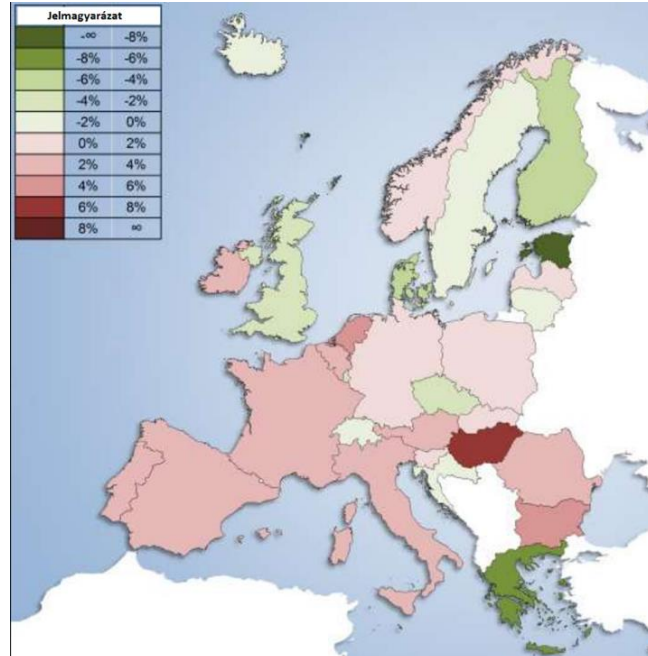
Figure 38: Greenhouse gas emissions across the EU

Greenhouse gas emissions per capita by European countries (2014, tons of CO₂ equivalents)



Source: Eurostat t2020_rd300

Greenhouse gas emission trends (changes between 2014 and 2015, %)



Source: EEA, 2016

Hungary contributes less than 1.5% of all GHG-emission in the EU. Emission per capita shows (Figure 38, left side panel) that Hungary is among the best performing countries in the EU. This is due to the high share of nuclear energy, the reduction of energy intensive industrial operations, energy saving efforts and the relative penetration of renewable energy sources. Meanwhile, preliminary data published show Hungary reporting a 6% rise in GHG-emissions from 2014 to 2015, which is the highest rate in the European Union (Figure 38, right side panel). The sectoral distribution of greenhouse gas emissions in Hungary is uneven. In 2014, the highest rate of emissions (73%) was from the energy sector, followed by 12% from the agriculture, 9% from industrial processes and 5% from waste management (Eurostat [env_air_gge](#)). Within the energy sector, there was a significant rise of emissions from the transport industry, 12% in 2014 and 9% in 2015, caused primarily by transit transport and the average vehicle age in Hungary (13.7 years on average in 2015) (National Inventory Report 1985-2015).

5.3.4.4 Freshwater supply, water management

Both positive and negative trends have affected the quantity and quality of surface and underground water reserves. Thanks to EU funds, the share of communities **with waste water collection services** is constantly rising simultaneously with the rate of households supplied with waste water treatment services. Compared to the decline in the 2000s, house water consumption remain unchanged and showed slight growth from 2014 to 2015. Uncontrolled **landfill sites** have been decommissioned in part and are being replaced by modern regional waste dump plants.

While the quantity of waste water released by industrial operations may slightly rise due to growing industrial production, advanced technologies support the reduction of energy used for the production of one unit by modern industrial facilities together with water consumption. The majority of plants of industries with the highest demand for water and causing the highest pollution (sugar and paper factories) have been closed and the production volume of the bauxite mining operation generating huge amounts of slurry radically declined after the red sludge disaster in Kolontár and the dissolution of MAL Zrt.

Unrecorded **water abstraction** is an important issue. (Based on expert estimates, 4000-5000 new wells are drilled every year representing water withdrawal of roughly 100 million m³ per year while only 400-500 ones are registered).

In Hungary, the conditions for agricultural production are favourable, however the uneven distribution of rainfall in space and time requires careful planning of water use in the agriculture in the future. The permeation of contaminants caused by incorrect use of agricultural land (use of synthetic and organic fertilisers and organic substances released from animal farms although this burden is decreasing due to increasingly stringent legal regulations and the effective use of grants available for modernisation) and high nitrate and ammonium contamination in certain areas remains a serious problem. Between 2009 and 2012, surface waters were contaminated by a total of 25.3 tons of nitrogen on average every year.

In the last 15 years, the rate of areas affected by **droughts** in Hungary has been well over 50% multiple times. There were excessive dry periods in 2000, 2003, 2007, 2012 and 2015. In early spring, **ground water** in the deeper areas of the Great Plain and its drainage caused problems while in the vegetation period during summer, enormous floods threatened cultivated areas. Ground water floods in late

winter and early spring are significant causing problems mainly in the southern part of the Great Plain. Ploughed-in or neglected ditches and obsolete drainage works prevent quick response to the problems. Decades after the discontinuation of the karst water production in the Transdanubian Mountain Range, nature appears to be regenerating with karst water springs emerging in many places much sooner than expected.

By the late 2000s, the rate of **irrigated** agricultural land declined to roughly 100 000 ha (Ministry of Agriculture, 2017a). In the meantime, the condition of the basic infrastructure in agricultural water management such as water abstraction and pumping structures and water drainage ditches has declined. For the period between 2014 and 2021, funds under the Rural Development Programme for irrigation development promoting more efficient water use will be tripled compared to previously available financing.

The **Water Framework Directive**³⁴ (2000/60/EC Directive of the European Parliament and of the Council, WFD) requires all member states to achieve good status both for surface and underground waters by 2015 and maintain this status in the long term. “Good status” includes not only clean water but also the near natural state of associated water-dependent habitats and the quantity of water affecting water quality. In 2010, EU member states published 160 river basin management plans (RBMP) to protect and improve water environment and the second RBMPs for 2016–2021 were adopted at the end of 2015t (EEA, 2015; General Directorate of Water Management, 2016; Pálvölgyi, André and Simon, 2017).

Based on the review document of RBMP2 (General Directorate of Water Management, 2016) the quality of surface waters in the period under review (RBMP: 2006–2008 and RBMP: 2009–2012) failed to improve or only very slightly improved. In Hungary, 7% of surface water flows are in good ecological condition while 88% are in less than good status and has less than good ecological potential. The examination of physico-chemical properties found 46% of the assessed water bodies in good condition and 13% in excellent status. Based on hydromorphological properties, 460 water bodies (52%) are in good status and 153 water bodies (17%) are in excellent ecological status. Based on biological properties, the majority of water courses are classified as moderate or poor (only 0.4% is excellent and 9% is good). In the period between 2008 and 2012, the assessment of the chemical status of Hungary’s water courses show a relatively high lack of data (41%) while 26.5% are in good and 32.5% in less than good status. The largest problem with the chemical status of river water bodies is the presence of cadmium and mercury, often in quantities exceeding the threshold values. In many instances, chemical threshold values were exceeded in the sub-basin of the Tisza River and in border sections caused by the geological composition of the river basin and pollution primarily originating from outside of Hungary (e.g. mining operations in Romania) (Pálvölgyi, Csete and Czira, 2013). Reported earlier as an important issue, the present assessment did not find any pollution by dissolved copper and zinc originating from upper sections of the river (Figure 39).

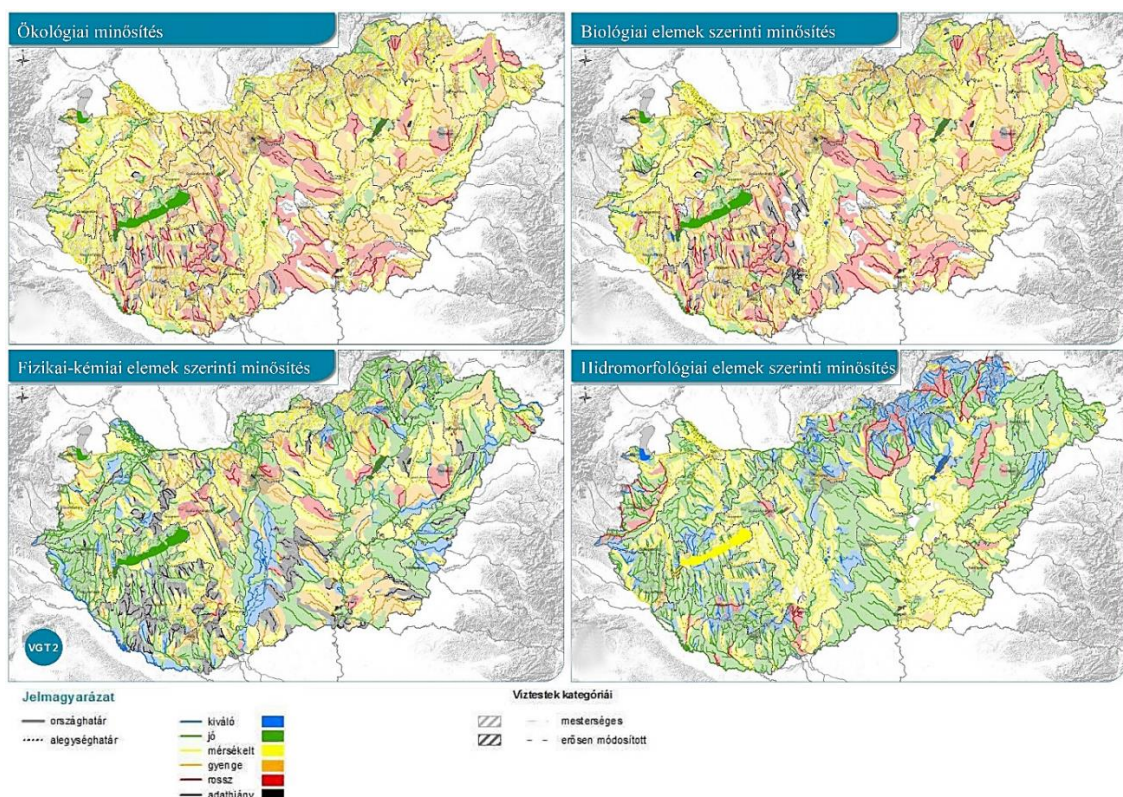
³⁴ 2000/60/EC Directive of the European Parliament and of the Council of 23 October 2000 establishing a framework for the Community action in the field of water policy.

In Hungary, the assessed lake water bodies are in better ecological status than the river water bodies, in particular examining the results of the water surface quality. In the category of large lakes, Lake Balaton, Fertő and Velencei are in good status (General Directorate of Water Management, 2016).

Based on physico-chemical parameters, the water quality of the **Danube** is good to Budapest but it deteriorates in lower sections of the river. The highest level of pollution by organic substances (BOD₅ and COD) affects the Danube to the river section below Dunaföldvár and starts to improve beyond that point. One of the key causes of water quality problems of the Danube is eutrophication, which has been declining in recent years despite the significant waste water investments implemented. Based on the latest data from 2013, BOD₅ values are constantly rising (4.6 mg/l) highly exceeding the baseline value of 2009 according to the WFD (3.5 mg/l).

Water quality in the upper section of the **Tisza** is mainly influenced by pollution coming from abroad including landfill sites, mines and areas lacking sewers. Organic substances are the main problem in sections under Lake Tisza and all types of phosphates and petroleum products have also had an adverse impact on water quality. Overall, there has been a slight increase in biochemical oxygen demand in recent years but there has been improvement between the incoming and outgoing sections of the river. Based on the latest available data from 2013, chemical oxygen demand in the Tisza has been continuously improving from the WFD baseline data of 14.4 mg/l in 2009 to an average value of 8.7 mg/l in 2013.

Figure 39: Status of surface water bodies



The quantitative status of the majority of **underground water bodies** is good and the number of water bodies with good qualitative status has risen. Porous shallow and porous underground water bodies are the most vulnerable. These water bodies could be affected by drinking water abstraction from deeper layers and they mutually influence their quantities due to their special relationship (porous shallow waters supply the porous water bodies with water) Diffuse pollution remains the biggest problem and water bodies near the surface are at high risk.

