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Country Report Bulgaria 2020

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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

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EXECUTIVE SUMMARY

Bulgaria's growth prospects remain favourable but there is scope to further strengthen the overall resilience and competitiveness of its open economy. Sound macroeconomic policies have underpinned robust economic growth and historically low unemployment rates. Nevertheless, Bulgaria has been slow to catch up with the rest of the EU and still has one of the highest levels of poverty and income inequality. Broad-based structural reforms and additional investments are needed to boost productivity and achieve sustainable and inclusive growth, especially in the context of adverse population developments, considerable shortages of workers and rising regional disparities. Improving the quality of institutions, fighting corruption and fostering a favourable business climate are important for future growth. Bulgaria's firm commitment to enter the Exchange Rate Mechanism II provides further impetus to reforms. The authorities continued to tackle the identified macroeconomic imbalances, particularly by strengthening financial supervision and taking steps to address financial sector vulnerabilities ([1]).

Economic expansion has proved robust in the face of the deterioration of developments abroad, although more moderate growth lies ahead. After accelerating from 3.1% in 2018 to an estimated 3.7% in 2019, real annual GDP growth is expected to slow to around 3% in 2020 and 2021, still underpinned by domestic demand. Private spending will be supported by real wage increases, but curbed by the limited employment gains. Investment is expected to expand only moderately in the context of heightened economic uncertainty abroad and somewhat worsened domestic growth prospects. Exporters are set to preserve their competitive position through productivity gains and product quality improvements and exports are projected to regain modest growth after a small decline in 2019. Employment gains are likely to stall in 2020 and to turn negative in 2021 due to a shrinking labour force and an already existing shortage of workers

Potential GDP growth has strengthened in recent years, but not enough as yet to ensure a rapid catching-up process. Potential growth has hovered around 3% since 2016, with total factor productivity the main factor behind its expansion. Investment activity has also contributed to potential growth, albeit more moderately. The growing export market share, alongside an increasing cost of labour per unit of output produced, suggests that non-price factors, such as quality improvements and continued integration in global value chains, have underpinned Bulgaria's competitive position.

Insufficient investment is holding back the modernisation of the economy. Although investment is increasing, its share of GDP remains below the EU average, holding back the catching-up process. Business environment improvements could support investment. Identifying investment needs in green technologies and sustainable solutions, and securing adequate funding will be key to deliver on climate and energy objectives and shaping a new growth model. Investments in transport, energy and environmental infrastructure could help attracting foreign direct investment and strengthen business competitiveness. More and better targeted investment in digitalisation and in R&D can lead to productivity gains but attention should be paid to the governance and performance of the funded projects. Targeted investment could also help to tackle growing regional disparities, particularly in the North-West region.

Bulgaria has made some progress in addressing the 2019 country-specific recommendations ([2]).

There has been **substantial progress** in:

- upgrading the corporate governance framework of the State-owned enterprises in line with international good practices;
- reinforcing supervision of the banking sector;
- effectively enforcing risk-based supervision in the non-banking financial sector.

There has been some progress in:

([1]) This report assesses Bulgaria's economy in light of the European Commission's Annual Sustainable Growth Strategy, published on 17 December 2019. In this document, the 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]) 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.

- improving tax collection through targeted measures in areas such as fuel and labour taxes;
- promoting adequate valuation of assets in the banking sector and a functioning secondary market for non-performing loans;
- enforcing the recently adopted valuation guidelines and group-level supervision in the non-banking financial sector;
- improving the business environment;
- strengthening employability by reinforcing skills, including digital skills;
- addressing social inclusion through more effective minimum income support.

There has been **limited progress** in:

- ensuring effective supervision and the enforcement of the anti-money laundering framework;
- implementing the insolvency framework roadmap;
- fostering the stability of the car insurance sector;
- focusing investment-related economic policy on research and innovation, transport (in particular on its sustainability), water, waste and energy infrastructure and energy efficiency, taking into account regional disparities;
- improving the quality, labour market relevance, and inclusiveness of education and training, in particular for Roma and other disadvantaged groups;
- addressing social inclusion through improved access to integrated employment and social services;
- improving access to health services, including by reducing out-of-pocket payments and addressing shortages of health professionals.

The Social Scoreboard supporting the European Pillar of Social Rights points to some challenges. The share of people at risk of poverty or social exclusion is high (especially for children), while the capacity of social transfers([3]) to reduce poverty remains limited. Although decreasing, the share of young people neither in employment nor in education or training and the share of early school leavers are still high. The level of digital skills is very low. Meanwhile, the employment rate is relatively high for men and women and gross disposable household income continues to increase.

Regarding the national targets under the Europe 2020 strategy, the figures for people at risk of poverty, early school leaving and participation in tertiary education have improved. However, more needs to be done to reach the nationally set goals. Bulgaria is still on track to achieve its targets for greenhouse gas emissions and renewable energy. It is not progressing towards its energy efficiency indicative targets and the gap between the current and target levels of energy consumption is widening. There was no progress towards the R&D intensity target.

