



Brussels, 26.2.2020
SWD(2020) 516 final

COMMISSION STAFF WORKING DOCUMENT

Country Report Hungary 2020

Accompanying the document

**COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN
PARLIAMENT, THE EUROPEAN COUNCIL, THE COUNCIL, THE EUROPEAN
CENTRAL BANK AND THE EUROGROUP**

**2020 European Semester: Assessment of progress on structural reforms, prevention and
correction of macroeconomic imbalances, and results of in-depth reviews under
Regulation (EU) No 1176/2011**

{COM(2020) 150 final}

CONTENTS

Executive summary	4
1. Economic situation and outlook	8
2. Progress with country-specific recommendations	15
3. Reform priorities	19
3.1. Public finances and taxation	19
3.2. Financial sector	25
3.3. Labour market, social policies, education and healthcare	27
3.4. Competitiveness, reforms and investment	36
3.5. Environmental sustainability	50
Annex A: Overview Table	53
Annex B: Commission debt sustainability analysis and fiscal risks	62
Annex C: Standard Tables	63
Annex D: Investment guidance on Just Transition Fund 2021-2027 for Hungary	69
Annex E: Progress towards the Sustainable Development Goals (SDGs)	71
References	76

LIST OF TABLES

Table 1.1:	Key economic and financial indicators - Hungary	14
Table 2.1:	Assessment of the implementation of 2019 country-specific recommendations (CSRs)	17
Table 3.2.1:	Financial soundness indicators	25
Table C.1:	Financial market indicators	63
Table C.2:	Headline Social Scoreboard indicators	64
Table C.3:	Labour market and education indicators	65
Table C.4:	Social inclusion and health indicators	66
Table C.5:	Product market performance and policy indicators	67
Table C.6:	Green growth	68
Table E.1:	Indicators measuring Hungary's progress towards the SDGs	71

LIST OF GRAPHS

Graph 1.1:	Contributions to real GDP growth	8
Graph 1.2:	Labour productivity and equipment investment	8
Graph 1.3:	Participation, unemployment and NEET rates	9
Graph 1.4:	Contributions to unit labour cost growth	9
Graph 1.5:	Real net disposable income growth between 2008-2018 at different income levels	10
Graph 1.6:	Inflation and unit labour cost	10
Graph 1.7:	Export market share growth	11
Graph 1.8:	Net foreign currency assets by sector	11
Graph 1.9:	Decomposition of debt by sector	12
Graph 1.10:	House price to income ratio	13
Graph 2.1:	Overall multiannual implementation of 2011-2019 CSRs to date	15
Graph 3.1.1:	Development of the GDP growth and fiscal impulse (differences between Hungary and the EU average), 2012-2018	19
Graph 3.1.2:	Change in the structure of the expenditure in Hungary over the last 10 years and the difference, compared with the EU average	19
Graph 3.1.3:	Implicit interest rate of public debt in the EU	21
Graph 3.1.4:	Central government cash expenditure	23
Graph 3.1.4a:	1. Income gap between wage earners and pensioners 2. Inequality of income distribution, 65 years+	24
Graph 3.2.1:	Credit growth	25
Graph 3.3.1:	Regional unemployment rate, 2018, %	27
Graph 3.3.2:	Employment rate by age and gender in 2018	28
Graph 3.3.3:	In-work poverty rate in groups	28
Graph 3.3.4:	Change in the Gini coefficient due to tax and benefit policies: 2008-2018	30
Graph 3.3.5:	Underachievement gap in reading by socio-economic status, percentage points	30
Graph 3.3.6:	Ratio of average teacher's gross salary over national gross wages	32
Graph 3.3.7:	Unfilled general practitioner practices per 100,000 population by counties, 2018	33
Graph 3.4.1:	Labour productivity relative to the EU average (at PPS)	36
Graph 3.4.2:	Employment patterns and domestic value added in gross exports in selected countries	36
Graph 3.4.3:	R&D expenditure	37
Graph 3.4.4:	Adoption of selected Industry 4.0 technologies (average adoption rate of EU=100)	39
Graph 3.4.5:	Assessment of product market functioning in the Global Competitiveness Index 2019	40
Graph 3.4.6:	Average of voice and accountability and control of corruption indices in Worldwide Governance Indicator (EU average=100)	44
Graph 3.4.7:	Detection of irregularities and their financial impact in the areas of European Structural and Investment Funds and Agriculture in 2014-2018	45
Graph 3.4.8:	GDP per head and GDP growth (at purchasing power parity, 2008-2018)	49

LIST OF BOXES

Box 2.1: EU funds and programmes to address structural challenges and to foster growth and competitiveness in Hungary	18
Box 3.1.1: Increasing inequalities in the pension system	24
Box 3.3.1: Monitoring performance in light of the European Pillar of Social Rights	35
Box 3.4.1: Investment challenges and reforms in Hungary	38
Box 3.4.2: Challenges and opportunities of the automotive industry in Hungary	41

EXECUTIVE SUMMARY

Hungary's robust economic growth offers a valuable opportunity to engage in important structural and institutional reforms to sustain durable growth over the longer term. In recent years, Hungary has experienced a strong economic expansion with one of the highest GDP growth rates in the EU. Employment has also risen quickly. Hungary's future economic development depends on the economy's capacity to increase productivity, which requires a move away from the model based on low labour costs towards a knowledge-based, sustainable economy producing advanced products. Structural and institutional reforms are also needed to ensure the optimal allocation of resources. The current good economic environment creates an opportunity to address the main challenges of the economy, in particular related to the shrinking working-age population, low productivity growth, increasing inequalities and low efficiency of natural resource use ⁽¹⁾.

The Hungarian economy continues to grow strongly. Average economic growth since 2014 has exceeded 4% as the economy has recovered from the financial crisis. In 2019, the economy was able to withstand the international growth slowdown, partly thanks to supportive macroeconomic policies. Strong demand for labour has continued to lift employment, while wage growth has remained rapid due to labour shortages and large minimum wage increases. Favourable labour market trends have helped improve living conditions and reduce poverty. Investment has risen to a record level, thanks to a favourable economic outlook, easy financing conditions, supportive fiscal policy and a large inflow of EU funds.

The expansion of the economy is set to reach its limits. So far, economic growth has relied on increasing the number of workers, while output per worker has grown modestly. With the labour market near full employment, job creation may contribute less to output growth in the coming

years. The lack of available skilled labour is a key obstacle to productivity-enhancing investment and innovation. Plans for a reduced government spending and the low growth of main trading partners may also restrict Hungarian economic growth in 2020 and 2021.

Macroeconomic policies have created some risks of overheating. Labour costs, boosted by administrative wage increases, continue to outpace productivity growth. Rising production costs have increased inflation and worsened exporters' cost competitiveness. Very low real interest rates and homebuying subsidies have contributed to the rapid increase in house prices. Homebuilding has not kept pace with housing demand because of capacity constraints and Budapest's property market shows signs of overheating. Easy financing conditions, including several government-supported lending schemes, have created opportunities for businesses to invest. However, there is a risk of these resources not being used to support long-term economic growth benefiting society as a whole.

Public financial management has tended to increase spending and reduce taxes during good economic times instead of building fiscal buffers. This procyclical fiscal policy, combined with the absorption of EU funds, has contributed to above-EU-average GDP growth over the past years. Fiscal planning remains narrowly focussed on the annual budget, with an increasing role played by budgetary reserves, partly related to the early adoption of the budget. This has repeatedly led to heightened spending at the end of the fiscal year, resulting in public spending on lower quality projects and pro-cyclical fiscal stance. Discretionary measures have also tended to be procyclical while, by design, the tax and benefit system provides a limited cushion against economic cycles. As a result, while the economy continues to perform well, public finances are improving only slowly and in June 2019 the Council launched a new significant deviation procedure addressed to Hungary ⁽²⁾. Public debt, while decreasing, remains high for Hungary's income level, with a low duration, relatively high exposure to changes in market interest rates and high refinancing costs. While risks are limited in

⁽¹⁾ This report assesses Hungary's economy in light of the European Commission's Annual Sustainable Growth Strategy published on 17 December 2019. In this document, Commission sets out a new strategy on how to address not only the short-term economic challenges but also the economy's longer-term challenges. This new economic agenda of competitive sustainability rests on four dimensions: environmental sustainability, productivity gains, fairness and macroeconomic stability.

⁽²⁾ <https://data.consilium.europa.eu/doc/document/ST-9078-2019-REV-1/en/pdf>

the near future, the ageing population increases fiscal sustainability risks in the long term.

Increased investment in research, innovation, infrastructure and skills are essential for improving productivity and for long-term growth that benefits society as a whole. Public and private investment as a share of GDP is high, but its composition could be better geared towards raising productivity. Research and innovation capacities need to be enhanced to improve moderate innovation performance. Territorial inequality could be alleviated by improving infrastructure and public services in deprived areas. Investment is crucially needed in skills, education and training to boost future economic growth in Hungary. Other relevant investment spending items are childcare, healthcare and social inclusion. Greening the economy requires investment in energy efficiency, climate change resilience and waste management. The institutional framework needs to improve to ensure that the economic and social benefits of these investments are maximised.

Hungary has made limited progress⁽³⁾ in addressing the 2019 country-specific recommendations.

There has been limited progress in the following areas:

- Policy action to get more people from vulnerable groups into work or training` includes the extension of childcare facilities and measures to enhance the transition from the public works scheme to the primary labour market. The government has announced certain measures to improve health care but these only address the recommendation to a limited extent. The salaries of healthcare professionals have increased and cancer-screening programmes have started. Measures have been introduced to lower the school drop-out rate; however, serious challenges remain related to social mobility. The Hungarian economy allocates an increasing amount of funding to investment in research and innovation and

transport but framework conditions remain weak. The government plans to spend more on low-carbon energy and to improve energy and resource efficiency, and measures have been taken to improve waste management. Some legislative changes are intended to improve competition in public procurement but their impact remains to be seen. While some steps have been taken to reduce the complexity of the tax system, no significant additional effort has been made to reduce the risk of aggressive tax planning, apart from the implementation of European legislation.

There has been no progress in the following areas:

- No progress has been made in improving the adequacy of social assistance and unemployment benefits. No progress has been made to reinforce the anti-corruption framework, including by improving prosecutorial efforts and access to public information. No progress has been made to address the persisting concerns regarding judicial independence. The regulatory environment in services has not improved. The quality and transparency of decision-making and social dialogue is among the weakest in the EU and no steps have been taken to improve it.

Hungary performs relatively well on some indicators of the Social Scoreboard supporting the European Pillar of Social Rights but significant challenges remain. Employment outcomes compare well with EU averages, while the unemployment rate is one of the lowest in the EU. Income inequality is close to the EU average although it has been increasing. Employment and salary gaps between genders and skills groups remain wide compared with the rest of the EU. Labour market outcomes for women and vulnerable groups are below the EU average.

Regarding the progress in reaching the national targets under the Europe 2020 Strategy, Hungary is performing well in boosting the employment rate, reducing relative poverty and reducing greenhouse gas emissions. More effort is needed to raise research and development spending, higher education attainment, energy efficiency and renewable energy use and to reduce early school leaving.

⁽³⁾ Information on the level of progress and actions taken to address the policy advice in each respective subpart of a country-specific recommendation is presented in the overview table in the Annex.

Overall, Hungary's performance in achieving the United Nations Sustainable Development Goals (SDGs) is average. Hungary performs relatively well in the indicator measuring decent work and economic growth (SDG 8). However, significant challenges remain, in particular, in improving the quality of education (SDG 4)⁽⁴⁾.

Key structural issues analysed in this report, which point to particular challenges for Hungary's economy, are the following:

- **Despite recent improvement, output per worker remains among the lowest in the EU.** Domestic companies mainly contribute to international production chains through assembly-type activities, which add little local value. This specialisation is related to the still moderate innovation performance of the Hungarian economy despite increasing expenditure on research, development and innovation. The shortage of highly skilled workers is a key obstacle to innovation. Cooperation among researchers and businesses is weak, hindering knowledge transfer from abroad, and towards smaller domestic enterprises. Hungary's adoption of productivity-enhancing digital technologies is among the lowest in the EU, and it is hindered by low digital skills.
- **Restrictive regulations and increasing state involvement hinder the proper functioning of the markets.** Restrictive product market regulations hamper the evolution of successful businesses, which reduces economy-wide productivity. Selected companies benefit from government support through large subsidies, tailor-made regulations, specific agreements and protection from competition. Frequent regulatory changes lead to an unstable business environment in retail trade and the regulation of professions is still restrictive. The tax system remains complex even after simplification efforts, and there are indications that the

country's corporate tax rules may be used for aggressive tax planning.

- **The institutional and governance framework affects the business environment and the optimal allocation of resources.** Over the past years, institutional quality and legislative predictability have been relatively weak and deteriorating compared with both the EU average and Hungary's regional peers. Insufficient stakeholder involvement weakens the quality and predictability of policy-making. Despite improvements in the public procurement framework in recent years, systemic factors recurrently hinder fair competition and risk undermining the efficiency of the selection process. Available indicators still point to significant corruption risks. There still has not been enough determined action to prosecute corruption in high-level cases. The weakening of checks and balances, weak accountability and obstacles to access to public information hinder the fight against corruption.
- **Employment increased and unemployment decreased in line with the good economic situation but not all groups benefited equally from labour market expansion.** The number of women in work or training remains relatively low, also due to the limited availability of childcare. Outward migration and population ageing put pressure on the size of the workforce. A majority of firms in the industry and building sectors report labour shortages as a factor limiting production. The performance of the public employment services, including the targeting and efficiency of policies to help people find or stay in work, could be improved.
- **The overall poverty situation has improved markedly in recent years but challenges remain.** Income inequality has been increasing, inequalities in access to public services persist and the proportion of people experiencing difficult living conditions is among the highest in the EU and is particularly high among families with several children and the Roma. Poverty and social exclusion are concentrated in certain areas. Key elements of the social safety net have weakened over the past years.

⁽⁴⁾ Within the scope of its legal basis, the European Semester can help drive national economic and employment policies towards the achievement of the United Nations Sustainable Development Goals (SDGs) by monitoring progress and ensuring closer coordination of national efforts. This report contains reinforced analysis and monitoring on the SDGs. A new annex (Annex E) presents a statistical assessment of trends in relation to SDGs in Hungary during the past five years, based on Eurostat's EU SDG indicator set.

The low and shrinking supply of social housing is becoming a challenge against a backdrop of rapidly rising residential property prices.

- **Educational outcomes are below the EU average and large differences between schools remain, hindering social mobility.** The impact of the socio-economic background of pupils on their educational outcomes is one of the strongest in the EU. Concentration of disadvantaged and Roma children in certain schools has increased in the past decade, particularly in cities. The incidence of early school leaving is above the EU average, and especially high among Roma. The new strategy on vocational education and training aims to attract more students to vocational schools but makes it more difficult for them to switch to the general education path. The shrinking pool of applicants to higher education is likely to limit tertiary educational attainment rates, which holds back innovation and productivity growth. The shortage of teachers is increasingly challenging.
- **Although improving, health outcomes remain worse than in most other EU countries, reflecting both unhealthy lifestyles and the limited effectiveness of health care.** This is shown by Hungary's high mortality rates from preventable causes. The public share of health spending in Hungary is considerably lower than the EU average. Consequently, an above-EU average number of Hungarians rely on out-of-pocket expenditure and are increasingly pushed to turn to private care to access health services, with repercussions on social equity as well as population health outcomes. The health system remains excessively reliant on hospitals to provide care services, with insufficient focus on primary care and prevention. Additional investment and reforms are necessary to rationalise the use of resources within the health system, reduce inequities of access and raise quality of care to EU standards.
- **Environmental sustainability is a challenge.** Hungary is targeting a modest reduction in greenhouse gas emissions from current levels by 2030, mainly through the phasing out of coal-fired power plants. The latest National

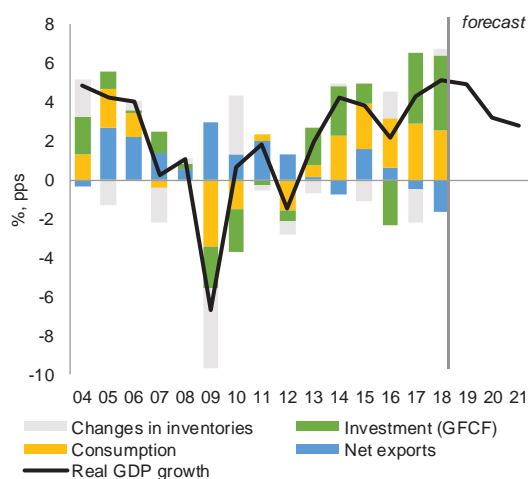
Energy Strategy aims to increase electricity generation from low-carbon sources to 90% of the total by 2030. In addition to nuclear, Hungary intends to rely more on renewable energy sources, mainly solar energy; by contrast, wind energy does not have any role in the government's current plans. The low energy efficiency of housing and polluting residential heating methods make air quality worse and both point to large potential environmental and health gains to be achieved by stepping up renovation rates. Greenhouse gas emissions from transport have increased strongly over the last five years and emissions are projected to continue increasing under current policies. The government intends to address transport emissions by promoting electromobility. However, questions remain concerning plans for building charging infrastructure and for promoting other alternative fuels. Identifying investment needs in green technologies and sustainable solutions, and securing adequate funding will be key to delivering on the climate and energy objectives and shaping a new growth model. Water quality and supply remain concerns. Hungary is only at an early stage of moving towards a circular economy and waste management needs to be improved to meet 2020 recycling targets. Institutional issues impede more effective implementation of environmental laws and policies. These environmental challenges require investment and institutional capacity building. The Commission's proposal for a Just Transition Mechanism under the next multi-annual financial framework for the period 2021-2027, includes a Just Transition Fund, a dedicated Just Transition scheme under InvestEU, and a new public sector loan facility with the EIB. It is designed to ensure that the transition towards EU climate neutrality is fair by helping the most affected regions in Hungary to address the social and economic consequences. Key priorities for support by the Just Transition Fund, set up as part of the Just Transition Mechanism, are identified in Annex D, building on the analysis of the transition challenges outlined in this report.

1. ECONOMIC SITUATION AND OUTLOOK

GDP growth

The Hungarian economy enjoyed outstanding growth in recent years. GDP has risen on average by 4% each year since 2014 as the economy left behind the legacy of the financial crisis and macroeconomic policies remained supportive. GDP per capita had reached over 70% of the EU average by 2018, the highest level since the transition. Domestic tailwinds also kept the economy resilient to the global slowdown in 2019. These included booming construction investment and the introduction of new models to the production lines of major automotive factories.

Graph 1.1: Contributions to real GDP growth



Source: European Commission, Winter Forecast 2020

Growth is set to slow in 2020 as the business cycle matures and temporary factors fade. Domestic spare capacity has been absorbed while the external environment remains a drag on exports. Fiscal consolidation is set to reduce public investment while private investment is expected to decelerate, having already reached a high level. Consumption is also projected to slow in line with moderating income growth (see Graph 1.1).

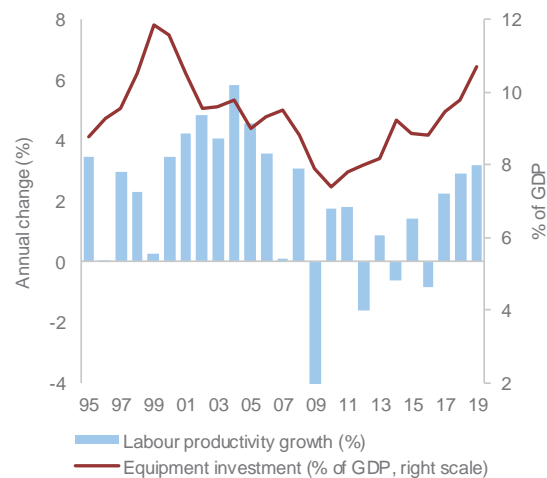
Investment activity is at a record level. Construction investment is estimated to have risen to 15% of GDP in 2019, above the pre-crisis average of around 12%, after several years of subdued building activity. Public investment, boosted by the absorption of EU funds and the electoral cycle, exceeded 6% of GDP in 2019, the highest rate in the EU. Commercial real estate

investment is responding to pent-up demand, which is evident in historically low vacancy rates. Homebuilding is gradually responding to rising house prices, the improving financial situation of households, and the expansion of housing-related subsidy schemes. Investment in machinery and equipment has also risen substantially, thanks to high capacity utilisation, easy financing conditions and foreign direct investment inflows.

Productivity and potential growth

Productivity growth has picked up in line with equipment investment, but remains modest. Following the crisis, labour productivity stagnated and the convergence in income per capita was mostly driven by the rising employment rate. The recent rise in investment has also brought labour productivity gains. However, while the investment rate for equipment has already approached its pre-crisis peak, labour productivity gains have remained below the 2000-2007 average (see Graph 1.2). Microeconomic factors, including low innovation activity and the slow reallocation of resources towards more productive firms, continue to hold back productivity growth (see Section 3.4.1). Easy financing conditions and institutional factors may lead to capital misallocation (Cecchetti and Kharroubi, 2015; Restuccia and Rogerson, 2017; see also Section 3.4.2).

Graph 1.2: Labour productivity and equipment investment



(1) forecast for 2019

Source: Eurostat, Hungarian Central Statistical Office, European Commission Autumn 2019 Economic Forecast

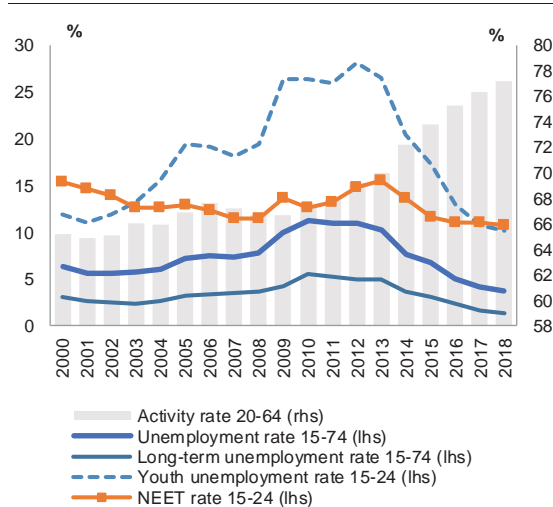
Potential growth is set to slow as the effect of past policy measures fades. In recent years, the economy has benefited from the unfolding effect of earlier measures increasing labour market participation, notably the gradual rise of the effective retirement age. Tax incentives were also created to raise old-age participation. Changes to the tax and benefits system (affecting labour and consumption taxes, unemployment and other benefits) may have also raised participation and long-run GDP, albeit at the cost of higher inequality (Benczúr et al., 2018). Although the government introduced some measures to increase old-age participation, the retirement age is set to stabilise at 65 years from 2022 and the active population is projected to decrease, in line with demographic trends.

Labour market and social developments

The labour market performs strongly, in line with the good cyclical situation of the economy.

Employment and participation continued to rise in 2019. Unemployment, including long-term unemployment, fell to well below pre-crisis levels. Youth unemployment and the share of youth not in employment, education or training have been improving at a slower pace (see Graph 1.3 and Table C.3). However, vacancy data and firms' perceptions of labour shortages indicate that labour demand has cooled since mid-2019.

Graph 1.3: Participation, unemployment and NEET rates



(1) NEET: not in education or employment

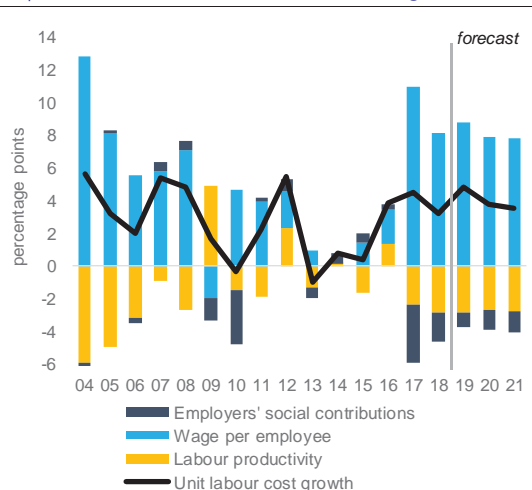
Source: Eurostat

Structural challenges persist in the labour market. Labour shortages remain significant, especially in sectors employing high-skilled workers. Despite recent improvements, non-employment is higher among the low skilled and people with disabilities (see Section 3.3.1). It is also concentrated geographically, in the less developed regions and in rural areas. While decreasing in size, the Public Works Scheme continues to employ over 2% of the workforce.

In the tight labour market, wages have been growing rapidly.

According to national accounts data, wages and salaries per employee grew by 8.1% in 2018 and accelerated further in 2019 to an estimated 8.8%. Sizeable minimum wage hikes of 8% in both 2019 and 2020 have also supported wage growth, which is projected to slow gradually in 2020 and 2021 as lower economic growth eases the tightness of the labour market. Employers' social contribution rates should continue to decrease in line with the six-year wage agreement between the government and social partners. The decreasing tax wedge limits unit labour cost growth, but in recent years it still rose by nearly 4% each year on average, and only a modest slowdown is projected (see Graph 1.4).

Graph 1.4: Contributions to unit labour cost growth

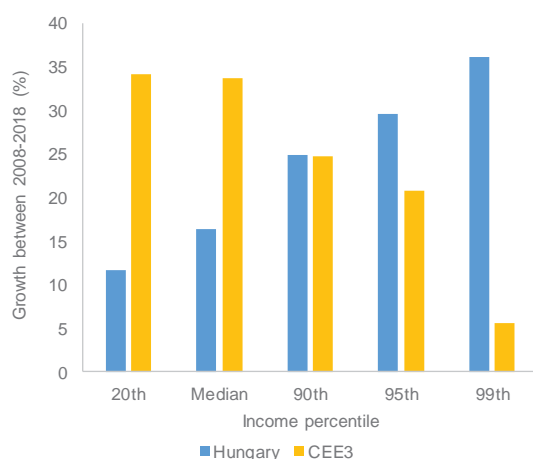


Source: Eurostat, European Commission Autumn 2019 Economic Forecast

The benefits of growth have been unequally distributed. Poverty risks decreased markedly in past years, but material and social deprivation rates remain among the highest in the EU. Poverty and social exclusion show a strong territorial

concentration. The adequacy of key elements of the social safety net is weak. Inequality is not high in Hungary compared with the rest of the EU, but it has increased over the last decade (see Section 3.3.2). While median income grew half as much as the regional average between 2008-2018, income growth for the top 5% of the distribution was much higher (see Graph 1.5). As high-income households save a higher share of their income, the changing income distribution could have contributed to the persistently high household saving rate after the crisis. This is corroborated by the recent increase in wealth concentration: financial assets held by the wealthiest 20% of households rose by 36% between 2014-2017, while those of the remaining 80% rose by just 8% (MNB, 2019a).

Graph 1.5: **Real net disposable income growth between 2008-2018 at different income levels**



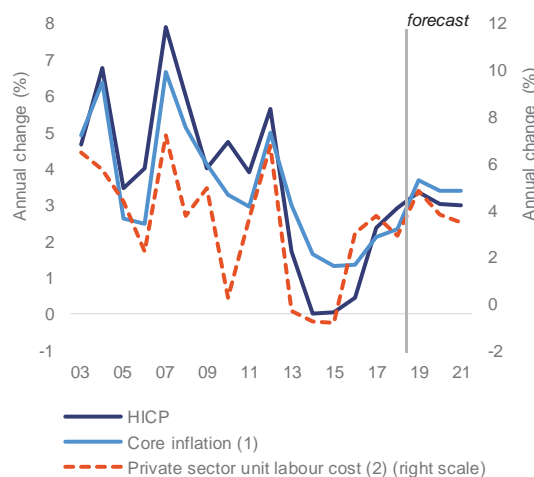
(1) CEE3 is the average of Czechia, Poland and Slovakia
Source: Eurostat

Inflation and monetary policy

Strong demand and wage growth have fed into inflation. Core inflation has climbed steadily and drove HICP inflation up to 3.4% in 2019. A broader set of measures confirms the build-up of price pressures in the economy. Construction prices were growing by 9.5% in the third quarter of 2019 while the GDP deflator was rising by 4.4% in the same period. In the years ahead, slower economic growth is projected to ease the tightness of the labour market and curtail domestic inflationary pressure. At the same time, imported inflation should remain subdued in line with global commodity and industrial prices. Overall, HICP

inflation is projected to remain near the 3% midpoint of the central bank's target band over the coming years (see Graph 1.6).

Graph 1.6: **Inflation and unit labour cost**



(1) HICP excluding unprocessed food and energy. (2) total economy excluding public administration, education and health
Source: Eurostat, European Commission Autumn 2019 Economic Forecast

Monetary conditions have remained loose. In 2019, the central bank signalled that downward risks to inflation had become stronger. Through its liquidity operations it lowered interbank rates slightly in the second half of the year. The currency depreciated on a trade-weighted basis by about 4% compared to end-2018. The central bank introduced another round of its subsidised loan scheme for small firms, and a bond-buying programme for larger corporates (see Section 3.2).

External position

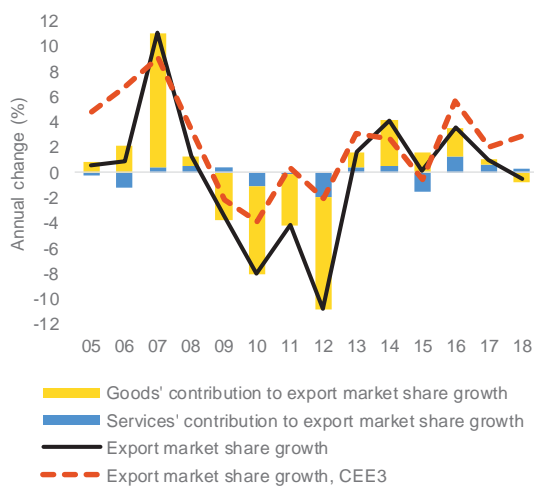
The current account balance turned slightly negative (-0.8% of GDP in the third quarter of 2019), mostly due to a decreasing trade balance. This level is in line with the current account explained by fundamentals⁽⁵⁾. Export growth slowed down since 2017 along with the demand of trade partners, while strong domestic demand kept import growth high. The increasing absorption of EU funds swelled the capital account balance, thus

⁽⁵⁾ The benchmark is derived from reduced-form regressions capturing the main determinants of the saving-investment balance, including fundamental determinants (e.g. demography, resources), policy factors and global financial conditions. See also Coutinho, Turrini and Zeugner (2018).

the net lending of the economy remained positive. In the years ahead, new export capacities and lower domestic demand growth are projected to stabilise the external balance with the current account deficit at less than 1% of GDP.

Export market share gains fell behind regional peers since 2016. In 2016-2018, Hungary gained 4% in export market shares, less than the 10.7% average of Czechia, Poland and Slovakia (see Graph 1.7). This difference is mostly due to goods exports, and half of it is explained by the automotive industry. The manufacturing of internal combustion engines plays a particularly important role in Hungary. This segment was hit by the diesel emissions scandal and the slow introduction of new emission test procedures in 2017. Major brands operating in the country also held back production for company-specific reasons. In line with the roll-out of new models in 2019, Hungarian automotive exports started to make up the ground lost in earlier years.

Graph 1.7: **Export market share growth**



Calculated from nominal values. CEE3 is the average of Czechia, Poland and Slovakia

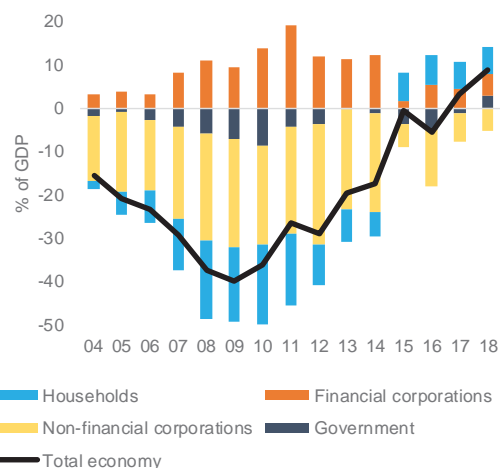
Source: Eurostat

Decreasing cost competitiveness had a measurable effect on trade performance. Strong business investment has supported export growth in recent years through the creation of new production capacity. However, decreasing cost competitiveness is estimated to have led to market share losses in the range of 0.5-1 percentage points per year, because the real effective exchange rate

based on manufacturing unit labour cost has appreciated by over 15% since the end of 2015 ⁽⁶⁾.

The net international investment position continued to improve. It reached -49.2% of GDP by the third quarter of 2019, compared to -113.4% in 2009. This remains more negative than the level implied by fundamentals, estimated at -24% of GDP in 2019. However, the net stock of debt-type instruments has already decreased to near zero. External deleveraging is increasingly driven by high nominal GDP growth, while the contribution of financial flows has diminished in line with the decreasing net lending of the economy.

Graph 1.8: **Net foreign currency assets by sector**



Households include non-profit institutions. The central bank is classified into government. Data are not consolidated, and exclude special purpose entities.

Source: Hungarian Central Statistical Office, Magyar Nemzeti Bank

The reduction of foreign currency debt has lowered Hungary's exposure to volatility in international financial markets. Households and corporations had reduced their large net foreign currency debt stocks by 2018, also supported by government measures. Within the corporate sector, exporting firms earn foreign currency revenues to hedge their debt, although exposures remain in

⁽⁶⁾ For this analysis, an export equation was estimated on data spanning 2000-2015. In the model, the quarterly growth rate of goods exports volume is explained with the growth of world trade (an indicator of cyclical demand fluctuations, by CPB Netherlands); the growth of corporate sector capital stock (a proxy for production capacity, published by the central bank); and the real exchange rate based on manufacturing unit labour cost (by ECB, as a measure of cost competitiveness).

construction and commercial real estate. To mitigate these risks, the central bank extended the systemic risk buffer to unhedged foreign currency project loans in autumn 2019. Banks have also started to tighten credit conditions for commercial real estate project loans. The foreign currency denominated debt of the general government also decreased as maturing bonds were mostly refinanced in domestic currency. Its consolidated balance sheet with the central bank now has more foreign currency assets than liabilities (see Graph 1.8).