Following a decline until 2013, household water consumption is expected to slightly rise. 77% of water abstraction from underground water bodies is for the supply of drinking water while other uses are insignificant. Due to technology improvements, industrial water consumption decreased considerably (62%) between 2000 and 2013. A further decrease after 2014 is highly probable. The precise quantity of agricultural water consumption is unknown as national data are only available regarding irrigation and fishing lakes, which totalled 483 million m³ between 2012 and 2016 on average (of which 39% was used for fishing lakes on average). (KSH – STADAT 6.4.1.2)

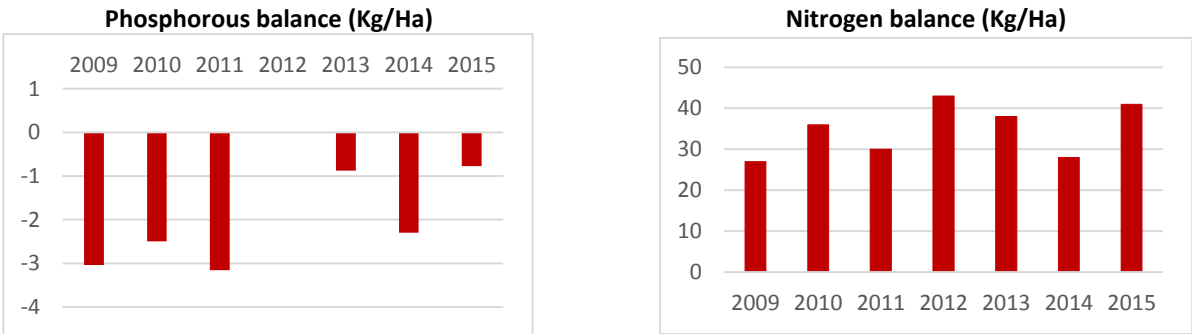
5.3.4.5 Soil and agriculture

Soil as a conditionally renewable natural resource represents roughly 22% of Hungary’s national assets (Németh, 2005). One of the key functions of soil is fertility, i.e. its ability to supply plants with water, air and nutrients in adequate amounts and at the correct times. The quality of our soil is defined by the nitrogen and phosphorous balance, two elements critical for farming, the use of fertilisers and pesticides and the rate of organic farming, a method better promoting sustainability.

The indicator of biologically inactive areas shows the rate of cropland and built-up areas within a country (KSH, 2017e). Hungary’s rate is 67%, which has not changed since the previous report showing the lack of any significant change (KSH – STADAT i_omf001b).

The amount of **phosphorous** in soil in Hungary was below 0 between 2009 and 2014 – except in 2012 when it was 0 –, which threatens the sustainability of agricultural production. The amount of **nitrogen** added to the soil in fertilisers had been growing until 2012 then declined by 2014 and rose again by 2015. Nitrogen added in organic fertilisers is roughly one-third of the amount added in fertilisers. The nitrogen balance mainly changes depending on the quantity of crop taken from a specific area (Figure 40).

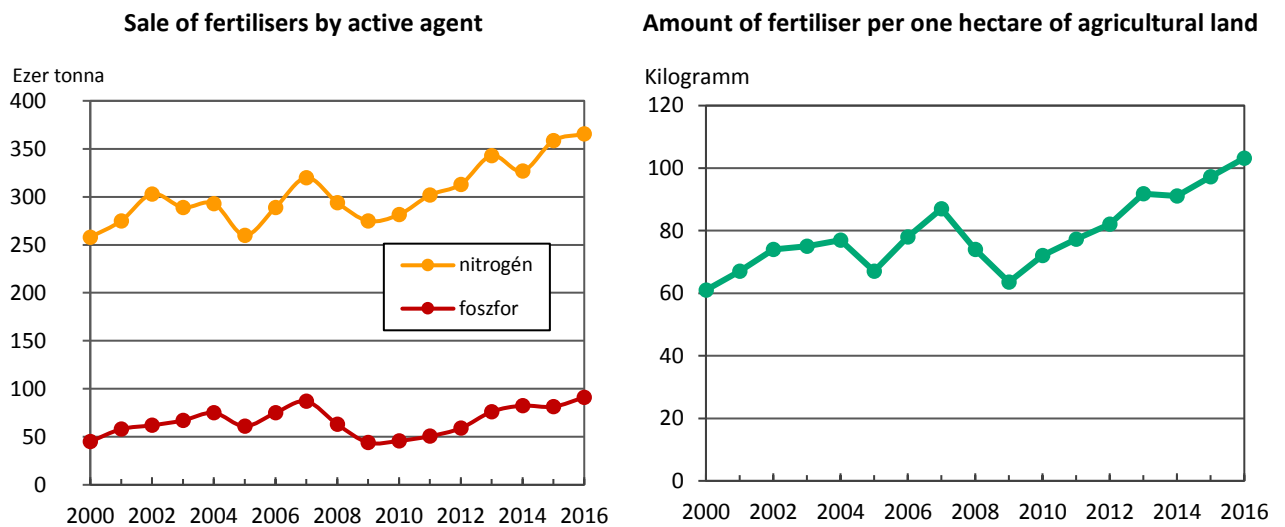
Figure 40: Nitrogen and phosphorous balance in Hungary per one hectare of agricultural land



Source: KSH i_tal001b, KSH, 2017e, aei_pr_qnb

In Hungary, the amount of **fertilisers** used per one hectare has been growing since 2009 together with the total quantity of nitrogen and phosphorous sold annually. The rising use of fertilisers is the highest risk for the quality of the soil and surface waters. This can cause soil acidification, the accumulation of toxic elements, the increase of nitrates, eutrophication, the diffuse pollution of groundwater etc., even far from the source (erosion). Excessive use or unbalanced distribution of fertilisers can cause metabolism disorders in cultivated plants and can change the biological activity of the soil (Figure 41).

Figure 41: Sale and use of fertilisers (active agent)



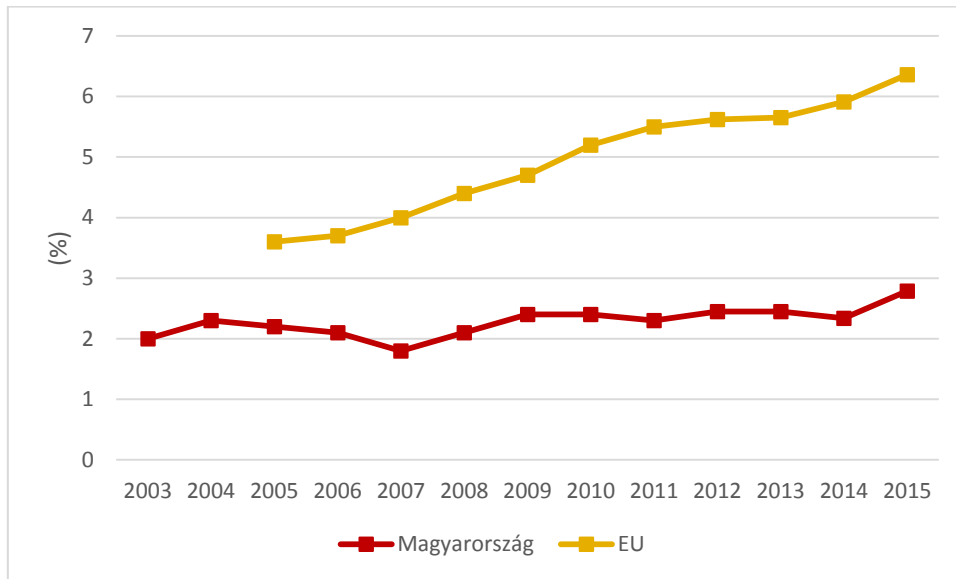
Source: KSH STADAT i_omf002.html

Until now, Hungary has failed to sufficiently exploit the potential in **organic farming** highlighted by a number of relevant Hungarian strategic documents (Ministry of Rural Development, 2012). In the European Union, organic farming is an agricultural production method regulated by strict rules with a strong focus on the protection of the natural environment stressing in particular the protection of soil, surface and underground water, the maintenance of biodiversity and food security. In the EU, land converted to organic farming has been dynamically growing since 2005. In 2015, Austria had the highest rate of crop area fully converted to organic farming at 20.25% but Sweden, Estonia, the Czech Republic, Finland and Latvia were also at the top with rates over 10% (Eurostat [org_cropar_tsdpc440](#)). In Hungary, the rate of converted crop area is also growing, albeit at a slower pace: in 2015, nearly 130 000 ha land was converted to organic farming, which slightly decreased between 2013 and 2015. (KSH–STADAT [i_ua001](#)). Between 2012 and 2015, the number of registered organic farmers rose by 411 to 1971 while it has been fluctuating in recent years due to certain regulatory and market processes (Ministry of Rural Development, 2014). Unfortunately, this places Hungary in the last third on the list of European Union countries (Eurostat [org_coptyp](#)) (Figure 42).

Based on the use of **pesticide active ingredients** relative to size of land, Hungary ranks in the middle across EU countries with quantities rising by 14% between 2011 and 2015. The amount of pesticides sold declined by 15% between 2008 and 2010 and has been constantly increasing since then. The sale of insecticides radically grew between 2011 and 2014 by roughly 43% and then fell from 2014 to 2015

by nearly 10%. The sale of weed killers is above the EU average having constantly grown between 2011 and 2015 with a total of 427 tons sold in 2015 (Eurostat [aei_fm_salpest](#)).

Figure 42: Crop area converted to organic farming as percentage of all agricultural land in Hungary and in the EU



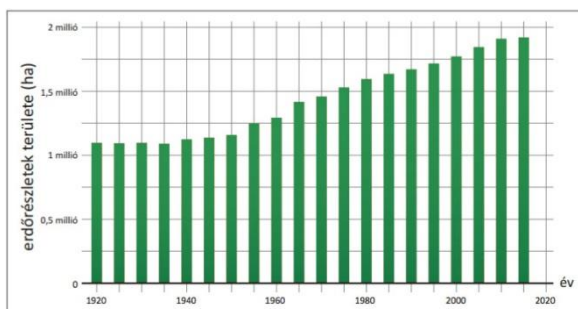
Source: Eurostat [tsdpc440](#)

5.3.4.6 Forests and forest management

As a result of afforestation programmes, the size of forested land rose from 11.8% in 1920 to 20.8% in 2016 in Hungary. Since 2013, the area of forest planting has been gradually shrinking from 2530 ha in 2013 through 1287 ha in 2014 to 318 ha in 2015 (Figure 43). Borsod-Abaúj-Zemplén County has the largest area of forested land (approx. 10%) and Nógrád County has the highest rate of forested land (approx. 40%). In total, 56% of the forests are owned by the Hungarian state.

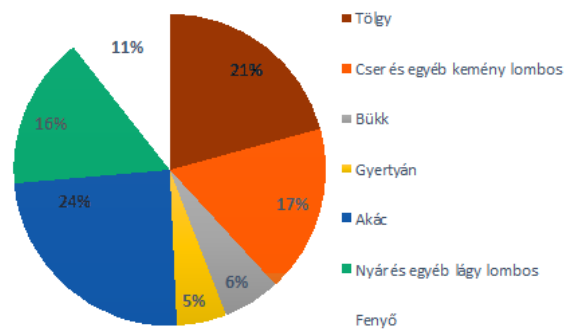
Figure 43: Forest area and tree species composition in Hungary

Long term trends concerning forested land



Source: National Food Chain Safety Office (NÉBIH), 2016

Composition of forests by tree species (2015)



Source: National Food Chain Safety Office (NÉBIH), 2016

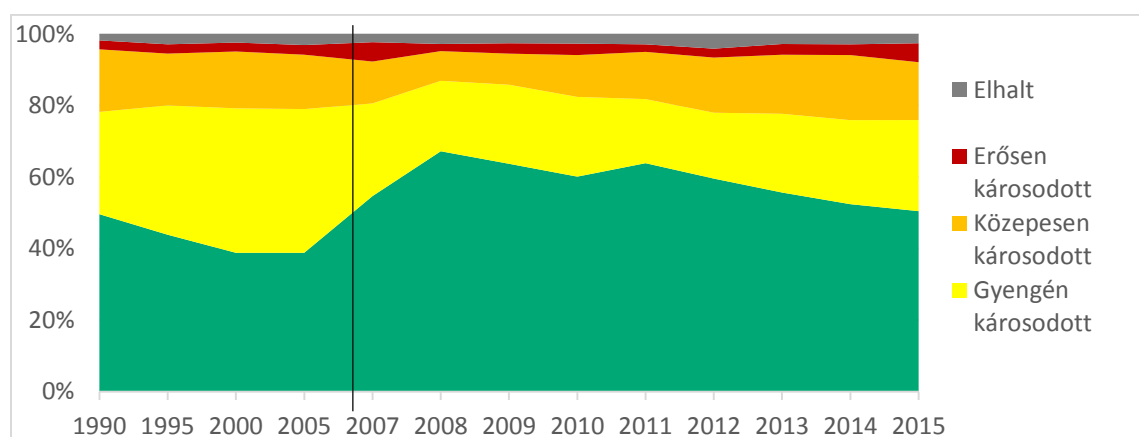
Forests are classified into naturalness categories based on their tree species composition. The majority of our forests are classified into the natural or semi-natural (approx. 430 000 ha), second-growth

(approx. 600 000 ha) and plantation forest (approx. 650 000 ha) categories. The rate of indigenous tree species in Hungary declined by roughly 2 percentage points between 2000 and 2015 while the share of land covered by indigenous tree species grew by nearly 7%. The rate of indigenous species is 63% while non-native or invasive species (acacia, northern red oak, and some species of pine tree) and hybrid species (*Populus x. Euramericana*) have a share of 37% (KSH, 2017e). In total, 22% of our forests are protected natural areas and 40% are designated Natura 2000 sites.