Bulgaria is making progress towards achieving the United Nations' Sustainable Development Goals (SDGs). Bulgaria has fared well in labour market indicators in SDG 8 'Decent work and economic growth', with employment rates on the rise. In terms of levels, it is one of the worst performers in the EU in SDG 1 'No poverty', which is further exacerbated by adverse t in SDG 10 'Reduced inequalities'([4]).

The main findings of the in-depth review contained in this report and the related policy challenges are as follows:

- **The banking sector has continued to strengthen, while follow-up measures are expected.** Overall, banks are profitable and well capitalised and the ratio of non-performing loans has been falling. Nonetheless, Bulgaria continues to be among the EU countries with high rates of non-performing loans, especially for non-financial corporations. Moreover, the asset quality review and stress test conducted by the European Central Bank revealed the need to increase the capital in two banks. Several important new regulatory guidelines have been introduced and there has been adequate follow-up of already adopted

([3]) Social transfers cover the social help given by central, state or local institutional units.

[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. The report contains reinforced analysis and monitoring on the SDGs. A new annex (Annex E) presents a statistical assessment of SDGs' trends during the past 5 years, based on Eurostat's EU SDG indicator set.

acts. The work on banks' resolution plans has advanced, and internal rules and procedures introduced in July 2018 are due to undergo review and possible fine-tuning.

- **The supervisory framework of the non-banking financial sector has been strengthened, but further action is necessary in the insurance sector.** A proper risk-based, forward-looking supervisory process was established. Legal and regulatory provisions were also introduced to improve supervisory effectiveness and practices over valuation methods for the insurance and pension funds sectors and for related-parties transactions in the pension funds sector. The remaining weaknesses in the insurance sector concern the adequacy of technical provisions, the appropriateness of the valuation of non-listed assets and the effectiveness of governance. Moreover, the financial stability of the Bulgarian Green Card Bureau has come into question. Other challenges in the motor third party liability segment, such as poor pricing policies and uncertainty around the compensation of victims of car accidents, are expected to be addressed by forthcoming legislative proposals.

- **The private sector continues to shed debt, while maintaining positive credit flows.** Most debt continues to be on the books of non-financial corporations. Household debt increased due to intensified mortgage lending, but still remains among the lowest in the EU. Non-performing loans remain high, but have been steadily decreasing. House prices continued to rise, albeit at a slower pace. There are no signs of overheating in the housing market, but the recovery should be monitored.

- **The insolvency framework roadmap was adopted in June 2019.** The authorities are preparing follow up steps, including legislative changes and capacity building activities that are crucial to the success of the reform.

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

- **A major reform is ongoing of the corporate governance framework of state-owned enterprises.** It aims to address significant performance and management challenges. A law overhauling the framework and the principles for corporate governance of these enterprises was adopted. The reform will only be completed when the implementing acts of the law are prepared and put into effect.

- **The labour market improved further, supported by solid economic growth.** The employment rate reached 72.4 % in 2018, while the unemployment rate decreased to 5.2%. However, regional disparities remain high, and the declining working-age population and labour shortages constrain future growth prospects. Long-term unemployment and inactivity rates have fallen to the EU averages. However, some groups still find it difficult to find work, including Roma, young people and people living in rural areas.

- **The quality and inclusiveness of the education system continue to be challenging, despite ongoing reforms**. This poses challenges for disadvantaged groups, such as Roma and children in rural areas or in vulnerable situations. Persistently high rates of early school leaving and low educational performance, confirmed by the 2018 PISA results, highlight the need for more targeted measures. The reform of vocational education and training (VET) continues, but the employment rate of VET graduates is still below the EU average. Tertiary educational attainment is still below the Europe 2020 target, and the provision of higher education is only partially aligned with the needs of the labour market. The rate of participation in adult learning is one of the lowest in the EU.

- **Social challenges remain significant.** Although decreasing, the share of population at risk of poverty or social exclusion is still very high. The in-work poverty rate remains a concern, particularly for young and low-skilled workers. Income inequality is the highest in the EU, influenced by the low levels of minimum income and old age pensions. The adequacy and coverage of the minimum income remains insufficient, despite the amendments in the allowance to support home heating. Reform of social services has been further postponed.

- **Access to healthcare is limited due to an uneven distribution of scarce resources and low health insurance coverage.** Public expenditure on healthcare remains very low, with out-of-pocket payments ([5]) covering almost half of healthcare costs — one of the highest shares in the EU. No details of the health insurance reform announced in July 2019 have been released. The strategy for long-term care is under way.

- **The potential for research and innovation to support productivity remains underutilised.** The low level of public and business investment, the inefficient and fragmented research system and weak science-business links remain key obstacles to an innovation-oriented economy.

- **Improving the business environment and institutional quality remains a challenge.** Public administration and e-government reforms are progressing slowly and have not led to a significant improvement in the business environment. Despite some progress, public procurement remains a concern. There is a lack of effective coordination between public procurement policy makers. The use of the electronic platform, which can increase the transparency of public tenders, remains limited. Frequent changes in the legislation continue to create regulatory uncertainty and are among the main obstacles to investment.