Public finances

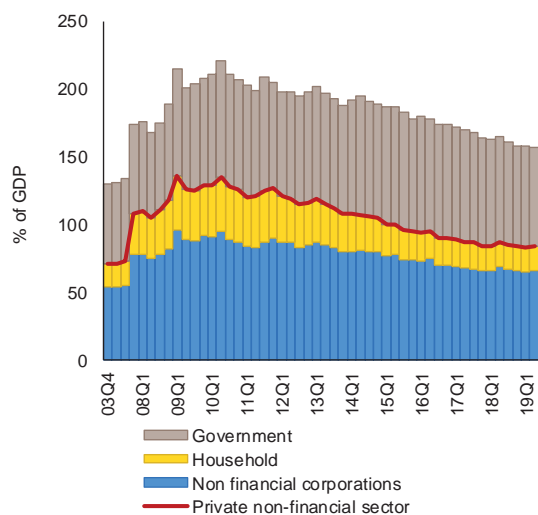
The general government deficit is projected to shrink, mostly due to spending restraint.

Despite favourable economic growth, the headline deficit widened in 2017 and 2018 following procyclical fiscal policies which, in 2018, led the Council to launch a significant deviation procedure for Hungary. Procyclical fiscal loosening seems to have reverted. In its 2019 autumn forecast, the Commission projected the headline deficit to decline from 2.3% of GDP in 2018 to 1.8% of GDP in 2019. The improvement is mostly driven by the moderate increase in current expenditure compared to GDP. The structural deficit is expected to have improved by 0.5% of GDP in 2019, which is below what was recommended by the Council. In 2020, both the headline and the structural deficits are estimated to decrease further, thanks also to the moderating public investment rate. As a result, the debt-to-GDP ratio is expected to keep decreasing.

Financial sector

The credit cycle is in full swing. Credit demand and banks' willingness to lend remain strong. Household lending (up by 15.6% year-on-year in December 2019) is also boosted by the new 'prenatal' financing scheme introduced in July 2019. However, the stock of private sector debt has not risen relative to GDP. Household indebtedness remains historically low at 18% of GDP in 2019, well below the fundamental threshold of 33% (see Graph 1.9). Consolidated debt of non-financial corporations amounted to 49.7% of GDP in the third quarter of 2019, which is higher than levels implied by fundamentals, but below the prudential threshold. The share of highly indebted enterprises seems to have risen, however (MNB, 2019b).

Graph 1.9: **Decomposition of debt by sector**



Source: Eurostat

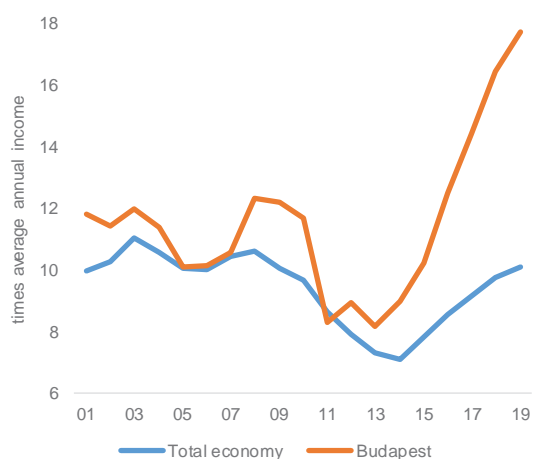
The authorities have introduced multiple interest rates through market segmentation, adding complexity to the financial markets. The central bank and various public institutions operate several preferential programmes, further reducing lending rates mainly for small and medium-sized enterprises (see also Section 3.2). Households can benefit from the new 'prenatal' funding scheme, essentially an uncollateralised personal loan with very low interest rates and the possibility of partial or complete debt relief, depending on the birth of additional children (see also Section 3.3.1). At the same time, the government has issued increasing amounts of high-yield retail bonds with limited secondary trading, with the declared aim of encouraging household saving (see Section 3.1.3). Besides their direct fiscal cost, the increasingly complex web of subsidised financial products may also crowd out market-based products and burden the consolidated balance sheet of the government with credit risk. In addition, the authorities repeatedly need to resort to fine-tuning to avoid arbitrage opportunities across market segments.

Housing market

House prices continued to grow rapidly, causing concerns of overvaluation in Budapest. The national house price index for existing dwellings rose by 7.7% year-on-year in the third quarter of 2019, driven by rising incomes, low interest rates, expanding government subsidies and the anticipated increase in the value-added tax rate for

new housing as of 1 January 2020. The central bank's index shows even higher price increase of 14.7%. The house-price-to-income ratio is at the pre-crisis average for the total economy, while it has reached very high levels for the capital city (see Graph 1.10)⁽⁷⁾. Speculative demand and foreign investors have contributed to the rapid price increases. In 2018, buyers from outside the European Union accounted for 7.4% of transactions in Budapest, a significant jump from a 0.3% share in 2013. While overvaluation appears geographically contained, it may spill over to the rest of the country (Pellényi, 2019).

Graph 1.10: House price to income ratio



Price of a 80 m2 used apartment relative to annual average net income per person. Based on Bricongne et al. (2019), values above 12.5 indicate risk of a sharp price reversal.

Source: European Commission based on HCSO and MNB

Low household indebtedness and moderating buy-to-let demand mitigate the associated risks.

Rising house prices do not seem to be fuelled by loose credit conditions. Household debt relative to income is still low and the number of new mortgages even fell in the first half of 2019. In parallel with the launch of the new high-yield retail government bond in mid-2019, the price level of existing dwellings has ceased to grow since the first quarter of the year.

Housing construction responds only gradually to robust demand due to capacity constraints.

The number of newly built houses has more than doubled in recent years, amounting to around

18,000 units by 2019, but this level is still just half of the pre-crisis average. Capacity shortages in the construction sector have led to cost increases and delays for most residential projects. The expiry of the preferential value-added tax rate for new housing from 2020 and tighter environmental standards from 2021 has also held back the launch of new projects. Industry representatives foresee decreasing building activity from 2021 onwards, once projects currently under way are finalised (MNB, 2019c).

Sustainable Development Goals

Overall, Hungary performs on average in achieving the Sustainable Development Goals.

According to Eurostat's Sustainable Development Goals (SDG) indicators (see Annex E), Hungary has been making progress in several areas over the past 5 years. Thanks to its favourable economic situation, Hungary performs relatively well in the indicators measuring decent work and economic growth (SDG 8). Indicators on poverty (SDG 1), hunger (SDG 2) and sustainable cities (SDG 11) also improved. However, Hungary continues to lag behind the EU average in the levels of several indicators. Moreover, some deterioration can be observed in indicators of clean energy, inequality and climate-related actions (SDG 7, 10 and 13).

⁽⁷⁾ Valuation metrics by the Commission, which refer to the total economy and are calculated over a shorter period, also indicate rising overvaluation of house prices.

Table 1.1: Key economic and financial indicators - Hungary

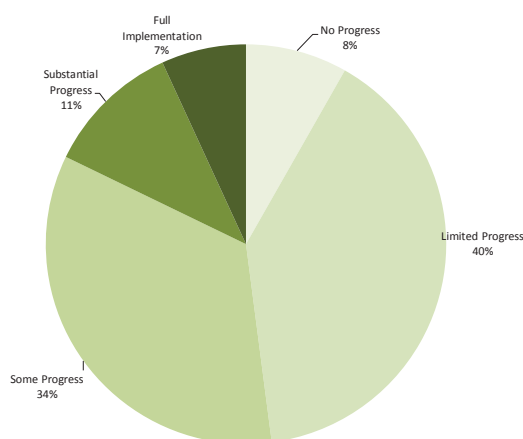
	2004-07	2008-12	2013-16	2017	2018	forecast		
						2019	2020	2021
Real GDP (y-o-y)	3.3	-1.0	3.0	4.3	5.1	4.9	3.2	2.8
Potential growth (y-o-y)	3.1	0.3	1.7	2.9	3.7	4.3	3.9	3.8
Private consumption (y-o-y)	1.9	-2.5	2.8	4.7	4.8	.	.	.
Public consumption (y-o-y)	0.1	0.5	2.7	2.4	0.9	.	.	.
Gross fixed capital formation (y-o-y)	4.2	-4.4	3.7	18.7	17.1	.	.	.
Exports of goods and services (y-o-y)	16.6	2.1	6.1	6.9	4.3	.	.	.
Imports of goods and services (y-o-y)	13.6	0.0	6.1	8.2	6.8	.	.	.
Contribution to GDP growth:								
Domestic demand (y-o-y)	2.0	-2.2	2.7	6.5	6.4	.	.	.
Inventories (y-o-y)	-0.2	-0.4	-0.1	-1.8	0.4	.	.	.
Net exports (y-o-y)	1.5	1.6	0.4	-0.5	-1.7	.	.	.
Contribution to potential GDP growth:								
Total Labour (hours) (y-o-y)	-0.2	-0.2	1.0	1.0	0.9	0.8	0.5	0.4
Capital accumulation (y-o-y)	1.4	0.6	0.7	1.0	1.6	2.1	1.9	1.8
Total factor productivity (y-o-y)	1.9	-0.1	0.0	0.9	1.3	1.5	1.5	1.5
Output gap	2.3	-3.3	-0.9	2.0	3.4	3.7	2.5	1.6
Unemployment rate	7.1	10.2	7.5	4.2	3.7	3.4	3.4	3.4
GDP deflator (y-o-y)	4.2	3.3	2.5	3.7	4.5	4.2	3.7	3.0
Harmonised index of consumer prices (HICP, y-o-y)	5.5	4.9	0.6	2.4	2.9	3.4	3.3	3.1
Nominal compensation per employee (y-o-y)	7.9	2.5	1.3	7.0	6.2	7.8	6.5	6.4
Labour productivity (real, person employed, y-o-y)	3.8	-0.3	0.1	2.4	2.7	.	.	.
Unit labour costs (ULC, whole economy, y-o-y)	4.0	2.8	1.2	4.5	3.4	5.0	3.8	3.5
Real unit labour costs (y-o-y)	-0.2	-0.6	-1.2	0.8	-1.0	0.8	0.1	0.5
Real effective exchange rate (ULC, y-o-y)	3.1	-2.3	-1.6	4.5	-1.1	-0.4	-0.4	1.5
Real effective exchange rate (HICP, y-o-y)	3.1	-0.8	-1.7	1.8	-0.5	-0.8	-0.8	1.0
Net savings rate of households (net saving as percentage of net disposable income)	6.2	5.3	7.2	6.6	6.9	.	.	.
Private credit flow, consolidated (% of GDP)	13.2	0.7	-1.7	0.7	4.3	.	.	.
Private sector debt, consolidated (% of GDP)	81.4	109.9	86.3	70.0	69.3	.	.	.
of which household debt, consolidated (% of GDP)	24.8	36.3	23.6	18.6	17.8	.	.	.
of which non-financial corporate debt, consolidated (% of GDP)	56.6	73.6	62.7	51.4	51.5	.	.	.
Gross non-performing debt (% of total debt instruments and total loans and advances) (2)	.	9.8	11.8	5.6
Corporations, net lending (+) or net borrowing (-) (% of GDP)	-2.9	2.0	3.1	2.4	1.3	-0.4	-0.8	-0.9
Corporations, gross operating surplus (% of GDP)	22.3	23.0	25.0	24.9	25.1	25.1	24.9	24.7
Households, net lending (+) or net borrowing (-) (% of GDP)	1.8	2.9	5.1	3.1	3.1	2.8	3.0	2.9
Deflated house price index (y-o-y)	.	-7.0	9.3	9.3	10.9	.	.	.
Residential investment (% of GDP)	4.4	3.1	2.1	2.7	3.0	.	.	.
Current account balance (% of GDP), balance of payments	-7.7	-1.1	2.9	2.3	-0.5	-1.4	-1.0	-0.8
Trade balance (% of GDP), balance of payments	-1.2	4.5	7.5	7.3	4.4	.	.	.
Terms of trade of goods and services (y-o-y)	-0.7	-0.5	0.6	-0.6	-1.1	-0.1	0.3	0.0
Capital account balance (% of GDP)	0.5	1.9	3.0	0.9	2.6	.	.	.
Net international investment position (% of GDP)	-92.3	-103.4	-72.5	-54.9	-52.0	.	.	.
NENDI - NIIP excluding non-defaultable instruments (% of GDP) (1)	-30.9	-48.5	-23.8	-8.8	-4.2	.	.	.
IIP liabilities excluding non-defaultable instruments (% of GDP) (1)	75.3	112.1	82.3	62.1	58.8	.	.	.
Export performance vs. advanced countries (% change over 5 years)	47.0	10.6	-10.2	7.8	6.3	.	.	.
Export market share, goods and services (y-o-y)	4.9	-5.1	2.3	1.0	-0.5	3.8	0.9	1.0
Net FDI flows (% of GDP)	-2.4	-1.7	-1.9	-1.7	-2.1	.	.	.
General government balance (% of GDP)	-7.1	-4.1	-2.3	-2.4	-2.3	-1.8	-1.0	-0.8
Structural budget balance (% of GDP)	.	.	-1.8	-3.7	-3.8	-3.3	-2.1	-1.5
General government gross debt (% of GDP)	62.4	78.0	76.4	72.9	70.2	68.2	66.7	64.4
Tax-to-GDP ratio (%) (3)	37.5	38.4	39.0	38.4	37.6	37.2	37.0	36.9
Tax rate for a single person earning the average wage (%) (4)	35.5	35.5	34.3	33.5	33.5	.	.	.
Tax rate for a single person earning 50% of the average wage (%) (4)	19.6	26.5	34.3	33.5	33.5	.	.	.

Source: Eurostat and ECB as of 4-2-2020, where available; European Commission for forecast figures (Winter forecast 2020 for real GDP and HICP, Autumn forecast 2019 otherwise)

2. PROGRESS WITH COUNTRY-SPECIFIC RECOMMENDATIONS

Hungary has a mixed track record in implementing the Country Specific Recommendations (CSRs). Since the start of the European Semester in 2011, Hungary has made at least ‘some progress’ on 52% of all Country Specific Recommendations. 48% of the recommendations recorded ‘limited’ or ‘no progress’ (see Graph 2.1). Substantial progress has been achieved in the financial sector, for instance in improving the asset quality of the banks and access to finance.

Graph 2.1: Overall multiannual implementation of 2011-2019 CSRs to date



(1) The overall assessment of the country-specific recommendations related to fiscal policy excludes compliance with the Stability and Growth Pact. 2011-2012 annual assessment: Different CSR assessment categories. The multiannual CSR assessment looks at the implementation until 2020 Country Report since the CSRs were first adopted. **Source:** European Commission

Since 2011, the government made progress in strengthening public finances, which, has however stalled over the past years. It has implemented measures including structural reforms to reduce the budgetary deficit below 3% of GDP. As a result, in 2013, the decision on the existence of an excessive deficit was abrogated. However, the structural deficit has substantially deteriorated since 2016, which led the Council to conclude, in 2018 and 2019, that the structural balance deviated significantly from its medium-term budgetary objective.

The labour market situation has improved considerably since 2011, supported by the economic upturn as well as measures

implemented by the government. In the last nine years, the authorities have taken several measures to reduce the tax burden on labour. The employers' social contribution was gradually reduced from 27% in 2016 to 17.5% in 2019. The government plans to continue the reduction in the coming years. The tax wedge for families and selected groups was reduced even further. There has been some progress with active labour market policies. For years, the authorities' main focus was the Public Works Scheme, despite its limited efficiency. By 2019, the number of participants in the scheme had declined significantly on account of improving labour market conditions and some policy measures.

Hungary has made little progress on improving its business environment and the proper functioning of the markets. Hungary has received recommendations to improve the business environment every year since the European Semester started. These recommendations cover several fields, including: administrative burden; public procurement; the legislative process; competition; the regulatory environment; corruption and judicial independence. Digitalisation of taxation and public procurement has led to some improvement.

The quality of banking sector assets has greatly improved and lending activity has picked up. Between 2013 and 2015, Hungary received yearly recommendations to restore lending to the real economy, to reduce burdens on banks and to improve asset quality. Since then, the banking tax and the level of non-performing loans held by banks has dropped considerably.

Hungary has made limited progress in addressing the 2019 country-specific recommendations (see Table 2.1). Limited progress has been made in integrating vulnerable groups into the labour market. Progress has been limited in reducing the complexity of the tax system, in improving health outcomes and in boosting competition in public procurement. Limited progress has been made in focusing investment-related economic policy on research and innovation, low-carbon energy, transport infrastructure, waste management and energy and resource efficiency, taking into account regional disparities. Limited progress has been made

towards increasing the participation of disadvantaged groups in inclusive mainstream education. No progress has been made in improving the adequacy of social assistance and unemployment benefits, the anti-corruption framework, prosecutorial efforts, judicial independence, regulatory environment in services or the quality and transparency of decision-making, including the social dialogue.

Upon request from a Member State, the Commission can provide tailor-made expertise via the Structural Reform Support Programme to help design and implement growth-enhancing reforms. Since 2018, such support has been provided to Hungary for 10 projects. In 2019, work started on legal analysis that will contribute to reforming the bankruptcy law, on implementing a tax compliance cost survey and improving the performance measurements of the tax authority, as well as on improving the quality and access to primary care services and the quality and relevance of the adult education system.

Table 2.1: Assessment of the implementation of 2019 country-specific recommendations (CSRs) (*)

<p>Overall assessment of progress with 2018 CSR:</p> <p>CSR1: <i>Ensure compliance with the Council Recommendation of 14 June 2019 with a view to correcting the significant deviation from the adjustment path towards the medium-term budgetary objective.</i></p> <p>CSR2: <i>Continue the labour market integration of the most vulnerable groups, in particular through upskilling, and improve the adequacy of social assistance and unemployment benefits. Improve education outcomes and increase the participation of disadvantaged groups, in particular Roma in quality mainstream education. Improve health outcomes by supporting preventive health measures and strengthening primary healthcare.</i></p> <p>CSR3: <i>Focus investment-related economic policy on research and innovation, low-carbon energy, transport infrastructure, and waste management and energy and resource efficiency, taking into account regional disparities. Improve competition in public procurement.</i></p> <p>CSR4: <i>Reinforce the anti-corruption framework, including by improving prosecutorial efforts and access to public information, and strengthen judicial independence. Improve the quality and transparency of the decision-making process through effective social dialogue and engagement with other stakeholders and through regular, appropriate impact assessments. Continue simplifying the tax system, while strengthening it against the risk of aggressive tax planning. Improve competition and regulatory predictability in the services sector.</i></p>	<p>Limited progress</p> <p>CSRs related to compliance with the Stability and Growth Pact will be assessed in spring once the final data are available.</p> <p>Limited progress</p> <ul style="list-style-type: none"> • Limited progress in integrating vulnerable groups in labour market. • Limited progress in improving educational outcomes and increasing the participation of disadvantaged groups in inclusive mainstream education. • No progress in improving the adequacy of social assistance and unemployment benefits. • Limited progress in improving health care. <p>Limited progress</p> <ul style="list-style-type: none"> • Limited progress in research and innovation. • Limited progress in low-carbon energy. • Some progress in low-carbon transport. • Limited progress in waste management. • Limited progress in energy and resource efficiency. • Limited progress in public procurement. <p>Limited progress</p> <ul style="list-style-type: none"> • No progress in reinforcing anti-corruption framework, improving prosecutorial efforts and access to public information. • No progress on strengthening judicial independence. • No progress in improving the quality of decision making. • Limited progress in reducing the complexity of the tax structure and strengthening it against aggressive tax planning. • No progress in improving the regulatory environment in the services sector.
---	---

Source: European Commission

(*) The assessment of CSR 3 does not take into account the contribution of the EU 2021-2027 cohesion policy funds. The regulatory framework underpinning the programming of the 2021-2027 EU cohesion policy funds has not yet been adopted by the co-legislators, pending inter alia an agreement on the multiannual financial framework (MFF).

Box 2.1: EU funds and programmes to address structural challenges and to foster growth and competitiveness in Hungary

Hungary is one of the countries benefiting most from EU support. In the current Multiannual Financial Framework, EU Cohesion policy funds ⁽¹⁾ allocated to Hungary amount to €25.4 billion, i.e. around 2.9% of GDP annually. By the end of 2019, €26.7 billion (more than the total amount planned ⁽²⁾) was allocated to specific projects, while €10.3 billion was reported as spent ⁽³⁾ showing a level of implementation in line with the EU average.

EU Cohesion policy funding also significantly supports structural challenges in Hungary. The Cohesion Policy programmes for Hungary have allocated EU Funding of €4.9 billion for smart growth, €9 billion for sustainable growth and sustainable transport and €7.3 billion for inclusive growth. In 2019, following a performance review ⁽⁴⁾, €1.2 billion have been made available within performing priorities for Hungary.

EU Cohesion policy funding is contributing to major transformations of the Hungarian economy. Cohesion policy funds are supporting growth and employment via investments, among others, in research, technological development and innovation, competitiveness of enterprises, sustainable transport, employment and labour mobility. By 2019, investments driven by the European Regional Development Fund and the Cohesion Fund contributed to building or modernising 454 km of roads, both at regional level and in connection with the TEN-T network; more than 140,000 households received broadband access; over 65,000 citizens benefitted from improved wastewater treatment or water supply; support was decided for more than 34,000 enterprises. EU Funds contributed to the reduction of greenhouse gas emissions and developments linked to the digitalisation of public administration procedures ranging from electronic access to the real-estate registry to digitalised processes for tax matters. The European Social Fund supported 605,000 people by Active Labour Market Policies and training initiatives, upheld inclusive education, by training 196,000 pupils and 28,000 teachers and contributed to modernising public administration by delivering competence development trainings for 114,000 public service professionals. Finally, in 2019 was launched a large scale EU funded programme for colon cancer screening, involving over 100,000 people by the end of the year.

Agricultural and fisheries funds and other EU programmes also help to addressing investment needs. Hungary benefits from funds coming from the European Agricultural Fund for Rural Development (€4.2 billion), the European Maritime and Fisheries Fund (€50.9 million) and EU programmes such as the Connecting Europe Facility on strategic transport networks (€1,087 million) and Horizon 2020 (€275 million, with beneficiaries including 192 small and medium-sized enterprises for €81 million).

EU funding contributes to mobilising important private investment. European Structural and Investment Funds (ESIF) ⁽⁵⁾ supported programmes mobilise additional capital by allocating €2,291 million in the form of loans, guarantees and equity ⁽⁶⁾. This represents 7.1% of all decided allocations of ESIF.

EU Funds invest substantial amounts on actions in line with the Sustainable and Development Goals (SDGs). In Hungary, ESIF supports 13 of the 17 SDGs and up to 93% of the expenditure is contributing to those.

⁽¹⁾ European Regional Development Fund, Cohesion Fund, European Social Fund, Youth Employment Initiative.

⁽²⁾ Any extra commitment above 100% is eventually covered by national budgets.

⁽³⁾ <https://cohesiondata.ec.europa.eu/countries/HU>

⁽⁴⁾ Under the performance review (Article 22 of Regulation (EU) No 1303/2013), 5-7% of overall resources allocated are released to performing priority axes of the operational programmes, which includes national co-financing.

⁽⁵⁾ European Regional Development Fund, Cohesion Fund, European Social Fund, European Agricultural Fund for Rural Development Fund and European Maritime and Fisheries Fund.

⁽⁶⁾ Member States' reporting on financial instruments based on Article 46 of Regulation No 1303/2013, cut-off date 31/12/2018.

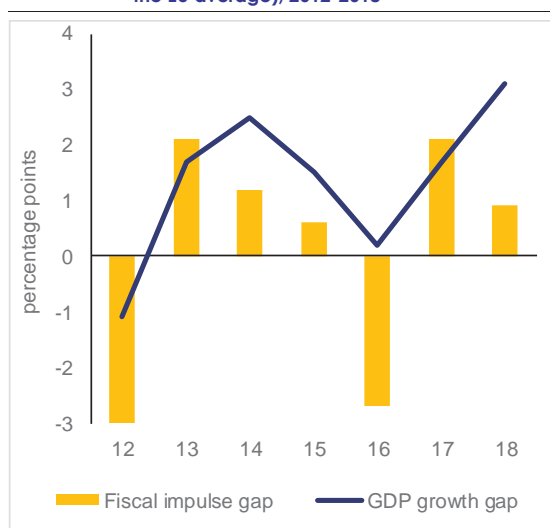
3. REFORM PRIORITIES

3.1. PUBLIC FINANCES AND TAXATION

3.1.1. PUBLIC EXPENDITURES

Fiscal policy was procyclical for several years, fuelling growth above the EU average. Fiscal policy in Hungary followed a different trend from that prevailing in the EU. From 2013, the fiscal impulse, as measured by the change of the primary deficit augmented with EU transfers, was higher than the EU average (see Graph 3.1.1). This seems to have contributed to above-average GDP growth in that period. Fiscal policy is expected to have tightened starting from 2019.

Graph 3.1.1: Development of the GDP growth and fiscal impulse (differences between Hungary and the EU average), 2012-2018

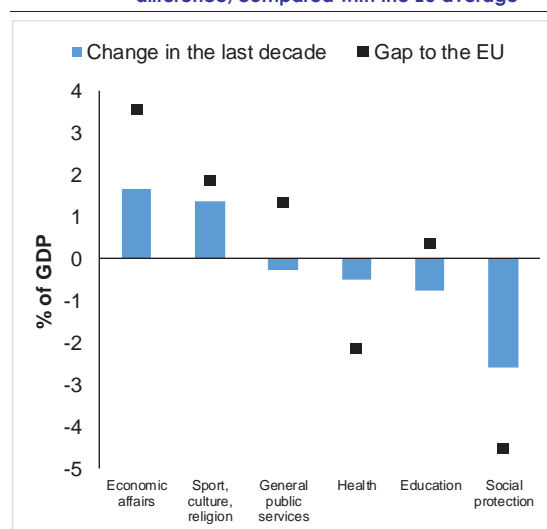


(1) The fiscal impulse includes the change in the primary deficit and the change in current and capital transfers receivable from EU institutions; GDP growth gap = Hungarian GDP growth - EU average GDP growth
Source: Eurostat

Public expenditure is highly centralised in Hungary. Primary expenditure fluctuated at around 45% of GDP over the last decades, which is markedly higher than the levels of regional peers. Since 2013, several service delivery responsibilities have been shifted from local to central government level (see Section 3.4.4). As a result, the share of local government in total spending decreased from 25% to 13% in 2017, which is markedly lower than the EU average of 23% (OECD, 2019a). In Hungary, large and centralised expenditure is coupled with low

government effectiveness (see Section 3.4.2). This combination is shown to be negatively associated with productivity growth (Fournier and Johansson, 2016).

Graph 3.1.2: Change in the structure of the expenditure in Hungary over the last 10 years and the difference, compared with the EU average



(1) The change reflects the difference between the average spending of the three years of 2005-2007 and 2015-2017 in % of GDP. The gap to the EU presents the difference between the average spending of 2015-2017 in Hungary and that in the EU. General public service does not contain interest costs.

Source: Eurostat

While the size of expenditure was stable over the last decade, its structure changed significantly. Over the last decade spending on social protection, education and healthcare shrunk by 3.4% of GDP, while spending on economic affairs and sport, culture and religion increased by 3.1%. The bulk of the drop in spending on social protection is explained by the cut in social benefits for housing and against social exclusion, albeit from relatively high levels. Currently, public expenditure on social protection is lower by 4.5% of GDP than the EU average because of lower spending on pensions and unemployment benefit. Public spending on healthcare slightly decreased in the last decade and is well below the EU average. Spending on education also decreased, although it is close to the EU average (see Graph 3.1.2).

The room created through lower spending on human capital and social benefits has been

allocated to improve the state involvement in the economy and on the category of ‘sport, culture and religion’. Hungary spends the most on economic affairs in the EU and this spending increased by 1.6% of GDP in the last decade. This reflects the increased state involvement in the economy and includes, among others, investment grants for businesses, which amounted to 1.7% of GDP in 2016-2018, against an EU average of 0.6% of GDP. Spending on sports, culture and religion also increased substantially from 2010, reaching by far the highest level in the EU (3.5% of GDP in 2017). Spending on sport (1.2% compared with the EU average of 0.3%) is fuelled by the construction of stadia, sports halls and several big-ticket international sporting events. At the same time, the regular sport activity of the Hungarians is one of the lowest in the EU. Overall, inefficiencies are found to be high in spending related to R&D, infrastructure and general public services. In the latter two spending areas, productivity has also deteriorated between 2007 and 2016 (Cepparulo and Mourre, forthcoming).

3.1.2. TAXATION

The tax-to-GDP ratio remains high compared with other countries in the region, with a tax mix geared towards consumption taxes. Despite the recently introduced large tax cuts the tax-to-GDP ratio declined only from 39.5% in 2016 to 37.6% in 2018 (European Commission, 2019a). The tax-rich composition of the GDP and the whitening measures slowed the decrease of the tax-to-GDP ratio. The ratio is in line with the EU average, but above Hungary’s regional peers. The structure of taxation differs from the EU average: Hungary relies more heavily on consumption taxes and less on capital taxes. The level of environmental taxation, which decreased over the last decade, is broadly in line with the EU average (2.3% of GDP in 2018 vs 2.4%) and comes mainly from energy, including transport fuel taxes. Tax exemptions for district heating and fuel use for agriculture, railways and commercial purposes increased over the last decade. There is a reduced VAT rate on district heating. Some subsidies remain in place for the decommissioning and reorganisation of the coal sector (OECD, 2018a).

Tax burden on labour is decreasing but the tax wedge for low-income earners remains high.

The employers’ social contribution was reduced from 27% in 2016 to 17.5% by 2019 and further cuts are planned in the coming years. The government has recently adopted measures with the aim to provide even more support for families with children. From 2020, mothers with at least four children will be exempt from personal income tax, and the child tax credit keeps expanding, reducing the tax burden of some low-income families. However, the tax wedge for low-income single persons earning half of the average wage was 45% in 2018, 15 percentage points above the EU average (European Commission, 2019a), due also to the flat labour income tax system. A large proportion of single low-income earners are eligible for preferential employer’s social contribution rates under a targeted scheme covering more than 530,000 employees. Even taking into account the preferential rates, their tax wedge remains above the EU average.

Large foreign capital stocks, coupled with the absence of withholding taxes on royalty, interest and dividend payments, may point to risks of aggressive tax planning. Inward foreign direct investment (FDI) represented 164% of GDP in 2017. A large share of FDI was held through special purpose entities (SPEs), suggesting a decoupling between financial and real economic activities. More recent data from the central bank suggests the inward stock of FDI decreased significantly in 2018, mainly due to SPEs. However, the proportion of FDI held in SPEs (46%) remained among the largest in the EU in 2018. At the same time, the outgoing income flows such as royalties, interest and dividends towards offshore financial centres were relatively small in 2013-2017. Nevertheless, the Hungarian tax system holds vulnerabilities to aggressive tax planning; notably, the lack of withholding taxes in Hungary on outgoing income to offshore financial centers could provide an escape route for profits to leave the EU without paying their fair share of taxes (Ramboll and Corit, 2016).

Hungary is implementing European and internationally agreed initiatives to curb aggressive tax planning. Hungary has implemented many of the provisions of the Anti-Tax Avoidance Directive, such as interest limitation rules and controlled foreign company rules. Other provisions, such as exit tax rules and rules about hybrid mismatches, should be in place

from 2020 onwards. Furthermore, Hungary transposed into national law EU Directive, which provides for new transparency rules for intermediaries involved in tax planning. The effectiveness of these new measures in limiting the scope for aggressive tax planning and their impact on corporate income tax revenue in the medium term will need to be assessed.

Measures to reduce the size of the shadow economy have produced significant benefits.

The value-added tax gap (the revenue loss relative to the total VAT liability) is estimated to have decreased from 21% in 2013 to around 9% in 2018. This trend is expected to continue due to past and current reforms, such as the introduction of online cash registers, the promotion of electronic payments through the payment terminal installation programme and the compulsory electronic invoicing system. The online invoicing system will be extended to all invoices as of July 2020, with the ultimate aim of generating pre-filled VAT declarations for all companies.

Tax compliance costs, while decreasing in the past decade, remain among the highest in the EU.

E-filing of personal income taxes has increased significantly, from 30% of total personal income tax returns in 2009 to 55.4% in 2017 (European Commission, 2019a). Tax debt, which could be an indication of possible challenges in tax compliance, has decreased by more than 50% since 2014. However, in 2009-2018, medium-sized companies needed 277 hours per year to comply with their main tax requirements, which is significantly above the EU average of 170 hours per year. The time to comply with VAT refunds is also among the highest in the EU (WB-PWC, 2019).

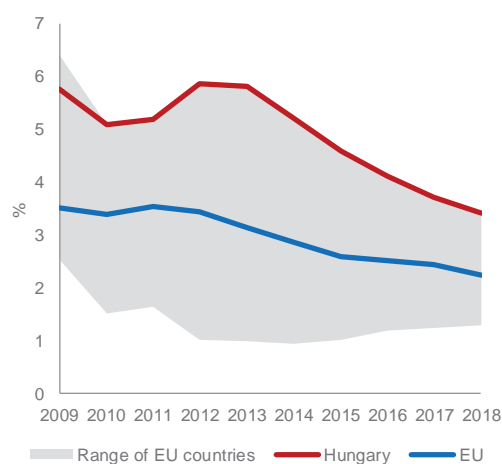
Hungary has taken steps to gradually reduce the complexity of its tax system.