Based on their function, Hungary’s forests are classified as production, social welfare and protective forests with the associated rates in 2016 being 61.9%, 1.1% and 37.1% respectively. Protective forests include forests serving flood control, soil protection and nature conservation purposes and their rate is constantly growing. (Ministerial information document on the condition and status of Hungary’s forests in 2015, 2015).

Forest health in Hungary is good although the decay that started in 2007 continued between 2013 and 2015 at a low rate. The rate of undamaged forests ranged from 49% to 62% standing at 52.4% in 2014 and 50.5% in 2015 (KSH – STADAT i_ome005). Based on samples taken in 2015, 25.5% of all trees are at risk (slightly damaged), 16.2% are moderately damaged, 5.3% are severely damaged and 2.6% are dead (Figure 44). Similarly to the trends of previous years, average defoliation rate was 20.5% in 2015 representing a slight year-on-year decline.

Figure 44: Forest health based on defoliation (1990–2015)³⁵



Source: National Food Chain Safety Office (NÉBIH), 2016

In 2015, turkey oaks and other deciduous hardwood trees appeared to be the healthiest. Among these, the rate of undamaged trees was over 60% and the highest rate of damage affected black pine (Pálvölgyi, André and Simon, 2017).

In Hungary, 99% of **forest fires** are caused by negligent or voluntary human behaviour with 40–50% starting during open fire bans. In recent years, forest fires have become more frequent in Hungary.

³⁵ Note: Data after 2007 are not comparable with data from previous years as the limits for the various damage categories changed. This is explained by the adoption of an international methodology (ICP Forests) and damage categories.

The highest damage affected forests close to agricultural areas in Northern Hungary and the Great Plain where over 40% of all the fire incidents happened.

Forests available for production purposes total over 62% of all the forests. In 2013, the quantity of trees cut down was close to 8 million m³ while tree growth exceeded 13 million m³ (KSH, 2015a). By 2015, logging decreased to 7.4 million m³ while the size of tree growth remained unchanged. In 2013, the amount of live trees was 370 million m³ in a forest area of over 2 million ha representing an increase of 14% nationally from 2000 reaching 378.5 million m³ by 2015 (KSH, 2017e).

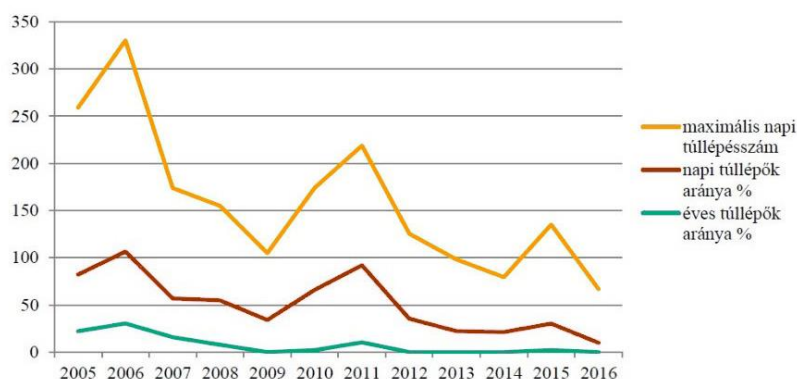
This reflects the measures of recent years – in harmony with international and national efforts – to replace business-oriented forest management practices by **sustainable forest management**. However, this type of forestry management that sets a good example has not yet become a general practice. Quantitative data reflect better condition of forests than qualitative data: e.g., the size of forested land rose, annual timber harvesting figures are lower than the size of tree growth (forest yield), however the non-native acacia has now the highest rate in the composition of tree species and forest health has been decaying at a constant albeit slight rate since 2007.

5.3.4.7 Air quality and health

The quality of air affects human and plant health and the condition of built-up areas and also has an indirect impact on the economy. On an international scale, Hungary’s mean level of air pollution is around average, however based on average levels of the concentration of particulate matter (inhalable particles 10 millimetres or less in diameter, PM₁₀) between 2012 and 2014, ranks 8th among EU-28 countries.

Data from the National Air Pollution Monitoring System (Figure 45) show improvement in air quality on a national level and in the long term until 2016. Limit values have not been exceeded since 2011 when outstanding levels of air pollution were recorded. The specific circumstances, the various seasons and weather conditions of the specific year have a crucial impact on the quality of air.

Figure 45: Statistics from monitoring stations exceeding PM₁₀ limit values



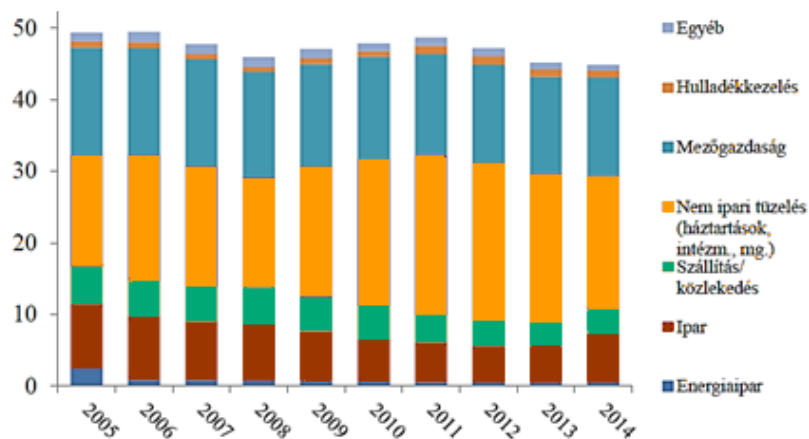
Source: Ministry of Agriculture, 2017b p. 3

The following economic sectors emit the highest quantities of particulate matter (Figure 46):

Non-industrial combustion: residential combustion is the biggest problem in Hungary's town and villages, lignite is being replaced by biomass, which in many cases involves the open burning of household garden waste and the use of illegal fuels (e.g. household waste) in particular in areas with disadvantaged socio-economic status. The rate of household combustion in total emissions in 2015 was roughly 40%.

Agriculture: The share of agricultural sources (ploughing, soil works, use of pesticides etc.) in national PM₁₀ emissions is approximately 15% (Bibók, 2016; Ministry of Agriculture, 2016b).

Figure 46: Distribution of PM₁₀ emissions



Source: Ministry of Agriculture, 2017b, p. 4

The amount of particulate matter emission from industrial sources has been strongly declining since 2005. Urban residents are at the highest risk of exposure to particulate matter in ambient air as it is generated in urban space in large quantities. In 2014, public exposure to particulate matter pollution slightly increased compared to 2013 from 27.3 to 28.2 microgram/m³ while declining in the EU.

The **distribution of atmospheric particulate matter pollution** varies from region to region and from community to community. Significant and long-term non-compliance with limit values can be typically associated with specific geographic areas and the related sources of emission (so-called hotspots). Sajó Valley and areas around Pécs are at especially high risk of exposure. Based on data for the period between 2013 and 2015, Hungarian cities at the highest risk of PM₁₀ exposure are Miskolc, Budapest, Pécs and Nyíregyháza (OMSZ, 2016).

Epidemiology studies show that particulate matter in ambient air has both short and long term adverse effects on human **health** (Dura and Pánics, 2018). It has a broad spectrum impact affecting primarily the respiratory and circulatory systems in degrees varying depending on the age and health status of the patients. Based on data collected by the WHO, Budapest has an average concentration of 33.7 µg/m³ per year where the average life expectancy could be extended by 19.3 months if the recommended level of 10 µg/m³ of PM_{2.5} concentration was reached. (WHO, 2013).

5.3.5 Government measures

Since the review period of the previous monitoring report, a number of documents have been adopted that also affect the period between 2015 and 2016: the **National Environmental Protection Programme 2014–2019**, the **National Forest Strategy 2014–2020**, the **second National Climate Change Strategy 2014–2025** and the **National Waste Management Plan 2014–2020**. In addition to this, the **Energy Strategy 2030**³⁶ adopted in 2012 is one of Hungary's most important energy policy documents. In 2013, the **National Water Strategy** was adopted aimed at promoting the protection of the quality and quantity of water, fulfilling water consumption needs as well as the reduction and prevention of the adverse impacts of excessive or insufficient supply of water (Ministry of Rural Development, 2013).

The following strategic and policy documents have been designed to promote the sustainability of our natural resources:

- The key priorities of the **National Forest Strategy 2016–2030** are the use of forests for cultural, economic and social purposes, the promotion of the growth of forests, the improvement of the quality of forests, the promotion of ecotourism, the increase of employment, the protection of forest ecosystems and the preservation of their biodiversity, sustainable wildlife management, the maintenance and improvement of advanced forest protection systems and the training of adequately qualified professionals (Ministry of Agriculture, 2016).
- The document called the “**National Programme of Hungary on the Management of Spent Fuel and Radioactive Waste**” aims at ensuring that the management of radioactive waste and spent fuel as well as the decommissioning of nuclear facilities comply with the relevant principles³⁷ (Ministry of National Development, 2016).
- The **National Biodiversity Strategy 2015–2020** – which is in harmony with the EU's biodiversity strategy – focuses on six key areas: the protection of habitats and species protected by nature conservation laws and regulations, landscape biodiversity, the maintenance of green infrastructure and ecosystem services, issues concerning agriculture, sustainable forest and wildlife management and the protection of aquatic resources, combating invasive alien species and the fulfilment of requirements of biodiversity protection agreements (National Biodiversity Strategy 2015–2020, 2015).
- The objectives of the **National Waste Management and Public Service Plan 2016** include the promotion of landfill diversion, the increase of the collection of reusable materials from waste, the promotion of the use of waste to generate energy, exploitation and improvement of the available infrastructure, long term solutions for the management, composting of biodegradable waste and the management of the generated waste water sludge (National Waste Management and Coordination and Asset Management plc., 2016).
- **Hungary's National Energy Efficiency Action Plan 2020** aims at guaranteeing energy security for Hungary taking into account environmental sustainability and how much burden can consumers tolerate while promoting a shift toward a structural change in Hungary's energy

³⁶ Government Resolution No. 1160/2015 (March 20) on the update of energy consumption forecasts in the National Energy Strategy

³⁷ This document defines 8 principles: the protection of human health and the environment; the priority of safety; minimisation of the burden imposed on future generations; minimisation of the generation of radioactive waste; the ALARA (As Low As Reasonable Achievable) principle; the final disposal of radioactive waste generated in Hungary; the “Polluter Pays” principle.

sector. The interventions of the action plan mainly focus on the modernisation of the energy performance of buildings and transport infrastructure in order to reduce consumption (Ministry of National Development, 2015).

In order to achieve the sustainability of natural resources, Hungary's government has adopted the following strategies and plans affecting the time beyond 2015–2016 and having positive impacts in the future: in 2017, the **National Landscape Strategy 2017–2026** (Ministry of Agriculture, 2017), the **second National Climate Change Strategy 2017–2030** (Ministry of National Development, 2017) and the **Kvassay Jenő National Water Strategy Plan** were adopted.

5.3.6 Good practices from market players

A small fraction of Hungary's large companies now develop their monitoring reports on a regular basis while the number of small and medium-sized enterprises that are aware of the importance of such reports is also growing. These reports typically place strong emphasis on the description of the responsible behaviour towards natural resources and their commitment to sustainability. Market players fund a large number of programmes implemented at corporate or community level that promote environmental awareness and encourage responsible behaviour toward natural resources. In the manufacturing industry, increasing efforts are made to promote energy and water efficiency, to reduce waste and improve the recycling rate and the constant reduction of the emission of pollutants. In order to monitor and control environmental objectives and targets, a significant proportion of Hungary's large companies have voluntarily introduced regular quality assurance audits specified in the ISO 14001 standard on environmental management.