- **Challenges persist in the fight against corruption.** While reforms will take time to show results, Bulgaria still lacks a solid criminal track record of concrete results on high level corruption cases that would help to build public trust. A number of challenges persist, in particular ensuring effective criminal investigations, rebalancing the workload among courts, and streamlining local prosecution service offices. Bulgaria has taken steps to strengthen the anti-money laundering framework by adopting legislation to complete the transposition of the forth anti-money laundering directive and to transpose the fifth. The new legislation is yet to be assessed. Challenges also remain in analysing risk exposures, using financial intelligence and ensuring effective supervision. Measures to mitigate risks in relation to the 'citizenship by investment' scheme have not yet been undertaken. Such schemes have raised concerns about certain inherent risks, also linked to money laundering.

- **Inadequately addressed environmental challenges present an obstacle to long-term sustainable growth.** Bulgaria remains among the Member States with the largest incidence of pollution-related deaths, with the number of years of life lost due to air pollution and urban population exposure to micro-particles the highest in the EU. There is limited progress in ensuring compliance with urban wastewater collection and treatment obligations. There is still no overarching circular economy programme even though the circular use of material is among the lowest in the EU and there are waste management challenges.

- **Bulgaria remains the most energy-and greenhouse gas-intensive economy in the EU by a wide margin.** In 2017, Bulgaria needed 3.8 times more energy and produced 4.4 times more carbon emissions per unit of GDP than the EU average. The high energy intensity of the economy and slow progress on reaching energy efficiency targets negatively affects productivity and competitiveness. There is scope for significant energy savings via targeted investments in the industrial, transport and residential sectors and for increased investments in clean energy infrastructure. The Commission's proposal for a Just Transition Mechanism under the next 2021-2027 multi-annual financial framework includes a Just Transition Fund, a dedicated just transition scheme under InvestEU, and a new public sector loan facility with the European Investment Bank. It is designed to ensure that the transition towards EU climate neutrality is fair by helping Bulgaria's most affected regions to address social and economic consequences. Key priorities for support under the Just Transition Fund, set up as part of the Just Transition Mechanism, are identified in Annex D, building on the analysis of transition challenges outlined in this report.

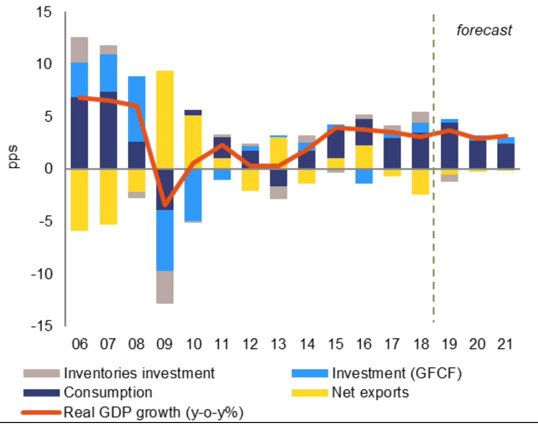
([5]) On-the-spot, direct payments from patients to healthcare providers.

1. ECONOMIC SITUATION AND OUTLOOK

GDP growth

Economic growth in Bulgaria remained strong in 2018 and the first nine months of 2019. Private consumption was the main driving force of economic growth on the back of rapid wage growth and high employment. Overall investment growth was moderate except for investment in machinery and equipment, which was supported by favourable financing conditions and high capacity utilisation. Export growth slowed in 2018, mainly due to temporary one-off factors and became volatile in the course of 2019 as the negative impact of increased economic uncertainty abroad was partially offset by the efforts of exporting firms to diversify across destination markets. In 2019 export dynamics were also influenced by one-off factors. Import continued to increase with strong growth rates in 2018 following developments in domestic consumption and investment, but slowed in 2019. Overall, net exports had a sizable negative contribution to GDP growth in 2018, while in 2019 the contribution was close to zero.

Graph 1.1: **Real GDP growth by demand components**

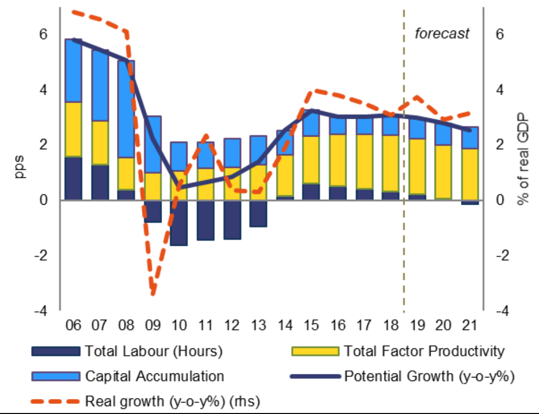


2019-2021: Winter forecast 2020 for real GDP growth, otherwise Autumn forecast 2019
Source: European Commission

Domestic demand is expected to lose some growth momentum, but remain the main growth driver. Limited scope for further improvement in employment is set to weigh on household consumption dynamics, while real wage increases are set to support private spending. In the next two years, investment is expected to grow at a moderate pace against the backdrop of heightened economic uncertainty abroad and somewhat worsened domestic growth prospects. After stagnating in 2019, exports are projected to regain modest growth rates, in line with foreign demand developments. Exporting firms are set to preserve their competitive position by maintaining productivity growth and locking in non-price competitive advantages. Overall, economic growth in Bulgaria is set to slow from 3.7% in 2019 to around 3% in 2020 and 2021.