The government plans to reduce the number of taxes from 60 in 2019 to below 40 by the end of 2020. As of 2020, the simplified tax rate for small companies (KIVA) will decrease to 12%, the simplified entrepreneurial tax (EVA) will be abolished and the four different social security contributions paid by employees will be merged into a unified contribution. Still, a number of special sectoral taxes persist, even though their weight in total tax revenues has been decreasing over the past years.

3.1.3. PUBLIC DEBT DEVELOPMENT AND MANAGEMENT

Despite the decline in debt-to-GDP ratio, Hungary's gross financing need as a share of GDP remains the highest in the EU. Since 2012, the credit ratings of the Hungarian long-term debt have improved by 2-3 grades. However, despite these positive developments and the short maturity of debt, Hungary's implicit interest rate on debt was the highest in the EU every year between 2012 and 2018. Also, as a consequence of relatively high debt and low duration, Hungary's annual financing need, at 18% of GDP in 2018, was the highest in the EU (European Commission, 2019b).

Graph 3.1.3: Implicit interest rate of public debt in the EU



Source: Eurostat

The public debt ratio has fallen significantly, but remains high for Hungary's income level.

After peaking at 80.8% of GDP in 2011, public debt fell to 70.2% of GDP in 2018. More than half of the debt reduction took place in 2017-2018 thanks mainly to high nominal GDP growth. Temporary factors, however, slowed the process, as the authorities stepped up the absorption of EU funds by pre-financing from the domestic budget. Contingent liabilities remain high in Hungary. At the end of 2018, public guarantees for non-government units stood at 5.2% of GDP, above the 0.5% average of Czechia, Poland and Slovakia.

The share of domestic investors in debt financing increased considerably.

The share of foreign-currency-denominated debt decreased from above 50% of total debt in 2011 to below

18% in October 2019. Measures to increase the share of domestic investors allowed assets divested by foreign investors to be absorbed. The central bank offered preferential arrangements to domestic banks to buy government bonds. As a result, the share of bonds had increased from around 12% in 2012 to around 25% of banks' assets by 2019. The government also launched various retail bonds at very attractive rates, including the so-called MÁP+ in June 2019. The new products increased the retail share in total government debt from around 2% in 2010 to 30% in 2019, against an EU average of around 5% in 2018.

The increasing reliance on retail investors increases the cost of debt servicing in Hungary, which was already among the highest in the EU.

On average, retail bonds offer a yield of 200-400 basis points above the rates available on financial markets, thus increasing the annual debt servicing cost. In addition, financial institutions receive commissions from the debt management agency when selling retail bonds, the costs of which amounted to over 0.1% of GDP in 2018. Furthermore, interest revenue from retail bonds became exempt from tax in 2019, further widening the gap between the available after-tax yield for retail and institutional investors. By contrast, the increasing retail share may temporarily reduce yields on the wholesale market, which may offset some of the costs of the retail bonds.

The shift to the retail market also seems to impede the lengthening of borrowing maturities.

Retail investors tend to invest shorter term than institutional investors. The share of government debt having a term below one year has doubled over the last decade, reaching 18% in 2018, well above the share of 2.5% of regional peers. The average term to maturity for Hungary also remained quite low, at 4.3 years in 2018. Thus, in spite of improving credit ratings which should allow for better market access, Hungary is moving in the opposite direction of OECD countries, where debt maturity increased to 7.9 years in 2018 (OECD, 2019c). The shorter maturity implies a relatively higher exposure to changes in market interest rates.

Due to their design, retail bonds can behave like short term securities in case of market stress. In financial turbulences, bond prices go down, which reduces the incentive to sell, and stops the drop at

some point. However, Hungarian retail bonds can be resold to the government at any time with a small discount. This feature does not prevent retail bond owners from selling their bonds and replacing them with bonds from the wholesale market, where the interest increases due to the shock. Experience shows that households can react rapidly to the changing market. In 2019, many households replaced their retail bonds with the new MÁP+, because it offered a higher interest than the earlier issuances.

3.1.4. DEBT SUSTAINABILITY ANALYSIS AND FISCAL RISKS

In the short and medium term, Hungary faces low fiscal sustainability risks.

As shown by the debt sustainability analysis, as well as the short-term fiscal sustainability indicators S0 and S1⁽⁸⁾, Hungary does not face significant fiscal risks in the near future (European Commission, 2020 and Annex B). The downward path of general government debt helps explain these results. Nevertheless, there are some indications that could pose potential challenges to the fiscal side of the economy. The low primary balance, high share of short-term debt, high gross financing needs and relatively high yield spreads could deteriorate public finances in the future, especially in case of rapid changes in financial markets' perceptions.

The long-term sustainability of public finances remains a challenge, mainly due to ageing.

The country is expected to face an increase in age-related costs of 3.3% of GDP until 2070, driven by public expenditure on pensions (1.9% of GDP) and on healthcare and long-term care expenditure (1.0% of GDP). As a result, the sustainability gap indicator S2⁽⁹⁾ (2.7% of GDP) indicates medium fiscal sustainability risks for Hungary in the long term (see Annex B). In addition, pension adequacy is creating additional challenges to the long-term sustainability of public finances. There is a growing income gap between new and old

⁽⁸⁾ The S0 indicator aims to provide early detection of fiscal stress stemming from risks up to 1 year ahead, making use of the signalling power of its components. The S1 indicator measures the required fiscal adjustment needed in 2021-2025 to reduce the public debt to 60% of GDP by 2033.

⁽⁹⁾ The S2 indicator shows the required adjustment of the current structural primary balance fulfil the infinite horizon inter-temporal budget constraint, including paying for any additional expenditure arising from an ageing population.

pensioners and between pensioners and wage earners, which may lead to additional spending when the gap is corrected (see Box 3.1.1).

3.1.5. FISCAL FRAMEWORK

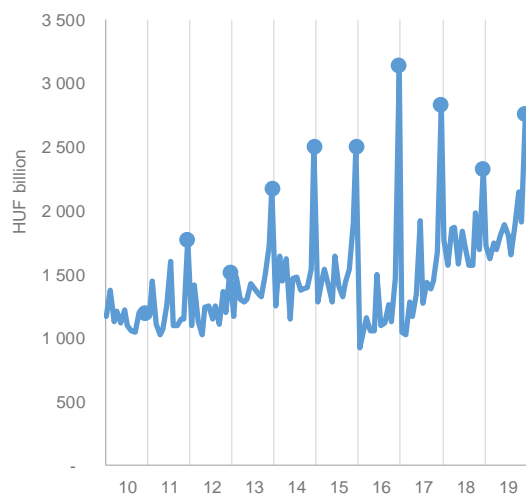
In the absence of strong automatic stabilisers, discretionary measures need to ensure fiscal stabilisation. With a flat income tax system, low-duration of unemployment benefits, and a strong reliance on less cyclical indirect taxes, built-in stabilisers offer little cushion to the economy if there is a downturn. In order to help macroeconomic stabilisation, fiscal policy must therefore resort to more discretionary measures.

Discretionary measures have shown a procyclical bias in recent years. Public investments increased sharply, contributing to capacity constraints in the construction sector and crowding out private investment. The timing of the multi-step social contribution rate cut is contingent on the pace of wage growth, which implies faster tax cuts in a booming economy. Finally, a large component of budgetary reserves, the so-called ‘Country Protection Fund’ (0.8% of GDP in 2020), can only be spent if this does not endanger the deficit target — implying higher expenditure only in good times but lower spending in a downturn.

In recent years, the authorities have tended to exhaust the budget at the end of the year leading to the so-called ‘December fever’. In recent years, partly due to the early adoption of the budget, the authorities have tended to underestimate revenues in their budgetary projections and to create high budgetary reserves. Thus, large unexpected revenues have repeatedly appeared relative to budgetary plans. These, together with the reserves, have been spent towards the end of the year, through a series of government decisions and without the need to involve the Parliament, on non-recurrent items such as current and capital transfers (see Graph 3.1.4). Heightened spending at the end of fiscal years, with limited parliamentary or public

scrutiny, risks resulting in public spending on lower quality projects, with the marginal costs potentially exceeding the marginal benefit. This has also added to procyclical fiscal policies.

Graph 3.1.4: **Central government cash expenditure**



Source: Hungarian State Treasury

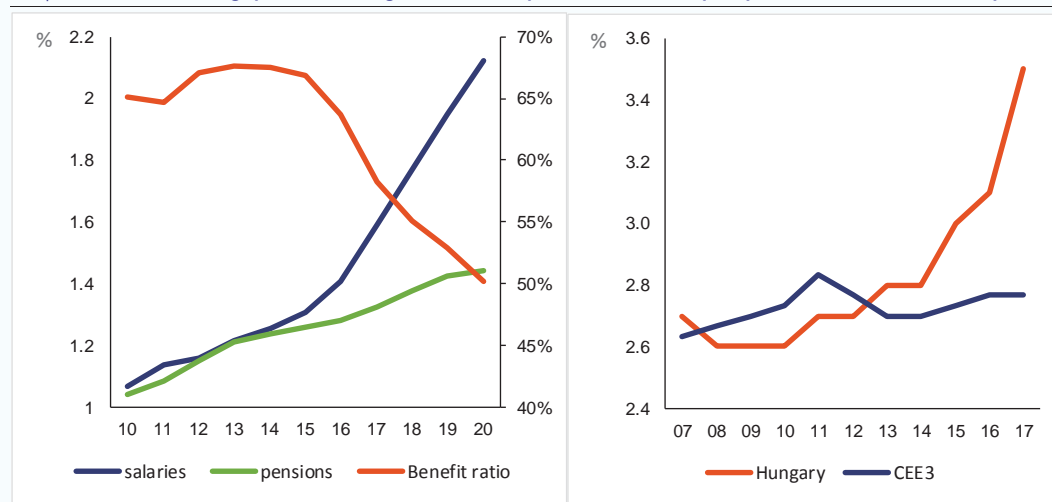
The recent amendments to the domestic numerical fiscal rules brought forward some welcome streamlining and clarifications. In December 2019, the Parliament amended the Hungarian fiscal rules. The so-called debt formula, which has never been applied due to its lax escape clause, was abolished. The discrepancy in the calculation of the public debt ratio between the Maastricht and the domestic definition was also removed. It was replaced by a new provision whereby a number of pre-defined debt-changing factors (e.g. pre-financing of EU funds, statistical reclassifications) need not be taken into account during the within-the-year or ex-post evaluations of compliance with the debt rule. The adopted changes should make the monitoring mandate of the Fiscal Council, which issued its first ex post assessment report of all domestic rules in June 2019, more straightforward. However, the new set-up may still not be conducive to a longer fiscal planning horizon, and the focus is expected to remain narrowly on the annual budget.

Box 3.1.1: Increasing inequalities in the pension system

Widening income inequalities add to the sustainability challenge of public spending. The correction of such inequalities generally leads to additional expenditure. Since 2016, wages have increased much faster than pensions. According to the law, pensions are rising in line with inflation. In addition, in years when GDP grows faster than 3.5%, pensioners receive a premium linked to economic growth. The premiums amounted to 0.9%, 1.2% and 1.4% of total pension benefits in 2017, 2018 and 2019, respectively. On top of that, the government provided ad hoc compensation to pensioners (food and utility vouchers), amounting to an annual increase of 0.7%, in 2018 and 2019. The premium and the ad hoc compensation are one-off items and are disregarded when setting the next year's pension. Overall, pensions increased by 2.8%, while wages grew on average by 9.2% annually in the last five years. As a result, the benefit ratio, which is the ratio of average pension over average net wage, declined from 67% in 2015 to 53% in 2019 (see Graph 3.1.4a).

Given the rules of pension entitlements, fast wage growth results in a sharp widening of income gaps among pensioners as well. Pension benefits are based on average earnings during a career. To ensure comparable values, annual earnings are revalued by the net average wage growth up to one year before retirement. For example, the pensions set in 2021 include the recent years with fast wage growth, while the pensions set in 2016 do not. As a result, the nominal pension benefits of pensioners who will retire in 2021 will be 35% higher than those of pensioners who retired five years earlier with the same career path. The five year gap was only 1% in 2016.

Graph 3.1.4a: 1. Income gap between wage earners and pensioners 2. Inequality of income distribution, 65 years+



(1) 2.: s80/s20 income quantile share ratio. CEE3 is the average of Czechia, Poland and Slovakia

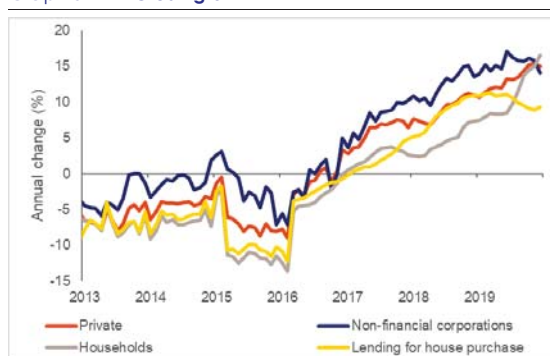
Source: HSCO, Commission's calculation, Eurostat

Inequalities are expected to rise further due to policy measures introduced in past years. While the pension indexation rules caused the largest increase in inequality in the last five years (see the right panel of Graph 3.1.4a), several other policy measures also add to the challenge. In 2011, the flat personal income tax was introduced. The shift decreased the net income of low-income earners, while it increased the net income of high-income earners. The widening income gap is reflected in the pensions, as pension benefits are based on net income. In 2013, Hungary abolished the cap on pension contributions. The elimination of the cap increases budgetary revenues now, as high-income earners pay more contributions. However, it increases future pension expenditure, as the incidence of extra-high pensions will also rise. Both measures increase benefits for high-income pensioners, which increases inequality in the age group above 65. It is also likely to increase the long-term cost of pensions, as high-income groups also tend to live longer.

3.2. FINANCIAL SECTOR

The banking sector is well capitalised, profitable, liquid and resilient. Banks comfortably meet liquidity and capital adequacy requirements. Their profitability remained strong both in 2018 and in the first half of 2019 but included a significant amount of one-off items, especially provisions write-backs. The ratio of non-performing loans continued to decrease and new loans are deemed healthy, due partly to macro-prudential requirements. The state maintains a strong presence in the financial sector and has difficulty to divest. New lending continued to be strong, supported by high demand and the supply of subsidised loans, which do not seem to be fully justified in the currently very good economic circumstances.

Graph 3.2.1: Credit growth



Source: European Central Bank (ECB)

Loans are still growing strongly. According to European Central Bank (ECB) data, by end-December 2019, the balance sheet of monetary financial institutions in euro had grown by 5.8% year-on-year to €133 billion or 96.8% of GDP. The loan stock of non-financial enterprises grew by 14.1%, while household loans were up by 16.5% (see also Chart 3.2.1). Household loans started especially to pick up in July due mostly to the

subsidised loan schemes. Market lending conditions, except for price, have not changed, and the share of fixed-rate loans has been increasing, in line with the central bank's policies. Banks' government bond share in the banks' assets remained the highest in the EU. Non-bank finance is modest and dependent on EU funds. At end-2019, the corporate bond market was only 1.5% of GDP while corporate bank loans were 17% of GDP.

The widespread availability of financing questions the need for subsidised loan programmes. The government uses retail bank loans for social policy purposes and the central bank continues with subsidised programmes for businesses. The 'prenatal' baby loan introduced in July 2019 attracted a great deal of interest from mostly affluent households and to some extent squeezed out housing loans. In January 2019, the central bank launched the Funding for Growth Scheme "Fix" for small firms with an envelope of HUF 1,000 billion and in July 2019 it started the Bond Funding for Growth Scheme for large corporates with an envelope of HUF 300 billion. The terms of the central bank's bond purchase programme are much looser than comparable corporate bank loans (e.g. no covenants and collateral, no principal payment till maturity, no pre-determined loan purpose, etc.). Such bonds thus bring more risk to the balance sheets of both the central bank and the commercial banks. Furthermore, after this programme expires, the businesses are expected to continue to face the same impediments when issuing bonds. Given the good health of the banking sector and the abundance of market funding on good terms, the extent of public intervention in the bank credit market appears excessive and may crowd out market lending. The abundance of competing financing schemes also creates incentives and

Table 3.2.1: Financial soundness indicators

	2014	2015	2016	2017	2018	2019Q2
Non-performing loans	19.4	15.2	11.9	8.4	5.3	5.0
o/w NFC sector	26.0	23.4	15.5	9.8	4.4	4.3
o/w HH sector	26.6	20.4	17.5	12.2	9.8	8.6
Coverage ratio	58.7	57.7	60.3	59.1	-	63.3
Return on equity ⁽¹⁾	-21.9	0.3	11.7	14.5	14.6	13.9
Return on assets ⁽¹⁾	-2.0	-0.1	1.3	1.5	1.6	1.5
Total capital ratio	17.0	16.9	18.0	16.2	16.3	17.9
CET 1 ratio	13.7	13.7	15.9	14.2	14.5	16.1
Tier 1 ratio	13.8	13.9	15.9	14.2	14.5	16.3
Loan to deposit ratio	89.1	78.6	74.5	71.8	72.7	75.5

(1) Consolidated data

Source: ECB - CBD2 Consolidated Banking data

expectations for firms to look for funds with the least strings attached, reducing demand for better-monitored programmes (Kállay, 2015). In addition, banks offer the same or very similar conditions for the subsidised loans, which can hinder competition.

The banking sector is stable and would remain resilient under adverse macro developments.

Banks maintain adequate financial resilience and sound solvency ratios (see Table 3.2.1). Based on ECB data, their capital increased further by mid-2019 and was above the EU average. According to the central bank, all banks would remain adequately capitalised in a stress scenario. The central bank has prepared resolution plans for all banks and together with the Single Resolution Board is in the process of finalising loss absorption capacity requirements for all banks (minimum requirement for own funds and eligible liabilities). Addressing all impediments to non-performing loan resolution identified in 2014 by the European Bank for Reconstruction and Development would help creditors in a future possible downturn.

Bank profits remained strong in 2018 and in the first half of 2019, partly due to one-off items.

The average return on equity for all institutions was 14.5% in 2018 and 13.9% in the first half of 2019. The slightly lower profitability in 2019 was due to increased operating costs and lower impairment reversal. The profits still include significant one-off items e.g. write-back of provisions. Interest income improved due to strong credit growth, which also helped net fee income. However, low interest rates and intensifying competition are gradually eroding margins, bringing operating efficiency into focus.

Hungarian banks maintain their relative operational inefficiency. Operating costs relative to assets (1.7% in the second quarter of 2019) remain very high compared with the EU average (0.7%), while the cost-to-income ratio (67.3%) is close to the EU average (64.7%). To improve cost efficiency, the central bank has been advocating substantial consolidation in the sector and trimming of the branch networks.

Digitalisation would support efficiency but both banks and consumers need to improve their digital skills. Banks have started engaging with new technologies and are modernising their legacy

IT systems. The central bank has established a directorate to foster Fintech developments, issued its Fintech Strategy and runs a regulatory sandbox. The central bank also aims to substantially improve financial literacy, which is a major hurdle for migration of financial services to electronic channels. The instant payment system will start in March 2020. Nevertheless, the close cooperation of all the authorities concerned (e.g. Ministries of Finance and Justice and the central bank) is needed to provide a supportive regulatory environment for financial innovation. Local Fintech and e-money businesses still face hurdles when entering the market and big tech firms have started to expand.

Despite efforts, the use of cash in the economy is widespread and even growing.

Currency in circulation rose from about 8% of GDP in 2010 to 15.5% of GDP in September 2019. At the same time, the transactions and the volume of bank card payments are also continuously increasing (by 17% and 21% year-on-year, respectively, in the second quarter of 2019). The use of cash is encouraged by, among others, the financial transaction tax (IMF, 2019a) and the large size of the informal economy. Section 3.1 discusses several measures, recently introduced, that are successfully contributing to reduce the size of the informal economy and increase electronic transactions. In November 2019, the banking association proposed further cash reduction measures, e.g. cash limits for businesses, obligatory electronic payments, abolishing the financial transaction tax, changing incentives for cash withdrawals and payments.

The Hungarian state still owns a considerable part of the banking system.

In line with commitments made to the European Commission, MKB Bank shares were introduced to the stock exchange in June 2019 but no transaction has been recorded so far. Budapest Bank (the eighth largest bank) is still state-owned despite plans to privatise it. The state also maintains minority stakes in Erste Bank Hungary, which it also plans to divest. The central bank will ensure that in the privatisation and consolidation process the ultimate beneficial owners can be identified and are fit and proper. The conflict of interest due to central bank's majority ownership in the Budapest Stock Exchange, which it supervises, has still not been resolved.

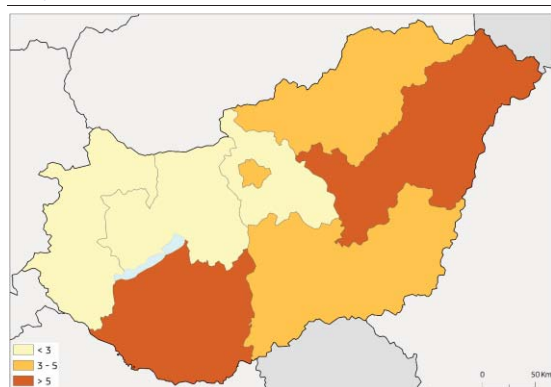
3.3. LABOUR MARKET, SOCIAL POLICIES, EDUCATION AND HEALTHCARE

3.3.1. LABOUR MARKET

The general labour market situation improved in line with the good cyclical economic situation. In 2018, the employment rate for the 20-64 age group reached 74.4%, which is above the EU average of 73.2%. The unemployment rate for the 15-74 age group fell to 3.7%, below the EU average of 6.8%. Youth unemployment (10.2% in 2018) and the rate of youth not in employment, education or training (NEET) (10.7% in 2018) have been improving, although the reduction in both indicators is slowing.

Despite favourable trends, not all groups benefited equally from the expansion. The gaps in employment between genders and skills groups remain wide in EU comparison. Labour market outcomes for various vulnerable groups improved, including people with disabilities, the Roma population and women with care responsibilities, but remained well below average outcomes in the Hungarian workforce. Despite its reduction in recent years, the Public Works Scheme continues to employ about 2% of total employment. The NEET rate differs between regions, varying from 6.5% in Budapest to 16.6% in Northern Hungary.

Graph 3.3.1: Regional unemployment rate, 2018, %



(1) Hungary, NUTS2: Unemployment rate, 2018
Percentage of population aged 20-64

Source: Eurostat

Unemployment rates vary to a great extent across regions and skill groups. The difference in unemployment rates between the highest and lowest performing regions was more than threefold in 2018, with a rate of 2.0% in West Transdanubia versus 6.6% in the Northern Great Plain. The unemployment rate of the low-skilled was 9.5% in

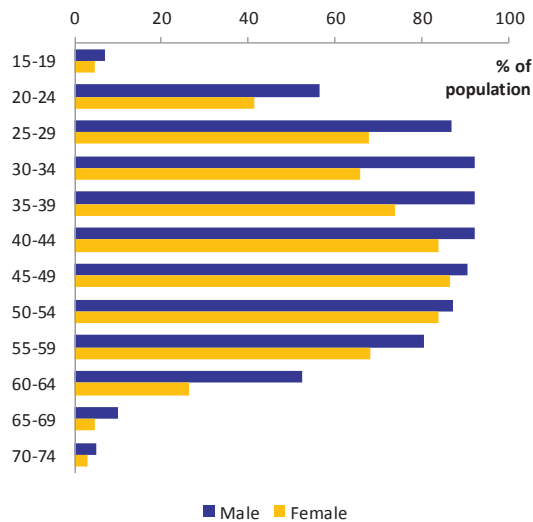
the second quarter of 2019, compared with 3.0% among the medium-skilled and 1.3% among the tertiary graduates. The duration of unemployment benefits remains one of the shortest in the EU, at a maximum of 3 months, which is significantly shorter than the average time needed to find a job. The average duration of unemployment in 2018 was slightly above 1 year.

Labour shortages reached a tipping point in the third quarter of 2019. In the first half of 2019, labour shortages kept rising and the majority of firms in the industry and building sectors reported labour shortages as a factor limiting production. Shortages grew fastest in Hungary within the EU and reached a historical high. They were evident in knowledge-intensive services, education, health and social care. By the end of 2019, in line with the expected slowdown in GDP growth, shortages started to decline.

Outward migration puts pressure on the size of the workforce. According to the Labour Force Survey, the number of Hungarian nationals (aged 20-64) living abroad, mostly in Austria, Germany and the United Kingdom, increased by almost 200,000 between 2012-2018 (based on Hárs, 2019 and more recent data for 2018). This outflow was partly offset by the inflow of returning Hungarian nationals and non-EU workers. According to the Hungarian Central Statistical Office, 40,000 foreign workers were employed in Hungary in 2018. Furthermore, a significant share of the 45,000 workers employed by temporary employment agencies were non-EU citizens.

Policy responses to demographic challenges focus on a new family support scheme. Government attempts to address the below-replacement fertility rate (1.49 in 2018) include offering preferential loans to credit-worthy married couples, where the women is between the ages of 18 and 40 years. The loan can progressively turn into a grant if children are born or adopted. The programme started in July 2019, so its impact remains to be seen. Early analyses show that the eligible couples are more likely to belong to the higher strata of the income distribution. In the first quarter of the programme, 55% of borrowers belonged to the top income quintile (MNB, 2019b).

Graph 3.3.2: Employment rate by age and gender in 2018



Source: Eurostat

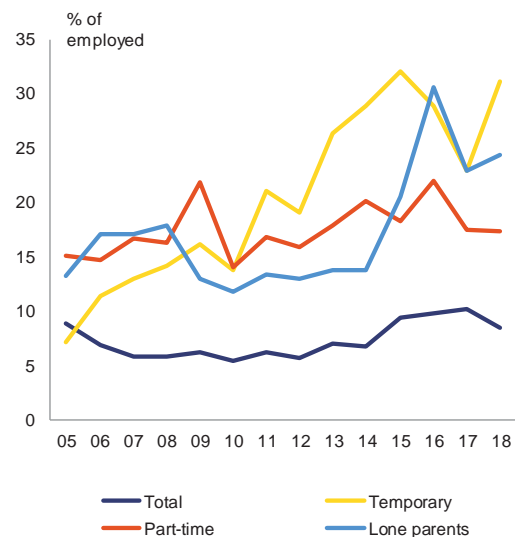
Limited childcare provision is one of the drivers of the gender employment gap and low fertility.

In the past nine years, Hungary has not made progress towards the Sustainable Development Goal 5 (gender equality). The employment rate of women has increased (see annex Annex C). However, the difference between the employment rates of men and women aged 20-64 remained at 15.3 percentage points in 2018, above the EU average of 11.6 pps. Among Roma, the gender employment gap is even larger. The impact of parenthood on women's labour market activity was at 35.8 pps in 2018, well above the EU average of 26.8 pps. Policies that lower the childcare burden for mothers can increase the fertility rate (Doepke and Kindermann, 2019), and they have a particularly strong impact on the decision to have a first and second child (Hétfa, 2019). However, these tools remain underutilised in Hungary. The share of children under the age of 3 enrolled in childcare increased from 13.8% in 2017 to 16.5% in 2018, but it is still well below the EU average of 35.1% and the Barcelona objective of 33%. The government's nursery development programme plans to increase the number of crèche places to 70,000 by 2022 from the 48,000 in 2018.

Despite increasing employment and wages, some groups of low-skilled workers continue to face challenges in terms of wage adequacy. The employment rate of low-skilled workers increased to over 55% in 2018, which ranks close to the EU

average. At the same time, wage dispersion has continued to increase from an already high level. The tax wedge for low incomes has decreased markedly since 2016 but remains above the EU average (see Section 3.1.2). Significant minimum wage increases since 2016 (45%) improved its adequacy, though the level remains low in EU comparison. The public work allowances remained nominally unchanged since 2017 and it now amounts to only around 50% of the minimum wage. In-work poverty increased for workers with temporary contracts and for lone parents (see Graph 3.3.3).

Graph 3.3.3: In-work poverty rate in groups



Source: Eurostat

There is scope to improve the targeting and sustainability of active labour market policies.

The Public Works Scheme continues to be the main active labour market policy, both in terms of spending and the number of participants. In 2019, the government launched an Economic Recovery Programme with a pilot project in 50 settlements, aiming to facilitate the transition of workers from public works to the primary labour market. Other active labour market policies suffer from insufficient links to social and health services, and limited outreach. In autumn 2018, the government started to transform the employment departments of the government offices with the aim to better understand local labour demand and improve the matching between jobseekers and vacancies.

The performance of the public employment services could be improved. Caseload continues to be high and staff turnover has increased in some counties (also partly due to the recent practice of hiring staff on renewable fixed-term contracts in such counties). Outreach efforts are limited and the public employment services and measures are not tailored to the specific needs of marginalised groups, e.g. the Roma.

Social partners' involvement in policy initiatives and implementation remains limited.

The main tripartite body for social dialogue is the Permanent Consultation Forum of the Private Sector and the Government (VKF). Members of the Forum are selected by the Government and do not include some of the traditional trade unions and employers' organisations. The decisions of VKF are not binding. Even though all topics with labour market relevance might be discussed in the Forum, discussions in recent years were limited to wage-related issues. Sectoral social dialogue bodies are too weak to exert any influence on cross-sectoral decisions. Social partners' involvement in the preparation and review of policies is mostly limited to general public consultations, with insufficient time allocated for consultation and written reaction. In 2019, among others, the government failed to consult social partners on the tax package for 2019, and the allocation of funding between different types of active labour market policies. The weak institutional framework impacts social partners' capacity to influence national decision-making.

3.3.2. SOCIAL POLICIES

The overall poverty situation has improved markedly. In 2018, one in five Hungarians was at risk of poverty or social exclusion, for the first time below the EU average. This represented 908,000 people fewer than in 2008 (the national Europe 2020 goal is 450,000). Despite the considerable improvement, the severe material deprivation rate (10.1%) and the material and social deprivation rate (20.1%) were still significantly above the EU averages of 5.9% and 12.8%⁽¹⁰⁾. While the number of people at risk of

poverty or social exclusion decreased, the poverty gap, which measures the depth of poverty, widened from 17% in 2017 to 24% in 2018.

Children experience higher deprivation rates compared with the rest of the population.

The severe material deprivation rate among children (15.2%) and families with three or more children (22.0%) was among the highest in the EU, well above the EU averages (6.4% and 6.7%). Deprivation, including housing deprivation, is among the reasons for a relatively high share (1.3%) of children under State care, which indicates a need to strengthen prevention⁽¹¹⁾. In 2019, close to half of Hungarian Roma (43.4%) faced severe material deprivation, and around four in ten people suffering from it were Roma.

Poverty and social exclusion show strong territorial concentration.

In the least developed districts, where one in ten Hungarians live, the average income per taxpayer was hardly above the minimum wage. A quarter of the population in South Transdanubia, North Great Plain and North Hungary was at risk of poverty or social exclusion. Residential isolation of Roma is one of the highest in the EU (European Commission, 2019c). In 2019, the government announced a long-term programme, targeting 300 of the least developed municipalities with close to 3% of the population, providing intensive social work and improving access to services. The programme has already started in 31 localities, where 24% of the population is below 14 years of age (compared to 15% nationwide), and 41% live in segregated areas.

Income inequality has increased over the past decade and inequalities in access to public services remain high.

In 2018, the incomes of the richest 20% of the population were 4.4 times higher than those of the bottom 20%, up from 3.6 times higher in 2008. The ratio remained below the EU average (5.17), but the increase has been one of the highest in the EU. Changes in the tax and benefit system favoured the upper deciles of

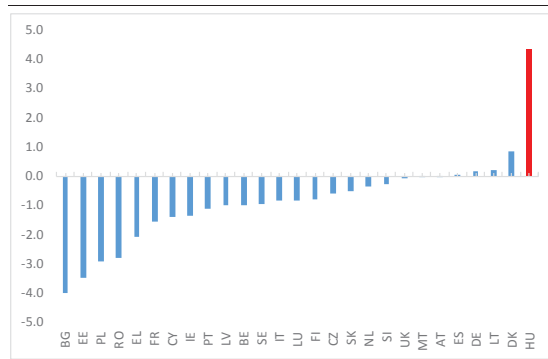
share of people lacking at least 5 of 13 items or household or personal deprivation.

⁽¹¹⁾ Statement of the ombudsman, 14 December 2017 <https://www.ajbh.hu/-/eroforrasokat-a-megelozesre-es-az-alapellatasra-az-ombudsman-a-gyermek-csaladbol-valo-elsodleges-en-anyagi-okbol-torteno-kiemelesek-gyakorlatarol>

⁽¹⁰⁾ The severe material deprivation rate is the share of people lacking at least 4 of 9 items of mainly household deprivation. The material and social deprivation rate is the

income distribution which contributed to the increased level of income inequality in Hungary (see Graph 3.3.4) (European Commission, 2019d).

Graph 3.3.4: **Change in the Gini coefficient due to tax and benefit policies: 2008-2018**



Source: European Commission

The adequacy of the social safety net weakened over the past decade. Social transfers reduce the poverty rate in Hungary by 48.8%, which is one of the highest in the EU. This is mainly driven by family benefits during parental leave. The poverty-reducing impact of other benefits is low. The minimum income benefit has been unchanged since 2012 and now, at 15% of the minimum wage, it is one of the least adequate in the EU⁽¹²⁾. The public works wage also decreased relative to the minimum wage, from 77% in 2013 to 55% in 2019. Social protection for casual and seasonal workers is limited. Labour shortages strongly affect social services too, affecting service provision and constraining support to families in need.