Hungary's agricultural sector is facing new challenges associated in part with environmental impacts of the climate change (extremely dry or wet periods, deteriorating soil quality, price volatility of agricultural commodities etc.). Agricultural business development programmes (e.g. Contivo™) allow the efficient improvement of the profitability of the production of farms through comprehensive sectoral cooperation and importantly promote the application of sustainable production technologies. In the last four years, area-specific and long term agricultural solutions have been applied on 10% of Hungary's total crop area, i.e. roughly 400 000 ha with the engagement of over 400 plants and farmers. Adaptive soil management and nutrient replacement help not only improve the physical structure, the biological condition and water absorption capacity of soil but the programme's environmentally oriented crop production technologies allow the participating farms to maximise their profitability in a sustainable manner in an increasingly changing and challenging natural and economic environment. The comprehensive sustainability programme includes the promotion of biodiversity, the support of the activities of small enterprises as well as safety at work or employee protection.³⁸

³⁸ Source: <http://bcscdh.hu/fokuszban-kornyezetvedelem-iden-17-alkalommal-zold-beka-dij/>
<http://bcscdh.hu/maqyarorszagon-is-fenntarthatosagra-osztonoz-az-unilever/>
<http://bcscdh.hu/maqyar-suzuki-a-fenntarthatosagert/>
<https://www.syngenta.hu/contivo-program-atfoqo-uzemi-megoldasok-qazdalkodoknak>

5.3.7 Summary conclusions

Positive trends	Risks
<p>Green areas, biodiversity, land use</p> <p>Biodiversity in the Carpathian Basin is above the EU average. As an example, the rate of Natura 2000 areas relative to the total territory of Hungary is one of the highest in the European Union.</p> <p>As the result of forestation and tree planting in unused areas, the rate of forested land in Hungary was 21% in 2016 compared to 18% in 1990, which has constantly grown since 2013.</p>	<p>New housing and infrastructure projects and growing cities lead to a radically increasing rate of land removed from production.</p> <p>There is a strong negative detachment between the size of the population (which is declining) and the size of built-up areas (which is exponentially growing) clearly signalling a tendency that threatens the share of natural, semi-natural and other green areas.</p> <p>Between 1990 and 2016, the rate of agricultural area (cropland, vegetable gardens, orchards, vineyards, grassland) decreased from 70% to 58% where the share of the ecologically most invaluable cropland remains the highest.</p> <p>The protection of nearly 60% of the habitats remains unfavourable and is declining in time. This means that a large number of plant and animal species continues to be protected.</p>
<p>Mineral resource management</p> <p>In 2015, 3.8 million tons of construction waste was generated compared with 3.9 million tons in 2009, the first year after the economic crisis. The adoption of EU regulations and the implementation of policies promoting on-site recycling caused a shift in the direction of recycling.</p>	<p>As a result of the recovery of the construction industry, production rates grew by 90% for gravel, 25% for sand and 60% for cement and whitewash materials by 2015, compared to 2012 believed to be the worst year in the sector.</p> <p>Hungary's dependence on petroleum and natural gas has continued to grow in the last few years and local production of petroleum and natural gas only satisfies 10% and 20% of domestic demand respectively.</p>
<p>Climate and energy management</p> <p>Hungary's share in the EU's total greenhouse gas emissions is lower than 1.5%; and based on per capita emissions, Hungary is one of the best across the EU countries.</p> <p>In the last 20 years, Hungary's GHG-emissions fell by nearly 40%, which is in a large part the result of the economic restructuring.</p> <p>Our energy intensity relative to GDP had halved in 15 years until 2013. This represents lasting and significant detachment with the change of primary energy use in Hungary.</p> <p>Based on the current trends, we are making great progress to meet the 14.65% requirement of the RED Directive as the rate of renewable energy sources in the final energy consumption exceeded 14% in 2015.</p> <p>Between 2010 and 2015, domestic natural gas production fell by about 40% primarily due to the favourable price of import gas and the growth of the use of biomass as a substitute for natural gas.</p> <p>In 2015, the use of solid biomass in total exceeded 60 PJ/year equal to 6% of the total primary energy consumption. The use of solid biomass to heat</p>	<p>Hungary's total national temperature rise measured from 1901 (1.3°C) exceeds the estimated global change in temperatures (0.9°C).</p> <p>Climate change is typically reflected by the higher frequency of extremely hot weather and the decrease of extremely cold weather; summer rainfalls are becoming more intense leading to lower absorption efficiency and the probability of extreme droughts is rising.</p> <p>Compared to other EU countries, Hungary is extremely vulnerable to climate change. With regards to field cultivation, nearly 50% of Hungary's territory is vulnerable land. One-fourth of the population live in areas affected by very high or high risk of heat waves. Vulnerability significantly varies from region to region and affects Hungary's disadvantaged areas to a larger extent.</p> <p>Biomass used to produce energy in households causes further energy, social, ecological and health problems related to PM10 generated by its use.</p>

<p>residential buildings is particularly increasing (reaching a rate of 15% in 2015).</p>	<p>Between 2014 and 2015, the emission of greenhouse gases rose by 5% in Hungary; this is one of the highest growths in the European Union.</p> <p>The use of renewable energy sources is low in Hungary compared to the EU average placing Hungary in the last third across EU member states. Renewable energy sources are disproportionately composed: four-fifth of our current substrate of 14% of renewable energy sources used is produced by the agriculture and over 50% are used in power plants and as firewood in households.</p> <p>In the period between 2009 and 2015, the share of renewable energy in gross final energy consumption was only 6-7% placing Hungary ahead of Cyprus and Luxembourg only in the EU.</p> <p>Energy consumption started to rise from 2014; the former positive trend in energy intensity turned into stagnation; the year-on-year growth of primary energy demand in 2015 significantly exceeded GDP growth (2.9%) interrupting – hopefully only temporarily – decoupling.</p> <p>Solar energy production in 2014 was below 0.6 PJ (0.008% of final consumption) while the use of wind power was around 2.9 PJ (0.4% of the final consumption). In the meantime, the use of photoelectric solar power is dynamically growing doubling by 2015 compared with the previous year.</p>
<p>Freshwater supply, water management</p>	
<p>Hungary has abundant supplies of water even in European comparison.</p> <p>The share of communities with waste water collection services is constantly rising simultaneously with the rate of households supplied with waste water treatment services.</p> <p>Based on quality criteria of surface waters, Hungary ranks in the middle among EU member states by aggregate values for surface water bodies. Hungary is among the first third of countries based on ecological status.</p> <p>Out of our large lakes, the ecological and chemical status of Lake Balaton, Lake Fertő and Lake Velence is good.</p>	<p>Water bodies classified as poor, i.e. where withdrawals cause constant decrease in water reserves, are traditionally critical issues in Hungary's water management. In Homokhátság in the Danube-Tisza Interfluve and the Nyírség, meteorological changes combined with the extraction of groundwater exceeding natural replacement while in Mátra- and Bükkalja, water extraction due to mining threaten the condition of shallow water bodies.</p> <p>One of the most critical water quality problems in Hungary is eutrophication. With regards to nutrients discharged into waters, 65% of Hungary's surface waters are in satisfactory condition based on the trophic state test while a high rate is still affected by poor quality potentially leading to serious challenges in water use (irrigation, tourism, fishing)</p>
<p>Soil and agriculture</p>	
<p>Being one of Hungary's most important conditionally renewable resources, soil totals 22% of all national resources according to expert estimates.</p> <p>In Hungary, nitrogen input was constantly rising between 2009 and 2014. Our nitrogen balance was</p>	<p>Between 2009 and 2014, the phosphorous balance of soil in Hungary was always negative (except in 2012), which is now a strong threat to the sustainability of production.</p> <p>Following a fall of nearly 30% between 2007 and 2009, fertilizer (active agent) use per hectare</p>

<p>positive throughout the period under review but it has been declining in the last three years.</p>	<p>constantly grew after 2009 reaching its highest in 2016 in the last 16 years.</p> <p>Between 2011 and 2015, the use of plant protection products rose by nearly 12%.</p> <p>Hungary has so far failed to exploit opportunities offered by organic farming with a share of land used for organic farming compared to the total agricultural area hardly reaching 2.3% in 2015, which is lower than 50% of the EU average.</p> <p>Unrecorded water abstraction is an important issue.</p> <p>Pollution from the use of land for agricultural purposes continues to adversely affect soil and water quality.</p> <p>Obsolete water drainage works and outdated sewage networks contribute to the severe damage caused by droughts and ground water.</p> <p>The rate of irrigated agricultural land is now lower than 100 000 ha and the equipment used is in poor working order.</p>
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Forests and forest management

<p>Between 1920 and 2013, the size of forested land in Hungary rose from 11.8% to 20.8%. In 2013, Hungary's live tree stock was 370 million m³ in a forest area totalling over 2 million ha representing a growth of 14% since 2000 on national level.</p> <p>Over 75% of the trees are healthy or slightly damaged and Hungary's forests classify as moderately damaged compared to other European countries.</p> <p>No significant change was recorded between 2014 and 2016. In 2016, the area of forested land was 20.8%, the rate of forested land relative to the total area is constantly growing, albeit at an increasingly slower pace.</p> <p>Based on NÉBIH data, forest health appears to be good; there was a slight year-on-year decline based on the average degree of defoliation of the previous year. In 2015, turkey oaks and other deciduous hardwood trees appeared to be the healthiest.</p>	<p>The share of indigenous species in forests is only 63% and their rate fell nearly 2% between 2000 and 2013.</p> <p>The territory of afforested land has shown a decline in recent years with 2530 ha in 2013, 1287 ha in 2014 and a particularly low quantity of 318 ha in 2015.</p>
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Air quality and health

<p>National and long term data for air quality show a positive trend until 2016; the number of days exceeding the daily mean value is falling.</p>	<p>Risk of human exposure to particulate matter in ambient air (PM₁₀) in Hungary is higher than the EU average: PM-related illnesses reduce the statistical lifetime by over one year in Hungary.</p> <p>In some areas (e.g. Sajó Valley), coal and wood furnaces, burning of garden waste and the use of illegal fuels (e.g. household waste) cause local air pollution problems, which is the indirect "sign" of the disadvantaged socio-economic conditions in these regions. "Sustainability issues" related to energy poverty, particular lifestyles and housing conditions have a combined adverse impact on local air quality.</p> <p>In recent years, activities including the burning of solid fuels have become a major source of PM₁₀</p>
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emission with residential heating (combustion) being particularly significant accounting for 40% of all emissions in 2015.

According to data from the end of 2016, the health limit was exceeded in 466 instances measured in 33 sites around Hungary.

5.4 Economic resources

5.4.1 General overview

Hungary's GDP has continued to rise since the previous monitoring report: by 3.1% in 2015 and 1.9% in 2016. In the first quarter of 2017, GDP growth picked up again and rose by 3.7% (KSH Flash report, 16/05/2017)³⁹. The European Commission country report predicts a GDP growth of 3.5% for 2017 and 3.0% for 2018 (European Commission 2017b). Besides GDP, positive trends affected public debt, employment, corporate borrowing and the sustained low level of the budget deficit. Meanwhile, the dependency ratio has risen while the quantity of investments – primarily due to the restructuring of EU funds – has fallen.

The recession following the economic and financial crisis in 2008 ended and the GDP of the Euro zone was higher in 2016 than the pre-crisis levels, which had a positive impact on the sustainability of Hungary's economic resources. The performance of the Hungarian economy has further improved since the previous monitoring report: Hungary's five-year sovereign CDS spread (credit default indicator) has continued to fall and hit historical bottom low. Moreover, the world's three leading credit rating agencies – Standard and Poor's, Fitch Ratings and Moody's – upgraded Hungary into an investment grade category at the end of 2016. These processes further confirm that international positions about the sustained development of Hungary's economy have continued to improve. Strong confidence in markets has offered even more room for manoeuvre in economic policy for Hungary and has supported the repayment of public debt (H-SOFT Ltd. 2017).

5.4.2 Key indicators

Indicator	Latest value	Value known at monitoring report for 2013–2014	Assessment of the changes in NSSD's key indicators
Employment rate of people aged 20–64 (KSH)	71.5% (2016)	66.7% (2014)	The employment rate has risen since the previous monitoring report supporting the likeliness to achieve the target of 75% by 2020.
Gross fixed capital formation (as percentage of GDP)	17.8 (2016)	20.5 (2013)	The decrease of EU funds and public investments led to a decline but forecasts predict growth in the next period.
R&D spending (as % of GDP)	1.39 (2015)	1.40 (2013)	The indicator has not changed significantly.
Public debt as percentage of GDP (MNB, Hungary's Central Bank)	74.1% (2016)	76.2% (2014)	This indicator has continued to decrease since the previous report. Prudent fiscal policy is expected to stimulate further decline.
Old age dependency ratio	27.9% (2016)	26.5% (2014)	This indicator has risen since the previous monitoring report representing larger burden imposed on the active population.

³⁹ Values adjusted for calendar effects

5.4.3 Objectives and challenges defined in NSSD

Economic resources are aimed to be increased not only preserved. In order to do so, NSSD defines the following objectives:

1. Balance of localisation and international cooperation: Creation of a business friendly environment – in combination with the termination of special benefits offered to foreign investors;
2. Strengthening of local economic relations (e.g. a town and adjacent areas);
3. Strengthening of the infrastructure of trust in the economy;
4. Reduction of burdens on businesses
5. Increase of innovation spending
6. Increase of employment
7. Sound fiscal management
8. Gradual restoration of generational balance

5.4.4 Social and economic developments affecting the objectives

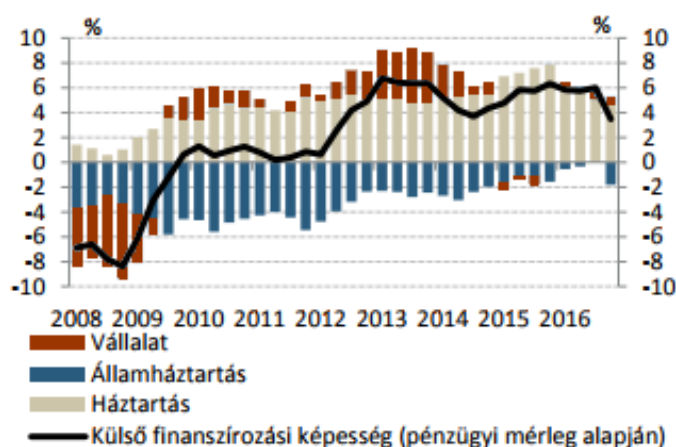
5.4.4.1 Fiscal management

Since the previous monitoring report, the government has reduced public debt, maintained inflation at a low level and adopted measures promoting economic growth. These processes have helped further decrease the vulnerability of Hungary's economy.