Potential GDP growth has strengthened in recent years, benefiting mostly from gains in total factor productivity. Capital accumulation has steadily supported potential growth in recent years. In contrast to the 2005-2009 period, when investment benefited from large FDI inflows, current investment activity relies largely on domestic savings and EU funds absorption. This implies a more balanced and sustainable growth model, less dependent on typically more volatile external sources of financing, and with a more moderate role of capital as a production factor. The contribution of labour to potential growth is bound to become negative, due to adverse demographics and the exhaustion of the pool of unemployed. Strong productivity gains, underpinned by high investment rates, human capital accumulation and increased efficiency are necessary to ensure a healthy pace of real economic convergence.

Graph 1.2: **Potential growth breakdown**

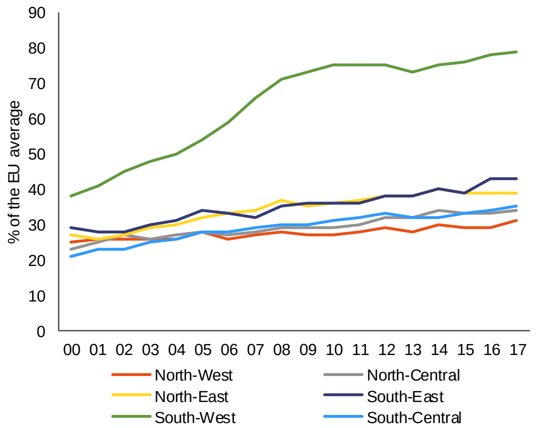


2019-2021: Winter forecast 2020 for real GDP growth, otherwise Autumn forecast 2019
Source: European Commission

Regional disparities

There are significant regional disparities in Bulgaria. Regional disparities, measured in terms of variation in GDP per head, have been increasing significantly since 2000, reaching a peak in 2010 and stabilising afterwards at a slightly lower level. The main driver is the concentration of economic activity in the capital region of Sofia and its rapid development in 2000-2010. The capital region of Sofia (South-West) generates more than 47% of the national GDP, and has a per capita GDP level that is almost twice that of other Bulgarian regions. It also attracts more than half of foreign direct investment in the non-financial sector, which is mostly concentrated in the capital itself[6]. The poorest performers are the North-Central and in particular the North-West region.

Graph 1.3: **Evolution of GDP per capita in PPS among Bulgarian NUTS2 regions**



Source: European Commission

From 2000-2010, the Southwest region registered high increases in GDP per capita, while the other five regions lagged behind. After 2010, the GDP per capita increases observed in the capital region became more modest, while the other NUTS2 regions continued their slower but steadier path to growth (see Graph 1.3). This led to the slight reduction in regional disparities that is observable after 2010. However, there are still persistent structural issues that affect productivity and competitiveness at regional level, which slow down the convergence process.

Demographic developments also influence regional trends in GDP per capita. The NUTS2 regions that were most affected by demographic changes are North-West (-28.8%) and North-Central (-23.1%). By comparison, the population in the capital region decreased by only 1.3% during 2010-2017 because the natural population change was offset by an increase in net migration (+4.7%) from the other regions.

The 2019 European Regional Competitiveness Index points to significant divergences across regions. The capital region is the only NUTS2 region with a substantially better performance. A common pattern emerged across all regions: a tendency for higher scores on the efficiency dimension (higher education and lifelong learning, labour market efficiency and market size), but lower scores on the basic dimension (institutions, infrastructure, health and basic education) and the innovation dimension (technological readiness, business sophistication and innovation).

Investment

Total investment is estimated to have increased only moderately in 2019. Over the course of 2020-2021, investment is set to regain some momentum but still grow at a relatively moderate pace, against the backdrop of elevated economic uncertainty abroad and somewhat worsened global growth prospects.

Public investment increased sharply in 2018 and its growth is set to be positive in 2019 and beyond. The government has sped up the implementation of investment projects. EU financed investment is accelerating and is expected to remain high in the medium term. At the same time, a large share of public investment (more than two thirds) has been financed by purely national resources. This investment has been mainly channelled to road infrastructure and smaller construction projects. Public investment in transport infrastructure and defence is expected to increase in the coming years, based on the government announcing its intention to finance specific projects in these sectors.