A significant share of the population lives in inadequate housing. In 2018, 7.5% of the population lived in flats that were both overcrowded and suffered from lack of natural light, lack of indoor toilet and bathroom or a leaking roof. This share was among the highest in the EU, well above the EU average (3.9%). It was particularly high among families with three or more children (22.9%, against the EU average of 8.4%) and Roma (European Commission, 2019c).

The shortage of affordable rental housing hinders mobility. In the past five years, residential

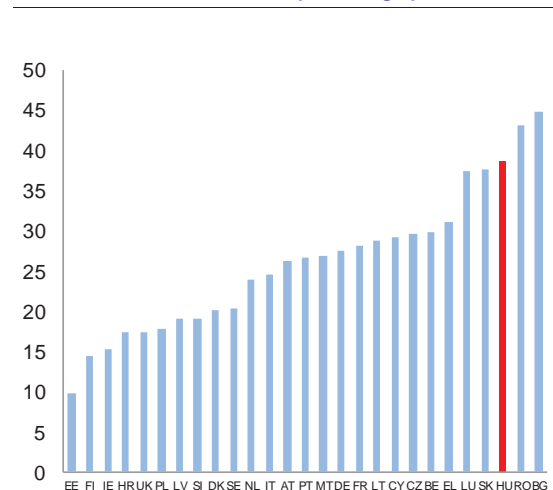
⁽¹²⁾ According to the benchmarking exercise on minimum income in Social Protection Committee. See draft Joint Employment Report 2020.

property prices grew fastest in the EU. Property prices grew much faster than incomes (see Graph 1.10 and MNB, 2019c). While there is generous state support for buying a flat, which is accessible mainly for middle-income households, there is no scheme for improving the affordability of renting for the poor and lower-middle income households. The private rental of apartments is weakly regulated and remains largely in the field of the informal economy, which creates risks for both owners and tenants, discourages longer term contracts and deters professional real estate developers (Habitat, 2017; MNB, 2019c). The municipal flats for social rental constituted only 1.1% of the housing stock in 2018. While the above trends restrict the possibility of exiting homelessness, the main policy response was to introduce penalties for homeless people staying in public areas.

3.3.3. EDUCATION AND SKILLS

Educational outcomes are below the EU average and large differences remain. By the age of 15, basic skills are significantly below the EU and regional averages (European Commission, 2019e) and have decreased over the last decade.

Graph 3.3.5: **Underachievement gap in reading by socio-economic status, percentage points**



(1) Underachievement gap in reading between the bottom and top quarter of the socio-economic index

Source: OECD, PISA 2018

The impact of pupils' socio-economic background on their educational outcomes is

one of the strongest in the EU (see Graph 3.3.4). Schools are increasingly characterised by the similar socio-economic background of their pupils, with concentrations of disadvantaged pupils in certain schools. The share of schools with over 50% of Roma students increased from around 9% in 2008 to around 14% in 2018. Performance-based selection starting at the age of 10 leads to under-achieving pupils being separated from their high-achieving peers and this possibly contributes to the high share of underachievers in Hungary (25.3% vs an EU average of 21.7%) (European Commission, 2019). The difference in reading performance between pupils enrolled in general education and vocational programmes exceeds 100 score points, corresponding to around three to four years of schooling. The share of disadvantaged students admitted to higher education was very low at 1.4% in 2017, and the share of Roma was only 0.8% (MTA, 2020; KSH, 2018).

Reduced autonomy and differences in the regulatory framework for schools based on their status are affecting equity and limit anti-segregation measures. Legislative changes in 2011 restricted schools' autonomy on teaching content, textbook choice and management of financial and human resources. Licences for textbooks of independent publishers can no longer be extended as of 2019. A 2019 amendment to the School Education Act removed the State's obligation of obtaining the opinion of the teaching staff, pupils, parents and national minorities on school head appointments. Non-State schools are exempt from some legislative restrictions and in particular have broader room to select their students, thereby limiting the impact and enforceability of desegregation measures. Concentration of disadvantaged and Roma children in schools increased continuously between 2008 and 2018 (MTA, 2020), partly reflecting the demography of the locality in which the school is located. The low effectiveness and equity in the school system are likely to be linked to the low level of curricular autonomy, the lack of socioeconomic diversity within schools and low teacher salaries (European Commission, 2018a, p. 98).

In 2018 the early school leaving rate remained above the EU average with no sign of improvement. The rate of early leavers from education and training remained stable at 12.5% in

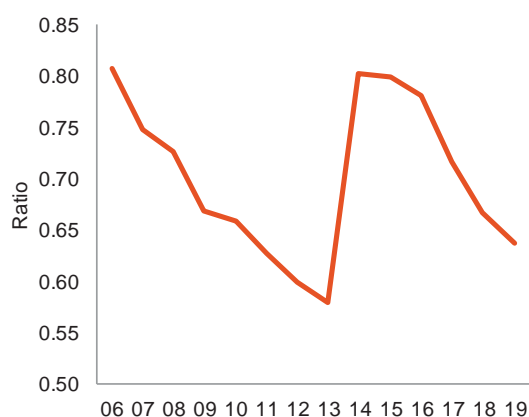
2018, against the decreasing trend at EU level (EU average at 10.6%). The rate is particularly high among Roma (65.3%) and in the least developed districts (GYERE, 2019). Participation of 17 and 18 year-olds in secondary education dropped sharply between 2011-2016 (from 98% to 85%), after the age of compulsory education was lowered from 18 to 16 in 2012. While studying for a vocational qualification will be supported with a study grant, the new law on vocational education also introduces penalties for parents if their child finishes education without at least a partial qualification. As dropping out concerns mostly schools with a high concentration of disadvantaged learners, this measure may further worsen the situation of disadvantaged families instead of promoting diversity and equity in the school system.

The new law on vocational education and training aims to attract more students to both vocational tracks. The law has introduced major changes in the vocational tracks, without an evidence-based analysis of the previous reform of 2015. Vocational grammar schools — the path with a higher element of general education — were renamed 'technical schools' (*technikum*) and will lead to both general secondary education and vocational qualifications; however, there will be no possibility to transfer from these schools with a secondary school leaving certificate (*matura*) before the final exam in the fifth year. Vocational secondary schools — for less academically inclined pupils — will be renamed 'vocational schools' (*szakképző iskola*) and will no longer lead to *matura*. The wage disadvantage of vocational secondary school graduates increases by age, indicating the lack of transferability of skills acquired in these schools (Köllő, 2018). Switching between professions or between educational pathways remains difficult by the reduced general education content starting in the first year of vocational schools. As from September 2020, vocational teachers will become employees under the Labour Code and their salaries will no longer be paid according to the unified pay scale and career model of teachers.

The shortage of teachers is increasingly challenging. The teacher workforce is ageing: in 2017, 41% of teachers were aged 50 or over, while only 6% were under 30. Dropout rates in initial teacher education are high and fewer than half of

the graduates actually enter the profession⁽¹³⁾. The number of new entrants is not sufficient to compensate the number of retirements. The shortage is most significant in disadvantaged areas, for science subjects and foreign languages, and in vocational education and training. Low salaries are one factor: the teacher starting salary is one of the lowest in the EU (Eurydice, 2018; OECD, 2019d). Teachers' salaries were last corrected in 2013 to close the gap with the national average wage (see Graph 3.3.6). By 2019, the level of teacher's salary compared to the national average wage dropped again close to the level prevailing before the correction. Phasing out the independent monitoring and evaluation of the trends of teacher shortage and other aspects of education limits the potential of quality policy-making.

Graph 3.3.6: **Ratio of average teacher's gross salary over national gross wages**



(1) average of teachers with no and 10 years experience, with Bsc and Msc degrees

Source: HCSO, Acts on Budget, Act on public education

The growing demand for a highly-skilled workforce is not met by a sufficient number of tertiary graduates. The employment rate of recent tertiary graduates in 2018 was 91.5% (vs an EU average of 85.5%), reflecting strong demand for highly skilled workers. At the same time, the tertiary educational attainment rate among 30-34 year-olds stood at 33.7% in 2018, well below the EU average (40.7%). The dropout rate is around 30% on average and 60% among students who have to self-finance their studies. In parallel,

⁽¹³⁾ Source: KIR-STAT database.

Hungary faces problems retaining its highly educated workforce and is the only country in the EU where the highly educated are more likely to emigrate than the less-qualified groups (Hárs, 2019). The coincidence of a low tertiary attainment rate and a high wage premium for graduates points to a shortage of highly skilled labour (Muraközy and González Vázquez, 2020).

3.3.4. HEALTH AND LONG-TERM CARE

The life expectancy of Hungarians lags behind that of most other Europeans and differs significantly by gender and level of education.

At 76 years in 2017, life expectancy of the Hungarian population remained the lowest among Visegrád countries, nearly five years lower than the EU average (80.9 years). Differences in life expectancy by gender and level of educational attainment are significantly larger than those observed across the EU as a whole: on average, women live almost seven years longer than men (EU: 5.2 years), and 30-year old men with a high level of education live 12.5 years longer than those with a low level of education. These stark differences in health outcomes partly reflect the greater concentration of behavioural risk factors, as well as large differences in income and living standards.

High mortality rates from preventable causes reflect the high prevalence of risk factors and the limited effectiveness of public health measures.

In 2016, Hungary had one of the highest rates of mortality from preventable causes⁽¹⁴⁾ in the EU (325.2 vs 161.5 per 100,000 inhabitants in the EU). Against the backdrop of an above-average prevalence of risk factors (i.e. smoking, alcohol consumption, poor nutrition and low physical activity) and low spending on prevention (2.6% of current health spending vs 3.1% in the EU), this indicates substantial scope to strengthen public health interventions in Hungary. Mortality rates from breast and colorectal cancer are also among the highest in the EU, reflecting limited investment in screening and public health programmes. In 2019, health authorities began implementing a national colorectal cancer

⁽¹⁴⁾ Preventable mortality is defined as deaths among people aged less than 75 years that could have been avoided through public health and prevention interventions.

screening programme supported by EU funds (AEEK, 2019a).

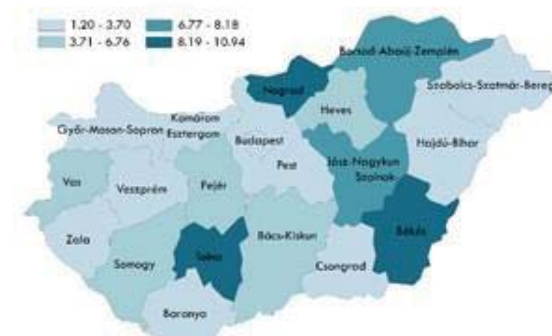
Public spending on health is low, and a high reliance on out-of-pocket payments constrains access for poorer households, exacerbating disparities in access to care. Total health spending in Hungary is significantly lower than the EU average, both as a share of GDP (6.9% vs 9.8% in the EU) and in euro per capita terms (€1,468 vs €2,884 in the EU). The public share of health spending is also lower than the EU average, partly reflecting the narrow scope of the benefit package. As a result, out-of-pocket spending accounts for a significantly larger share of total health spending (26.9% vs 15.8% in the EU). Nearly half of out-of-pocket spending is used for medicines, which account for 31% of total health spending. Although the share of spending on medicines is much higher than the EU average (18%), it is lower when measured in euro per capita terms. High levels of out-of-pocket spending, coupled with limited financial protection mechanisms and an above-average incidence of informal payments (ESPN, 2018) deepen inequality of access to healthcare and create significant risks of financial hardship for Hungarian households.

There is further scope for rationalising the use of resources and improving the quality of hospital care. Despite improvements in the past decade, discharge rates (20 vs 17 per 1,000 population), average length of stay (9.6 vs 7.9 days) and number of beds (7 vs 5 per 1,000 population) remain consistently above the EU average, pointing to an excessive reliance on hospitals to provide care. The hospital network remains excessively fragmented, hindering efficiency and quality of care. Over the last decade, day surgery for selected procedures has been gradually introduced into the Hungarian health system, yet its take-up has been low relative to other EU countries. Moreover, the current hospital payment system has not been regularly adjusted to reflect the real cost of health services provided. The obsolete hospital payment system, together with low decision-making autonomy at institutional level, has contributed to rising hospital debt which, despite regular bailouts from central government, continues to accumulate, having reached €161.5 million in September 2019, i.e. 0.3% of GDP (State Treasury, 2019). In

response, the government appointed budgetary supervisors for the most indebted hospitals.

Although authorities started addressing the problem of health workforce shortages, regional disparities remain an issue. Compared to the EU average, in 2017 Hungary had a slightly lower number of doctors (3.3 vs 3.6 per 1,000 population), and a lower number of nurses (6.5 vs 8.5 per 1,000 population). Large outflows of skilled health professionals seeking better working conditions abroad or in the fast-growing domestic private sector have exacerbated the issue of physician shortages in the public health care sector. In response, the government expanded its medical residency support programme and raised the salaries of health professionals, especially those of specialists, some of which have increased up to 60% over the last five years. Although wages remain low from an EU perspective, pay raises may have contributed to slowing down outflows of medical staff, as suggested by the slight increase in the number of practising physicians and decreases in the requests for foreign work permits in recent years. The negative effect of physician shortages on access is exacerbated by their uneven geographic distribution, while shortages within each county are mostly concentrated in rural areas (OECD/European Observatory, 2019).

Graph 3.3.7: Unfilled general practitioner practices per 100,000 population by counties, 2018



Counties constitute level 3 of the Nomenclature of Territorial Units for Statistics (NUTS)

Source: AEEK, Eurostat

Strengthening primary care remains a key condition for improving effectiveness and equity of access to care. Although general practitioners (GPs) formally act as gatekeepers to higher levels of care, their low number, limited

formal competencies and the lack of performance incentives to avoid unnecessary referrals hinder the effectiveness of primary care and reduce the attractiveness of the profession. The low number of GPs creates disparities in access to primary care, as evidenced by the constantly increasing number of vacant GP practices and their concentration in poorer counties (see Graph 3.3.7). Another concern for the future supply of GPs relates to their age composition, as their average age rose from 55 in 2012 to 58 in 2018 (NEAK, 2019). In recent years, health authorities have started implementing pilot projects aimed at integrating GP practice with the work of other health professionals (e.g. physiotherapists) and

expanding their competences, showing promising results (AEEK, 2019b; SHCP, 2017).

Ongoing long-term care reforms support a shift towards community-based care, but the supply of services remains limited relative to needs.

Long-term care provision remains institution-centred, although the EU-financed de-institutionalisation process for children and persons with disabilities is currently ongoing. The 2018 revision of the nursing fee for home care will significantly increase its amount in four years. However, the supply of services and cash benefits is still weak.

Box 3.3.1: Monitoring performance in light of the European Pillar of Social Rights

The European Pillar of Social Rights serves as compass for a renewed process of upward convergence towards better working and living conditions in the European Union. It sets out twenty essential principles and rights in the areas of equal opportunities and access to the labour market; fair working conditions; and social protection and inclusion.

Hungary performs relatively well on some indicators of the Social Scoreboard supporting the European Pillar of Social Rights, but significant challenges remain. The employment rate is slightly above the EU average and unemployment well below. Inequality is lower than in many other Member States, although it is increasing. Gaps in employment and pay between genders and skills groups remain wide compared with the rest of the EU. Labour market outcomes for women and vulnerable groups, including Roma and people with disabilities, are weak. The Public Works Scheme has decreased markedly, but is still oversized and not effective in leading participants to jobs in the primary labour market.

The share of people at risk of poverty or social exclusion decreased, but the depth of poverty has significantly worsened (from 16.7% in 2017 to 24.1% in 2018), pointing to a limited redistributive capacity of social transfers. Challenges related to human capital formation include a high rate of early school leaving, especially among the Roma population, and the level of individuals' digital skills. Childcare provision is among the lowest in the EU, with only 16.5% of children under the age of 3 in formal childcare.

More action is needed as regards the provision of long-term social housing and other inclusion measures. In Hungary, rough sleeping is criminalised without addressing its root causes and without providing policy solutions in line with the Pillar principle on housing and assistance for the homeless.

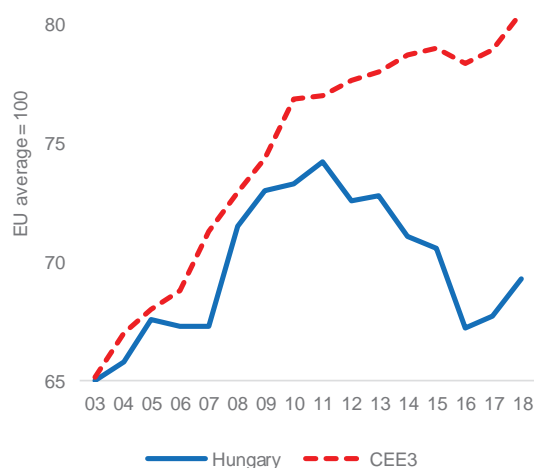
Improvements have taken place in a number of areas. The growth in per capita real adjusted disposable income of households was better than the EU average, with a 21 percentage points increase since 2008. The self-reported unmet need for medical care dropped to 0.8%, well below the EU average of 2%. The proportion of children under 3 years of age in formal childcare increased to 16.5% in 2018 from 13.8% in 2017, which is a step towards the Barcelona target. Hungary has invested significant amounts of EU and national funds into addressing the limited provision of childcare by creating new places in crèches.

3.4. COMPETITIVENESS, REFORMS AND INVESTMENT

3.4.1. PRODUCTIVITY AND INVESTMENT TRENDS

Productivity growth has picked up since 2016 thanks to the strong cyclical upturn. Investment has also risen amid favourable economic conditions to historically high levels. While demand conditions remain supportive, there remain supply-side barriers to investment (see Box 3.4.1) and productivity growth, especially for smaller firms.

Graph 3.4.1: **Labour productivity relative to the EU average (at PPS)**



(1) CEE3 is the average of Czechia, Poland and Slovakia
Source: Eurostat

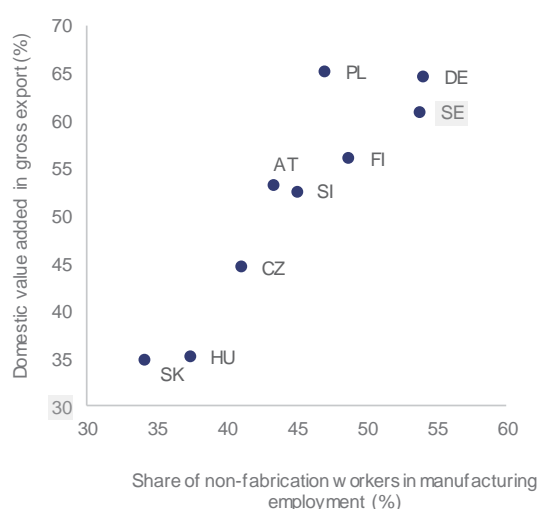
There remains significant room for productivity catch-up. Value added per worker remained about 30% below the EU average in 2018 (see Graph 3.4.1). Three main factors contribute to this productivity gap: (i) even the most productive domestic firms tend to fall behind the global frontier; (ii) Hungarian firms' position in global value chains limits their value added; (iii) less productive firms still have disproportionately large market shares.

The innovation system does not adequately support the growth of leading firms. Contrary to international experience, productivity growth of the most efficient Hungarian firms has been slower than that of laggard firms, and they have progressively fallen behind the global productivity frontier (Muraközy et al, 2018). The productivity of national frontier firms could benefit from less cumbersome product market regulations and excellence in higher education and research

(Andrews et al., 2015), areas where Hungary lags behind the most innovative economies.

The shortage of skills limits local firms' ability to add more value to global production chains. Hungarian firms typically focus on 'midstream' fabrication activities, which contribute less to the value of final products than upstream (e.g. design) or downstream (e.g. marketing) tasks (Ali-Yrkkö and Rouvinen, 2015; see Graph 3.4.2). This specialisation pattern persists even in recent greenfield foreign direct investment across Central Eastern Europe (Stöllinger, 2019). Domestic firms may gradually acquire other tasks (e.g. research and development, support services) that improve their value capture, but this process is gradual and not guaranteed (Szalavetz, 2017). High value-added activities of global value chains could be attracted by offering cutting-edge skills and knowledge (Jensen and Pedersen, 2012), which are in limited supply in Hungary (see also Section 3.3.3). Among smaller enterprises, low innovation activity, a lack of production scale and a shortage of skilled employees are the key barriers to productivity growth and to participating in global value chains (HIPA, 2019).

Graph 3.4.2: **Employment patterns and domestic value added in gross exports in selected countries**



(1) Non-fabrication workers are identified by their occupation codes based on the classification of Timmer et al. (2019)

(2) The share of domestic value added in gross exports is calculated with input-output models

Source: Commission calculations based on Eurostat, World Input-Output Database (Timmer et al., 2015)

There are barriers to the growth of more efficient businesses. The persistence of low-productivity firms is a drag on the average productivity level of the economy (MNB, 2018), and points to resource misallocation due to weak business dynamics. Productivity growth within companies is recovering, but the reallocation of resources towards more efficient firms has slowed compared to the pre-crisis years (Muraközy et al, 2018). The slowing entry of new firms, particularly in services, is another sign of weaker business dynamics (Bauer et al., forthcoming). Slow resource reallocation may be linked to institutional features such as weak competitive pressure and inefficient mechanisms for reorganisation and market exit (see Section 3.4.2).

Research and innovation

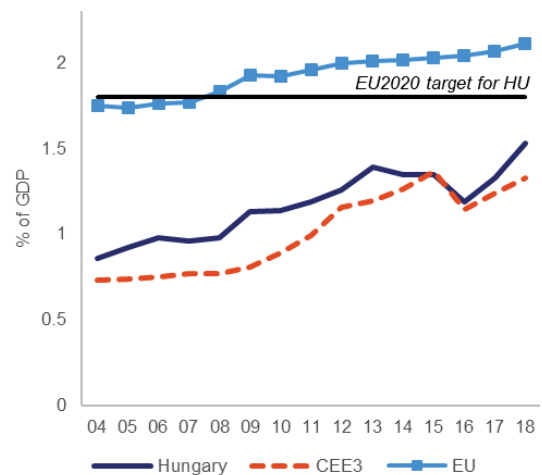
Strengthening the research and innovation capacity of domestic firms could secure long-term growth and competitiveness. According to the European Innovation Scoreboard (European Commission, 2019f), Hungary is a moderate innovator with an increasing performance, and has progressed towards Sustainable Development Goal 9. There is scope for improvement by increasing the supply of high-skilled labour, raising R&D expenditure in the public sector and encouraging cooperation among potential innovators.

Spending on R&D is increasing slowly, but remains below the 2020 target. R&D spending increased from 0.98% of GDP in 2008 to 1.53% of GDP in 2018. This value is high among Central Eastern European countries, but lower than the EU average of 2.11% and Hungary's 2020 target of 1.8% (see Graph 3.4.3). The increase over the years took place in the business sector, while R&D spending in the public sector decreased by 0.09% of GDP between 2008 and 2018.

Public support for private R&D is large. According to the State Aid Scoreboard, business R&D and innovation expenditure benefited from state subsidies worth 0.35% of GDP in 2017, the highest level in the EU. Tax exemption schemes include tax credits for small and medium-sized enterprises when buying tangible assets; and a tax credit for large-scale investments (above HUF 100 million) in research, which can be carried forward for 12 years. Such incentives can

promote innovation but also warrant monitoring against misuse.

Graph 3.4.3: R&D expenditure



(1) CEE3 is the average of Czechia, Poland and Slovakia

Source: Eurostat

The shortage of talent and skill limits the innovative activity of Hungarian enterprises. In 2018, 28% of enterprises performed innovation, which is below the EU (34%) and regional (39%) average (EIB, 2019)⁽¹⁵⁾. Obstacles to innovation include the limited supply of highly skilled labour. Tertiary education attainment rates are among the lowest in the EU (see Section 3.3.3). The number of science, engineering and computing graduates was 11.9 per 1,000 population in the 25-34 age group, compared to the EU average of 18.3.

Weak cooperation limits the country's research and innovation capacity. Participation in Horizon 2020 projects is modest, highlighting the low level of international cooperation by research entities. As a result, Hungarian scientific performance lags behind the EU average in terms of highly cited publications or international co-publications. Cooperation with the business sector is mostly limited to large companies due to the lack of demand and capacity of smaller firms. Researchers seldom bring their results to the market. The roll-out of the 8 Higher Education and Industry Cooperation Centres (FIEKs), aimed at improving academia-business cooperation, continued in 2019.

⁽¹⁵⁾ Regional peers include Czechia, Poland and Slovakia. Data of the latest Community Innovation Survey refer to 2016. They show that 29% of Hungarian firms performed innovation, compared to an EU average of 50.6%.

Box 3.4.1: Investment challenges and reforms in Hungary

Investment rose to a record high level in 2019, exceeding 28% of GDP. Investment growth was broad-based across sectors and asset types. Firms on balance expect to increase their investment further, albeit to a moderating extent (DUIHK, 2019; EIB, 2019). However, detailed data and surveys show an uneven landscape. Data from the Hungarian Central Statistical Office indicate a decreasing investment rate for smaller enterprises in recent years. Based on survey evidence, the proportion of investing firms decreased by 7 percentage points to 69% in 2019 and it is lower than the EU average of 85% (EIB, 2019). A quarter of firms report having invested less than what would be optimal, compared with 15% of companies across the EU. Investment in intellectual property products, at 2.8% of GDP in 2018, remains below the EU average of 4.1%.

According to firms' perceptions, the main obstacle to investment is by far the availability of skilled staff; three quarters of surveyed firms considered it to be a significant barrier (EIB, 2019). To a smaller but growing extent, investment is also hampered by uncertainties concerning the economic outlook, labour market regulations and energy costs. Due to low interest rates and multiple subsidised financing opportunities (see Section 3.2), the availability of finance is a less frequently cited obstacle compared with regional peers.

Public administration/ Business environment	Regulatory/ administrative burden	CSR	Financial Sector / Taxation	Taxation	CSR
	Public administration			Access to finance	-
	Public procurement / PPPs	CSR	R&D&I	Cooperation btw academia, research and business	
	Judicial system	CSR		Financing of R&D&I	-
	Insolvency framework		Sector specific regulation	Business services / Regulated professions	
	Competition and regulatory framework			Retail	CSR
Labour market/ Education	EPL & framework for labour contracts	-		Construction	-
	Wages & wage setting	-		Digital Economy / Telecom	
	Education	CSR		Energy	
				Transport	-

Legend:

	No barrier to investment identified		Some progress
CSR	Investment barriers that are also subject to a CSR		Substantial progress
	No progress		Fully addressed
	Limited progress		

Selected barriers to investment and priority actions underway:

The limited availability of skilled labour is an obstacle for investment and innovation, especially for smaller and less productive firms that cannot afford wages as high as their larger counterparts. The cyclical slowdown of economic growth may alleviate labour shortages to some extent (see Section 1). However, progress to improve education outcomes is slow and the impact of such policies takes hold only gradually. Therefore, the low level of basic competences, limited supply of tertiary education graduates (see Section 3.3.3) and lack of digital skills remain bottlenecks for investment in the medium term.

Recent changes have increased government influence over scientific institutions. A National Science Policy Council (NTT) was set up to advise the government on strategic issues and supervise the operation of the National Research, Development and Innovation Fund. In addition, the research institute network of the Hungarian Academy of Sciences was separated from the Academy and reorganised under the newly founded Eötvös Loránd Research Network (ELKH). Through the appointment of members to

the new bodies, the government has increased its influence over the R&D field, creating uncertainty to guarantee scientific freedom. An increasing proportion of public sector researchers are considering leaving for the private sector or abroad; these intentions are particularly high among talented, young and competitive researchers (Nyíró et al., 2019). Policy uncertainty may negatively impact the successful Momentum (Lendület) Programme, under which the Hungarian Academy of Sciences attracts young researchers

from abroad. If established researchers exit the system, it could become an obstacle for future European Research Council and Horizon 2020 participations. Moreover, the end of the Central European University's academic operations in Hungary, the largest Horizon 2020 beneficiary, risks cutting off the access of local partner universities to international R&D programmes.

Unclear governance and a limited involvement of stakeholders have so far prevented Hungary from grasping the full benefits of smart specialisation. The mobilisation of innovation actors throughout the smart specialisation process has been unbalanced and piecemeal. Recent efforts to set up Territorial Innovation Platforms can help to improve the engagement of stakeholders, and reach a more selective definition of investment priorities and improved monitoring. Still, frequent institutional changes are a challenge for coordination and the distribution of tasks.

Digitalisation

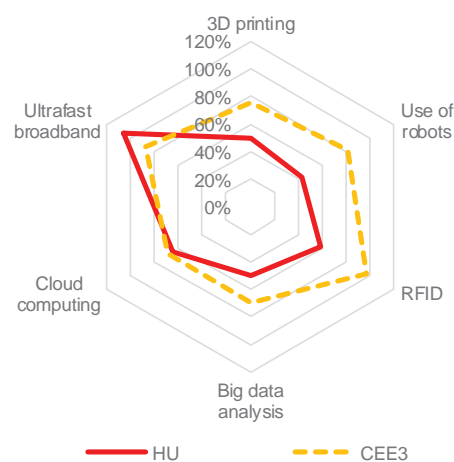
Broadband connectivity has improved significantly. 82% of the population has access to an ultrafast broadband network, compared with 60% in the EU. The Superfast Internet Programme intends to provide all Hungarian households with at least 30 Mbps broadband internet service by 2023. While coverage is relatively good, mobile broadband use is still the lowest in the EU with 70 subscriptions per 100 people, against 100 in the EU. This may be because prices for mobile phone users are among the highest in Europe. Sectoral taxes (one levied on phone calls and text messages, and another on network infrastructure) add to service costs and may also reduce the demand for data services (Nagy et al., 2017).

Digital skills remain below the EU average. Only half of people aged 16-74 have at least basic digital skills (58% in the EU). Skills shortages can hinder digitalisation in the business sector, particularly in less productive firms (Gál et al., 2019). To improve the population's digital skills, the government launched a Digital Education Strategy in 2016. The working-age population is targeted by the Digital Workforce Programme, the results of which remain to be seen.

Hungarian firms lag behind in the integration of digital technology. The adoption rate of digital

business solutions and Industry 4.0 technologies is among the lowest in the EU (see Graph 3.4.4, and Szabo, forthcoming), contributing to weak productivity growth in the post-crisis years⁽¹⁶⁾. Several policy measures are in place to improve the digitalisation of businesses. The Modern Enterprises Programme aims to raise awareness of digital technologies, and offers financial support for technology adoption. The Artificial Intelligence Coalition was set up in 2018, to draw up the national artificial intelligence strategy.

Graph 3.4.4: **Adoption of selected Industry 4.0 technologies (average adoption rate of EU=100)**



RFID = Radio Frequency Identification. Data refer to 2018 or the closest available year. CEE3 is the average of Czechia, Poland and Slovakia
Source: Eurostat

Digital public services continue to develop. Since 2016, the proportion of e-government users have increased from 38% to 55%, but it remains well below the EU average of 67%. Re-use of information across administrations, and the sophistication of services are particular areas for improvement. Since 2018, most public bodies must provide electronic channels for those services where one's physical presence is not required by law. For businesses, the use of the online channel is mandatory. To support these services, the authentic digital mailbox and the e-delivery service have been renewed for both citizens and public administration offices, and a new e-delivery service has been launched for businesses. A new customizable e-government point of single contact

⁽¹⁶⁾ Based on Gál et al. (2019), the lower adoption of selected technologies compared with the EU may have reduced productivity growth by 1 percentage point per year.

portal has also been set up as a common platform for e-government services.

3.4.2. MARKET FUNCTIONING AND BUSINESS ENVIRONMENT

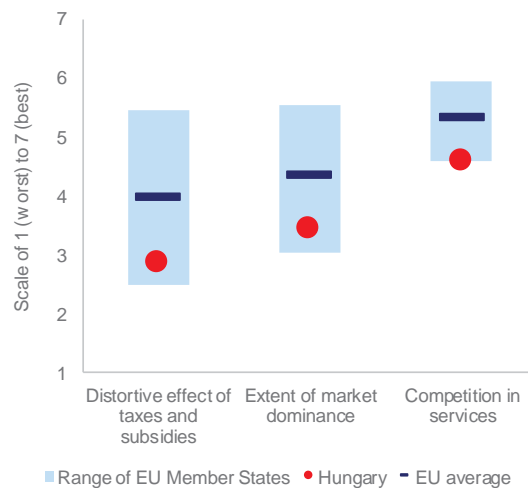
Market functioning

Business leaders perceive barriers to the proper functioning of markets. Hungary ranks the lowest in the EU in terms of product market functioning in the Global Competitiveness Index (WEF, 2019; see Graph 3.4.5). Manufacturing and services face different environments. The government tends to sign strategic agreements with large manufacturing firms (81 such agreements were concluded between 2012-2019, mostly in manufacturing) and their investment projects benefit from significant government support (Éltető-Antalóczy, 2017). On the other hand, service activities face more barriers to competition. Hungary scores below the EU average in the OECD Services Trade Restrictiveness Index, due to the prevalence of horizontal policy measures, quotas and licences (OECD, 2018b).