While stressing the importance of austerity and frugality, the Framework Strategy gives priority to savings over consumption. Consumption in itself is not a threat to sustainable development except if it implies depletion of savings and borrowing money. As predicted, real household spending has continued to rise in the recent period and reached pre-crisis levels by 2016. (MNB, 2017a; H-SOFT Kft, 2017). In addition to this, the financing capacity in the private sector has been steadily improving since 2009 explained by the reduction of the high debt levels of households and businesses (Figure 47) (see subchapter 5.1.4.4 on Household debt) dropping from 91.4% to 77.4% between 2014 and 2016 (Eurostat [tipspd20](#)).

The largest sum in shared goods and services is the financing of welfare systems that poses serious sustainability challenges for decision makers. Since the previous monitoring report, public social spending as a percentage of GDP has slightly fallen from 14.7% in 2014 to 14.3% in 2016, however the proposed budget includes an increase for the next two years (Table 6). It is to be noted that the proposed budget for 2017–2018 includes an estimated GDP growth of 4% for each year, i.e. spending at nominal value will significantly rise.

Figure 47: External financing capacity by sectors, as % of GDP, 2008–2016.



Source: MNB, Inflation Report June 2017, p. 51

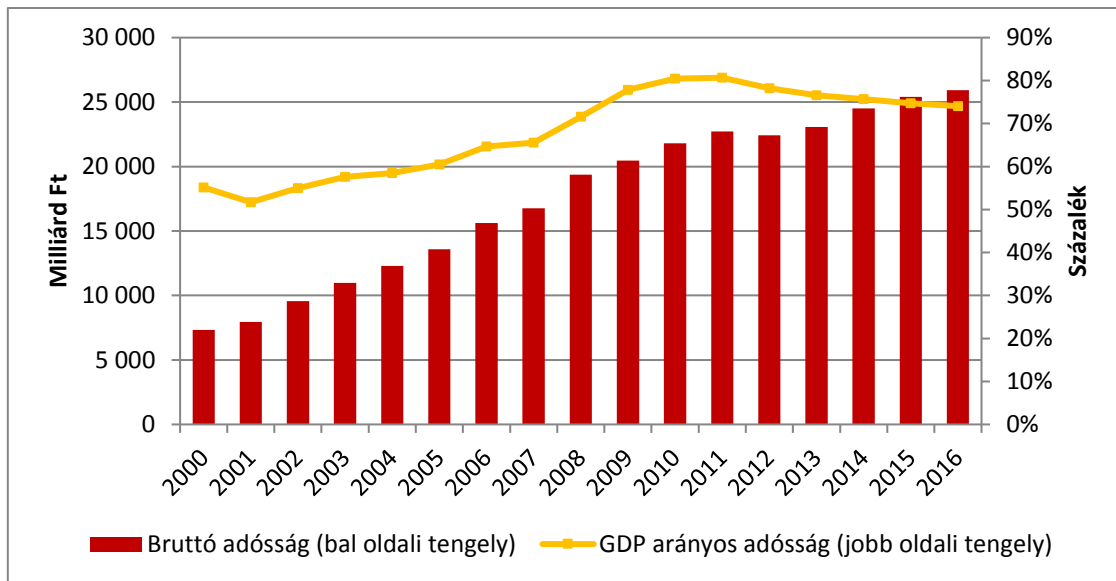
Table 6: Social expenditure to GDP ratio 2008–2018

	2008	2009	2010	2011	2012	2013	2014	2015*	2016*	2017*	2018*
Sick pay, maternity benefits or temporary disability benefits (%)	1.8	1.8	1.6	1.4	1.6	1.5	1.4	1.4	1.3	1.3	1.2
Retirement payments (%)	10	10	10	10.1	9.4	9.5	9.2	9	8.6	8.3	8.3
Other social security payments (%)	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1
Unemployment benefits (%)	0.4	0.5	0.5	0.4	0.2	0.2	0.2	0.2	0.1	0.2	0.1
Family allowances and child benefits (%)	2	2.1	2	1.9	1.8	1.7	1.7	1.6	1.5	1.4	1.4
Other social benefits (%)	1	1	0.9	0.8	1.7	1.4	1.3	1.2	1.1	1.1	0.9
Social and welfare services (%)	0.3	0.3	0.3	0.3	0.4	0.7	0.8	1.5	1.5	1.6	1.6
Social security and welfare services (%)	15.9	16.1	15.6	15.1	15.3	15.2	14.7	15.1	14.3	14.3	14.8

Source: Hungarian State Treasury and based on draft state budget acts Policy Agenda, draft state budget of the Hungarian government for 2017–2018. (*data on 2017–2018 are proposed figures of the state budget act, data for 2015–2016 are estimates from Policy Agenda)

Objectives in the NSSD include not only sound fiscal management but also the reduction of public debt and elimination of processes leading to high level of indebtedness in future generations. The public-debt-to-GDP ratio had been rising between 2002 and 2011 followed by a steady low level decrease after 2012. As a result, the public-debt-to-GDP ratio fell from 75.7% in 2014 to 74.1% in 2016. However, gross public debt had been growing every year since 2000 (except in 2012) up to nearly HUF 26 000 billions (Figure 48).

Figure 48: Changes in Hungary's public debt 2000–2016.



Source: Public Debt Management Centre (ÁKK).

The low levels of budget deficit play a crucial role in the reduction of public debt. In order to reduce public debt, promote economic growth, prudent fiscal policy, meet the government deficit of 3% defined in the Maastricht convergence criteria and reach the medium-term budgetary objective (MTO), the government has reduced the government deficit below 3% in recent years⁴⁰ (MNB, 2017b, kormany.hu⁴¹). It is to be noted that a government deficit lower than 3% combined with a public-debt-to-GDP ratio below 75% promote a slow decrease of the public debt (NCSD, 2015). The actual government deficit was lower than the government estimates totalling 2.0% in 2015 (MNB, 2016a) and 1.7% in 2016 (Hungary's government, 31/03/2017). The EDP report from spring 2017 includes even lower deficit rates: 1.6% in 2015 and 1.8% in 2016.

5.4.4.2 Generational balance

In the long term, the revenues and the expenditure of any welfare state are most importantly determined by the welfare programmes as well as demographic and labour market processes. Government actions aiming to increase the share of economically active population in the total population in the long term – including through higher fertility rates, improved immigration balance of working age persons – help enhance the balance of intergenerational resource redistribution. Labour market actions to raise the rate of employment and work productivity in the long term also contribute to sustainability.

⁴⁰ Budget based on the ESA balance (European System of National Accounts) (Hungarian State Treasury 10/02/2014)

⁴¹ Hungary's stability grows further next year 20/12/2016: <http://www.kormany.hu/hu/nemzetgazdasagi-miniszterium/penzugyekert-felelos-allamtitkarsag/hirek/jovore-tovabb-erosodik-magyarorszag>

Generational balance is expressed by the old-age dependency ratio⁴², the system dependency ratio, the eligibility rate and the activity rate⁴³. The higher the old-age dependency ratio, the higher is the pressure imposed on the active population to support pensioners. Since the previous monitoring report, this indicator has risen 1.4 percentage points – standing at 26.5% in late 2014 and 27.9% in late 2016 –, i.e. the burden of the working-age population has grown (KSH [indi2_1_2](#)).

In the 1990s and 2000s, the activity rate remained unchanged at a low level followed by a decrease as a result of the economic and financial crisis and started to rise at a steady rate after 2010. The activity rate has further risen since the previous report and reached 70.1%. This growth is mainly the result of the public employment programme and employment in foreign countries while higher rate of employment by Hungarian businesses contributed to a lesser extent (Tóth, Medgyesi and Gál, 2017) (Figure 49).

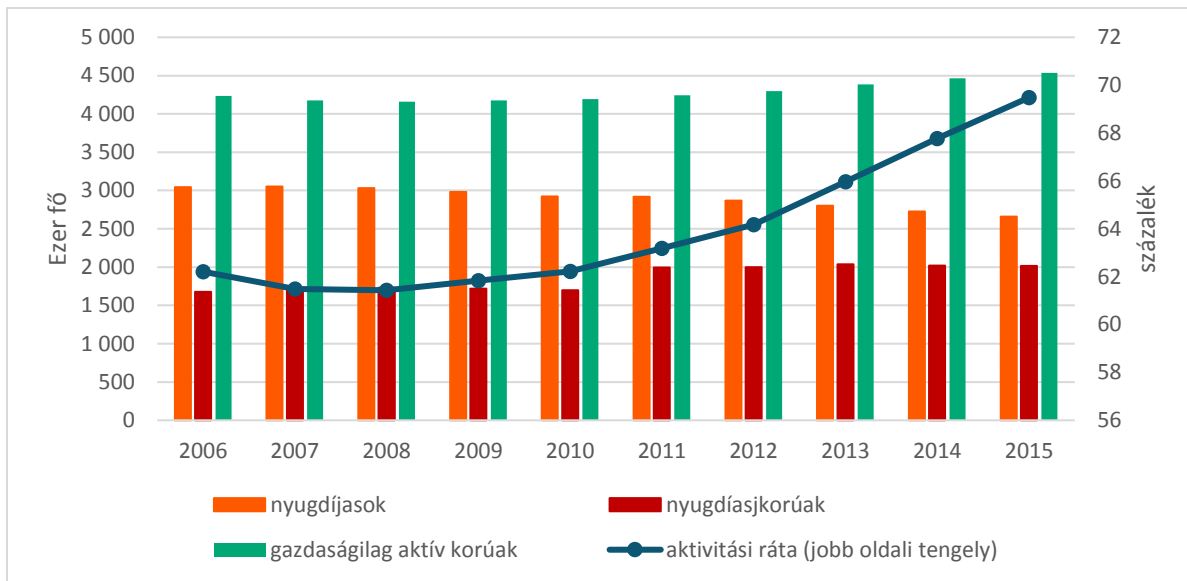
The system dependency ratio shows the ratio of the number of pensioners to the number of contributors. As the positive labour market processes of recent years and the revised eligibility criteria for retirement payments (Act LXXXI of 1997) had a critical impact on this indicator, it has continued to decline since the previous monitoring report representing fewer than 7 pensioners to be supported by 10 contributors (Tóth, Medgyesi and Gál, 2017).

In the 1990s and 2000s, the eligibility rate was well over 100% as not only persons of retirement age were eligible for retirement payments but also people with reduced capacity to work received other benefits. In 2008, the indicator exceeded 150% and has been decreasing since then dropping to 130% since the previous monitoring report (Tóth, Medgyesi and Gál, 2017). This decline is primarily the result of the revision of the eligibility criteria for retirement payments. This include: the introduction of the disability retirement benefit in 2011, the termination of the early retirement scheme, the cancellation of certain regular benefits and the annual review of people receiving disability retirement benefit in 2012 (Act LXXXI of 1997, Act XXVI of 2016). Currently, only smaller changes are implemented and processes related to pensioners started during the previous period of the monitoring report continue (Tóth, Medgyesi and Gál, 2017).

⁴² *The ratio between the number of persons aged 65 and over and the number of productive persons aged 15–64.*

⁴³ *For the purposes of the activity rate, the highest age of the active population is the age just below the official retirement age.*

Figure 49: Changes in indicators related to generational balance 2006–2015.



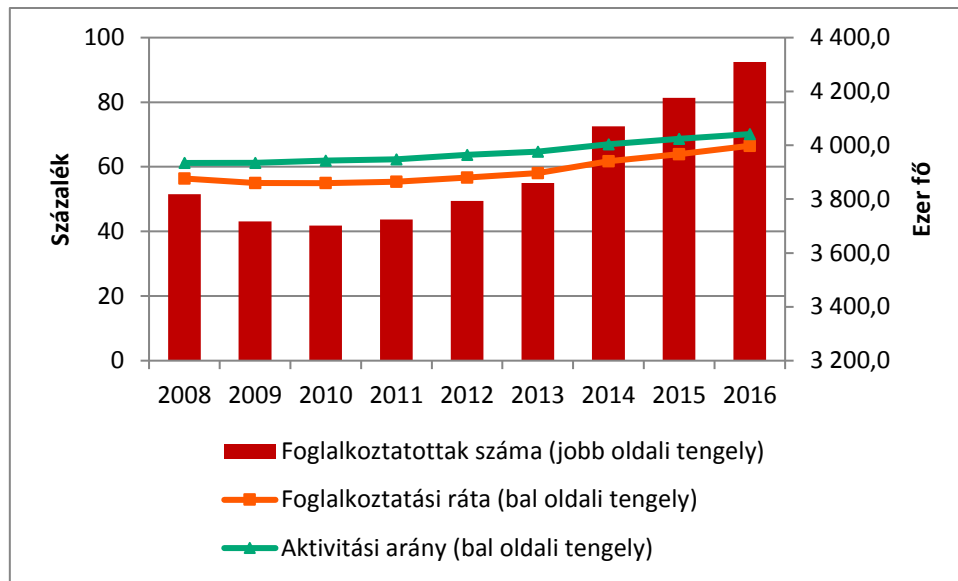
Source: National Retirement Payment Directorate (ONYP) Statistical Yearbook 2015, 2014, 2013, KSH – STADAT [h_qlf002a](#), [h_fsp001](#), [mpal2_01_02_02a](#).