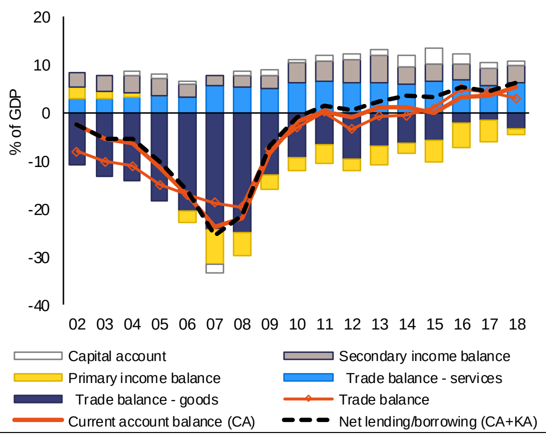
External position

The current account balance is strengthening further. After reaching a surplus of 5.4% of GDP in 2018, the current account balance continued to improve throughout 2019, owing to stronger net exports and lower investment income from foreign direct investment (FDI). Going forward, the

(6) https://www.nsi.bg/en/content/6196/foreign-direct-investments-non-financial-enterprises-3112-statistical-regions-and

current account is forecast to remain in surplus, reflecting, among other things, a positive saving-investment balance due to somewhat subdued investment outlook and a moderate consumption profile in the context of growing disposable income. The current account has been consistently in surplus since 2013 and is above the current account norm([7]) of -1.1%, reflecting the external rebalancing process that ensued after 2009.

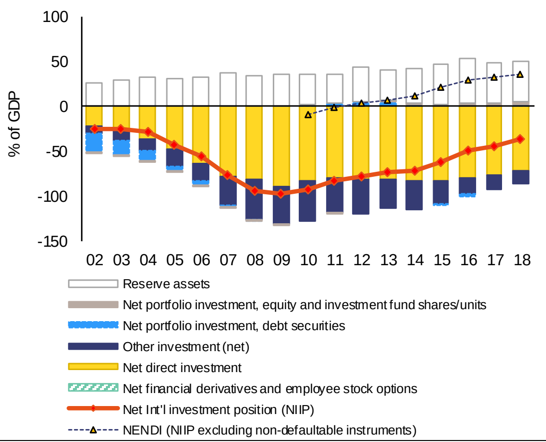
Graph 1.4: **Current account developments**



Source: European Commission

The negative Net International Investment Position (NIIP) is on a very rapidly decreasing path. Ample liquidity in the banking sector and strong GDP growth are facilitating fast NIIP contraction. NIIP reached -36.2% of GDP in 2018 (down from -44.2% in 2017). Growing reserve assets at the Bulgarian National Bank (BNB) and net deposits of commercial banks abroad account for the largest reduction in net external liabilities. Through the currency board arrangement, the expansion of BNB's foreign assets reflects growing central bank liabilities, i.e. – currency in circulation and deposits of commercial banks. Net portfolio investment abroad also contributed to the improvement of the external position. The structure of the net external liabilities is favourable for the external sustainability of the economy, as it is mostly made up of FDI equity (see Graph 1.5).

Graph 1.5: **Net international investment position**



Source: European Commission

Inflation

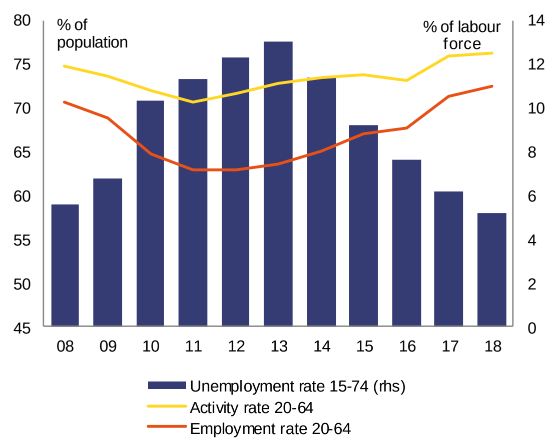
Temporary and seasonal factors influence inflation. Annual headline inflation settled at 2.5% in 2019. Price dynamics have been volatile since the beginning of the year, accelerating to 3.1% in April and declining to 1.6% in September. Food prices have contributed strongly to inflation, influenced by the poor harvest in 2018 and the spread of the African swine fever beginning in April 2019. Services inflation outpaced that of total goods on the back of strong wage growth and factors specific to catering services, such as a more pronounced seasonality and higher prices of food. Unprocessed food and energy prices are expected to sustain inflation around 2.3% in 2020, while the assumed path of oil prices is set to hold inflation at 1.9% in 2021.

Labour market

There is a growing shortage of workers in the context of steady economic growth. The unemployment rate decreased further (see Graph 1.6) and at the end of 2018 was below its pre-crisis level (5.2% against 5.6% in 2008), while employment and activity rates continued to rise and approach the EU averages (2018: 72.4% and 76.3%; EU 73.2% and 78.4%, respectively). At the same time, adverse demographic trends, high inactivity rates for some population groups (such as Roma, people living in rural areas or those neither in employment nor in education and training) coupled with and labour shortages remain key challenges to future growth.

([7]) 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).