State intervention in the services sector hampers competition. The provision of several services is entrusted to state-owned or private firms, specifically created for these purposes (e.g. training of driving examiners, information technology services to the public sector, textbook publishing, waste management public services, mobile payments, tobacco trade), which operate without competition. The government can exempt certain mergers and acquisitions from the competition scrutiny by declaring the transaction to be of national strategic interest. Over the last five years, the government has used this extraordinary power more than 20 times, in a range of sectors including energy, banking, broadcasting, tobacco and media. In 2018, more than 470 media outlets merged into one ownership without the scrutiny of the Competition Authority and Media Authority, significantly increasing concentration in the sector. The lack of competition can be detrimental to innovation and efficiency.

Exemptions from competition law also increase regulatory uncertainty, as market participants in affected sectors do not know what forces are shaping future market structures (OECD, 2016).

Graph 3.4.5: Assessment of product market functioning in the Global Competitiveness Index 2019



Source: World Economic Forum

Hungary has the highest number of regulated professions (over 500) in the EU⁽¹⁷⁾. A reform still in progress aims to revise the legal framework for regulated professions and reduce the number of regulated professions. While the existing rules are being analysed at national level to identify potential areas for deregulation, it is not yet possible to assess the progress of the reform.

Frequent introductions and subsequent repeals of measures have contributed to an unstable business environment in retail trade. The ban on loss-making business activity has been removed following European Commission's action. The unclear application of the special authorisation for outlets above 400 m² and the legislation on expansion of retail premises remains a source of uncertainty for retailers. Restrictions on large units held back efficiency gains in the retail sector and raised consumer prices (Berezvai, 2018).

⁽¹⁷⁾ According to the Regulated Professions database (<https://ec.europa.eu/growth/tools-databases/regprof/>)

Box 3.4.2: Challenges and opportunities of the automotive industry in Hungary

The automotive industry plays a crucial role in the Hungarian economy. In 2018, it generated 16.5% of export revenue and 4.3% of gross value added, accounted for 2.6% of domestic employment, and hosted 11.4% of the inward foreign direct investment stock at the end of 2018. In all these dimensions, the sector has a greater role in the Hungarian economy than in the rest of the EU, as with other Central Eastern European countries. The sector has contributed significantly to economic growth, adding on average 0.4 percentage points to annual GDP growth since 2010. Yet, in the longer term, the industry faces **increasing global and domestic challenges** and its role is at risk, due to a combination of **rising labour costs**; tightening **environmental standards**; **technological change** in the form of alternative drivetrains and autonomous vehicles; and **trade-policy-related risks** to global supply chains. This box takes stock of the various forces that create a need to adapt in the automotive industry.

The first challenge concerns the position of Central Eastern European countries in automotive supply chains. As with the rest of the region, Hungary specialises in ‘midstream’ fabrication activities within the automotive supply chain that contribute modestly to the final value of a completed vehicle. In Hungary, every euro automotive export generates just 40 cents of value added, including supplier industries, compared with 75 cents in Germany ⁽¹⁾. Domestic value added could rise with the involvement of more Hungarian suppliers or if foreign-owned companies took on service activities that generate more value added (‘functional upgrading’). The participation of domestic suppliers is hindered by skill shortages at the level of workers and managers, limitations in manufacturing capacity and product development capabilities (HIPA, 2019). There is some evidence of functional upgrading in foreign-owned companies; for example, the number and the employment of automotive R&D centres in Hungary is growing. However, the acquisition of more advanced tasks could be limited by structural features of the automotive supply chain. Lead firms and their global suppliers maintain tight control over design and strategic R&D activities, which are typically concentrated around the headquarters ⁽²⁾. More sophisticated service tasks could be attracted to local subsidiaries through improving human capital and national R&D capabilities, which can offer strategic advantages to lead firms, such as access to cutting-edge technologies. One promising example is the recently built ZalaZone test facility and the autonomous mobility research cluster developing around it.

The second challenge concerns the ongoing shift towards electromobility. Electric drivetrains consist of significantly less components than internal combustion engines. Thus, the auto industry supply chain could become shorter, limiting the potential for domestic value capture. Firms located in Hungary have already started to diversify into electromobility by stepping up the production of electric drivetrains in existing factories; Hungary has also attracted significant foreign direct investment in battery manufacturing recently. If these new capacities are completed, Hungary could account for about 10% of European car battery production. However, batteries are technically simple and can be produced with little labour input. With a high share of material costs and falling prices due to technological advancement, the sector could see profit margins squeeze in the medium term. On the other hand, these assembly facilities might serve as a stepping stone to attract later investment in research and development. Electric vehicle production could also take off thanks to the start-up manufacturer Fox Automotive. The government’s e-mobility strategy (Jedlik Ányos Plan 2.0) plans to expand the charging infrastructure for electric vehicles, and to support domestic research and development in electric mobility.

The third group of challenges stems from international regulatory change and policy uncertainty. The European automotive industry has found it difficult to adjust to tightening emission standards; compliance with tightening emission targets weighs on profitability. Rising tariffs in certain segments of international trade are also adding to production costs and the prospect of even larger trade barriers holds back investment. In a period of technological change

and squeezing profitability, firms may decide to reconfigure their global supply chains. So far, Central Eastern Europe, including Hungary, has overall benefitted from these changes thanks to still favourable labour costs, agglomeration benefits from the presence of several suppliers, and geographical proximity to headquarters⁽³⁾. The share of the four Visegrad countries in EU car production has risen from 22.3% in 2014 to 23.9% in 2018. However, there is competition both from lower-cost production sites (potentially outside the European Union) and from host countries where the increasing use of Industry 4.0 technology might bring a revival of production. The region's specialisation in cost-sensitive midstream activities was historically driven by the cost advantage compared to Western Europe, but in the longer term this is expected to erode as wages catch up with real convergence. The adoption of Industry 4.0 technologies (especially robots and smart factories) could boost efficiency. So far, about a quarter of domestic suppliers have embraced these technologies (PWC, 2018; HIPA, 2019). Several schemes are already in place to support this process, but the availability of skilled workers remains a bottleneck.

Preserving cost competitiveness while improving local capabilities remains a dual challenge for the local automotive industry. The government has started to move beyond the traditional strategy of attracting assembly-line production to the country through investment incentives by encouraging local R&D activities and launching several targeted programmes for potential local suppliers. However, the underlying issues of skills shortages and modest innovation capacity need to be addressed by more comprehensive measures to improve education outcomes (see Section 3.3.3) and the performance of the R&D system (see Section 3.4.1).

⁽¹⁾ 2016 figures in the OECD Trade in Value Added (TiVA) database.

⁽²⁾ Burger et al. (2018) find evidence on the positive effect of functional upgrading on value capture. Studies showing gradual functional upgrading in the Hungarian and CEE auto industry include Éltető et al. (2015), Pavlínek and Ženka (2011). Stöllinger (2019) finds that even recent greenfield FDI flows show specialisation in fabrication activities. Belderbos et al. (2013) discuss home bias in R&D. The effect of industry characteristics on upgrading possibilities is described by Sturgeon et al. (2009).

⁽³⁾ Similarly, Rugraff and Sass (2014) find that the automotive component suppliers saw the global crisis as an opportunity to upgrade and expand their local operations.

The deteriorating enforcement of Single market rules is a drag on investment. The transposition rate of directives decreased while the number of infringements increased. There are significant delays in transposing directives and complying with Court rulings, and a significant proportion of directives are transposed incorrectly. Better compliance with Single market rules and their consistent application would support market integration and lead to productivity and welfare gains⁽¹⁸⁾. In addition, the number of notifications of draft technical regulations under the Single Market Transparency Directive is low. In 2018, Hungary notified only 9 drafts, which may indicate that it is missing the opportunity to improve its integration in the Single market by preventing barriers to trade.

The insolvency framework offers limited help for restructuring, hindering resource reallocation to more productive enterprises. Personal costs from entrepreneurial failure are high in Hungary due to a long time to discharge, which can discourage failing entrepreneurs from starting over. The existing inability of creditors to initiate restructuring and the lack of priority for new financing over unsecured creditors impedes restructuring. The lack of early warning mechanisms, pre-insolvency regimes and special insolvency procedures for small firms hinder effective prevention and streamlining (Adalet-McGowan and Andrews, 2018).

Public procurement

There is still significant room for improvement in competition on the procurement market, which remains vulnerable to anticompetitive and corruption practices. It is still too early to assess whether those activities carried out in 2019 might generate any long-term impact on competition and

⁽¹⁸⁾ The full transposition of Single market rules into national legislation could raise welfare by an estimated 0.87%, and the elimination of infringement proceedings could add a further 1.3% (WIFO, 2019).

market dynamics. The proportion of contracts awarded where there was just one bidder remained high over the last years and one of the highest in the EU. Transport and medical equipment purchases, as well as financial services display the highest single bidding rate among the sectors analysed. This hinders the ability of public bodies to achieve best value for money. A sound analysis of the existing risks for competition is missing to achieve a more effective procurement policy with sustainable results. Efforts focused on a legal and regulatory framework do not prove sufficient without a good understanding of such risks.

Efforts to facilitate SME access to the procurement market are yielding results. Hungary has performed above the EU average in the proportion of awards for which the winner was an SME. This could be a result of the fact that the percentage of calls for tenders that were split into lots has also scored above average.

The progressive digital transformation of public procurement supports transparency. Electronic submission of offers in procurement procedures above the Directive thresholds has reached as much as 99% in 2019 in Hungary. However, the interoperability of the different existing public procurement electronic platforms, as well as further development of new functionalities, in particular, a functionality allowing bulk export for contract award notices, is essential for improving data accessibility and the availability of comprehensive statistics.

The public procurement control system showed weaknesses in previous years. Hungary tops the EU anti-fraud agency's (OLAF) list of countries where the agency made a financial recommendation to recover EU funds due in part to deficiencies observed in public procurement (see Graph 3.4.7). Several Commission audits on public procurement carried out in 2017-2018 identified systemic irregularities, in particular related to discriminatory or restrictive exclusion, selection or award criteria, and unequal treatment of bidders. In 2019, the Commission imposed around €1 billion of financial corrections due to deficiencies in the public procurement related management and control system. This has been the highest financial correction in the EU in the 2014-2020 period. Despite increased control of public procurement after each horizontal audit that the

Commission has carried out in recent years, serious, systemic deficiencies and irregularities has been identified, showing that there is room for substantial further improvements.

The integration of environmental, sustainability and social policy goals into procurement process, including supplier qualification, technical specifications, award criteria and contract conditions remains a challenge. The Commission's audits show that the use of strategic criteria often leads to issues concerning compliance with competition and equal treatment principles. Raising awareness through training and guidance materials on the use of quality-based criteria in tender selection is essential for ensuring that contracting authorities, especially at the local level, are able to use public procurement correctly and as a strategic tool for sustainable development.

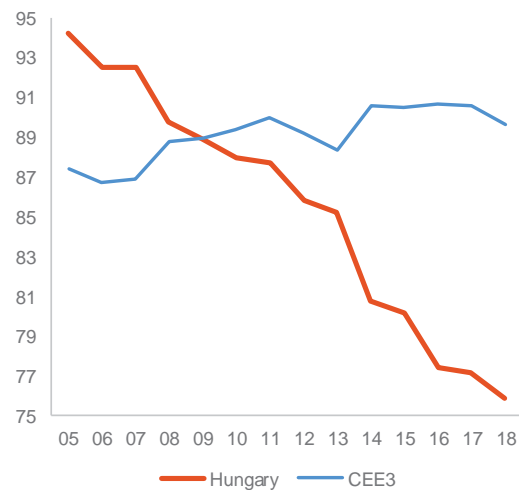
Institutional performance and the business environment

Hungary's ranking on business environment scoreboards is consistent with its income level. The overall ranking of Hungary is relatively low in EU comparison, in line with its level of economic development, and has not changed over the last decade (WEF, 2019; IMD, 2019, World Bank, 2019; DUIHK, 2019). The ranking has improved in some areas of the economic policy, including taxation, macroeconomic stability and the flexibility of employment legislation. However, the overall ranking has not improved over the last decade due to the decline in institutional quality.

Better institutions are key to avoiding the middle-income trap. There is a well-established relationship between the quality of institutions and economic performance (Acemoglu-Robinson, 2010). Although investment in physical capital can increase productivity even with weak institutions, its marginal effect fades after a certain point due to the risk of misallocation. The productivity impact of investing in human capital and innovative capacity increases with better institutions, especially with the control of corruption, and voice and accountability (Rodríguez-Pose and Ketterer, 2019). In Hungary, these two indicators have deteriorated significantly (see Graph 3.4.6). Corruption risks and weak accountability distort the allocation of resources, as these are not necessarily channelled to the most productive

firms. They also slow down business dynamics and productivity growth in general (Akcigit et al., 2018).

Graph 3.4.6: **Average of voice and accountability and control of corruption indices in Worldwide Governance Indicator (EU average=100)**



(1) Figures refer to the average scores of the two indicators on a scale of 0-5 (2) CEE3: Czechia, Poland and Slovakia
Source: Worldwide Governance Indicator 2019

Political influence in the civil service may reduce government performance. According to survey indicators, the political influence and favouritism in the civil service is high in Hungary (Dahlström et al., 2015; WEF, 2017). The factors considered essential to reduce these risks are the protection from dismissal and a transparent advancement system in the civil service. The protection against dismissal weakened as a lack of loyalty and failure to conform to superiors' values have become valid grounds for dismissal in the last decade. In 2008-2018 the basic salary unit of the career/seniority-based remuneration of civil servants was frozen. During this period superiors decided on salary increase, which weakened the seniority-based remuneration system. In 2019, the protected status of the civil service decreased with the abolition of the career-based advancement system. The protection of the civil service from undue influence is particularly important in public procurement control and the management of the national wealth of the state-owned enterprises.

Low transparency of the policy-making process may affect the business environment. Stakeholder engagement, regulatory impact

assessment and *ex post* evaluations are key factors for improving regulatory environments (OECD, 2018b). Hungarian legislation provides for the mandatory use of public consultation, *ex ante* and *ex post* impact assessments. In practice, however, the consultations and impact assessments are rather formal or symbolic (SGI, 2018, Hungary report page 25-26, see also section 3.3.1) and are often bypassed by applying special legislative procedures, such as individual member's bills and urgent procedures (EUPACK, 2019). As a result, Hungary scores low among EU members in stakeholder engagement in developing primary law, consultation with civil society, the use of evidence-based instruments (SGI, 2019), and regulatory quality (WGI, 2019). Lack of meaningful consultation and impact assessment leads to a learning-by-doing approach, which contributes to frequent changes to the legal framework.

Frequent changes to legislation reduce legal certainty. The Hungarian Parliament amended around half of the laws in force on average each year between 2012 and 2018. The turnover rate was particularly high in 2017, when it reached 77%. The same rates were less than 20% in Slovakia and Austria in the same period. The frequent use of omnibus laws adds to the complexity. Hungarian laws amended seven other laws on average between 2016 and 2018, which is higher than the regional average of 4.5⁽¹⁹⁾. Fast-track legislation, combined with the high turnover of laws, reduces transparency and the stability of the legal framework. It increases compliance costs for businesses and it can discourage innovation and high value-added investments. Selective regulations have proliferated. Over the last decade, more than 70 pieces of legislation have targeted specific people or institutions. Sometimes, such tailor-made legislations penalise (e.g. sector-specific taxes); in other cases, they grant benefits (e.g. easing conflict of interest rules and qualification requirements for a specific public office) or monopolies.

⁽¹⁹⁾ These figures are based on information available on official websites of national legislations (njt.hu, isap.sejm.gov.pl, slov-lex.sk, ris.bka.gv.at).

The effectiveness of the justice system

Persistent concerns over judicial independence may impact the business environment. The independence, efficiency and quality of the justice system are essential elements for the business environment and crucial to enhancing productivity and ensuring sustainable economic growth (Voigt et al., 2015). Following deterioration until 2019, the latest data for perceived judicial independence shows improvement based on the forthcoming 2020 EU Justice Scoreboard. Developments of checks and balances in the Hungarian courts system have however continued to raise concerns. This has been confirmed by a statement of the Group of States against Corruption (GRECO), a report of the European Association of Judges and by a report of the Council of Europe Human Rights Commissioner. The National Judicial Council faced increasing difficulties in counterbalancing the powers of the President of the National Office of the Judiciary (European Commission, 2019g). The Parliament recently adopted a new piece of legislation in December 2019, introducing structural changes that may have a significant impact on the organisation of the justice system. There was no consultation of relevant stakeholders before the adoption of the law.

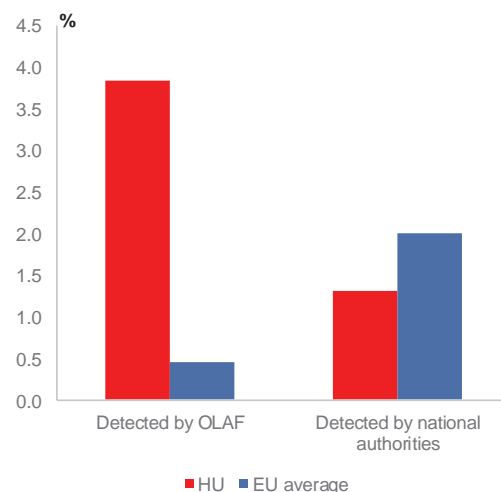
Fight against corruption

Corruption remains an area of concern. The Worldwide Governance Indicators and other indices show a continuous decline in Hungary's performance on controlling corruption and its position is among the lowest in the EU (WGI, 2019, TI, 2020). More recent survey data shows that 48% of businesses consider corruption to be a serious problem for their company when doing business in Hungary, which remains higher than the EU average and Hungary's own score in 2015 but an improvement on its 2017 score. The share of companies that think corruption is widespread in public procurement managed by national and local authorities has increased somewhat (European Commission, 2019h).

The number of corruption cases recorded by the prosecution services has increased. According to data from the Prosecutor General's Office, the number of recorded corruption cases has increased to 2,046 in 2018 (from 1,123 in

2017). When not initiated ex officio, the majority of notifications in corruption cases were transmitted by the National Protective Service. Nevertheless, statistics suggest that investigation and prosecution may be less effective in Hungary compared to other Member States (European Commission, 2019i). OLAF finds significantly more irregularities related to EU funds in Hungary than in other countries and, in contrast to all other Member States, also much more than the number of cases reported by the national authorities (see Graph 3.4.6). The number of investigations in Hungary between 2014-2018 that closed with an OLAF recommendation, was the second highest in Hungary among Member States. The indictment rate of OLAF judicial recommendations (45%) was above the EU average (36%) between 2012-2018 (European Commission, 2019i), but below that of other registered cases in the Prosecution in the last 10 years (58%) (Office of the Prosecutor General, 2019). It remains to be seen whether the increasing number of corruption cases will be reflected in a higher number of indictments and convictions as well. In recent years, the number of convicted persons has remained broadly stable: 250 in 2014 and 254 in 2017.

Graph 3.4.7: **Detection of irregularities and their financial impact in the areas of European Structural and Investment Funds and Agriculture in 2014-2018**



(1) financial impact as % of payment

Source: European Commission

Determined systematic action to prosecute high-level corruption is lacking. According to the Prosecutor General's Office, most corruption-related cases involve public officials, typically tax

and customs officials. While some high-level cases have been prosecuted, there is a general perception of impunity among the business community. While 43% of Hungarian respondents believe that petty corruption is punished appropriately, only 19% of businesses agree that those caught bribing a senior official are likely to be appropriately sanctioned, which is a low proportion in EU comparison (European Commission, 2019h).

Changes in the organisational structure of the prosecution service have yet to prove their effects. Following the changes introduced to the criminal procedure law in July 2018, the prosecution service has centralised corruption investigations at the Central Investigative Prosecution office and five regional investigative prosecution offices. The effects of this measure, aiming to improve professional management and case allocation, remain to be seen. Recommendations by GRECO on key institutional and organisational aspects of the prosecution service, such as reviewing the appointment rules for the position of the Prosecutor General to safeguard independence from political influence, the introduction of strict criteria to guide and justify decisions to remove cases from subordinate prosecutors and the review of how disciplinary proceedings are handled with a view to enhancing accountability and transparency, remain only partly implemented⁽²⁰⁾ (Council of Europe, 2018). Accountability for decisions to close investigations is a matter of concern as there are no effective remedies against decisions of the prosecution service not to prosecute alleged criminal activity.

Restrictions on access to information continue to hinder corruption prevention. The indicator on access to information deteriorated from 6 to 3 on a scale of 10 between 2010-2019 (SGI, 2019). The current score is the lowest in the EU. While the Freedom of Information Act has not been touched, piecemeal changes to other sectoral laws have continued, corroding the overall transparency and access-to-information framework. One example is an amendment to the law on foreign representations⁽²¹⁾ introducing restrictions on

⁽²⁰⁾ Some of these have already been criticized in 2012 by the Venice Commission

⁽²¹⁾ 2019. évi LIX. Törvény egyes közszolgálati tárgyú törvények módosításáról (Act 59, of 2019 on the Amendment of Laws on Public

access to foreign investment data. This continues a trend started in 2012, which contributes to increased uncertainty about the interpretation of the access to information legislation.

Dissuasive practices for accessing public information can deter citizens and non-governmental organisations from exercising their constitutional rights. Out of the 300 complaints addressed by the National Authority for Data Protection and Freedom of Information in 2019, about 10% concerned the unjustified application of fees⁽²²⁾. Between 2013-2016, in over 70% of the 500 court cases regarding access to information, the courts ruled in favour of the data requestors (Kúria, 2018). According to independent research, proactive disclosure of data also remains a challenge, with 70% of municipalities failing to publish the minimum required information on their website (BI-CRCB, 2019). Moreover, only a small proportion of authorities provide statistics to the National Authority for Data Protection and Freedom of Information on requests received (NAIH, 2019).

The prevailing degree of media freedom may not provide appropriate support for the anti-corruption framework. Several mutually supporting principles, in particular transparency, accountability, press freedom and an active civil society, are key in the fight against corruption (IMF, 2019). Hungary ranks among the lowest in the EU for media freedom and its position has deteriorated in recent years (Freedom House, 2019; RSF, 2019). The concentration of media outlets under a single centralised holding in 2018 exacerbated the overall risk to media pluralism (Brogi et al., 2019).

3.4.3. SECTORAL POLICIES

Transport infrastructure

Rising demand is expected to put further pressure on the low quality of transport infrastructures. Strong economic growth has increased the volume of road transport by 14%

Service) https://mkogy.jogtar.hu/jogszabaly?docid=A1900059_TV

⁽²²⁾ According to NAIH, fees applied generally range from €40 to €100. NAIH developed a system of criteria to judge whether a fee and its amount are justified.

between 2012-2018 (measured in ton-kilometres) while the number of passenger cars rose by 22%. As a result, road congestion has increased (INRIX, 2019). Spending on road maintenance rose recently with the launch of an upgrade programme for the long neglected lower-class road network. It has started to reverse the earlier decline in road quality, but 61.5% of the road network remains in inadequate or bad condition according to Magyar Közút, especially the ones managed by municipalities. Road development plans maintain a focus on building new motorways and high-speed roads. This could reduce the high centralisation of the network towards the capital. However, with motorway density already at the level of Austria, sound, economic cost-benefit analyses of new projects will be crucial to prevent overspending.

A more attractive public transport system could increase labour mobility and help mitigate the environmental impact of transport. Although public transport in Hungary accounts for a larger share of trips than the EU average, this not the result of high customer satisfaction, but the effect of lower income, through a lower motorisation rate (Fiorello et al., 2016). As income growth makes personal cars more affordable, the attractiveness of public transport will need to improve. In the case of train services, Hungary ranks among the lowest in the EU (European Commission, 2018b; WEF, 2019), although ongoing investments in rail connectivity and the rolling stock may bring improvements. In remote, largely rural areas, a well-functioning public transport service can also help to reduce unemployment through lower commuting costs (Pogonyi, 2014).

The high number of road accidents is a burden on the economy and society. The number of road fatalities per car or per kilometres driven remains among the highest in the EU. The quality of roads and the vehicle fleet play a key role in this poor safety record. The low protection of pedestrians, cyclists and motorcyclists is a particular cause for concern; their 40% share in road fatalities is well above the EU average of 29%. Thus, low road safety may deter individuals from soft transport modes that could otherwise ease road congestion and air pollution.

Despite some action, the inland navigation infrastructure continues to suffer from several deficiencies. Low water conditions on the Danube

and insufficient maintenance of the waterway cause operational difficulties for inland navigation, resulting in higher transit times delays and operational costs. The upgrading of the inland navigation infrastructure and the regular and internationally coordinated maintenance of the river would help to make navigability more reliable. Limited multimodal transshipment possibilities in the main ports along the Danube constitute major bottlenecks. A programme to develop ports across the country was launched in 2019 to address this.

Energy sector and climate

The energy efficiency of the Hungarian economy is weak. In addition, Hungary's commitment in its National Energy and Climate Plan ⁽²³⁾ is assessed to be unambitious in terms of the 2030 EU energy efficiency targets, considering the level of efforts needed to achieve the collective EU goal. Energy poverty is significant in Hungary, as the poorest spend around 16% of their consumption expenditure on energy.

Hungary imports more than one-fourth of its electricity consumption. In 2017, around half of the country's domestic electricity production is from nuclear, one quarter came from natural gas, 15% from coal and lignite, and just over 10% from renewable energy sources. In spite of a good level of overall electricity interconnection, implementing planned infrastructure projects would lead to cheaper electricity imports from Western Europe. Hungary is striving to diversify its gas imports through new supply routes through neighbouring Romania and Croatia. These projects would reduce the price premiums of the Hungarian wholesale electricity and gas markets compared to Western Europe, which would be beneficial for affordability and competitiveness reasons for both households and businesses.

Low-carbon renewable sources are improving. In 2017, just 1% of gross inland energy consumption was covered from low-carbon renewable sources, while the highly polluting biomass contributed to approximately 10%. From this low base, solar installations show a rapid

⁽²³⁾ The Commission will assess, in the course of 2020, the final National Energy and Climate Plan submitted by Hungary on 22 January 2020.

increase (reaching 1,140 MW in mid-2019, up from 720 MW at the end of 2018), and this trend is set to continue in the future (reaching 3,000 MW by 2022, 6,000 MW by 2030 and expected to reach 12,000 by 2040). However, there remain many untapped opportunities in renewable energies, including in the heating sector, which could help to green the economy. The expansion of the Paks power plant is expected to ensure sufficient power generation capacities and to contribute to the low carbon electricity generation. However, both the feasibility and impact assessments and the financing conditions have still not been made public. So far less than 40% of the revenues from CO₂ quotas were spent on climate and energy purposes in 2013 to 2018 (European Commission, 2019j).

The draft National Energy and Climate Plan shows significant investment needs. According to the draft National Energy and Climate Plan, investment needs will amount to up to €45 billion until 2030, representing around 3.5% of the Hungarian GDP each year. These needs are related in particular to improving energy the efficiency of buildings, investments in renewable energy and sustainable mobility, in order to meet energy and climate objectives. The final plan was adopted by the government on 9 January together with next National Energy Strategy, with energy mix scenarios up to 2030. The Commission will assess these documents in the course of 2020.

3.4.4. REGIONAL DISPARITIES

Regional disparities are significant in Hungary in terms of economic development, labour market and education outcomes, and demographic trends. 109 out of 174 districts are classified as having a disadvantaged status⁽²⁴⁾. For historical reasons, the capital plays a disproportionately large role in the economy, while regional economic centres are weak. Urbanisation is relatively low, as 30% of the population lives in villages. Large areas are populated with very small settlements: one-third of all municipalities have fewer than 500 inhabitants. Due to these spatial features, agglomeration

⁽²⁴⁾ Districts ('járás') constitute level 1 of Local Administrative Units (LAU). The classification into disadvantaged status is established by Government regulation 290/2014.

benefits are mostly seen in Budapest and more developed regions, but remain weak elsewhere.

Economic convergence to the EU average has not reduced income differences within the country. Since 2008, income per capita has converged to the EU average in every region⁽²⁵⁾. Differences between regions in GDP per capita started to decrease, but this process was uneven at the more detailed county level (see Graph 3.4.8). Hence, disparities within regions widened. The best performing regions were the main manufacturing hubs, concentrated in the northwest. Some of the less developed counties in the east and the south started to benefit from foreign direct investment, and they also enjoyed a higher-than-average increase in the employment rate, but their income levels remain among the lowest in the EU. Budapest, the region with the highest GDP per capita, grew slower than the national average in the last decade, while its labour productivity was slightly decreasing⁽²⁶⁾. These trends are largely due to regional differences in investment rates, which have been closely aligned with productivity dynamics.

Less developed regions are losing population. Labour market conditions are better in the more developed central and western regions, and the least developed regions lost around 0.3% of their population annually through internal migration between 2010-2018. Migration tends to be concentrated among the younger and better educated population, thus negative migration balances are risks for regional growth prospects.

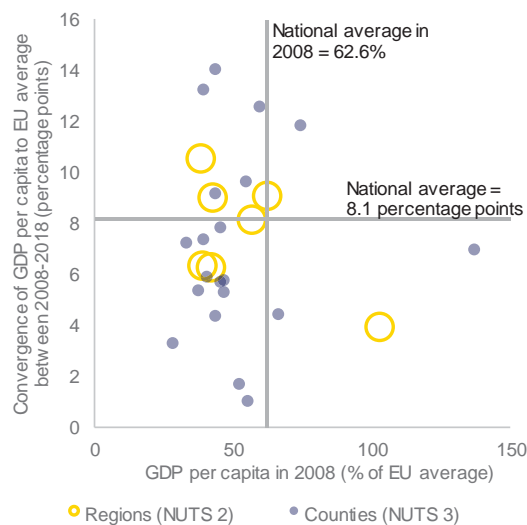
Improving local amenities in disadvantaged areas would help to halt population loss and ignite agglomeration effects. The more developed regions benefit from a concentration of skilled workers, good transport connections and proximity to main trade partners, which attracted significant

⁽²⁵⁾ In Hungary, 8 regions constitute level 2 of the Nomenclature of territorial units for statistics (NUTS), while 19 counties ('megye') and the capital city constitute NUTS level 3. In the remainder of this section, 'region' refers to NUTS 2 units.

⁽²⁶⁾ GDP per capita in Budapest is about twice the national average, at 139% of the EU average at purchasing power parity. However, this figure is inflated by the concentration of company headquarters in the city. In terms of average wages, Budapest is just 25.5% ahead of the country, also due to a more skilled workforce. Per capita disposable income in Budapest even lagged behind the national average by 1.7% in 2017.

foreign direct investment and created local agglomeration effects. In the least developed regions, less than 25% of the population has tertiary education, and R&D expenditure remains below 0.5% of regional GDP. In cities, uncoordinated suburban sprawl has not been followed by investment in infrastructure, and city centres are often losing function. Rural areas suffer from weak transport links and faltering public services, including education and health care. This impacts the quality of life, hinders local market integration and ultimately contributes to the depopulation of disadvantaged areas. Some of these challenges can be addressed by two flagship programmes, the Hungarian Village Programme and the Modern Cities Programme (aimed at 23 major settlements), which provide significant funding for infrastructure and public services.

Graph 3.4.8: **GDP per head and GDP growth (at purchasing power parity, 2008-2018)**



Regions and counties constitute levels 2 and 3 of the Nomenclature of territorial units for statistics (NUTS)
Source: Eurostat, Hungarian Central Statistical Office

Territorial development has become centralised. Sub-national levels of government play a decreasing role in implementing public investment or other growth-friendly public expenditure such as education or R&D. While in 2007, more than 35% of public investment accrued to the local government level, its share in total public investment fell to around 22% in 2018 as local public investment decreased from 1.5% to 1.3% of GDP.

3.5. ENVIRONMENTAL SUSTAINABILITY

Hungary faces several environmental challenges. Air pollution in Hungary has serious health and economic consequences. The country is also still at an early stage of moving towards the circular economy and EU 2020 recycling targets risk not being met. Furthermore, concerns remain about water quality. Hungary has an abundance of biodiversity, which can be sustainably exploited.

Circular economy: air quality and transport, water and waste

Air pollution is a major environmental challenge. In 2017, the emission of nitrogen dioxide (NO₂) and particulate matter (PM₁₀) exceeded the air quality standards of the EU in several air quality zones⁽²⁷⁾. The persistent breaches of air quality standards have severe health and environmental repercussions. In 2016, over 13,000 premature deaths in Hungary were attributable to bad air quality, mostly to particulate matter (EEA, 2019a). The main sources of air pollution include residential solid fuel combustion, agriculture and transport emissions. Weak energy efficiency in the residential sector also adds to the problem.

There is room to improve energy efficiency in the residential sector. Hungary is at risk of failing to meet its 2020 energy saving target. This is largely due to the high household energy consumption per capita, which remains 12% higher than the EU average despite considerably lower income levels. Stricter energy efficiency standards for new buildings will come into force from 2021. However, there remains a large potential for refurbishing the existing housing stock, public buildings and district heating networks as well as in increasing energy efficiency of small firms. In addition, the regulated price of energy – for gas, among the lowest in the EU – can decrease the incentive to improve energy efficiency.

Polluting fuel types are widely used for residential heating. Around one-third of households in the lowest income quintile lack access to gas or district heating, mostly in rural

areas, and use more expensive and polluting solid fossil fuels and wood for heating. They can remain trapped in energy poverty, because at the same time, they cannot afford to improve the energy efficiency of their dwellings. As a social transfer in kind, local governments often distribute solid fuel (lignite) with high sulphite content. All this contributes significantly to the poor air quality (Government, 2017, 2019).

There is scope to increase the role of low-carbon and renewable energy in electricity generation.