In summary, the system dependency ratio is improving but has not yet reached a sustainable level. The reduction is mainly explained by the higher rate of employment and the revision of the retirement payment eligibility criteria.

5.4.4.3 Employment

The employment rate of the population aged 15–64 has continued to rise since the previous monitoring report. The employment rate totalled 66.5% in 2016 representing an increase of 4.7 percentage points compared to 2014 (KSH – STADAT [h_qlf009a](#)) and nearing the EU'S indicator of 66.6% (Eurostat, [lfsi_emp_a](#)). The number of employed persons has also grown, exceeding 4.3 million in 2016, which is higher by 240 000 than in 2014 (KSH – STADAT [mpal2_01_02_02a](#)). These positive labour market processes led not only to higher employment rate but to the reduction of the unemployment rate and the increase of the activity rate as well. The unemployment rate fell from 7.8% in 2014 to 5.1% in 2016 while the activity rate grew from 67% in 2014 to 70.1% in 2016 (KSH – STADAT [mpal2_01_02_02a](#)) (Figure 50).

Figure 50: Employment data of the population aged 15–64 2008–2016.



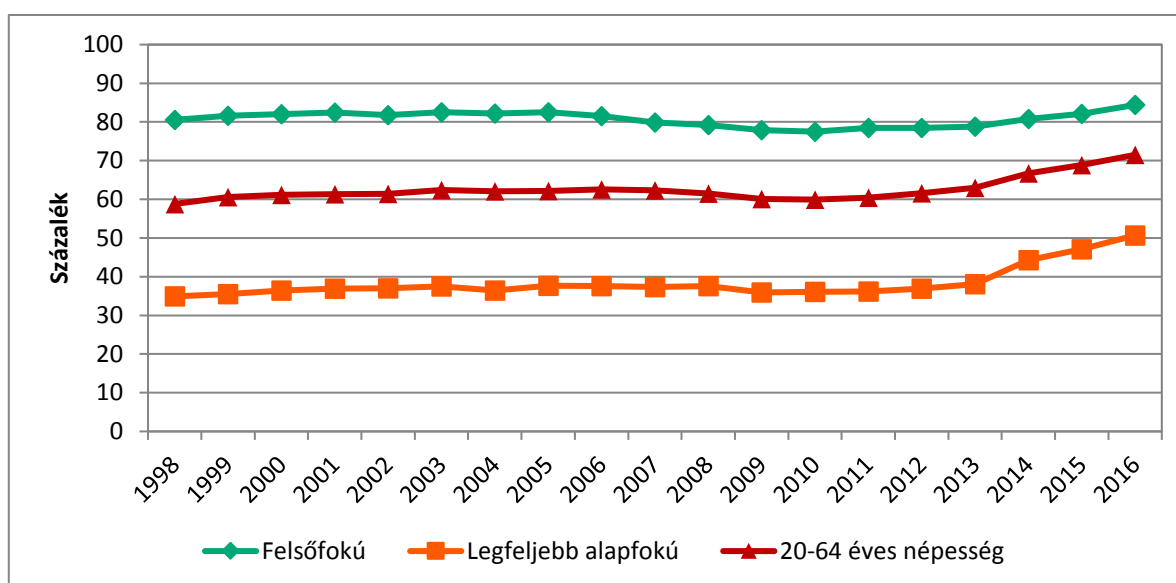
Source: KSH – STADAT [mpal2_01_02_02a](#).

The employment rate of young people aged 15–24 years is also a crucial factor for sustainability as early unemployment may have a highly adverse impact on stable employment and on the amount of potential income in the future.⁴⁴ After the previous report, the employment rate of young people reached 28.1% in 2016, reflecting an increase of 4.6 percentage points compared to 2014, i.e. more and more young people are economically active while early unemployment remains a fundamental problem (KSH – STADAT [h_qlf009a](#)).

Employment is closely linked to the level of educational attainment: people with higher levels of educational attainment find a job and learn new competences more easily. While the employment rate of people with primary education as highest educational attainment (aged 20–64) was 50.7% (44.3% in 2014) in 2016, such rate for people with tertiary level of educational attainment was 84.4% (80.8% in 2014). It is a positive tendency that the difference between the employment rates of these two groups was reduced by both indicators growing (Eurostat [tsdec430](#)). Under the EU2020 Strategy, targets agreed to by Hungary's government include to raise the rate of people with tertiary or equivalent level of educational attainment to 30.3% in the population aged 30–34 years and to raise the employment rate of people aged 20–64 years to 75% (71.5% in 2016) by 2020. As the rate set for the tertiary or equivalent level of educational attainment was achieved in 2013, the government raised the target to 34% in the National Reform Programme of 2015 (Hungary's government, 2017b) (Figure 51).

⁴⁴ See for example: Szepesi and Luksander (2012): *Exploring the socio-economic context of developments under the National Strategic Reference Framework promoting reduction of youth unemployment*. Hétfa Research Institute.

Figure 51: Employment rate of Hungary's population aged 20–64 by educational attainment level 1998–2016.



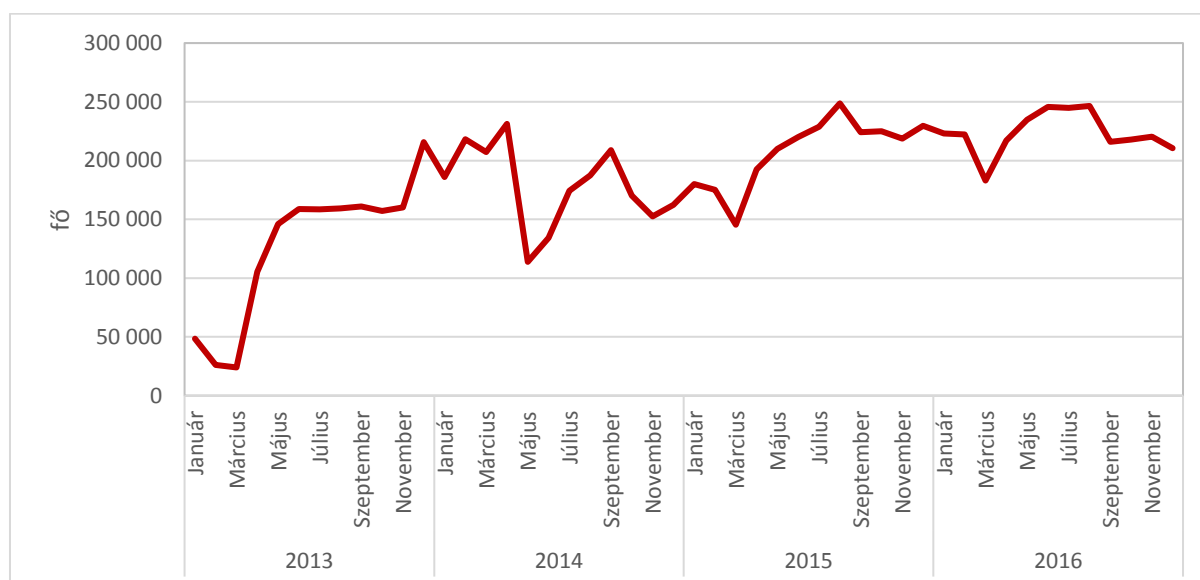
Source: Eurostat *tsdec430*, *lfsi_emp_a*. Primary education includes ISCED 0–2 categories, tertiary education includes ISCED 5–8 categories.

From 2013, the public employment programme played a key role in the improvement of employment figures as hundreds of thousands of people are engaged in this programme every year. The key objective of the public employment programme is to improve the living conditions of socially marginalised groups and to empower them to change their lives. The duration of the programme is maximum 12 months – with the possibility of a one-time extension of six months (MTA KRTK KTI, 2016) and it typically includes a working time of 8 hours per day (Deputy State Secretariat of Public Employment). As shown in the figure below (Figure 52), the number of people in the public employment programme has risen since the previous monitoring report. During the present period under review, the government wanted to reduce the unreasonably long engagement of certain people in the public employment programme to be described below (MTA KRTK KTI, 2016; Government Resolution No. 1040/2016 (March 11), Act CVI of 2011). The district/ micro-regional work start model programme launched in 2014 continued in the period between 2015 and 2016 and the number of participating communities rose by 69 in 2015 reaching 1795 in total. The model programme was designed to provide public funding to local governments in disadvantaged micro-regions to start activities responding to local needs but not competing with the primary labour market (Deputy State Secretariat of Public Employment and Water, 2016). Activities under the programme mainly focus on value creation and social components (Deputy State Secretariat of Public Employment and Water, 2016). The model programme is very unlikely to promote entry into the primary labour market explained partly by the low educational attainment level of the participants and the disadvantaged status of the participating communities (kozfoglalkoztataskormany.hu⁴⁵). A legal instrument revised in 2015 now requires employers to allow participants of the public employment programme to attend job interviews (Deputy State Secretariat of Public Employment and water, 2016; Act CVI of 2011). In 2016, the employment benefit was introduced (Government Decree No. 328/2015 (October 10)) providing the participant of the public employment programme finding employment with the financial

⁴⁵ Based on monitoring data of former participants of the public employment programme from the Ministry of Internal Affairs <http://kozfoglalkoztataskormany.hu/kozfoglalkoztataskormanybol-kilepok-nyomonkoveteses-adatai>

support substituting employment – HUF 22800 per month – for the remaining duration of the public employment programme (KSH, 2016e). However, data from the MTA KRTK KTI (Hungarian Academy of Sciences Centre for Economic and Regional Studies Institute of Economics) show that it is not the skills learned in a public employment programme including training courses that helps a large part of former participants of this programme to find a job (MTA KRTK KTI, 2016). Only a little over 10% of the former participants of the public employment programme found a job between 2011 and 2014 (MTA KRTK KTI, 2016) and 12.6% in 2014 (kozfoglalkoztataskormany.hu⁴⁶), which is an extremely low figure while no improvement was made. Based on data from the Ministry of Internal Affairs, the rate of people who could find a job dropped to 12.2% in 2015 followed by a rise in 2016 to 13.7% representing a 1 percentage point improvement since the previous monitoring report. In summary, the government has adopted measures in recent years that promote the integration of participants of the public employment programme into the primary labour market, however the trainings still fail to properly support the successful entry of these people into the labour market.

Figure 52: Changes in the number of participants of the public employment programme by month 2013–2016.



Source: Ministry of Internal Affairs

Besides the public employment programme, employment of Hungarian citizens in foreign countries also help statistically improve the employment rate (Scharle, 2016). The number of people working outside of Hungary was 97 000, 111 100 (KSH, 2016f) and 116 400 in 2014, 2015 and 2016 respectively (KSH, 2017d), however the real figure could be up to three times as high as that (KSH, 2016g). This extending trend has many negative impacts on Hungary’s economy. One of the disadvantages is that income earned abroad and the related taxes payable fail to support Hungary’s economy in whole (or in a large part). Another concern is that the majority of these people are qualified young workers, which will lead to a higher burden on the social care system and cause shortages in the skilled labour force. The opportunities to work outside of Hungary and the reduction of the number of skilled labour force has an impact on the rise of wages. Compared to a baseline value from 1960, real wages rose by

⁴⁶ Based on monitoring data of public employment from the Ministry of Internal Affairs.
<http://kozfoglalkoztataskormany.hu/kozfoglalkoztataskol-kilepok-nyomonkoveteses-adatai>

183% and 205% by 2014 and 2016 respectively (KSH – STADAT [h_gli001](#)), which is in a large part the result of the raise of the minimal wage (Government Decree No. 454/2015 (December 29)) and – as previously mentioned – the wages of health care workers and teachers. According to Government Decree No. 430/2016 (December 15), the minimal wage and the wages paid to workers in positions requiring specific qualifications will be further raised from 2017. The topic of employment outside of Hungary has been discussed in detail in subchapter 5.1.4.1 Demographic trends.

In summary, employment was rising in the period under review due to the increase of policy and economic programmes, the public employment programme and employment in foreign countries (Scharle, 2016).