Graph 1.6: **Labour market indicators**



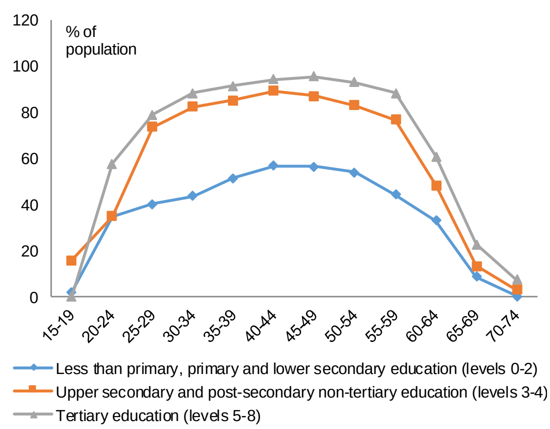
Source: European Commission

Strong wage growth continues, although not evenly across sectors. In 2018, real compensation per employee grew by 5.4%, faster than productivity, which increased by 3.2%. While public sector wages increased by 10.9%, wages in the private sector grew by 4.2% (European Commission, 2019c). Private sector wage growth was driven by services (10.8%), and in particular the "professional, scientific and technical activities" sector (11.6%). Wage discrepancies across regions and sectors remain relatively high.

Integration into the labour market differs among population groups and regions. The positive economic developments of recent years did not benefit the whole population equally. There are still noteworthy discrepancies in employment and inactivity rates depending on age, education levels and across regions (see Graph 1.7). In 2018, the share of young people aged 15-24 not in education, employment or training (NEET) decreased further, but was still 15.0 % (EU average 10.5%). Likewise, 15.4% of the low skilled active population was unemployed, while the share was much lower for the medium skilled (4.4%) and high skilled populations (2.4%). To add to these divergences, differences in employment rates between the best and the least performing regions are as large as 15 pps.

The rate of people living in poverty remains very high, though it is declining. Despite a continuous downward trend (from 41.3% in 2015 to 32.8% in 2018) poverty or social exclusion still affect 2.3 million Bulgarians (see Graph 1.8). Poverty risks are more prominent for children, the elderly, the low skilled, people with disabilities, and Roma, with differences across regions. The risk of poverty, including in-work poverty, continues to be much higher among those with less-than-primary, primary and lower secondary education. While poverty and social exclusion risks declined by 16.4 pps nationwide since 2010, they decreased only by 8.9 pps in the less developed North-West region.

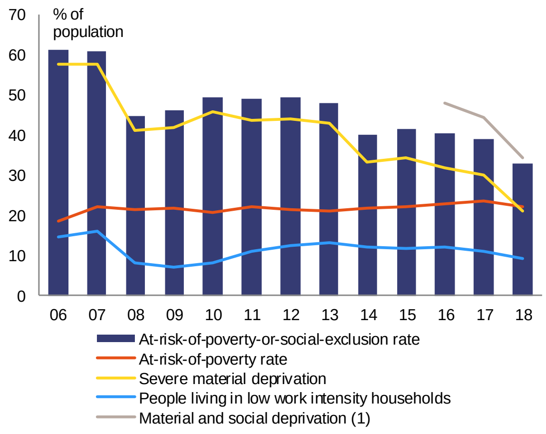
Graph 1.7: **Employment rate by age group and educational attainment level, 2018**



Source: European Commission

Income inequality started to decrease, driven by a steady rise in earnings. In 2018, the income of the richest 20% of the population was 7.66 times higher than that of the poorest 20%, with the impact of social transfers on reducing poverty still significantly low (25.4% compared with 33.2% for the EU). This reflects the low level of social spending and the limited redistributive effects of the taxation system. Inequality of opportunity remains high, as shown for instance by the high poverty risk facing children whose parents have primary or lower education. Between 2010-2019, gross disposable household income per capita has been increasing at a similar rate to that of the GDP per capita, which suggests that increases in income have reached households as well. However, income distribution in the population aged 16+ points to the importance of economic activity and education levels. The average equalised disposable income of employed people with higher education is 6.3 times higher than that of the unemployed.

Graph 1.8: **At-risk-of-poverty or social exclusion rate and its components (AROP, SMD, LWI, MSD)**



(1) The Material and Social Deprivation indicator (MSD) is the result of a revision of the Material Deprivation indicator (MD). It takes into consideration a broader concept of deprivation as it also includes items related to social activities. The MSD rate is the share of people in the total population lacking at least 5 items out of the 13 MSD items.
Source: European Commission

Financial sector

The banking sector maintained high capital and liquidity ratios, supported by economic growth. The system-wide CET1 ratio([8]) was 18.5% at the end of Q2 2019 and funding was comfortable on aggregate, with the loan-to-deposit ratio at 77.4%. Total assets in October 2019 were 8.6 % up on one year earlier. Banks profitability slightly improved in 2018 and remained at a high level in 2019, with return on equity at 12.1% in Q2.

Non-performing loans (NPLs) remain relatively high, but have been steadily decreasing and the secondary market has become more dynamic. The NPL ratio has been on a downward trend across individual banks and segments, declining to 6.9% at the end of Q2 2019 (from 9.2% a year earlier). However, it remains one of the highest in the EU (well above the EU average of just below 3%)([9])(see Section 3 and 4.2). NPLs by non-financial corporations (NFCs) also decreased, but still stood at 11.1% of total loans and advances in Q2 2019 (compared with 15.4% a year earlier) and were even higher for domestically owned banks (at 19.4%).