Electricity consumption is expected to increase over the next decade, in parallel with the electrification of the economy. By 2030 up to 90% of Hungary's electricity generation might come from low carbon technologies (nuclear and renewables together). Hungary intends to rely more on renewable energy sources, mainly solar energy. However, as it turns out from the recently adopted National Energy Strategy, wind generation capacities will stay at current levels in the electricity mix, which leaves an untapped opportunity for the country. According to the Plan, the share of renewables will reach only 21% in the energy mix in 2030.

Fossil fuel subsidies are disbursed in Hungary mainly in the form of excise duty and value added tax reductions and exemptions in various sectors, such as district heating and fuel use in agriculture, railways, inland water transport, air transport and commercial purposes. Some subsidies remain in place for the decommissioning and reorganisation of the coal sector, for example lignite penny, early retirement scheme for miners and support for decommissioning and reorganisation.

Transport externalities are sizeable, particularly affecting the environment.

The estimated total external costs of transport for road, rail and inland waterways amount to 6% of Hungary's GDP. They include costs related to accidents, environment (air pollution, climate change, the costs related to energy production, i.e. the well-to-tank emissions, noise, habitat damage) and, road congestion costs⁽²⁸⁾. Accident costs make up 43% due to the high number of road fatalities, and about a third of the costs relate to the

⁽²⁷⁾ Breaches of standards for nitrogen dioxide (NO₂) were registered in 2 out of 10 air quality zones (Budapest, Pécs) and for particulate matter (PM₁₀) in 5 air quality zones (including Budapest, Pécs and Sajó Valley).

⁽²⁸⁾ A significant part of the total external cost of congestion is already internalised by the willingness of the users to travel in congested situation.

environment. Addressing these challenges would lead to progress on Sustainable Development Goals 3 (Good health), 8 (Economic growth), 11 (Sustainable cities) and 13 (Climate action).

Hungary' draft National Energy and Climate Plan aims to cap transport emissions by relying on electromobility. The draft plan allows for a 30% increase in CO₂ emissions in the transport sector by 2030 compared to 2005 levels. Existing support for electromobility, including grants, tax benefits and support to charging stations is planned to be complemented by further policy measures. However, details on how the charging infrastructure will be built and how other alternative fuels will be promoted is not yet available. A stronger role for other alternative fuels, shared mobility, public transport and a modal shift would help to address the environmental burden of transport. Although consideration of external environmental cost is best encouraged by making the vehicle tax rate dependent on CO₂ emissions, there are no plans to introduce a CO₂-based vehicle tax.

Water quality remains a concern. Less than 10% of Hungarian rivers and lakes have a good ecological status. Water supply and sanitation is still not fully compliant with the Drinking Water Directive, and water affordability remains an issue for the low-income population. A large share of the network is in poor shape; 25.6% of the water entering the network generates no revenue due to leaks (MEKH, 2019). Regulated tariffs do not cover the maintenance costs of many water and wastewater companies, while the utility tax also burdens them. As a result of underinvestment, the number of reported faults in the drinking water network doubled between 2012-2017 and rose by 50% in the wastewater grid (Századvég, 2018).

Natural resources offer untapped opportunities for sustainable economic development. The share of agricultural land used for organic farming, at 3.9%, is significantly below the EU average of 7%. The protected areas of the Natura 2000 network, covering almost 20,000 km², can provide natural water purification as well as destinations for sustainable tourism.

Municipal waste generation remains comparatively low, but it continues to rely on landfilling. Municipal waste generation has

slightly increased in 2018 in Hungary compared to 2013, from 378 to 381 kilograms per year per inhabitant, and remains below the EU average (488 kg). Although decreasing in importance, landfilling of municipal waste remains the predominant waste management method, with a 49.6% share in 2018. As a result, Hungary is considered at risk of not meeting the 2020 municipal waste recycling target of 50% according to the Commission's 2018 early warning report. Hungary did not meet targets for packaging waste recycling in 2012-2017. Measures have been in place since 2018 to improve the glass packaging recycling rate. The investment needed to reach the EU recycling targets is estimated at around €500 million in 2021-2035 (European Commission, 2019k, p. 67).

Despite plans, the change to a more circular economy remains challenging. Hungary is well below the EU average regarding resource productivity (€0.81/kg versus €2.04/kg in the EU in 2018). Furthermore, while increasing, the circular (secondary) material use rate remains below the EU average (6.4% in 2016 against an EU average of 11.7%). Hungary has just started to prepare a national circular economy action plan, a new waste management plan and a waste strategy. A Circular Economy Platform was established in association with the Business Council for Sustainable Development in Hungary with 91 companies. The key challenges are the lack of institutional coordination and the lack of dedicated funding. Hungary has a national sustainable development strategy for 2012-24, and is working on implementing the sustainable development goals (European Commission, 2019l, p. 37).

The central bank has launched some initiatives that integrate environmental aspects in financing. In 2019, the central bank adopted a green programme to support financial services aiming at the preservation of the environment. It also launched a consultation on various areas, such as environmental risk management systems in banks, green financial products, standards for green products, green covered bonds and regulatory changes to reduce the use of paper. The central bank also presented a new programme of preferential capital requirements on green housing loans for credit institutions. The application of green public procurement tools is widely

encouraged and supported, but remains challenging for contracting authorities.

Climate change and action

Hungary is increasingly affected by climate change. The economic losses incurred from extreme weather and climate-related events has been close to the EU average in per capita terms in the last decades (EEA, 2019b). Only 2% of the losses were insured, which is one of the lowest figures in the EU. Floods may cause 1.5% loss of GDP and this risk is concentrated in particular in three counties (World Bank, 2017). The annual average temperature in the Carpathian basin is expected to increase by 1-2°C in 2021-2050. Agriculture, forestry and tourism are the most exposed to the more frequently expected floods, droughts and heatwaves (ITM, 2020). Investment into green measures, such as water retention in cities, protection against cloudburst events and of riverbanks are key in climate adaptation.

Hungary has committed to decrease greenhouse gas emission by 7% relative to its 2005 levels by 2030. National projections indicate that existing measures will deliver a shortfall of 3 percentage points relative to this target. Transport emissions are projected to continue increasing with current policies. Additional measures, as set out in the national energy and climate plan in contrast, are projected to result in an overachievement by 9 percentage points. Hungary remains an overachiever on its greenhouse gas emissions 2020 target. By 2018, emissions compared to 2005 fell by 10% altogether and the 2020 target is expected to be met with a wide margin. The national action plan on climate change adopted in January 2020 to implement the 2018 strategy foresees mostly preparatory action on adaptation (studies, mapping etc.). Some negative trends go against the declared intentions and increase vulnerability to climate change, such as the reduction of urban green areas that reinforces the heat island effect.

Just transition

A coal plant and some energy-intensive industries represent the most acute transition challenges in Hungary. Hungary's economy is relatively energy intensive, with both primary and final energy consumption levels well above the EU average. Thus, energy plays a key role in reducing

emissions. The greenhouse gas intensity of the Hungarian economy is the eighth highest in the EU. However, Hungary is among the lowest emitters of greenhouse gases per person in the EU. Greenhouse gas emission is spatially concentrated in Heves and Baranya counties. The coal plant in Mátra (Heves county), which produces up to 15% of electric power, is the major source, accounting for 14% of national CO₂ emissions. In addition, two open-cast lignite mines operate in the vicinity of the power plant. Coal mining and energy generation in Heves county and energy-intensive industries (treatment and disposal of waste and manufacture of cement) in Baranya county remain major employers.

The phasing out of traditional coal-fired power plants in the energy industry is supposed to reduce greenhouse gas emissions. According to the draft National Energy and Climate Plan submitted by Hungary, in order to reduce greenhouse gas emissions by at least 40% by 2030 compared with 1990, it is planned to phase out traditional coal-fired power plant operations in the energy industry and reduce greenhouse gas emissions to 7.3 million tonnes of CO₂ equivalent.

The transformation of the coal region and the energy intensive industries would benefit from tailor-made measures. A comprehensive strategy encompassing economic, technological and social aspects could cushion the effects of transformation in the two affected counties, where unemployment exceeds the national average. On the coal region's initiative, a regional renewable energy cluster has been started. A smart specialisation strategy is to be developed and implemented outlining new economic opportunities for the region. In addition, the transition would also require significant efforts to re-cultivate and restore the land and areas affected by mining operations, furthermore training to maintain the workers employability. A medium-term strategy to change the economic structure of the two counties, based on the involvement of the local communities, would support their transition and industrial transformation. The European Commission has proposed a Just Transition Fund to support the people and regions most affected (see Annex D).

ANNEX A: OVERVIEW TABLE

Commitments	Summary assessment ⁽²⁹⁾
2019 country-specific recommendations (CSRs)	
<p>CSR 1: Ensure compliance with the Council Recommendation of 14 June 2019 with a view to correcting the significant deviation from the adjustment path towards the medium-term budgetary objective.</p>	<p>The compliance assessment with the Stability and Growth Pact will be included in Spring when final data for 2019 will be available.</p>
<p>CSR 2: Continue the labour market integration of the most vulnerable groups, in particular through upskilling, and improve the adequacy of social assistance and unemployment benefits. Improve education outcomes and increase the participation of disadvantaged groups, in particular Roma in quality mainstream education. Improve health outcomes by supporting preventive health measures and strengthening primary healthcare.</p> <p>Continue the labour market integration of the most vulnerable groups, in particular through upskilling, and</p>	<p>Hungary has made Limited Progress in addressing CSR 2</p> <ul style="list-style-type: none"> <p>Limited Progress The labour market situation of vulnerable groups has improved in recent years and the size of the public works scheme has decreased. These improvements were mostly driven by cyclical factors which mostly contributed to the increase of low-skilled male employment. Gaps in employment and/or wages remain relatively large. Policy action remains includes, announcement of new nursery school places, pilot for facilitation of transition from the public works scheme</p>

⁽²⁹⁾ The following categories are used to assess progress in implementing the country-specific recommendations (CSRs):
No progress: The Member State has not credibly announced nor adopted any measures to address the CSR. This category covers a number of typical situations to be interpreted on a case by case basis taking into account country-specific conditions.

They include the following:

no legal, administrative, or budgetary measures have been announced in the national reform programme,

in any other official communication to the national Parliament/relevant parliamentary committees or the European Commission, publicly (e.g. in a press statement or on the government's website);

no non-legislative acts have been presented by the governing or legislative body;

the Member State has taken initial steps in addressing the CSR, such as commissioning a study or setting up a study group to analyse possible measures to be taken (unless the CSR explicitly asks for orientations or exploratory actions). However, it has not proposed any clearly-specified measure(s) to address the CSR.

Limited progress: The Member State has:

announced certain measures but these address the CSR only to a limited extent; and/or

presented legislative acts in the governing or legislative body but these have not been adopted yet and substantial further, non-legislative work is needed before the CSR is implemented;

presented non-legislative acts, but has not followed these up with the implementation needed to address the CSR.

Some progress: The Member State has adopted measures

that partly address the CSR; and/or

that address the CSR, but a fair amount of work is still needed to fully address the CSR fully as only a few of the measures have been implemented. For instance, a measure or measures have been adopted by the national Parliament or by ministerial decision but no implementing decisions are in place.

Substantial progress: The Member State has adopted measures that go a long way towards addressing the CSR and most of them have been implemented.

Full implementation: The Member State has implemented all measures needed to address the CSR appropriately.

<p>improve the adequacy of social assistance and unemployment benefits.</p> <p>Improve education outcomes and increase the participation of disadvantaged groups, in particular Roma in quality mainstream education.</p> <p>Improve health outcomes by supporting preventive health measures and strengthening primary healthcare.</p>	<p>to the primary labour market.</p> <ul style="list-style-type: none"> • No Progress No relevant legal, administrative or budgetary measures have been announced. With one exception (the nursing fee), social assistance benefits, including most importantly the minimum income benefit and the unemployment benefit, have remained nominally unchanged and their adequacy has been further eroded. As part of a multiannual measure announced back in 2018, the nursing fee has been slightly increased nominally. However, as this change is not new and affects only persons with serious disabilities and those who care for them, there are no grounds for a more favourable assessment of the CSR implementation. Despite the good economic performance, income inequalities have increased over the last decade as the increase of social transfers has not kept pace with the improving economy. There has been no change in the duration of unemployment benefits. • Limited Progress Educational outcomes are below the EU average (PISA 2018) and large differences between schools remain. Schools are increasingly characterised by the similar socio-economic background of their pupils, with concentrations of disadvantaged pupils in certain schools. Performance-based selection starting at the age of 10 leads to under-achieving pupils being separated from their high-achieving peers and this may contribute to the high proportion of underachievers in Hungary. In addition, the gap in pupil performance between socio-economically advantaged and disadvantaged schools is the largest in the EU. The segregation of Roma children and socio-economically disadvantaged children (receiving regular child benefit) deteriorated continuously between 2008 and 2018, the major determining factor being separation between schools within cities and towns. After a strong increase in majority-Roma-segregated schools between 2008 and 2016, there is slower growth/stagnation in their share since 2016. • Limited Progress The Member State has announced certain measures but these address the CSR only to a limited extent.
---	---

	<p>Salaries have been increased in healthcare (8% in 2019, 14% in January 2020), which is relevant also for strengthening primary care. Steps have been taken to improve cancer screening: the EU-funded programme finally reached a stage where actual screening happens and initial steps have been taken to extend the programme. Although it has improved significantly over the last decade, the life expectancy of Hungarians remains the lowest among the Visegrád countries, nearly five years lower than the EU average. Differences in life expectancy by gender and educational attainment level are much larger than those observed across the EU as a whole, reflecting large differences in income and living standards, as well a greater concentration of risk factors among men and people with a lower level of education. Mortality rates from causes that are deemed preventable (e.g. breast and colorectal cancer) are among the highest in the EU, signalling the high prevalence of risk factors and the limited effectiveness of public health measures. In response, in 2019 the Hungarian authorities started implementing the national colon cancer screening programme that was developed in 2017 with the support of EU funds. More than 300,000 citizens in the target population (50-70) were invited to take the faecal occult blood test in 2019, with a take-up rate of about 30%. Moreover, to tackle the high incidence of behavioural risk factors among the Hungarian population, in January 2019 the Hungarian authorities increased the public health product tax on a selection of products (e.g. alcoholic beverages, sugary drinks and high-salt foods) by about 20%. Public health expenditure in Hungary is significantly below the EU average, partly reflecting the narrow scope of the benefits package. Consequently, the health system relies to a much greater degree on out-of-pocket spending for its financing, which, as evidenced by Hungary's high rate of catastrophic spending on health, has regressive consequences for access to care. Overall, health care provision remains excessively hospital-centric and primary care does not yet play a sufficiently important role. There have been some efforts to shift volumes of care to the outpatient sector and to promote group</p>
--	---

	<p>practice for general practitioners and greater task-sharing between doctors and other health professionals (e.g. nurses, physiotherapists and dieticians). Although recent pilot projects seem to show promising results, the appropriateness of current funding and the scalability potential of these initiatives remain unclear: more time is needed to make a more accurate assessment.</p>
<p>CSR 3: Focus investment-related economic policy on research and innovation, low-carbon energy, transport infrastructure, and waste management and energy and resource efficiency, taking into account regional disparities. Improve competition in public procurement.</p> <p>Focus investment-related economic policy on research and innovation,</p> <p>low-carbon energy,</p> <p>transport infrastructure, and</p>	<p>Hungary has made Limited Progress in addressing CSR 3</p> <ul style="list-style-type: none"> • Limited Progress Limited progress. R&D spending increased from 0.98% of GDP in 2008 to 1.53% in 2018. This level is high for Central Eastern European countries, but remains below the EU average of 2.11% and Hungary's 2020 target of 1.8%. Public support for private R&D is considerable. Business R&D and innovation expenditure benefited from state subsidies amounting to 0.36% of GDP in 2017, the highest level in the EU. However, the shortage of talent and skill limits the innovative activity of Hungarian enterprises. Obstacles to innovation include the limited supply of highly skilled labour. Tertiary education attainment rates are among the lowest in the EU. Recent changes have increased government influence over scientific institutions. • Limited Progress Low-carbon renewable sources are improving. Both in the next multiannual financial framework programming period and the draft national energy and climate plan the government aims to prioritise investments in renewable energy sources (mainly solar, however, wind energy is not preferred by regulation in force), energy efficiency measures and electromobility. • Some Progress Spending on road maintenance rose recently with the launch of an upgrade programme for the long neglected lower-class road network. It has started to reverse the earlier decline in road quality, but 61.5% of the road network

<p>waste management and</p> <p>energy and resource efficiency, taking into account regional disparities.</p>	<p>remains in inadequate or bad condition according to Magyar Kozut. Road development plans maintain a focus on building new motorways and high-speed roads. This could reduce the high centralisation of the network towards the capital. However, with motorway density already at the level of Austria, sound, economic cost-benefit analyses of new projects will be crucial to prevent overspending on motorways. Hungary's draft national energy and climate plan aims to cap transport emissions by relying on electromobility. However, details on how the charging infrastructure will be built and how other alternative fuels will be promoted is not yet available. A stronger role for other alternative fuels, shared mobility, public transport and a modal shift would help to address the environmental burden from transport. The attractiveness of public transport is key to helping labour mobility and mitigating the environmental impact of transport. In the case of train services, Hungary ranks among the lowest in the EU.</p> <ul style="list-style-type: none"> • Limited Progress Limited progress. Although decreasing in importance, landfilling remains the predominant waste management method; as a result of which Hungary is considered at risk of not meeting the 2020 municipal waste recycling target of 50%. Analysis has shown that Hungary did not meet targets for packaging waste recycling in 2012-2015. But measures have been in place since 2018 to improve the glass packaging recycling rate. Hungary has just started to prepare a national circular economy action plan, a new waste management plan and a waste strategy. A circular economy platform was set up in 2018 in association with the Business Council for Sustainable Development in Hungary with 91 companies. • Limited Progress Hungary is at risk of failing to meet its 2020 energy saving target. This is largely due to high household energy consumption per capita, which remains 12% higher than the EU average despite considerably lower income levels. Stricter energy efficiency standards for new buildings will come into force from 2021. Both in the next multiannual financial framework programming period and the
--	--

<p>Improve competition in public procurement.</p>	<p>draft national energy and climate plan the government aims to prioritise investments in renewable energy sources (mainly solar, however, wind energy is not preferred by regulation in force), energy efficiency measures and electromobility. The coal regions in transition initiative might be applicable for transforming a lignite-fired power plant (Matra) into a biomass-fired plant, combined with solar panel installation.</p> <ul style="list-style-type: none"> • Limited Progress In 2019, some measures were taken to improve competition in public procurement, even if they have yet to produce visible results. Ongoing digitalisation helps simplify public procurement procedures, reducing administrative burdens and thus further facilitating access to the procurement market. An amendment to the Public Procurement Act adopted in 2019 abolished a type of procedure used in the national regime for tenders below EU thresholds, which the Commission considered to be non-transparent and a barrier to competition. Competition in public procurement is still relatively weak. The proportion of tenders with a single bid has remained high over the last 5 years. Transparency in public procurement has continued to improve. Easy accessibility of public procurement data, which would be crucial in monitoring anomalies, is not ensured, as there is no progress in the public administration and public service development operational programme to make the e-procurement database downloadable/searchable (including contract award notices).
<p>CSR 4: Reinforce the anti-corruption framework, including by improving prosecutorial efforts and access to public information, and strengthen judicial independence. Improve the quality and transparency of the decision-making process through effective social dialogue and engagement with other stakeholders and through regular, appropriate impact assessments. Continue simplifying the tax system, while strengthening it against the risk of aggressive tax planning. Improve competition and regulatory predictability in the services sector.</p> <p>Reinforce the anti-corruption framework, including by improving prosecutorial efforts</p>	<p>Hungary has made Limited Progress in addressing CSR 4</p> <ul style="list-style-type: none"> • No Progress There is no determined systematic action to prosecute high-level

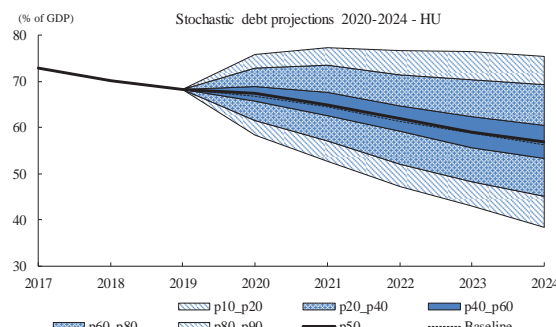
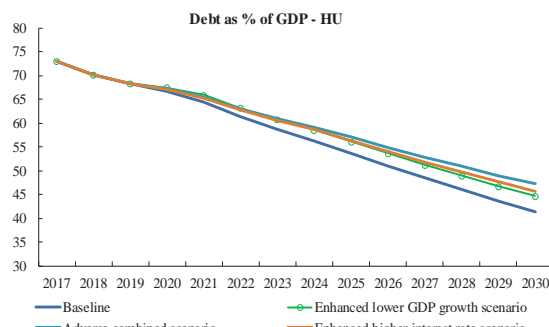
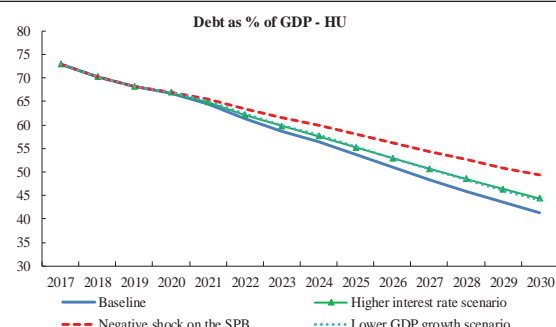
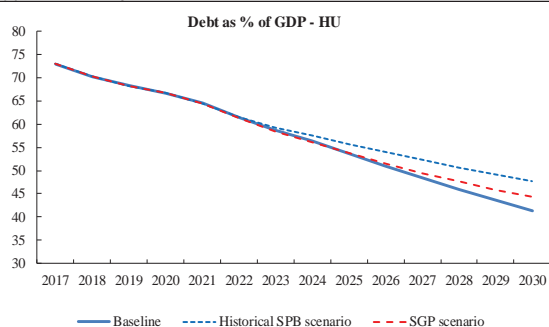
<p>and access to public information, and</p> <p>strengthen judicial independence.</p> <p>Improve the quality and transparency of the decision-making process through effective social dialogue and engagement with other stakeholders and through regular, appropriate impact assessments.</p>	<p>corruption. According to the Prosecutor General's Office, most corruption-related cases involve public officials, typical cases involving tax and customs officials. While some high-level cases have been prosecuted, there is a general perception of impunity among the business community. Hungary reports relatively few cases, while OLAF finds much more in Hungary than in other countries. Restrictions on access to information hinder corruption prevention and the application of fees for accessing public information has a deterrent effect on citizens and NGOs exercising their constitutional right. While the Freedom of Information Act has not been touched, piecemeal changes to other sectoral laws have continued, corroding the overall transparency and access-to-information framework.</p> <ul style="list-style-type: none"> • No Progress Following deterioration until 2019, the latest data for perceived judicial independence shows improvement based on the forthcoming 2020 EU Justice Scoreboard. Developments of checks and balances in the ordinary courts system have however continued to raise concerns. This has been confirmed by a statement of the Group of States against Corruption (GRECO), a report of the European Association of Judges and by a report of the Council of Europe Human Rights Commissioner. The National Judicial Council faced increasing difficulties in counter-balancing the powers of the President of the National Office of the Judiciary (European Commission, 2019g). The Parliament recently adopted a new piece of legislation in December 2019, introducing structural changes that may have a significant impact on the organisation of the justice system. There was no consultation of relevant stakeholders before the adoption of the law. • No Progress Stakeholder engagement in developing primary law is the lowest among the EU countries in the OECD. The indicators on regulatory quality and the use of evidence-based instruments rank Hungary in the bottom group of countries in the EU. A lack of meaningful consultation and impact assessment leads to a learning-by-doing approach, which contributes to
--	---

<p>Continue simplifying the tax system, while strengthening it against the risk of aggressive tax planning.</p> <p>Improve competition and regulatory predictability in the services sector.</p>	<p>frequent changes to the legal framework. Several tailor-made legal acts penalise actors (e.g. sector-specific taxes); in other cases, they grant benefits (e.g. easing conflict of interest rules and qualification requirements for a specific public office) or monopolies.</p> <ul style="list-style-type: none"> • Limited Progress While there have been some improvements aimed at simplifying the tax system, there is still a significant amount of complexity. The advertising tax was suspended in July 2019 and several employer contributions are expected to be integrated in a single contribution. Sector-specific taxes distort the economy. The indicators measuring the presence of aggressive tax planning have improved in recent years. However, there has been no significant effort to prevent aggressive tax planning besides the implementation of EU directives. • No Progress No progress has been made in improving the competition environment in the services sector. Certain services continue to be entrusted to state-owned or private firms specifically created for these purposes. No changes have been made to improve the functioning of the retail sector.
<p>Europe 2020 (national targets and progress)</p>	
<p>Employment rate target set in the National Reform Programme (NRP): 75%.</p>	<p>The employment rate of the 20-64 age group continued to improve and reached 74.4% in 2018 and 75.4% in the third quarter of 2018. It is above the EU average (73.2% in 2017).</p>
<p>R&D target set in the NRP: 1.8% of GDP</p>	<p>Expenditure on R&D increased by 0.18 percentage points to 1.53% of GDP in 2018.</p>
<p>National greenhouse gas emissions target: +10% in 2020 compared with 2005 (in sectors not included in the EU emissions trading scheme)</p>	<p>By 2018, emissions fell by 10% compared with 2005. The 2020 target is expected to be met by a wide margin.</p>
<p>2020 renewable energy target: 13%</p>	<p>Although in 2018 the preliminary renewable share (12.5%) was close to the 2020 target (13%), it decreased from 2017 (13.5%), owing to lower share of renewables in heating and cooling. However, the share of renewables rose above 8% in electricity</p>

	generation.
Energy efficiency, 2020 energy consumption targets: Hungary's 2020 energy efficiency target is 24.1 million tons of oil equivalent (Mtoe) expressed in primary energy consumption (14.4 Mtoe expressed in final energy consumption)	The increasing trend in both primary and final energy consumption amid strong economic growth came to a halt in 2018 and both indicator remained unchanged compared to 2017 (reaching respectively 24.5 and 18.5 Mtoe). These values are above the respective 2020 targets, implying that more efforts need to be made in the remaining two years. Final energy consumption target will be difficult to meet without additional measures.
Early school/training leaving target: below 10%.	In 2018, the early school leaving remained at 12.5%, above the EU average of 10.6%. The rate has not improved since 2010.
Tertiary education target: 34% of population aged 30-34.	The tertiary education attainment rate for 30-34-year olds increased to 33.7% in 2018, which is close to the national target, but significantly below the EU average of 40.7%.
Target for reducing the number of people at risk of poverty or social exclusion, expressed as an absolute number of people: 450,000.	In 2018, the population at risk of poverty or exclusion was 908,000 lower than in 2008. Hungary significantly overachieves its national target.

ANNEX B: COMMISSION DEBT SUSTAINABILITY ANALYSIS AND FISCAL RISKS

General government debt projections under baseline, alternative scenarios and sensitivity tests													
HU - Debt projections baseline scenario	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Gross debt ratio	70.2	68.2	66.7	64.4	61.4	58.7	56.3	53.6	51.0	48.4	46.0	43.6	41.3
Changes in the ratio (-/+2+3) of which	-2.7	-2.0	-1.5	-2.2	-3.0	-2.7	-2.4	-2.7	-2.6	-2.6	-2.5	-2.4	-2.2
(1) Primary balance (1.1+1.2+1.3)	0.1	0.6	1.4	1.6	1.5	1.2	1.0	1.1	1.1	1.2	1.2	1.2	1.2
(1.1) Structural primary balance (1.1.1-1.1.2+1.1.3)	-1.4	-0.9	0.2	0.9	1.0	1.0	1.0	1.1	1.1	1.2	1.2	1.2	1.2
(1.1.1) Structural primary balance (bef. CoA)	-1.4	-0.9	0.2	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
(1.1.2) Cost of ageing					-0.1	-0.1	-0.1	-0.2	-0.2	-0.3	-0.3	-0.4	-0.4
(1.1.3) Others (taxes and property incomes)					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(1.2) Cyclical component	1.5	1.7	1.1	0.7	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(1.3) One-off and other temporary measures	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(2) Snowball effect (2.1+2.2+2.3)	-4.1	-3.4	-1.8	-1.3	-1.6	-1.5	-1.4	-1.6	-1.5	-1.4	-1.2	-1.2	-1.0
(2.1) Interest expenditure	2.4	2.4	2.4	2.4	2.2	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3
(2.2) Growth effect	-3.4	-3.0	-1.8	-1.8	-1.9	-1.7	-1.6	-1.7	-1.6	-1.5	-1.3	-1.2	-1.0
(2.3) Inflation effect	-3.2	-2.8	-2.4	-2.0	-1.9	-1.8	-1.7	-1.6	-1.6	-1.5	-1.4	-1.3	-1.3
(3) Stock-flow adjustments	1.6	2.0	1.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Short term	Medium term	S1	Debt sustainability analysis (detail)						DSA	S2	Long term
			Baseline	Historical SPB	Lower GDP growth	Higher interest rate	Negative shock on SPB	Stochastic projections			
LOW (S0 = 0.3)	LOW	LOW (S1 = -2.7)	LOW	LOW	LOW	LOW	LOW	MEDIUM	LOW	MEDIUM (S2 = 2.7)	MEDIUM
			Debt level (2030)	41.3	47.7	44.0	44.4	49.4			
			Debt peak year	2019	2019	2019	2019	2019			
			Percentile rank	41.0%	55.0%						
			Probability debt higher					22.0%			
			Dif. between percentiles					36.9			

Note: For further information, see the European Commission Debt Sustainability Monitor (DSM) 2019.

[1] The first table presents the baseline no-fiscal policy change scenario projections. It shows the projected government debt dynamics and its decomposition between the primary balance, snowball effects and stock-flow adjustments. Snowball effects measure the net impact of the counteracting effects of interest rates, inflation, real GDP growth (and exchange rates in some countries). Stock-flow adjustments include differences in cash and accrual accounting, net accumulation of assets, as well as valuation and other residual effects.

[2] The charts present a series of sensitivity tests around the baseline scenario, as well as alternative policy scenarios, in particular: the historical structural primary balance (SPB) scenario (where the SPB is set at its historical average), the Stability and Growth Pact (SGP) scenario (where fiscal policy is assumed to evolve in line with the main provisions of the SGP), a higher interest rate scenario (+1 pp. compared to the baseline), a lower GDP growth scenario (-0.5 pp. compared to the baseline) and a negative shock on the SPB (calibrated on the basis of the forecasted change). An adverse combined scenario and enhanced sensitivity tests (on the interest rate and growth) are also included, as well as stochastic projections. Detailed information on the design of these projections can be found in the FSR 2018 and the DSM 2019.

[3] The second table presents the overall fiscal risk classification over the short, medium and long term.

a. For the short-term, the risk category (low/high) is based on the S0 indicator. S0 is an early-detection indicator of fiscal stress in the upcoming year, based on 25 fiscal and financial-competitiveness variables that have proven in the past to be leading indicators of fiscal stress. The critical threshold beyond which fiscal distress is signalled is 0.46.

b. For the medium term, the risk category (low/medium/high) is based on the joint use of the S1 indicator and of the DSA results. The S1 indicator measures the fiscal adjustment required (cumulated over the 5 years following the forecast horizon and sustained after that) to bring the debt-to-GDP ratio to 60% by 2034. The critical values used are 0 and 2.5 pps of GDP. The DSA classification is based on the results of five deterministic scenarios (baseline, historical SPB, higher interest rate, lower GDP growth and negative shock on the SPB scenarios) and the stochastic projections. Different criteria are used such as the projected debt level, the debt path, the realism of fiscal assumptions, the probability of debt stabilisation, and the size of uncertainties.

c. For the long term, the risk category (low/medium/high) is based on the joint use of the S2 indicator and the DSA results. The S2 indicator measures the upfront and permanent fiscal adjustment required to stabilise the debt-to-GDP ratio over the infinite horizon, including the costs of ageing. The critical values used are 2 and 6 pps of GDP. The DSA results are used to further qualify the long term risk classification, in particular in cases when debt vulnerabilities are identified (a medium / high DSA risk category).

ANNEX C: STANDARD TABLES

Table C.1: **Financial market indicators**

	2014	2015	2016	2017	2018	2019
Total assets of the banking sector (% of GDP) ⁽¹⁾	107.2	100.2	101.8	96.5	94.2	91.2
Share of assets of the five largest banks (% of total assets)	49.3	49.4	49.8	49.6	50.0	-
Foreign ownership of banking system (% of total assets) ⁽²⁾	47.6	47.0	47.7	46.3	47.2	45.2
Financial soundness indicators: ⁽²⁾						
- non-performing loans (% of total loans)	19.4	15.2	11.9	8.4	5.4	5.0
- capital adequacy ratio (%)	17.0	16.9	18.0	16.2	18.5	17.9
- return on equity (%) ⁽³⁾	-21.9	0.3	11.7	14.5	14.7	13.9
Bank loans to the private sector (year-on-year % change) ⁽¹⁾	-3.5	-8.1	3.3	6.4	11.0	14.4
Lending for house purchase (year-on-year % change) ⁽¹⁾	-6.1	-10.3	-0.7	4.8	10.9	9.5
Loan-to-deposit ratio ⁽²⁾	89.1	78.6	74.5	71.8	72.7	75.5
Central bank liquidity as % of liabilities ⁽¹⁾	3.7	4.9	5.1	3.9	2.8	2.5
Private debt (% of GDP)	90.7	83.2	76.6	70.0	69.3	-
Gross external debt (% of GDP) ⁽²⁾ - public	46.3	41.1	36.6	29.7	27.6	26.4
- private	79.1	72.3	68.8	57.1	58.1	58.8
Long-term interest rate spread versus Bund (basis points)*	364.6	293.7	305.3	264.5	266.2	276.6
Credit default swap spreads for sovereign securities (5-year)*	179.2	139.1	131.3	98.6	80.2	75.7

(1) Latest data Q3 2019. Includes not only banks but all monetary financial institutions excluding central banks.