5.4.4.4 Development of business capital, reduction of burdens on businesses

Business capital in Hungary may be promoted by stronger business culture and improved business and administration conditions. Since the previous monitoring report, the government implemented changes in tax policies and the regulatory environment of Hungary including the reduction of the special tax imposed on financial institutions and the adoption of the Public Administration and Public Service Development Strategy 2014–2020 in 2015 (Government Resolution No. 1052/2015 (February 16)). The strategy sets out to reduce administrative burdens and the average administration lead time by 20% and the price of services and dues by 10%. However, it should be noted that the following administrative charges and taxes continue to impose a significant burden on businesses, in particular SMEs:

- special sectoral taxes,
- introduction of additional taxes to reduce illegal business activities, the black market – the introduction of the electronic road freight monitoring system in freight transport (EKÁÉR) (Act LXVII of 2013), the extended use of online cash registers (Decree No. 9/2016 (March 25) of the Ministry of National Economy) –,
- the high volume and complexity of administrative burdens and taxes on SMEs,
- frequently changing regulatory environment (European Commission, 2016b, 2017b).

In order to mitigate administrative burdens and taxes, the government adopted a tax package in November 2016 including the reduction of the corporate tax rate from 2017 from 10% and 19% to 9% (Act CLXXXII of 2016; Act LXXXI of 1996), the social security contribution payable by employers by 5 percentage points in 2017 and by an additional 2 percentage points in 2018 (Act CXVII. of 1995; Act CLXXXII of 2016).

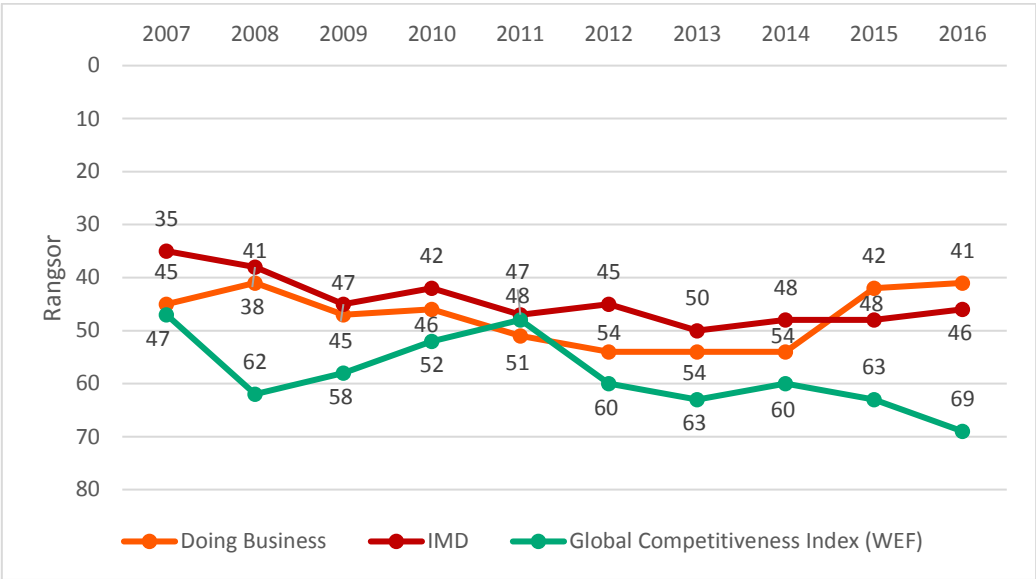
A measure offering comprehensive international comparison on the business environment of economies is the yearly Doing Business⁴⁷ ranking. In 2014, Hungary ranked 54th but in 2016 it was ranked 41th improving 13 places (The World Bank, 2014, 2016). This positive tendency is explained by

⁴⁷ *The World Bank's Ease of Doing Business survey jointly analyses administrative burdens on businesses by aggregating ten different components (sub-rankings) of business operations. The survey gathers specific, quantitative data to evaluate the quality and the level of business regulations. In its Doing Business survey in 2016, the World Bank ranked 190 countries and regions.*

the improved conditions of getting credit and larger engagement in international trade (The World Bank, 2016).

In addition to the Doing Business ranking, other competitiveness rankings issued by other international organisations and institutions are also available to assess the quality of a business environment (Figure 53). The figure below shows that Hungary’s ranking by the IMD and Doing Business survey has improved and fallen on the index of the World Economic Forum (WEF) compared to 2014. The lower rank of the WEF is the result of the decline in the innovation pillar.

Figure 53: Changes in Hungary’s competitiveness based on various international surveys 2007–2016.



Sources: the World Bank, IMD and the World Economic Forum.

The entrepreneurial propensity of young people also affects sustainability. Bridge Budapest has been surveying the business ambitions of young Hungarian people aged 20–35 years since 2013. Since 2016, the complete adult population has also been surveyed together with the former group of people aged 20–35 years. In 2016, 60% of the young people surveyed had a plan for business or professional success compared to 50% in 2014. This rate is 20% for the complete adult population (Bridge Budapest).

In summary, administrative burdens and taxes imposed on businesses (in particular SMEs) have remained unchanged but the easier process of getting credit has helped improve the competitiveness of businesses.

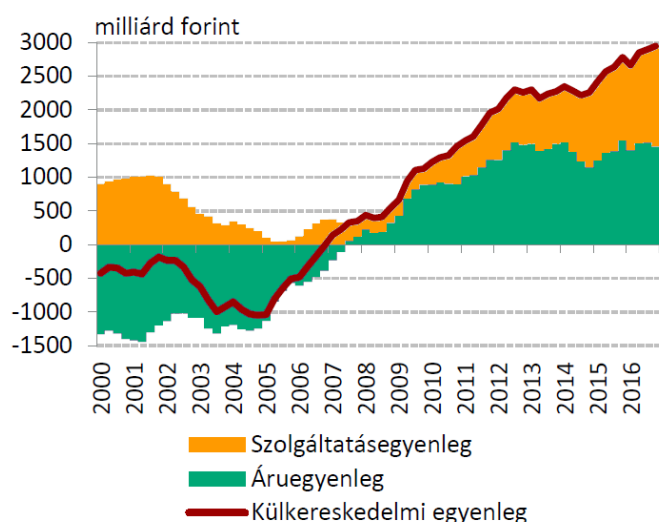
5.4.4.5 Localisation, local economic relations and international cooperation

The previous monitoring report showed that foreign capital contributed to the generation of added value to a larger extent than domestic economic players (i.e. GNI), which remained unchanged in the present period under review and the gap even continued to grow despite the forecast of the extrapolation analysis. However, the faster increase of the added value generated by foreign capital does not currently pose a threat to the sustainability of the Hungarian economy. To promote

sustainability, the investments of Hungarian-owned businesses should be growing more dynamically (H-SOFT Kft.).

The foreign trade balance has continued to improve since the previous monitoring report explained by the growth of exports. This growth is not mainly the result of the higher volume of domestic commodities – industrial and agricultural goods collectively – exported but also the dynamic increase of the export of services. Meanwhile, the contribution of the domestic industrial sector remains relatively low. The reason for this is that domestic suppliers are less advanced than foreign suppliers and as a result companies choose the foreign suppliers in many cases. This problem strongly prevents the improvement of competitiveness. The volume of domestic import has also risen since the previous report. Forecasts show that public consumption and the rise in the volume of investments in Hungary as well as certain external events – the slowdown in China’s economic growth and the economic restructuring in Germany – will stimulate a further rise in import quantities. The larger volume of import will lead to a – short term – decline in the foreign trade balance (H-SOFT Kft.). (Figure 54).

Figure 54: Changes in the foreign trade balance 2000–2016.

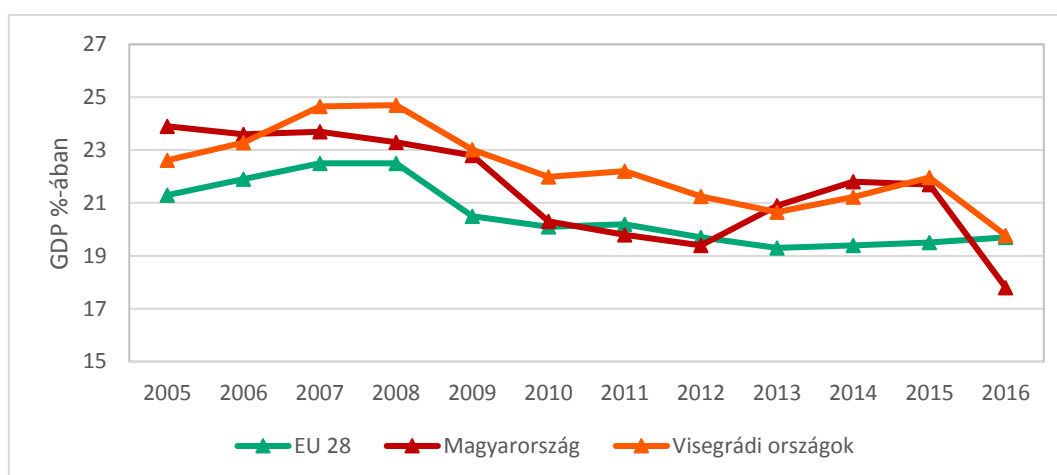


Source: MNB, Inflation Report June 2017, p. 32

Fixed capital significantly contributes to Hungary’s GDP and can be further increased through investments (in essence, investments are fixed capital formations). Compared to 2014, the gross fixed capital stock decreased considerably by 2016. In international comparison, Hungary is lagging behind both the EU average and the average of the Visegrad Group (Figure 55). This gap is partly the result of the low level of corporate investments explained by the priority of businesses to reduce their debt and the volatility of the regulatory and taxation environment. The payment schedule of EU funds also reduced the formation of gross fixed capital.

As the reduction of the gross fixed capital formation has a negative impact on productivity leading to a decline in Hungary’s competitiveness in the mid-term, businesses should be offered favourable tax conditions. As forecasts for the near future show a rise in gross fixed capital formation primarily due to the increase of EU funds, Hungary’s competitiveness is expected to improve and the gap between Hungary’s and the EU average is likely to shrink (H-SOFT Kft., 2017).

Figure 55: Hungary's gross fixed capital formation in international comparison 2005–2016



Source: Eurostat [nama_10_gdp_tec00011](#).

Investment activities caused significant structural changes in the capital stock. The growth of fixed capital has risen in the engineering industry and in companies manufacturing for export while it declined in the public sector and the related industries – such as the energy sector, water supply and transportation. (European Commission, 2017b). This decline is the result of the scheduling of the EU funds. One of the most important changes of recent years is that the new regulations introduced in the energy sector caused the market players to make losses prompting them to return their licences and state-owned energy companies have taken over these services. OECD's country survey for 2016 warns that the present system is unsustainable as it is making immense losses (OECD 2016b). The energy sector can expect a significant fixed capital growth due to the construction of the new nuclear power plant (Paks II) in Paks (see 5.3.4.3 Climate and energy management) (H-SOFT Kft, 2017).

While the productivity and added-value of Hungarian small and medium enterprises slightly improved in 2015 compared to 2014 (European Commission, 2016d, H-SOFT Kft., 2017), it continues to lag behind large companies (MNB, 2016b). SME growth has been partly supported by the borrowing options offered by the Funding for Growth Scheme and the Market-based Lending Scheme but as the corporate sector has been affected by the reduction of EU funds and public investments, there is an overall negative tendency in this field. Forecasts show the growth of investments that in turn will boost productivity. In international comparison, Hungary's total productivity lags both behind the regional and the EU average caused by the lack of the required equipment, tools and up-to-date technical knowledge and not by the inadequate work intensity of the labour force (H-SOFT Kft., 2017).

One of the priorities of the Partnership Agreement, the key document of the 2014–2020 EU planning cycle's development funds, is the development of the local economy. The Fifth National Development Priority includes the boosting of the local economy of disadvantaged regions in order to promote the competitiveness of local businesses (National Development 2030, 2013⁴⁸). Territorial developments also include operational programmes focusing on the development of the local economy:

⁴⁸ OFTK 2013

- The priority “The development of the regional economic environment to promote employment” under the Territorial and Settlement Development Programme in part aims to develop the business infrastructure and the local economy as well as to ensure the availability of jobs.
- The priorities “Research, Technology Development and Innovation” and “Tourism” under the Economic Development and Innovation Operational Programme include the aspects of the development of the local economy in their measures “The conservation, protection, promotion and development of the natural and cultural heritage” and “The promotion of the intensity of corporate R&D activities”.
- The priorities “Research, Development and Technological Innovation” and “Tourism and Nature Conservation Developments” under the Competitive Central Hungary Operational Programme include the aspects of the development of the local economy in their measures the “Promotion of corporate R&I activities” and “The use of cultural and natural heritage sites for tourism”.

In summary, the foreign trade balance has improved since the previous monitoring report but investments have fallen primarily due to government investments and the scheduling of EU funds. Investments are expected to rise in the next period as a result of higher amounts of EU funds and of corporate borrowing.

5.4.4.6 The infrastructure of trust in the economy

In addition to the financing capacity of the government and private sector, the changes in normal credit lending to businesses over time are also important as they truly reflect the processes occurring in Hungary’s economy. These processes have been affected by significant changes since the previous monitoring report that we will describe in detail below.