([8]) The Common Equity Tier 1 (CET1) ratio is the sum of common shares, retained earnings and other comprehensive income, qualifying minority interest and regulatory adjustments, divided by the risk-weighted assets.

([9]) According to ECB Consolidated Banking data.

Credit activity strengthened further. In October 2019, growth rates reached 8.1 % for NFCs and 10.4 % for households. This could support higher private investment and spur potential growth. At the same time, mortgage loans grew strongly, by more than 14.8 % year-on-year in October, owing to the positive economic environment and higher disposable incomes([10]). The access of companies to financial market funding, especially the use of listed shares and debt securities, remains very limited. Financial literacy attainment among households remains low, limiting capacity to make informed choices and to plan for retirement([11]).

House prices continued to rise, albeit at a slower pace. House prices grew by 5.4% y-o-y in Q3 2019, a deceleration from 6.6% in 2018. The largest rises have been recorded in the second biggest city, Plovdiv (12.3%), while in the capital Sofia, prices increased by 6.8%. Mortgage credit has continued to grow at a fast pace, while the number of issued building permits declined in Q3 2019, after a period of buoyant growth, which warrants close monitoring of future developments. Strong mortgage growth has continued, signalling that credit could be fuelling the ongoing expansion of the real estate market. Meanwhile, construction investment as a percentage of GDP remained stable in 2018.

Despite continued increases, housing prices are still in line with the fundamentals([12]). The overvaluation gap is still negative and has narrowed from -14.5% in 2015 to -5.6% in 2018, suggesting that housing prices are still recovering from the post-crisis slump (see Graph 1.9). The price-to-income ratio is still below the historical averages but it is slowly edging up, while the price-to-rent ratio has aligned with its historic trends. Although there are no signs of overheating

([10]) Growth rates of loans are calculated from notional stocks, which reflect only changes that arise from financial transactions.

([11]) According to the S&P Global FinLit Survey (2014), only 35% of adults in Bulgaria are financially literate (well below the EU average of 52%). In 2017, the share of debt securities, investment fund shares/units and insurance/pension products in the households' financial assets in Bulgaria was low as compared to many other EU countries.

([12]) The deviation of house prices from fundamentals is computed as an average of the price/income, price/rent and fundamental model valuation gaps. For more details on the methodology, see Philiponnet & Turrini (2017), https://ec.europa.eu/info/sites/info/files/dp048_en.pdf

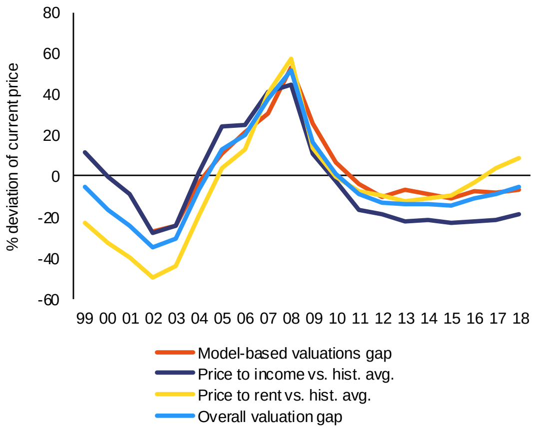
Table 1.1: **Financial soundness indicators, all banks in Bulgaria**

	2014q4	2015q4	2016q2	2016q3	2016q4	2017q1	2017q2	2017q3	2017q4	2018q1	2018q2	2018q3	2018q4	2019q1	2019q2
Non-performing loans	16.0	14.5	14.0	13.7	12.8	12.6	12.1	11.5	10.2	9.4	9.2	8.6	7.7	7.5	6.9
o/w foreign entities	-	15.8	14.4	13.9	12.7	12.2	11.8	11.0	9.5	8.7	8.5	7.7	6.8	6.4	5.7
o/w NFC & HH sectors	-	23.4	22.4	22.0	20.5	20.4	19.2	18.6	16.4	15.1	14.5	13.6	12.1	11.8	10.5
o/w NFC sector	20.7	23.1	22.4	22.0	21.1	21.2	19.9	19.2	17.3	16.1	15.4	14.5	12.7	12.3	11.1
o/w HH sector	17.4	16.9	15.8	15.5	13.9	13.6	13.1	13.0	11.4	10.0	9.9	9.5	9.0	8.8	8.0
Coverage ratio	48.9	50.1	50.2	52.1	51.3	51.4	51.6	53.3	50.6	55.0	55.5	55.4	52.7	52.4	50.5
Return on equity(1)	7.2	8.0	14.0	12.5	11.3	10.8	11.9	10.4	10.2	10.0	11.8	12.3	11.8	9.5	12.1
Return on assets(1)	0.9	1.0	1.8	1.7	1.5	1.4	1.5	1.3	1.3	1.2	1.5	1.5	1.6	1.3	1.5
Total capital ratio	21.5	21.6	22.2	22.2	21.5	21.8	22.2	21.9	21.8	20.6	20.8	20.1	20.6	19.2	19.5
CET 1 ratio	19.1	19.5	20.3	20.5	19.8	20.1	20.5	20.2	20.2	19.1	19.4	18.7	19.3	18.0	18.5
Tier 1 ratio	19.6	19.9	20.8	21.0	20.3	20.6	21.0	20.7	20.6	19.6	19.8	19.1	19.7	18.4	18.8
Loan to deposit ratio	82.7	73.4	74.3	74.0	72.4	72.8	73.8	73.5	72.6	74.6	72.7	73.9	75.5	75.9	77.4

Source: European Central Bank

in the housing market yet, the recovery should be closely monitored, with special attention to regions that are recording the highest growth in prices.