(2) Latest data Q2 2019.

(3) Quarterly values are annualized.

* Measured in basis points.

Source: European Commission (long-term interest rates); World Bank (gross external debt); Eurostat (private debt); ECB (all other indicators).

Table C.2: **Headline Social Scoreboard indicators**

	2014	2015	2016	2017	2018	2019 ⁵
Equal opportunities and access to the labour market						
Early leavers from education and training (% of population aged 18-24)	11.4	11.6	12.4	12.5	12.5	:
Gender employment gap (pps)	13.3	13.7	14.0	15.3	15.3	15.5
Income inequality, measured as quintile share ratio (S80/S20)	4.3	4.3	4.3	4.3	4.4	:
At-risk-of-poverty or social exclusion rate ⁽¹⁾ (AROPE)	31.8	28.2	26.3	25.6	19.6	:
Young people neither in employment nor in education and training (% of population aged 15-24)	13.6	11.6	11.0	11.0	10.7	:
Dynamic labour markets and fair working conditions						
Employment rate (20-64 years)	66.7	68.9	71.5	73.3	74.4	75.2
Unemployment rate ⁽²⁾ (15-74 years)	7.7	6.8	5.1	4.2	3.7	3.4
Long-term unemployment rate (as % of active population)	3.7	3.1	2.4	1.7	1.4	1.2
Gross disposable income of households in real terms per capita ⁽³⁾ (Index 2008=100)	100.8	104.9	110.2	115.3	121.1	:
Annual net earnings of a full-time single worker without children earning an average wage (levels in PPS, three-year average)	11256	11480	11712	:	:	:
Annual net earnings of a full-time single worker without children earning an average wage (percentage change, real terms, three-year average)	2.72	3.45	4.46	:	:	:
Public support / Social protection and inclusion						
Impact of social transfers (excluding pensions) on poverty reduction ⁽⁴⁾	43.6	42.0	43.8	46.4	48.8	:
Children aged less than 3 years in formal childcare	14.4	15.4	15.6	13.8	16.5	:
Self-reported unmet need for medical care	2.5	2.6	1.3	1.0	0.8	:
Individuals who have basic or above basic overall digital skills (% of population aged 16-74)	:	50.0	51.0	50.0	:	:

(1) People at risk of poverty or social exclusion (AROPE): individuals who are at risk of poverty (AROP) and/or suffering from severe material deprivation (SMD) and/or living in households with zero or very low work intensity (LWI).

(2) Unemployed persons are all those who were not employed but had actively sought work and were ready to begin working immediately or within two weeks.

(3) Gross disposable household income is defined in unadjusted terms, according to the draft Joint Employment Report 2019.

(4) Reduction in percentage of the risk of poverty rate, due to social transfers (calculated comparing at-risk-of-poverty rates before social transfers with those after transfers; pensions are not considered as social transfers in the calculation).

(5) Average of first three quarters of 2019 for the employment rate, unemployment rate and gender employment gap.

Source: Eurostat

Table C.3: Labour market and education indicators

Labour market indicators	2014	2015	2016	2017	2018	2019 ⁵
Activity rate (15-64)	67.0	68.6	70.1	71.2	71.9	72.6
Employment in current job by duration						
From 0 to 11 months	14.4	13.8	14.0	13.2	12.9	:
From 12 to 23 months	9.0	9.2	9.5	10.3	10.4	:
From 24 to 59 months	19.7	18.6	19.1	20.0	20.9	:
60 months or over	56.6	58.2	57.4	56.4	55.8	:
Employment growth*						
(% change from previous year)	4.6	2.2	3.7	1.9	2.4	1.9
Employment rate of women (% of female population aged 20-64)	60.2	62.1	64.6	65.7	66.8	67.5
Employment rate of men (% of male population aged 20-64)	73.5	75.8	78.6	81.0	82.1	83.0
Employment rate of older workers* (% of population aged 55-64)	41.7	45.3	49.8	51.7	54.4	56.4
Part-time employment* (% of total employment, aged 15-64)	6.0	5.7	4.8	4.3	4.2	4.5
Fixed-term employment* (% of employees with a fixed term contract, aged 15-64)	10.8	11.4	9.7	8.8	7.3	6.7
Transition rate from temporary to permanent employment (3-year average)	38.0	38.5	37.2	32.6	31.2	:
Youth unemployment rate (% active population aged 15-24)	20.4	17.3	12.9	10.7	10.2	11.3
Gender gap in part-time employment	4.2	3.6	3.6	3.6	3.8	4.4
Gender pay gap ⁽²⁾ (in undadjusted form)	15.1	14.0	14.0	14.2	:	:
Education and training indicators	2014	2015	2016	2017	2018	2019
Adult participation in learning (% of people aged 25-64 participating in education and training)	3.3	7.1	6.3	6.2	6.0	:
Underachievement in education ⁽³⁾	:	28.0	:	:	:	:
Tertiary educational attainment (% of population aged 30-34 having successfully completed tertiary education)	34.1	34.3	33.0	32.1	33.7	:
Variation in performance explained by students' socio-economic status ⁽⁴⁾	:	21.4	:	:	:	:

* Non-scoreboard indicator

(1) Long-term unemployed are people who have been unemployed for at least 12 months.

(2) Difference between the average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. It is defined as "unadjusted", as it does not correct for the distribution of individual characteristics (and thus gives an overall picture of gender inequalities in terms of pay). All employees working in firms with ten or more employees, without restrictions for age and hours worked, are included.

(3) PISA (OECD) results for low achievement in mathematics for 15 year-olds.

(4) Impact of socio-economic and cultural status on PISA (OECD) scores.

(5) Average of first three quarters of 2019. Data for youth unemployment rate is seasonally adjusted.

Source: Eurostat, OECD

Table C.4: Social inclusion and health indicators

	2013	2014	2015	2016	2017	2018
Expenditure on social protection benefits* (% of GDP)						
<i>Sickness/healthcare</i>	4.9	4.8	5.0	5.1	5.0	:
<i>Disability</i>	1.5	1.4	1.3	1.2	1.1	:
<i>Old age and survivors</i>	10.7	10.2	9.5	9.3	9.0	:
<i>Family/children</i>	2.5	2.3	2.3	2.2	2.2	:
<i>Unemployment</i>	0.5	0.4	0.4	0.3	0.3	:
<i>Housing</i>	0.3	0.3	0.3	0.3	0.4	:
<i>Social exclusion n.e.c.</i>	0.1	0.1	0.1	0.1	0.1	:
<i>Total</i>	20.5	19.5	18.8	18.6	18.1	:
<i>of which: means-tested benefits</i>	0.9	0.7	0.8	0.7	0.8	:
General government expenditure by function (% of GDP)						
<i>Social protection</i>	16.5	15.4	14.8	14.5	14.0	:
<i>Health</i>	5.0	4.8	5.2	4.8	4.8	:
<i>Education</i>	4.6	5.1	5.1	4.9	5.1	:
Out-of-pocket expenditure on healthcare	28.4	28.3	27.5	27.7	26.9	:
Children at risk of poverty or social exclusion (% of people aged 0-17)*	43.9	41.8	36.1	33.6	31.6	23.8
At-risk-of-poverty rate ⁽¹⁾ (% of total population)	15.0	15.0	14.9	14.5	13.4	12.8
In-work at-risk-of-poverty rate (% of persons employed)	7.0	6.7	9.3	9.6	10.2	8.4
Severe material deprivation rate ⁽²⁾ (% of total population)	27.8	24.0	19.4	16.2	14.5	10.1
Severe housing deprivation rate ⁽³⁾ , by tenure status						
<i>Owner, with mortgage or loan</i>	14.8	13.9	11.9	17.2	14.1	7.0
<i>Tenant, rent at market price</i>	30.9	24.2	32.2	23.7	22.0	14.3
Proportion of people living in low work intensity households ⁽⁴⁾ (% of people aged 0-59)	13.6	12.8	9.4	8.2	6.6	5.7
Poverty thresholds, expressed in national currency at constant prices*	564058	577231	605976	636370	665923	702143
Healthy life years						
<i>Females</i>	6.1	6.1	5.9	6.4	6.7	:
<i>Males</i>	6.2	6.0	5.9	6.7	6.7	:
Aggregate replacement ratio for pensions ⁽⁵⁾	0.6	0.6	0.6	0.7	0.6	0.6
Connectivity dimension of the Digital Economy and Society Index (DESI) ⁽⁶⁾	:	43.7	53.5	59.6	63.6	:
GINI coefficient before taxes and transfers*	50.9	52.5	49.9	49.8	48.8	:
GINI coefficient after taxes and transfers*	28.0	28.6	28.2	28.2	28.1	:

* Non-scoreboard indicator

(1) At-risk-of-poverty rate (AROP): proportion of people with an equivalised disposable income below 60 % of the national equivalised median income.

(2) Proportion of people who experience at least four of the following forms of deprivation: not being able to afford to i) pay their rent or utility bills, ii) keep their home adequately warm, iii) face unexpected expenses, iv) eat meat, fish or a protein equivalent every second day, v) enjoy a week of holiday away from home once a year, vi) have a car, vii) have a washing machine, viii) have a colour TV, or ix) have a telephone.

(3) Percentage of total population living in overcrowded dwellings and exhibiting housing deprivation.

(4) People living in households with very low work intensity: proportion of people aged 0-59 living in households where the adults (excluding dependent children) worked less than 20 % of their total work-time potential in the previous 12 months.

(5) Ratio of the median individual gross pensions of people aged 65-74 relative to the median individual gross earnings of people aged 50-59.

(6) Fixed broadband take up (33%), mobile broadband take up (22%), speed (33%) and affordability (11%), from the Digital Scoreboard.

Source: Eurostat, OECD

Table C.5: Product market performance and policy indicators

Performance indicators	2013	2014	2015	2016	2017	2018
Labour productivity per person ¹ growth (t/t-1) in %						
Labour productivity growth in industry	1.14	4.23	8.76	-2.10	-1.13	-4.31
Labour productivity growth in construction	9.78	5.00	7.85	-20.57	11.61	7.95
Labour productivity growth in market services	-0.17	-2.75	-0.19	-0.13	4.65	8.59
Unit Labour Cost (ULC) index ² growth (t/t-1) in %						
ULC growth in industry	2.88	-0.07	-1.93	5.50	5.73	9.56
ULC growth in construction	-5.66	-9.83	-5.32	16.36	-6.82	-5.31
ULC growth in market services	-0.75	0.63	-0.49	1.73	1.99	0.27
Business environment	2013	2014	2015	2016	2017	2018
Time needed to enforce contracts ³ (days)	605	605	605	605	605	605
Time needed to start a business ³ (days)	7.0	7.0	7.0	7.0	7.0	7.0
Outcome of applications by SMEs for bank loans ⁴	0.67	1.01	0.39	0.38	0.82	0.49
Research and innovation	2013	2014	2015	2016	2017	2018
R&D intensity	1.39	1.35	1.35	1.19	1.33	1.53
General government expenditure on education as % of GDP	4.60	5.10	5.10	4.90	5.10	:
Employed people with tertiary education and/or people employed in S&T as % of total employment	37	36	36	36	35	36
Population having completed tertiary education ⁵	20	20	21	21	21	22
Young people with upper secondary education ⁶	84	85	84	84	84	85
Trade balance of high technology products as % of GDP	0.46	0.28	-0.04	0.24	0.33	-0.09
Product and service markets and competition	2003	2008	2013			2018*
OECD product market regulation (PMR) ⁷ , overall	2.11	1.54	1.33			1.32
OECD PMR ⁷ , retail	0.79	1.44	2.06			1.12
OECD PMR ⁷ , professional services ⁸	2.86	3.02	3.05			2.15
OECD PMR ⁷ , network industries ⁹	3.31	1.87	1.73			1.50

1 Value added in constant prices divided by the number of persons employed.

2 Compensation of employees in current prices divided by value added in constant prices.

3 The methodologies, including the assumptions, for this indicator are shown in detail here:

<http://www.doingbusiness.org/methodology>.

4 Average of the answer to question Q7B_a. "[Bank loan]: If you applied and tried to negotiate for this type of financing over the past six months, what was the outcome?". Answers were codified as follows: zero if received everything, one if received 75% and above, two if received below 75%, three if refused or rejected and treated as missing values if the application is still pending or don't know.

5 Percentage population aged 15-64 having completed tertiary education.

6 Percentage population aged 20-24 having attained at least upper secondary education.

7 Index: 0 = not regulated; 6 = most regulated. The methodologies of the OECD product market regulation indicators are shown in detail here: <http://www.oecd.org/competition/reform/indicatorsofproductmarketregulationhomepage.htm>

8 Simple average of the indicators of regulation for lawyers, accountants, architects and engineers.

9 Aggregate OECD indicators of regulation in energy, transport and communications (ETCR).

* Please be aware that the indicator values from 2003 to 2013 are comparable, however the methodology has considerably changed in 2018 and therefore past vintages cannot be compared with the 2018 PMR indicators.

Source: European Commission; World Bank — Doing Business (for enforcing contracts and time to start a business); OECD (for the product market regulation indicators); SAFE (for outcome of SMEs' applications for bank loans).

Table C.6: **Green growth**

Green growth performance		2013	2014	2015	2016	2017	2018
Macroeconomic							
Energy intensity	kgoe / €	0.24	0.23	0.23	0.23	0.23	0.22
Carbon intensity	kg / €	0.56	0.54	0.55	0.55	0.55	-
Resource intensity (reciprocal of resource productivity)	kg / €	0.98	1.21	1.14	1.07	1.10	1.23
Waste intensity	kg / €	-	0.16	-	0.14	-	-
Energy balance of trade	% GDP	-6.3	-6.1	-4.1	-3.1	-3.7	-3.8
Weighting of energy in HICP	%	17.04	16.99	15.97	15.40	14.54	14.42
Difference between energy price change and inflation	p.p.	-11.7	-10.9	-2.7	-0.5	-1.6	-1.5
Real unit of energy cost	% of value added	17.8	17.1	18.0	19.0	-	-
Ratio of environmental taxes to labour taxes	ratio	0.16	0.18	0.19	0.19	0.20	-
Environmental taxes	% GDP	2.5	2.5	2.5	2.6	2.5	2.4
Sectoral							
Industry energy intensity	kgoe / €	0.15	0.15	0.14	0.15	0.15	0.15
Real unit energy cost for manufacturing industry excl. refining	% of value added	17.7	16.4	16.5	16.6	-	-
Share of energy-intensive industries in the economy	% GDP	7.94	7.87	7.94	8.37	8.11	7.92
Electricity prices for medium-sized industrial users	€ / kWh	0.10	0.09	0.09	0.08	0.08	0.08
Gas prices for medium-sized industrial users	€ / kWh	0.04	0.04	0.04	0.03	0.03	0.03
Public R&D for energy	% GDP	0.04	0.00	0.01	0.01	0.02	0.02
Public R&D for environmental protection	% GDP	0.02	0.01	0.01	0.01	0.01	0.01
Municipal waste recycling rate	%	26.4	30.5	32.2	34.7	35.0	37.4
Share of GHG emissions covered by ETS*	%	33.2	32.9	32.2	31.6	32.4	31.6
Transport energy intensity	kgoe / €	0.69	0.75	0.80	0.79	0.81	0.84
Transport carbon intensity	kg / €	0.77	0.82	0.82	0.73	0.73	0.73
Security of energy supply							
Energy import dependency	%	50.1	59.8	53.9	55.8	62.6	-
Aggregated supplier concentration index	HHI	65.9	76.6	52.0	57.5	67.9	-
Diversification of energy mix	HHI	21.6	21.3	21.4	22.1	22.6	22.8

All macro intensity indicators are expressed as a ratio of a physical quantity to GDP (in 2010 prices)

Energy intensity: gross inland energy consumption (in kgoe) divided by GDP (in EUR)

Carbon intensity: greenhouse gas emissions (in kg CO₂ equivalents) divided by GDP (in EUR)

Resource intensity: domestic material consumption (in kg) divided by GDP (in EUR)

Waste intensity: waste (in kg) divided by GDP (in EUR)

Energy balance of trade: the balance of energy exports and imports, expressed as % of GDP.

Weighting of energy in HICP: the proportion of 'energy' items in the consumption basket used for the construction of the HICP.

Difference between energy price change and inflation: energy component of HICP, and total HICP inflation (annual % change).

Real unit energy cost: real energy costs as % of total value added for the economy.

Industry energy intensity: final energy consumption of industry (in kgoe) divided by gross value added of industry (in 2010 EUR).

Real unit energy costs for manufacturing industry excluding refining: real costs as % of value added for manufacturing sectors.

Share of energy-intensive industries in the economy: share of gross value added of the energy-intensive industries in GDP.

Electricity and gas prices for medium-sized industrial users: consumption band 500–20 000 MWh and 10 000 -100 000 GJ; figures excl. VAT.

Recycling rate of municipal waste: ratio of recycled and composted municipal waste to total municipal waste.

Public R&D for energy or for the environment: government spending on R&D for these categories as % of GDP.

Proportion of GHG emissions covered by EU emissions trading system (ETS) (excluding aviation): based on GHG emissions (excl. land use, land use change and forestry) as reported by Member States to the European Environment Agency.

Transport energy intensity: final energy consumption of transport activity including international aviation (kgoe) divided by gross value added in transportation and storage sector (in 2010 EUR).

Transport carbon intensity: GHG emissions in transportation and storage sector divided by gross value added in transportation and storage sector (in 2010 EUR).

Energy import dependency: net energy imports divided by gross inland energy consumption incl. consumption of international bunker fuels.

Aggregated supplier concentration index: Herfindahl index covering oil, gas and coal. Smaller values indicate larger diversification and hence lower risk.

Diversification of the energy mix: Herfindahl index covering natural gas, total petrol products, nuclear heat, renewable energies and solid fuels. Smaller values indicate larger diversification.

* European Commission and European Environment Agency - 2018 provisional data.

Source: European Commission and European Environment Agency (Share of GHG emissions covered by ETS); European Commission (Environmental taxes over labour taxes and GDP); Eurostat (all other indicators).

ANNEX D: INVESTMENT GUIDANCE ON JUST TRANSITION FUND 2021-2027 FOR HUNGARY

Building on the Commission proposal⁽³⁰⁾, this Annex presents the preliminary Commission services' views on priority investment areas and framework conditions for effective delivery for the 2021-2027 Just Transition Fund investments in Hungary. These priority investment areas are derived from the broader analysis of territories facing serious socio-economic challenges deriving from the transition process towards a climate-neutral economy of the Union by 2050 in Hungary, assessed in the report. This Annex provides the basis for a dialogue between Hungary and the Commission services as well as the relevant guidance for the Member States in preparing their territorial just transition plans, which will form the basis for programming the Just Transition Fund. The Just Transition Fund investments complement those under Cohesion Policy funding for which guidance in the form of Annex D was given in the 2019 Country Report for Hungary⁽³¹⁾.

The Mátra power plant in Heves county with the associated two coal mines is the biggest CO₂ emitter. The Baranya county relies heavily on energy-intensive industries (treatment and disposal of non-hazardous waste and manufacture of cement) where process related greenhouse gas emissions intensity significantly exceed the EU average.

The Mátra power plant produces 15% of the total electric power but accounts for nearly 50% of the energy sector emissions⁽³²⁾. 2,500 people work in the two coal mines and the coal power plant. Coal is used for heating, especially in the poorest households, and contributes significantly to the greenhouse gas emissions. Moving away from fossil fuel production is likely to lead to a substantial reconversion of extraction sites and energy-generating plants. As a result, a significant number of people directly or indirectly employed by the fossil fuel value chain could be affected by the shift to a greener economy. Workers affected by this transition would need to be equipped with new and in-demand skills to increase their employability prospects and receive tailored support by employment services to find new jobs. The smart specialisation strategies⁽³³⁾ provide an important framework to set priorities for innovation in support of economic transformation. The Just Transition Fund has the potential to promote economic diversification and reskilling and increase the attractiveness of the county for investments,

In order to tackle these transition challenges, priority investment needs have been identified to cover the socio-economic costs of the transition. Key actions of the Just Transition Fund could target in particular:

- investments in the deployment of technology and infrastructures for affordable clean energy, in greenhouse gas emission reduction, energy efficiency and renewable energy;
- investments in enhancing the circular economy, including through waste prevention, reduction, resource efficiency, reuse, repair and recycling;
- investments in regeneration and decontamination of sites, land restoration and repurposing projects;
- upskilling and reskilling of workers;
- job-search assistance to jobseekers;
- active inclusion of jobseekers;
- technical assistance.

The carbon intensity of the industry in Baranya county highlights the scale of the decarbonisation challenge, suggesting that many firms (including local SMEs that provide services for the industry) would be likely to undergo by 2030 significant restructuring in their industrial processes. As a result, a

⁽³⁰⁾ This Annex is to be considered in conjunction with the EC proposal for a Regulation of the European Parliament and of the Council on the Just Transition Fund 2021-2027 (COM(2020)22) and the EC proposal for a Regulation of the European Parliament and of the Council laying down common provisions on the European Regional Development Fund, the European Social Fund Plus, the Cohesion Fund, and the European Maritime and Fisheries Fund and financial rules for those and for the Asylum and Migration Fund, the Internal Security Fund and the Border Management and Visa Instrument (COM(2020)23)

⁽³¹⁾ SWD(2019) 1016 final

⁽³²⁾ The second coal power plant of the country, in Oroszlány (Komárom-Esztergom county) is no longer in operation. It has been deactivated but not yet closed.

⁽³³⁾ As defined in Article 2(3) of Regulation No 1303/2013 (CPR)

significant number of people directly or in-directly employed by the value chain related to energy-intensive industries could be at risk. Active Labour Market Policies aimed at equipping those affected with skills and competences in demand by employers could provide a valuable off-setting contribution. Providing targeted job search support to ensure a rapid transition into new employment would be equally important for reducing negative social impact. Based on this preliminary assessment, it appears warranted that the Just Transition Fund also intervenes in this region.

Industrial sites in this area, performing activities listed in Annex I to Directive 2003/87/EC employ a substantial number of workers and their activity is at risk due to their high greenhouse gas emissions. Support to investments to reduce the emissions could be considered, provided that they achieve a substantial reduction of emissions (going substantially below the relevant benchmarks used for free allocation under Directive 2003/87/EC) and on the condition that the investments are compatible with the European Green Deal.

In order to tackle these transition challenges, investment needs have been identified for making the regional economy more modern and competitive. Key actions of the Just Transition Fund could target in particular:

- investments in the deployment of technology and infrastructures for affordable clean energy, in greenhouse gas emission reductions, energy efficiency and renewable energy;
- investments in research and innovation activities and fostering the transfer of advanced technologies;
- investments in enhancing the circular economy, including through waste prevention, reduction, resource efficiency, reuse, repair and recycling;
- upskilling and reskilling of workers;
- job-search assistance to jobseekers;
- active inclusion of jobseekers;
- technical assistance.

ANNEX E: PROGRESS TOWARDS THE SUSTAINABLE DEVELOPMENT GOALS (SDGs)

Assessment of Hungary's short-term progress towards the SDGs ⁽³⁴⁾

Table E.1 shows the data for Hungary and the EU-28 for the indicators included in the EU SDG indicator set used by Eurostat for [monitoring progress towards the SDGs in an EU context](#) ⁽³⁵⁾. As the short-term trend at EU-level is assessed over a 5-year period, both the value at the beginning of the period and the latest available value is presented. The indicators are regularly updated on the [SDI dedicated section](#) of the Eurostat website.

Table E.1: Indicators measuring Hungary's progress towards the SDGs

SDG / Sub-theme	Indicator	Unit	Hungary				EU-28			
			Starting		Latest		Starting		Latest	
			year	value	year	value	year	value	year	value
SDG 1 – No poverty										
Multidimensional poverty	People at risk of poverty or social exclusion	% of population	2013	34.8	2018	19.6	2013	24.6	2018	21.9
	People at risk of income poverty after social transfers	% of population	2013	15.0	2018	12.8	2013	16.7	2018	17.1
	Severely materially deprived people	% of population	2013	27.8	2018	10.1	2013	9.6	2018	5.8
	People living in households with very low work intensity	% of population aged 0 to 59	2013	13.6	2018	5.7	2013	11.0	2018	8.8
	In-work at-risk-of-poverty rate	% of population aged 18 or over	2013	7.0	2018	8.4	2013	9.0	2018	9.5
Basic needs	Population living in a dwelling with a leaking roof, damp walls, floors or foundation or rot in window frames or floor	% of population	2013	26.7	2018	22.5	2013	15.6	2018	13.9
	Self-reported unmet need for medical care	% of population aged 16 or over	2013	2.6	2018	0.8	2013	3.7	2018	2.0
	Population having neither a bath, nor a shower, nor indoor flushing toilet in their household	% of population	2013	4.0	2018	3.4	2013	2.2	2018	1.7
	Population unable to keep home adequately warm	% of population	2013	14.6	2018	6.1	2013	10.7	2018	7.3
	Overcrowding rate	% of population	2013	44.0	2018	20.1	2013	17.0	2018	15.5
SDG 2 – Zero hunger										
Malnutrition	Obesity rate	% of population aged 18 or over	2014	21.2	2017	20.0	2014	15.9	2017	15.2
Sustainable agricultural production	Agricultural factor income per annual work unit (AWU)	EUR, chain linked volumes (2010)	2012	7 170	2017	8 715	2012	14 865	2017	17 304
	Government support to agricultural research and development	million EUR	2013	54.0	2018	35.7	2013	3 048.6	2018	3 242.5
	Area under organic farming	% of utilised agricultural area	2013	2.5	2018	3.9	2013	5.7	2018	7.5
	Gross nitrogen balance on agricultural land	kg per hectare	2012	42	2017	33	2010	49	2015	51
Environmental impacts of agricultural production	Ammonia emissions from agriculture	kg per ha of utilised agricultural area	2012	13.2	2017	14.9	2011	19.7	2016	20.3
	Nitrate in groundwater	mg NO ₃ per litre	N/A	:	N/A	:	2012	19.2	2017	19.1
	Estimated soil erosion by water	km ²	2010	2 174.5	2016	2 125.2	2010	207 232.2	2016	205 294.5
	Common farmland bird index	index 2000 = 100	N/A	:	N/A	:	2013	83.9	2018	80.7
SDG 3 – Good health and well-being										
Healthy lives	Life expectancy at birth	years	2012	75.3	2017	76.0	2012	80.3	2017	80.9
	Share of people with good or very good perceived health	% of population aged 16 or over	2013	56.2	2018	60.7	2013	67.3	2018	69.2
Health determinants	Smoking prevalence	% of population aged 15 or over	2012	32	2017	27	2014	26	2017	26
	Obesity rate	% of population aged 18 or over	2014	21.2	2017	20.0	2014	15.9	2017	15.2
	Population living in households considering that they suffer from noise	% of population	2013	12.8	2018	8.5	2013	18.8	2018	18.3
	Exposure to air pollution by particulate matter (PM _{2.5})	µg/m ³	2012	23.4	2017	20.9	2012	16.8	2017	14.1
Causes of death	Death rate due to chronic diseases	number per 100 000 persons aged less than 65	2011	284.2	2016	243.7	2011	132.5	2016	119.0
	Death rate due to tuberculosis, HIV and hepatitis	number per 100 000 persons	2011	1.9	2016	2.6	2011	3.4	2016	2.6
	People killed in accidents at work	number per 100 000 employed persons	2012	1.68	2017	2.01	2012	1.91	2017	1.65
	People killed in road accidents	number of killed people	2012	605	2017	625	2012	28 231	2017	25 257
Access to health care	Self-reported unmet need for medical care	% of population aged 16 or over	2013	2.6	2018	0.8	2013	3.7	2018	2.0

(Continued on the next page)

⁽³⁴⁾ Data extracted on 9 February 2020 from the Eurostat database (official EU SDG indicator set; see <https://ec.europa.eu/eurostat/web/sdi/main-tables>).

⁽³⁵⁾ The EU SDG indicator set is aligned as far as appropriate with the UN list of global indicators, noting that the UN indicators are selected for global level reporting and are therefore not always relevant in an EU context. The EU SDG indicators have strong links with EU policy initiatives.