The financing capacity of the government and the private sector has been varied since the previous monitoring report: it remained in the ballpark of 8% in 2015 and decreased nearly 2 percentage points by the end of 2016. This decline is primarily explained by a lower transfer balance – the reduction of EU transfer payments – but the intensification of the use of EU funds from 2017 is expected to improve this rate (MNB, 2017a).

Corporate and household borrowing problems have lowered since the previous monitoring report. While the rate of non-performing loans – in default in excess of 90 days – has strongly fallen both for businesses and households, it remains significantly above the EU average (MNB, 2017c). The improvement for households since the previous monitoring report is the result of the following key measures:

- The National Asset Management plc. established to help the most distressed defaulting debtors had been provided with funds to buy 35 000 homes and bought 21 474 homes until the end of 2015 (Habitat for Humanity, 2016).
- On January 1 2015, the debt brake legislation came into force to prevent failure to repay debts.
- According to this legislation adopted in 2015, excessively indebted mortgagors may initiate a debt settlement procedure (Act CV of 2015).

- The guidelines issued by the Hungarian Central Bank to financial institutions define the minimum criteria of the cooperation between indebted households and lenders (MNB, 2017c).
- The legislation on the HUF conversion of foreign currency-denominated loans entered into force in 2015 (Act LXXVII of 2014) terminating the foreign currency exposure of households completely (H-SOFT Kft, 2017).

The following actions have been taken to address the problem of non-performing corporate loans since 2015:

- The Hungarian Reorganisation and Liability Management plc. was established in 2016 to clear bank balances through the sale of non-performing portfolios on the market.
- The Hungarian Central Bank issued guidelines on the out-of-court restructuring on non-performing corporate loans. This solution –to be introduced in 2017 – is recommended when several lending institutions are affected in relation with a particular loan (European Commission, 2017b).

These measures have toughened the soft lending system described in the previous monitoring report, improved the payment discipline that had been relatively bad before (H-SOFT Kft, 2017) and boosted the trust within the economic sector.

The borrowing capacity of households and the corporate sector has improved since the previous monitoring report. Based on the Financial Stability Report of the Hungarian Central Bank issued in May 2017, the volume of household borrowing was high enough to set off the decrease of the credit stock in 2016 and forecasts show the volume of borrowing to further grow in the next few years. This positive tendency is mainly the result of the loans borrowed under the land loan programme, the family housing allowance scheme (CSOK) and the Funding for Growth Scheme offered to sole proprietorships; the amount was 2.2% lower without sole proprietorships, which nevertheless reflects improvement compared with previous years. Loans borrowed by the corporate sector have been rising since 2016 reaching an annual growth rate of 4% by the end of the year. By comparison, loans borrowed by the SME sector have been increasing since 2015 reaching an annual growth rate of 8% by the end of 2016 (MNB, 2017c). The Funding for Growth Scheme and the Market-based Lending Scheme strongly contributed to the rise of the loans of the corporate sector (H-SOFT Kft, 2017).

The financial awareness of the population has remained poor since the previous monitoring report with younger generations relying mainly on their parents for information needed to make financial decisions. While measures were adopted both at the end of the previous and during the present period under review to promote the level of financial education, no significant improvement has yet been achieved:

- The Parliament acknowledged the goal to promote public financial awareness in its resolution no. 41/2014 (November 13) and supported the engagement of the State Audit Office (ÁSZ) collectively with its partners (ÁSZ, 2016).
- In its Social Responsibility Strategy adopted in 2014, the Hungarian Central Bank (MNB) commits to developing the financial awareness of the population and providing information to the public through its foundations (MNB, 2014).

- The 2016–2017 action plan of the National Youth Strategy places special focus on developing the level of the financial education of young generations planned to be integrated into the formal education system (Government Resolution No. 1535/2016 (October 13)).

Since the previous report, the infrastructure of trust has been further improved by the introduction of measures designed to eliminate the black market and reduce tax evasion – adoption of stricter rules on EKÁER and the system of online cash registers. The introduction of the electronic road freight monitoring system in freight transport (EKÁER) and the continuous extension of the mandatory use of online cash registers are aimed at terminating soft taxation, which is a risk for sustainability. Based on the estimates of the National Tax and Customs Administration (NAV), these two measures generated revenues of over HUF 420 billion between 2015 and 2016 (kormany.hu⁴⁹). In the meantime, a process contradictory to the efforts to terminate illegal business practices has also started. The National Tax and Customs Administration forgives increasingly larger amounts of taxes payable year after year (Figure 7), however, forecasts predict the value of these forgiven taxes to decrease in the next few years, i.e. this contradictory process is likely to be only temporary (H-SOFT Kft, 2017).

Table 7: Taxes forgiven by NAV in billion HUF 2013–2016.

	Taxes forgiven billion HUF
2013	57
2014	70
2015	157
2016	637

Source: H-Soft Kft. 2017, p. 13

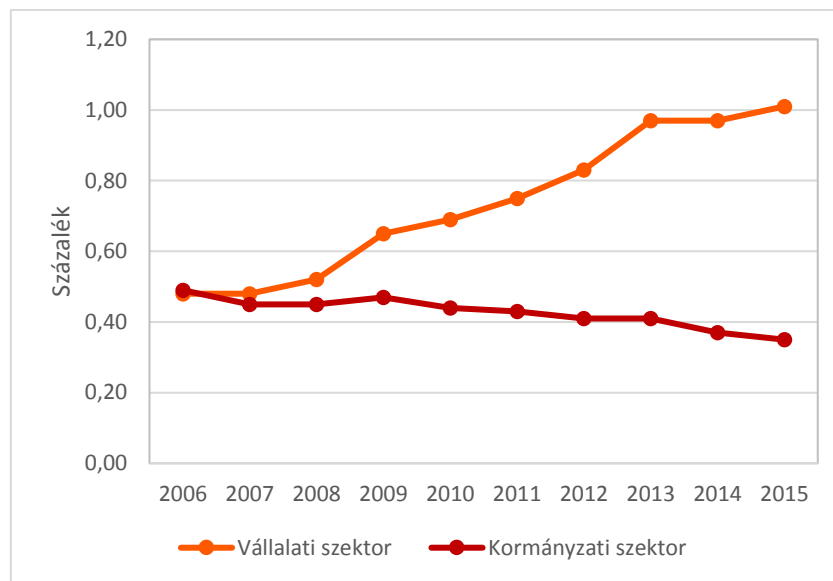
In summary, favourable economic conditions and measures introduced at the end of the previous and during the present period under review helped improve lending processes and the financing capacity of the various market players while forecasts predict even more improvement. Meanwhile, the financial awareness of the population remains weak requiring further interventions.

5.4.4.7 Innovation

Since the previous report, research and development (R&D) spending relative to GDP has remained roughly unchanged – 1.40% in 2013 and 1.39% in 2015 (KSH – STADAT i_ohk001). The detailed review of the innovation expenditure shows that higher R&D spending by foreign-owned companies was to no avail as the government reduced public spending by nearly the same degree (H-SOFT Kft., 2017) (Figure 56).

⁴⁹ Extension of online cash register requirement expected to generate tens of billions in revenues 06/12/2016 <http://www.kormany.hu/hu/nemzetgazdasagi-miniszterium/parlamenti-allamtikarsag/hirek/tobb-tizmilliard-forintot-hozhat-jovore-az-online-kassza-kiterjesztese>

Figure 56: Changes in sectoral R&D spending as a percentage of GDP 2006–2015.



Source: Eurostat rd_e_gerdtot Kormányzati szektor = állami és felsőoktatási szektor

In international comparison, Hungary's status compared to the EU 28 – 2.03% both in 2013 and 2015 (Eurostat rd_e_gerdtot) – has not changed and remains below the EU average. Low R&D spending does not only prevent Hungary to align its economic development with other countries but can also stimulate the migration of highly qualified workers to foreign countries (NFFT, 2015). The National Research, Development and Innovation Strategy (2013–2020) was adopted during the period of the previous monitoring report. This document strongly aims at supporting innovative SMEs but the country report of the European Commission for 2017 indicates that these R&D measures have not stimulated any progress (European Commission, 2017b).

The level of innovation is also related to total factor productivity as this indicator is affected by changes in technical, technology advancement. Currently, total factor productivity fails to reach the pre-crisis level but slow growth reflects improvement. However, it is to be noted that slow total factor productivity increase may slow down the pace of the potential economic growth in the long term (H-SOFT Kft. 2017).

The Framework Strategy reminds that there appears to be a very strong link between the number of highly qualified young people and the number of research employees. Since the previous monitoring report, the number of students in master's programmes has slightly risen – in combination with their rate (KSH – STADAT i_zoi008) –, which will promote the quality of human resources. The number of university students per teacher has fallen due to the higher number of teachers – 21 080 in 2014, 21 668 in 2015 (KSH – Information Database) – and the lower number of students – 307 000 in 2014, 295 000 in 2015 (KSH, 2015b, 2016d) – but the rate is still roughly 14 students per one teacher.

5.4.5 Government measures

To promote economic development, the government adopted many mid-term strategies both in the previous and the present period under review. As these strategies provide the framework for domestic and EU development projects, they will have a long term impact. These include the **Small and Medium-**

sized Enterprises Strategy (2014–2020) or the **National Research, Development and Innovation Strategy (2013–2020)** adopted in 2013:

The government adopted the **Public Administration and Public Service Development Strategy 2014–2020** in the present period under review, which sets out to reduce the average administrative lead time by 20% and the price of services and dues by 10% by 2020 (the Prime Minister’s Office, 2015).

In response to the problems of the domestic credit market, the Hungarian Central Bank launched the Funding for Growth Scheme (NHP) in the previous monitoring period and the Market-based Lending Scheme (PHP) in 2015. These two programmes are primarily designed to promote borrowing by SMEs, which also helps stimulate economic growth in Hungary. The Funding for Growth Scheme contributed to domestic GDP growth by 0.4% in 2015 and 0.3% in 2016 (MNB, 2017e), which is lower than its contribution in the previous period under review. The success of these programmes is reflected by the constant growth of the loans borrowed by SMEs since 2015 reaching an annual rate of 8% (H-SOFT Kft, 2017; MNB 2017.03.03).

5.4.6 Good practices from market players

Domestic market players appear to recognise the importance of corporate responsibility and that successful and economically sustainable companies are committed to all the dimensions of sustainability. There are a number of national awards (e.g. BCSDH “For a Sustainable Future” prize) or programmes that regularly promote the outstanding efforts made by market players and also importantly remind the public that business growth and the protection of our environment must go hand in hand.⁵⁰

5.4.7 Summary conclusions

Positive trends	Risks
<p>Public debt as a percentage of GDP has continued and is expected to further decrease.</p> <p>Public spending was lower than the planned expenditure and the budget deficit is projected to remain below 3% in the next period as well.</p> <p>The system dependency ratio has further declined since 2014, primarily due to the increased rate of employment.</p> <p>Private sector debt has fallen.</p> <p>Corporate borrowing has shown a positive tendency since the previous monitoring period. Loans borrowed by the corporate sector have been rising since 2016 reaching an annual growth rate of 4% by the end of the year.</p>	<p>Due to the current trends in demography, the old age dependency ratio grew from 26.5% to 27.9% between 2014 and 2014 exerting extra pressure on the active population.</p> <p>The average number of people in public employment programmes has further increased since the previous report strongly contributing to the improvement of employment indicators.</p> <p>The training of participants in public employment programmes currently fails to fulfil its purpose to promote the successful integration of these people into the labour market.</p> <p>The migration of Hungary’s workforce to other countries remains significant leading to shortages of</p>

⁵⁰ Source: <http://bcsdh.hu/uzleti-novekedes-es-kornyezetvedelem-kez-a-kezben-ez-a-fenntarthatosag-egvetlen-jarhato-utja-kitty-van-der-heijden-volt-a-vendege-a-bcsdh-uzleti-reggelijenek/>
<http://bcsdh.hu/fenntarthato-jovoert-dij/dijazottak/2017-dijazottjai/>

<p>Measures designed to eliminate the grey/black economy resulted in the reduction of “soft taxation”.</p> <p>The number of the active population aged 15–64 has risen by around 240 000 since 2014 explained by various economic and policy trends.</p> <p>The integration of participants in public employment programmes into the primary labour market is improving, rising 1.1 percentage point since 2014 and exceeding 13%.</p> <p>The continued improvement of the balance of trade is explained by the higher export of services.</p>	<p>skilled workers and stronger pressure on the health care and social care system.</p> <p>The regulatory system and the taxation policy remain excessively complicated and SMEs continue to face significant burdens.</p> <p>In recent years, the tax authority (NAV) has forgiven increasingly high amounts of taxes payable resulting in less receipts collected by the government.</p> <p>The balance of trade is expected to decrease due to the projected rise of imports.</p> <p>The decline in fixed capital formation has substantially affected economic growth leading to investments relative to GDP falling shorter of both the EU or the regional average.</p> <p>R&D spending has remained unchanged and below the EU average.</p> <p>Government R&D spending relative to GDP has further declined; large companies continue to drive innovation.</p>
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