Table (continued)

SDG / Sub-theme	Indicator	Unit	Hungary				EU-28			
			Starting		Latest		Starting		Latest	
			year	value	year	value	year	value	year	value
SDG 4 – Quality education										
Basic education	Early leavers from education and training	% of the population aged 18 to 24	2013	11.9	2018	12.5	2013	11.9	2018	10.6
	Participation in early childhood education	% of the age group between 4-years-old and the starting age of compulsory education	2012	94.5	2017	95.6	2012	94.0	2017	95.4
	Underachievement in reading	% of 15-year-old students	2015	27.5	2018	25.3	2015	19.7	2018	21.7
	Young people neither in employment nor in education and training	% of population aged 15 to 29	2013	18.4	2018	12.9	2013	15.9	2018	12.9
Tertiary education	Tertiary educational attainment	% of the population aged 30 to 34	2013	32.3	2018	33.7	2013	37.1	2018	40.7
	Employment rate of recent graduates	% of population aged 20 to 34	2013	74.2	2018	87.5	2013	75.4	2018	81.7
Adult education	Adult participation in learning	% of population aged 25 to 64	2013	3.2	2018	6.0	2013	10.7	2018	11.1
SDG 5 – Gender equality										
Gender-based violence	Physical and sexual violence to women experienced within 12 months prior to the interview	% of women	N/A	:	2012	9	N/A	:	2012	8
Education	Gender gap for early leavers from education and training	percentage points, persons aged 18–24	2013	1.1	2018	0.3	2013	3.4	2018	3.3
	Gender gap for tertiary educational attainment	percentage points, persons aged 30–34	2013	11.0	2018	13.2	2013	8.5	2018	10.1
	Gender gap for employment rate of recent graduates	percentage points, persons aged 20–34	2013	6.9	2018	8.2	2013	4.4	2018	3.4
Employment	Gender pay gap in unadjusted form	% of average gross hourly earnings of men	2012	20.1	2017	14.2	2012	17.4	2017	16.0
	Gender employment gap	percentage points, persons aged 20–64	2013	12.4	2018	15.3	2013	11.7	2018	11.6
	Gender gap in inactive population due to caring responsibilities	percentage points, persons aged 20–64	2013	23.0	2018	28.9	2013	25.5	2018	27.1
Leadership positions	Seats held by women in national parliaments and governments	% of seats	2014	10.1	2019	12.1	2014	27.2	2019	31.5
	Positions held by women in senior management	% of board members	2014	11.8	2019	14.3	2014	20.2	2019	27.8
SDG 6 – Clean water and sanitation										
Sanitation	Population having neither a bath, nor a shower, nor indoor flushing toilet in their household	% of population	2013	4.0	2018	3.4	2013	2.2	2018	1.7
	Population connected to at least secondary wastewater treatment	% of population	2012	72.8	2017	79.2	N/A	:	N/A	:
Water quality	Biochemical oxygen demand in rivers	mg O ₂ per litre	N/A	:	N/A	:	2012	2.06	2017	2.00
	Nitrate in groundwater	mg NO ₃ per litre	N/A	:	N/A	:	2012	19.2	2017	19.1
	Phosphate in rivers	mg PO ₄ per litre	N/A	:	N/A	:	2012	0.096	2017	0.093
	Inland water bathing sites with excellent water quality	% of bathing sites with excellent water quality	2013	53.1	2018	72.3	2013	76.5	2018	80.8
Water use efficiency	Water exploitation index	% of long term average available water (LTAA)	2011	4.5	2016	3.4	N/A	:	N/A	:
SDG 7 – Affordable and clean energy										
Energy consumption	Primary energy consumption	million tonnes of oil equivalent (Mtoe)	2013	22.4	2018	24.5	2013	1 577.4	2018	1 551.9
	Final energy consumption	million tonnes of oil equivalent (Mtoe)	2013	16.6	2018	18.5	2013	1 115.5	2018	1 124.1
	Final energy consumption in households per capita	kgoe	2013	628	2018	595	2013	605	2018	552
	Energy productivity	EUR per kgoe	2013	4.2	2018	4.6	2013	7.6	2018	8.5
	Greenhouse gas emissions intensity of energy consumption	index 2000 = 100	2012	81.6	2017	79.8	2012	91.5	2017	86.5
Energy supply	Share of renewable energy in gross final energy consumption	%	2013	16.2	2018	12.5	2013	15.4	2018	18.0
	Energy import dependency	% of imports in gross available energy	2013	50.1	2018	58.1	2013	53.2	2018	55.7
Access to affordable energy	Population unable to keep home adequately warm	% of population	2013	14.6	2018	6.1	2013	10.7	2018	7.3

(Continued on the next page)

Table (continued)

SDG / Sub-theme	Indicator	Unit	Hungary				EU-28			
			Starting		Latest		Starting		Latest	
			year	value	year	value	year	value	year	value
SDG 8 – Decent work and economic growth										
Sustainable economic growth	Real GDP per capita	EUR per capita, chain-linked volumes (2010)	2013	10 230	2018	12 560	2013	25 750	2018	28 280
	Investment share of GDP	% of GDP	2013	20.8	2018	25.2	2013	19.5	2018	20.9
	Resource productivity	EUR per kg, chain-linked volumes (2010)	2013	1.02	2018	0.81	2013	1.98	2018	2.04
Employment	Young people neither in employment nor in education and training	% of population aged 15 to 29	2013	18.4	2018	12.9	2013	15.9	2018	12.9
	Employment rate	% of population aged 20 to 64	2013	63.0	2018	74.4	2013	68.4	2018	73.2
	Long-term unemployment rate	% of active population	2013	4.9	2018	1.4	2013	5.1	2018	2.9
	Gender gap in inactive population due to caring responsibilities	percentage points, persons aged 20–64	2013	23.0	2018	28.9	2013	25.5	2018	27.1
Decent work	People killed in accidents at work	number per 100 000 employed persons	2012	1.68	2017	2.01	2012	1.91	2017	1.65
	In-work at-risk-of-poverty rate	% of population	2013	7	2018	8.4	2013	9	2018	9.5
SDG 9 – Industry, innovation and infrastructure										
R&D and innovation	Gross domestic expenditure on R&D	% of GDP	2013	1.39	2018	1.53	2013	2.01	2018	2.12
	Employment in high- and medium-high technology manufacturing and knowledge-intensive services	% of total employment	2013	44.6	2018	44.9	2013	45.0	2018	46.1
	R&D personnel	% of active population	2013	0.89	2018	0.99	2013	1.15	2018	1.36
	Patent applications to the European Patent Office (EPO)	number	2012	208	2017	197	2012	56 772	2017	54 649
Sustainable transport	Share of buses and trains in total passenger transport	% of total inland passenger-km	2012	32.4	2017	30.0	2012	17.2	2017	16.7
	Share of rail and inland waterways in total freight transport	% of total inland freight tonne-km	2012	36.2	2017	37.3	2012	25.4	2017	23.3
	Average CO2 emissions per km from new passenger cars	g CO ₂ per km	2013	134.4	2018	129.0	2014	123.4	2018	120.4
SDG 10 – Reduced inequalities										
Inequalities within countries	Relative median at-risk-of-poverty gap	% distance to poverty threshold	2013	21.0	2018	24.1	2013	23.8	2018	24.6
	Income distribution	income quintile share ratio	2013	4.3	2018	4.4	2013	5.0	2018	5.2
	Income share of the bottom 40 % of the population	% of income	2013	22.6	2018	22.4	2013	21.1	2018	21.0
	People at risk of income poverty after social transfers	% of population	2013	15.0	2018	12.8	2013	16.7	2018	17.1
Inequalities between countries	Purchasing power adjusted GDP per capita	Real expenditure per capita (in PPS)	2013	18 000	2018	21 900	2013	26 800	2018	31 000
	Adjusted gross disposable income of households per capita	Purchasing power standard (PPS) per inhabitant	2013	13 079	2018	15 010	2013	20 392	2018	22 824
	Financing to developing countries	million EUR, current prices	2012	92	2017	-163	2012	147 962	2017	155 224
	Imports from developing countries	million EUR, current prices	2013	10 129	2018	14 649	2013	817 475	2018	1 013 981
Migration and social inclusion	Asylum applications	Positive first instance decisions, per million inhabitants	2013	36	2018	37	2013	213	2018	424
SDG 11 – Sustainable cities and communities										
Quality of life in cities and communities	Overcrowding rate	% of population	2013	44.0	2018	20.1	2013	17.0	2018	15.5
	Population living in households considering that they suffer from noise	% of population	2013	12.8	2018	8.5	2013	18.8	2018	18.3
	Exposure to air pollution by particulate matter (PM _{2.5})	µg/m ³	2012	23.4	2017	20.9	2012	16.8	2017	14.1
	Population living in a dwelling with a leaking roof, damp walls, floors or foundation or rot in window frames or floor	% of population	2013	26.7	2018	22.5	2013	15.6	2018	13.9
	Population reporting occurrence of crime, violence or vandalism in their area	% of population	2013	12.6	2018	4.8	2013	14.5	2018	12.7
Sustainable mobility	People killed in road accidents	number of killed people	2012	605	2017	625	2012	28 231	2017	25 257
	Share of buses and trains in total passenger transport	% of total inland passenger-km	2012	32.4	2017	30.0	2012	17.2	2017	16.7
Adverse environmental impacts	Settlement area per capita	m ²	2009	703.1	2015	704.3	2012	625.0	2015	653.7
	Recycling rate of municipal waste	% of total waste generated	2013	26.4	2018	37.4	2013	41.7	2018	47.0
	Population connected to at least secondary wastewater treatment	% of population	2012	72.8	2017	79.2	N/A	:	N/A	:

(Continued on the next page)

Table (continued)

SDG / Sub-theme	Indicator	Unit	Hungary				EU-28			
			Starting		Latest		Starting		Latest	
			year	value	year	value	year	value	year	value
SDG 12 – Responsible consumption and production										
Decoupling environmental impacts from economic growth	Consumption of toxic chemicals	million tonnes	N/A	:	N/A	:	2013	300.3	2018	313.9
	Resource productivity	EUR per kg, chain-linked volumes (2010)	2013	1.02	2018	0.81	2013	1.98	2018	2.04
	Average CO2 emissions per km from new passenger cars	g CO ₂ per km	2013	134.4	2018	129.0	2014	123.4	2018	120.4
	Energy productivity	EUR per kgoe	2013	4.2	2018	4.6	2013	7.6	2018	8.5
Energy consumption	Primary energy consumption	million tonnes of oil equivalent (Mtoe)	2013	22.4	2018	24.5	2013	1 577.4	2018	1 551.9
	Final energy consumption	million tonnes of oil equivalent (Mtoe)	2013	16.6	2018	18.5	2013	1 115.5	2018	1 124.1
	Share of renewable energy in gross final energy consumption	%	2013	16.2	2018	12.5	2013	15.4	2018	18.0
Waste generation and management	Circular material use rate	% of material input for domestic use	2012	6.1	2017	6.6	2012	11.5	2017	11.7
	Generation of waste excluding major mineral wastes	kg per capita	2012	1 136	2016	1 119	2012	1 716	2016	1 772
	Recycling rate of waste excluding major mineral wastes	% of total waste treated	2012	35	2016	43	2012	55	2016	57
SDG 13 – Climate action										
Climate mitigation	Greenhouse gas emissions	index 1990 = 100	2012	63.9	2017	68.5	2012	82.1	2017	78.3
	Greenhouse gas emissions intensity of energy consumption	index 2000 = 100	2012	81.6	2017	79.8	2012	91.5	2017	86.5
	Primary energy consumption	million tonnes of oil equivalent (Mtoe)	2013	22.4	2018	24.5	2013	1 577.4	2018	1 551.9
	Final energy consumption	million tonnes of oil equivalent (Mtoe)	2013	16.6	2018	18.5	2013	1 115.5	2018	1 124.1
	Share of renewable energy in gross final energy consumption	%	2013	16.2	2018	12.5	2013	15.4	2018	18.0
	Average CO2 emissions per km from new passenger cars	g CO ₂ per km	2013	134.4	2018	129.0	2014	123.4	2018	120.4
Climate impacts	European mean near surface temperature deviation	temperature deviation in °C, compared with the 1850–1899 average	N/A	:	N/A	:	2013	1.4	2018	2.1
	Climate-related economic losses	EUR billion, in 2017 values	N/A	:	N/A	:	2012	2 719	2017	2 649
	Mean ocean acidity	pH value	N/A	:	N/A	:	2013	8.06	2018	8.06
Support to climate action	Contribution to the international 100bn USD commitment on climate related expending	EUR million, current prices	N/A	:	2017	14.0	N/A	:	2017	20 388.7
SDG 14 – Life below water										
Ocean health	Coastal water bathing sites with excellent water quality	% of bathing sites with excellent water quality	N/A	:	N/A	:	2013	85.5	2018	87.1
	Mean ocean acidity	pH value	N/A	:	N/A	:	2013	8.06	2018	8.06
Marine conservation	Surface of marine sites designated under NATURA 2000	km ²	N/A	:	N/A	:	2013	251 566	2018	551 899
Sustainable fisheries	Estimated trends in fish stock biomass	index 2003 = 100	N/A	:	N/A	:	2012	110.0	2017	136.0
	Assessed fish stocks exceeding fishing mortality at maximum sustainable yield (F _{MSY})	% of stocks exceeding fishing mortality at maximum sustainable yield (F > F _{MSY})	N/A	:	N/A	:	2012	52.9	2017	42.7
SDG 15 – Life on land										
Ecosystems status	Share of forest area	% of total land area	2009	22.0	2015	25.2	2012	40.3	2015	41.6
	Biochemical oxygen demand in rivers	mg O ₂ per litre	N/A	:	N/A	:	2012	2.06	2017	2.00
	Nitrate in groundwater	mg NO ₃ per litre	N/A	:	N/A	:	2012	19.2	2017	19.1
	Phosphate in rivers	mg PO ₄ per litre	N/A	:	N/A	:	2012	0.096	2017	0.093
Land degradation	Soil sealing index	index 2006 = 100	2009	101.4	2015	105.2	2009	101.7	2015	104.2
	Estimated soil erosion by water	km ²	2010	2 174.5	2016	2 125.2	2010	207 232.2	2016	205 294.5
	Settlement area per capita	m ²	2009	703.1	2015	704.3	2012	625.0	2015	653.7
Biodiversity	Surface of terrestrial sites designated under NATURA 2000	km ²	2013	19 950	2018	19 949	2013	787 766	2018	784 252
	Common bird index	index 2000 = 100	N/A	:	N/A	:	2013	94.7	2018	93.5
	Grassland butterfly index	index 2000 = 100	N/A	:	N/A	:	2012	72.2	2017	74.1

(Continued on the next page)

Table (continued)

SDG / Sub-theme	Indicator	Unit	Hungary				EU-28			
			Starting		Latest		Starting		Latest	
			year	value	year	value	year	value	year	value
SDG 16 – Peace, justice and strong institutions										
Peace and personal security	Death rate due to homicide	number per 100 000 persons	2011	1.7	2016	1.0	2011	0.9	2016	0.6
	Population reporting occurrence of crime, violence or vandalism in their area	% of population	2013	12.6	2018	4.8	2013	14.5	2018	12.7
	Physical and sexual violence to women experienced within 12 months prior to the interview	% of women	N/A	:	2012	9	N/A	:	2012	8
Access to justice	General government total expenditure on law courts	million EUR	2012	410	2017	518	2012	48 381	2017	51 027
	Perceived independence of the justice system	% of population	2016	49	2019	43	2016	52	2019	56
Trust in institutions	Corruption Perceptions Index	score scale of 0 (highly corrupt) to 100 (very clean)	2013	54	2018	46	N/A	:	N/A	:
	Population with confidence in the EU Parliament	% of population	2013	58	2018	56	2013	39	2018	48
SDG 17 – Partnerships for the goals										
Global partnership	Official development assistance as share of gross national income	% of GNI	2013	0.10	2018	0.14	2013	0.43	2018	0.48
	EU financing to developing countries	million EUR, current prices	2012	92	2017	-163	2012	147 962	2017	155 224
	EU imports from developing countries	million EUR, current prices	2013	10 129	2018	14 649	2013	817 475	2018	1 013 981
Financial governance within the EU	General government gross debt	% of GDP	2013	77.3	2018	70.2	2013	86.3	2018	80.4
	Shares of environmental and labour taxes in total tax revenues	% of total tax revenues	2013	6.5	2018	6.3	2013	6.4	2018	6.1

Source: Eurostat

REFERENCES

- Acemoglu D. and J. A. Robinson (2010), 'The role of institutions in growth and development', *Review of Economics and Institutions*, Vol. 1, pp. 1-33.
- Adalet-McGowan, M. and D. Andrews (2018), 'Design of Insolvency Regimes across Countries', *Economics Department Working Papers* No. 1504, Organisation for Economic Co-operation and Development.
- AEEK (2019a), *Vastagbelsőszűrési program*, Állami Egészségügyi Ellátó Központ. (<https://www.aEEK.hu/-/vastagbelszuresi-program>)
- AEEK (2019b), *Három generációval az egészségért program*, Állami Egészségügyi Ellátó Központ. (<https://www.aEEK.hu/-/harom-generacioval-az-egeszsegert-program>)
- Akcigit, U., S. Baslandze and F. Lotti (2018), 'Connecting to power: political connections, innovation, and firm dynamics', *NBER Working Papers* No. 25136, National Bureau of Economic Research.
- Ali-Yrkkö, J. and P. Rouvinen (2015), 'Slicing up global value chains: a micro view', *Journal of Industry, Competition and Trade*, Vol. 15, pp. 69-85.
- Andrews, D., C. Criscuolo and P. Gál (2015), 'Frontier firms, technology diffusion and public policy: micro evidence from OECD countries', *OECD Productivity Working Papers* No. 2, Organisation for Economic Co-operation and Development.
- Bauer P. et al. (forthcoming), *Productivity in Europe*, Technical Report, European Commission, Joint Research Centre.
- Belderbos, R., B. Lehen and S. Suzuki (2013), 'How global is R&D? Firm-level determinants of home-country bias in R&D', *Journal of International Business Studies*, Vol. 44, pp. 765-786.
- Benczúr, P., G. Kátay and Á. Kiss (2018), 'Assessing the economic and social impact of tax and benefit reforms: A general-equilibrium microsimulation approach applied to Hungary', *Economic Modelling*, Vol. 75, pp. 441-457.
- Berezvai, Z. (2018), 'A kiskereskedelmi szabályozás hatása a fogyasztói árakra', in P. Valentinyi, F. L. Kiss and Z. Berezvai (eds), *Verseny és szabályozás 2018*, Magyar Tudományos Akadémia, Közgazdaság-és Regionális Tudományi Kutatóközpont, Közgazdaság-tudományi Intézet, pp. 75-97.
- BI-CRCB (2019), *Transparency and Integrity: the Online Presence of HU Municipalities – Analysis of Urban Municipalities' websites in HU*, Budapest Institute, Corruption Research Centre Budapest (<http://www.crcb.eu/?p=1799>).
- Brogi, E., I. Nenadic, M. V. Azevedo Cunha and P. L. Parcu (2019), *Assessing certain recent developments in the Hungarian media market through the prism of the Media Pluralism Monitor*, Centre for Media Pluralism and Media Freedom. (https://cmpf.eui.eu/wp-content/uploads/2019/07/Report_KESMA_Hungary_A2.pdf)
- Burger, A., B. Jindra, P. Marek and M. Rojec (2018), 'Functional upgrading and value capture of multinational subsidiaries', *Journal of International Management*, Vol. 24, pp. 108-122.
- Cecchetti, S. and E. Kharroubi (2015), 'Why does financial sector growth crowd out real economic growth?', *CEPR Discussion Papers* No. 10642, Centre for Economic Policy Research.
- Cepparulo, A. and G. Mourre (forthcoming), 'How and how much? The growth-friendliness of public spending through the lens', *European Economy – Discussion Papers*, European Commission, Directorate-General for Economic and Financial Affairs.

- Council of Europe (2018), *Group of States Against Corruption – Fourth Evaluation Round, Interim Compliance Report on Hungary*, GrecoRC4 (2018) 16, Council of Europe.
- Coutinho, L., A. Turrini and S. Zeugner (2018), ‘Methodologies for the assessment of current account benchmarks’, *European Economy – Discussion Papers* No. 086, European Commission, Directorate-General for Economic and Financial Affairs.
- Dahlström, C., J. Teorell, S. Dahlberg, F. Hartmann, A. Lindberg and M. Nistotskaya (2015), *The QoG Expert Survey Dataset II*. University of Gothenburg, Quality of Government Institute.
- Doepke, M. and F. Kindermann (2019), ‘Bargaining over babies: theory, evidence, and policy implications’, *American Economic Review*, Vol. 109, pp. 3264-3306.
- DUIHK (2019), *Konjunkturumfrage Herbst 2019*. Deutsch-Ungarische Industrie- und Handelskammer, Budapest.
- EEA (2019a), *Air quality in Europe – 2019 report*, European Environment Agency, Publications office of the European Union, Luxembourg.
- EEA (2019b): *Economic losses from climate-related extremes in Europe*, European Environment Agency. (<https://www.eea.europa.eu/data-and-maps/indicators/direct-losses-from-weather-disasters-3/assessment-2>)
- EIB (2019), *EIB Group survey on investment and investment finance, Country overview Hungary*, European Investment Bank, Luxembourg.
- Éltető, A. and K. Antalóczy (2017), ‘FDI promotion of the Visegrád countries in the era of global value chains’, *IWE Working Papers* No. 229, Hungarian Academy of Sciences, Centre for Economic and Regional Studies, Institute for World Economics.
- Éltető, A., A. Magasházi, A. Szalavetz and G. Túry (2015), ‘Global Value Chains and Upgrading: The Experience of Hungarian Firms in the Heavy Engineering and Automotive Industries’, *IWE Working Papers* No. 217, Hungarian Academy of Sciences, Centre for Economic and Regional Studies, Institute for World Economics.
- ESPN (2018), *ESPN Thematic Report on Inequalities in access to healthcare*, European Social Policy Network (ESPN), European Commission, Directorate-General for Employment, Social Affairs and Inclusion.
- EUPACK (2019), *Public administration characteristics and performance in EU28*, Publications Office of the European Union, Luxembourg.
- European Commission (2020), *Debt Sustainability Monitor 2019*, European Economy – Institutional Paper No. 120, European Commission, Directorate-General for Economic and Financial Affairs.
- European Commission (2019a), *Taxation Trends in the European Union 2019 Edition*, Publications Office of the European Union, Luxembourg.
- European Commission (2019b), *Fiscal Sustainability Report 2018*, European Economy – Institutional Paper No. 094. European Commission, Directorate-General for Economic and Financial Affairs.
- European Commission (2019c), *Report on the implementation of national Roma integration strategies – 2019*, COM (2019) 406 final, European Commission.

- European Commission (2019d), *Labour Market and Wage Developments in Europe, Annual Review 2019*, Publications Office of the European Union, Luxembourg.
- European Commission (2019e), *PISA 2018 and the EU - Striving for social fairness through education*, Publications Office of the European Union, Luxembourg.
- European Commission (2019f), *European Innovation Scoreboard 2019*, Publications Office of the European Union, Luxembourg.
- European Commission (2019g), *Country Report Hungary 2019*, Commission Staff Working Document SWD(2019) 1016 final.
- European Commission (2019h), *Flash Eurobarometer 482 Report on “Businesses’ attitudes towards corruption”*.
- European Commission (2019i), *The OLAF Report 2018*, Publications Office of the European Union, Luxembourg.
- European Commission (2019j), *Technical information accompanying the EU Climate Action Progress Report 2019*, Staff Working Document SWD(2019) 396 final.
- European Commission (2019k), *Study on investment needs in the waste sector and on the financing of municipal waste management in Member States*, Eunomia, COWI, Publications Office of the European Union, Luxembourg.
- European Commission (2019l), *Environmental Implementation Review, Country Report Hungary*, European Commission, Directorate-General for Environment.
- European Commission (2019m), *Employment and Social Developments in Europe. Sustainable growth for all: choices for the future of Social Europe*, Publications Office of the European Union, Luxembourg.
- European Commission (2018a), *Education and Training Monitor 2018 (Country Analysis)*, Publications Office of the European Union, Luxembourg.
- European Commission (2018b), *Europeans’ satisfaction with passenger rail services*, Flash Eurobarometer Report 463.
- Eurydice (2018), *Teachers’ and school heads’ salaries and allowances in Europe*, Eurydice Facts and Figures, Publications Office of the European Union, Luxembourg.
- Fiorello, D., A. Martino, L. Zani, P. Christidis and E. Navajas-Cawood (2016), ‘Mobility data across the EU 28 Member States: results from an extensive CAWI survey’, *Transportation Research Procedia*, Vol. 14, pp. 1104-1113.
- Fournier J. M. and A. Johansson (2016), ‘The effect of size and the mix of public spending on growth and inequality’, *Economics Department Working Paper No. 1344*, Organisation of Economic Co-operation and Development.
- Freedom House (2019), *Freedom and the Media 2019: A Downward Spiral*, Freedom House.
- Gál, P., G. Nicoletti, T. Renault, S. Sorbe and C. Timiliotis (2019), ‘Digitalisation and productivity: In search of the holy grail – Firm-level empirical evidence from EU countries’, *Economics Department Working Papers No. 1533*, Organisation for Economic Co-operation and Development.

- Government (2019), A „Sajó völgye” levegőminőségi zóna levegőminőségének javítására készült Intézkedési Program Levegőminőségi terv felülvizsgálata, Borsod-Abaúj-Zemplén Megyei Kormányhivatal Miskolci Járási Hivatala. (<https://www.kormany.hu/download/8/1f/b1000/Levegőminőségi%20terv%20Sajó%20völgye%20zóna.pdf>)
- Government (2017), Beszámoló jelentés az 1330/2011. (X.12.) Korm. határozattal elfogadott Kisméretű Szálló Por (PM₁₀ részecske) Csökkentés Ágazatközi Intézkedési Programjának végrehajtásáról 2017. (https://pm10.kormany.hu/download/6/80/22000/PM10%20beszámoló%202017_web.pdf)
- GRECO (2015), *Fourth Evaluation Round – Evaluation Report Hungary*, Adopted by GRECO at its 67th Plenary Meeting (Strasbourg, 23-27 March 2015), paragraphs 95 and 111.
- GYERE (2019), *Civil jelentés a gyerekesélyekről, 2014-2017*, Gyerekesély Közhasznú Egyesület.
- HIPA (2019), *Automotive Industry Hungary 2019: Automotive CEO Survey*. Hungarian Investment Promotion Agency, Budapest.
- IMD (2019), *IMD World Competitiveness Yearbook 2019*, IMD World Competitiveness Center, Lausanne.
- IMF (2019a), *Hungary: Selected issues*, IMF Country Report No. 19/358, International Monetary Fund, Washington D.C.
- IMF (2019b), *Fiscal Monitor, April 2019*, International Monetary Fund, Washington D. C.
- Innovációs és Technológiai Minisztérium (ITM) (2020), Jelentés az éghajlatváltozás Kárpát-medencére gyakorolt esetleges hatásainak tudományos értékeléséről, document accompanying the National Energy and Climate Plan, 17 January 2020. (<https://www.kormany.hu/hu/dok?source=11&type=402#!DocumentBrowse>)
- Habitat (2017), *A megfizethető bérlakásszektor felé. Javaslatok a bérlakásszektor megfizethetőségének és biztonságának javítására*, Habitat for Humanity Hungary.
- Hárs, Á. (2019), ‘Increasing outward migration – opportunities, hopes and labour market impacts’, in: I. Gy. Tóth (ed.), *Hungarian Social Report 2019*, TÁRKI Social Research Institute, Budapest, pp. 137-159.
- Hétfa (2019), *Evaluation of family policy measures and their impact on fertility*, Hétfa Research Institute, Budapest. (https://ec.europa.eu/hungary/sites/hungary/files/docs/hetfa_fertilitymodels_20190913.pdf)
- INRIX (2019), *2018 INRIX Global Traffic Scorecard*, INRIX Research. (<https://inrix.com/scorecard/>)
- Jensen, P. D. Ø. and T. Pedersen (2012), ‘Offshoring and international competitiveness: antecedents of offshoring advanced tasks’, *Journal of the Academy of Marketing Science*, Vol. 40, pp. 313-328.
- Kállay, L. (2015), ‘Állami támogatások és gazdasági teljesítmény. Támogatás-túladagolás a magyar gazdaságfejlesztésben?’, *Közgazdasági Szemle*, Vol. 61, pp. 279-298.
- Köllő, J. (2018), ‘Vocational training’, in: K. Fazekas and J. Köllő (eds.), *The Hungarian Labour Market 2017*, Institute of Economics, Centre for Economic and Regional Studies, Hungarian Academy of Sciences, pp. 132-140.
- KSH (2018), *Nemzeti Társadalmi Felzárkózási Stratégia indikátor rendszer*, Központi Statisztikai Hivatal.

- Kúria (2018), A “közérdekű adatok kiadásával kapcsolatos perek” bírósági gyakorlata tárgykörére felállított joggyakorlat-elemző csoport összefoglaló véleménye, 3 December 2018. (https://kuria-birosag.hu/sites/default/files/joggyak/osszefoglalo_velemen_y_adatvedelem.pdf)
- MEKH (2019), *Országgyűlési beszámoló 2018*, Magyar Energetikai és Közmű-szabályozási Hivatal.
- MNB (2019a), *Household Finance and Consumption Survey “What Do We Live From?” 2017. Presentation of the first results for Hungary*, Magyar Nemzeti Bank, Directorate Statistics.
- MNB (2019b), *Financial Stability Report, December 2019*, Magyar Nemzeti Bank.
- MNB (2019c), *Housing Market Report, November 2019*, Magyar Nemzeti Bank.
- MNB (2018), *Growth Report, November 2018*, Magyar Nemzeti Bank.
- MTA (2020), *A közoktatás indikátorrendszere 2019*, Magyar Tudományos Akadémia, Közgazdaság- és Regionális Tudományi Kutatóközpont, Közgazdaság-tudományi Intézet (https://www.mtakti.hu/wp-content/uploads/2020/01/A_kozoktatasi_indikatorrendszere_2019.pdf)
- Muraközy, B. and I. González Vázquez (2020), *RIO Country Report: Hungary*, European Commission, Joint Research Centre (JRC119757).
- Muraközy, B., M. Bisztray and B. Reizer (2018), *Productivity differences in Hungary and mechanisms of TFP growth slowdown*, Research paper commissioned by the European Commission, Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs.
- Nagy, P., Z. Pápai, A. McLean and B. Papp (2017), ‘Az elveszett mobilinternet nyomában: A magyar mobil szélessáv penetrációs lemaradásának lehetséges okai’, in P. Valentinyi, F. L. Kiss and I. Csongor (eds), *Verseny és szabályozás 2016*, Magyar Tudományos Akadémia, Közgazdaság- és Regionális Tudományi Kutatóközpont, Közgazdaság-tudományi Intézet, pp. 197-240.
- NAIH (2019), *Annual Report of the National Authority for Data Protection and Freedom of Information 2018*, National Authority for Data Protection and Freedom of Information, Budapest. (<https://naih.hu/files/NAIH-Annual-report-2018-v190830.pdf>)
- NEAK (2019), *Nemzeti Egészségbiztosítási Alap - 2018-as költségvetés zárszámadása*. Retrieved from <http://www.neak.gov.hu/>
- Nyíró Zs., I. J. Tóth and J. Varga (2019), *Changes in Hungarian Academy of Sciences researchers’ intention to resign and job search efforts between 2017 and 2019: Survey results*. Survey of Scientists-Hungary (<https://bit.ly/2yTwFiv>)
- OECD (2019a), *Government at Glance 2019*, OECD Publishing, Paris.
- OECD (2019b), *FDI in Figures April 2019*, OECD Publishing, Paris.
- OECD (2019c), *OECD Sovereign Borrowing Outlook 2019*, OECD Publishing, Paris.
- OECD (2019d), *Education at a Glance 2019*, OECD Publishing, Paris.
- OECD (2018a), *Inventory of Support Measures for Fossil Fuels 2018*, OECD Publishing, Paris.
- OECD (2018b), *OECD Regulatory Policy Outlook 2018*, OECD Publishing, Paris.

- OECD (2018b), *OECD Services Trade Restrictiveness Index (STRI): Hungary*, Organisation for Economic Co-operation and Development. (<http://www.oecd.org/trade/topics/services-trade/documents/oecd-stri-country-note-hungary.pdf>)
- OECD (2016), *OECD Economic Surveys: Hungary 2016*, OECD Publishing, Paris.
- OECD/European Observatory (2019), *Hungary: Country Health Profile 2019, State of Health in the EU*, OECD Publishing, Paris/European Observatory on Health Systems and Policies, Brussels.
- Office of the Prosecutor General (2019), *Criminality and Criminal Justice*, Magyarország Ügyészsége. (http://ugyeszseg.hu/pdf/statisztika/Criminality_and_CriminalJustice_2009_2018.pdf)
- Pavlínek, P. and J. Ženka (2011), 'Upgrading in the automotive industry: firm-level evidence from Central Europe', *Journal of Economic Geography*, Vol. 11, pp. 559-586.
- Pellényi, G. M. (2019), 'Regional spillovers in the Hungarian housing market: Evidence from a spatio-temporal model', *European Economy – Discussion Papers* No. 2015-095, European Commission, Directorate-General for Economic and Financial Affairs.
- Pogonyi, Cs. G. (2014), *Unemployment and Public Transportation: Evidence from Hungarian Municipalities*, M.A. Thesis, Central European University, Budapest.
- PWC (2018), *Hungarian Automotive Supplier Survey 2018*. PricewaterhouseCoopers Hungary. (https://www.pwc.com/hu/en/kiadvanyok/assets/pdf/automotive_survey_2018.pdf)
- Ramboll and Corit (2016), 'Study on Structures of Aggressive Tax Planning and Indicators', *Taxation Paper* No. 61, European Commission, Directorate General Taxation and Customs Union.
- Restuccia, D. and R. Rogerson (2017), 'The causes and costs of misallocation', *Journal of Economic Perspectives*, Vol. 31, pp. 151-174.
- Rodríguez-Pose A. and T. Ketterer (2019), 'Institutional change and the development of lagging regions in Europe', *Regional Studies*, Vol. 53, pp. 1-13.
- RSF (2019), *Classement Mondial de la Liberté de la Presse 2019*, Reporteres Sans Frontières. (<https://rsf.org/fr/classement>)
- Rugraff, E. and M. Sass (2016), 'How did the automotive component suppliers cope with the economic crisis in Hungary?' *Europe-Asia Studies*, Vol. 68, pp. 1396-1420.
- SGI (2019), *Sustainable Governance Indicators 2019, Hungary Report*, Bertelsmann Stiftung. (https://www.sgi-network.org/docs/2019/country/SGI2019_Hungary.pdf)
- SHCP (2017), *Public Health Focused Model Programme for Organising Primary Care Services Backed by a Virtual Care Service Centre*. Swiss-Hungarian Cooperation Programme, Budapest.
- State Treasury (2019), *Az államháztartás központi alrendszerébe tartozó költségvetési szervek tartozásállománya 2019. szeptember 30-i állapot szerint*, Press release, Magyar Államkincstár. (<http://www.allamkincstar.gov.hu/hu/koltsegvetesi-informaciok/aktualis-informaciok/3444/>)
- Stöllinger, R. (2019), 'Testing the Smile Curve: Functional Specialisation in GVCs and Value Creation', *wiiw Working Paper* No. 163, Vienna Institute for International Economic Studies.

Sturgeon, T. J., O. Memedovic, J. Van Biesebroeck and G. Gereffi (2009), ‘Globalisation of the automotive industry: main features and trends’, *International Journal of Technological Learning, Innovation and Development*, Vol. 2, pp. 7-24.

Szabo, S. (forthcoming), ‘Transition to Industry 4.0 in the Visegrád countries’, *European Economy – Economic Briefs*, European Commission, Directorate-General for Economic and Financial Affairs.

Szalavetz, A. (2017), ‘Upgrading and value capture in global value chains in Hungary: more complex than what the smile curve suggests’, in: B. Szent-Iványi (ed.), *Foreign Direct Investment in Central and Eastern Europe: Post-crisis Perspectives*. Palgrave Macmillan, pp. 127-150.

Századvég (2018), *A hazai víziközmű-szolgáltatás aktuális helyzete. Tények, problémák, megoldási javaslatok. Fenntartható lesz-e az ellátásbiztonság a jövőben?*, Századvég Gazdaságkutató Zrt.

Transparency International (TI) (2020), *Corruption Perceptions Index 2019*.

Timmer, M. P., Dietzenbacher, E., Los, B., Stehrer, R. and de Vries, G. J. (2015), ‘An Illustrated User Guide to the World Input–Output Database: the Case of Global Automotive Production’, *Review of International Economics*, Vol. 23, pp. 575–605.

Venice Commission (2012): *Opinion on Act CLXIII of 2011 on the Prosecution Service and Act CLXIV of 2011 on the Status of the Prosecutor General, Prosecutors and other Prosecution Employees and the Prosecution Career of Hungary*, adopted by the Venice Commission at its 91st Plenary Session (Venice, 15-16 June 2012).

Voigt, S., J. Gutmann and L. P. Feld (2015), ‘Economic growth and judicial independence a dozen years on: Cross-country evidence using an updated set of indicators’. *European Journal of Political Economy*, Vol. 38, pp. 197-211.

WB-PWC (2019), *Paying taxes 2020*, PricewaterhouseCoopers and World Bank Group. (<https://www.doingbusiness.org/content/dam/doingBusiness/pdf/db2020/PayingTaxes2020.pdf>)

WEF (2019), *The Global Competitiveness Report 2019*, World Economic Forum, Geneva.

WEF (2017), *The Global Competitiveness Report 2017-2018*, World Economic Forum, Geneva.

WGI (2019), *The Worldwide Governance Indicators, 2019 Update*, World Bank Group, Washington D.C.

WIFO (2019), *The Performance of the Single Market for Goods after 25 Years*, Österreichisches Institut für Wirtschaftsforschung, Wien.

World Bank (2019), *Doing Business 2020: Comparing Business Regulation in 190 Economies*, World Bank Group, Washington D. C.

World Bank (2017), *Europe and Central Asia - Country risk profiles for floods and earthquakes*, World Bank Group, Washington, D. C. (<http://documents.worldbank.org/curated/en/958801481798204368/Europe-and-Central-Asia-Country-risk-profiles-for-floods-and-earthquakes>)