Graph 1.9: **Overvaluation gap with respect to price/income, price/rent and fundamental model-based valuation gaps (1)**



(1) Overvaluation gap estimated as an average of the price/income, price/rent and fundamental model valuation gaps.
Source: European Commission

Public finances

Fiscal performance in Bulgaria is robust. The general government surplus is expected to remain above 1% of GDP in 2019 exceeding government's projections for a close to balance budget. Revenues continued increasing at a higher pace than budgetary projections, but in line with the macroeconomic developments and implemented measures. Expenditures expanded fast mainly due to double-digit wage increases, higher social spending and recovering public investment.

In the medium term, the budget is set to remain in surplus and public debt to continue decreasing. Revenue collection is projected to stay strong, in line with macroeconomic and labour market developments. Total spending is set to accelerate as a result of public sector wage increases already announced for 2020 and further increases in public investment for both national and EU financed projects. As a result, the budget surplus is forecast to slightly decrease to 0.9% of GDP in 2020 and to remain at the same level in 2021. Public debt is expected to decrease in the medium term and reach levels below 20% of GDP in 2021. The pace of debt reduction is set to be contained as the government is planning to issue some debt and increase its fiscal reserves to pre-finance future debt.

Sustainable Development Goals

Bulgaria is making progress towards achieving the United Nations' Sustainable Development Goals (SDGs). Bulgaria has fared well with labour market indicators in SDG 8 "Decent work and economic growth", with employment rates on the rise and the shares of long term unemployed and young people neither in employment nor in education/training falling, both approaching the EU averages. In terms of levels, Bulgaria is one of the worst performers in the EU in SDG 1 "No poverty", with some sub-indicators also recording concerning negative trends over the last 15 years (at risk of poverty in work and after social transfers). This is further exacerbated by adverse developments in SDG 10 "Reduced inequalities" and by a relatively weak performance in SDG 4 "Quality education". Despite ongoing efforts, the challenges of quality and inclusion at all levels of the education and training system remain. In the environmental and climate dimension, Bulgaria is doing well with the share of renewables in gross final energy consumption, but more needs to be done to improve energy efficiency given that both the final and primary energy consumption have been moving away from their SDG objectives.

Table 1.2: **Key economic and financial indicators - Bulgaria**

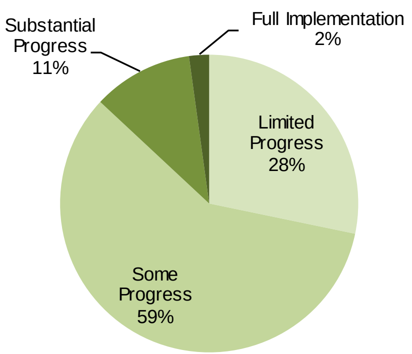
	2004-07	2008-12	2013-16	2017	2018	forecast 2019	2020	2021
Real GDP (y-o-y)	6.7	1.1	2.5	3.5	3.1	3.7	2.9	3.1
Potential growth (y-o-y)	5.9	1.8	2.5	3.0	3.1	3.0	2.8	2.5
Private consumption (y-o-y)	9.2	1.0	1.9	3.8	4.4	.	.	.
Public consumption (y-o-y)	2.5	-0.3	1.1	4.3	5.3	.	.	.
Gross fixed capital formation (y-o-y)	16.5	-4.2	-0.1	3.2	5.4	.	.	.
Exports of goods and services (y-o-y)	15.0	2.9	6.9	5.8	1.7	.	.	.
Imports of goods and services (y-o-y)	19.7	-1.1	4.9	7.4	5.7	.	.	.
Contribution to GDP growth:								
Domestic demand (y-o-y)	10.5	-0.6	1.3	3.6	4.4	.	.	.
Inventories (y-o-y)	0.7	-0.7	-0.1	0.6	1.1	.	.	.
Net exports (y-o-y)	-4.5	2.2	1.2	-0.7	-2.4	.	.	.
Contribution to potential GDP growth:								
Total Labour (hours) (y-o-y)	1.8	-1.0	0.1	0.4	0.3	0.2	0.0	-0.1
Capital accumulation (y-o-y)	2.0	1.7	0.9	0.7	0.7	0.7	0.8	0.8
Total factor productivity (y-o-y)	2.1	1.1	1.6	2.0	2.0	2.0	2.0	1.9
Output gap	1.8	0.2	-1.2	0.0	0.0	0.5	0.8	1.1
Unemployment rate	9.5	9.3	10.3	6.2	5.2	4.4	4.1	4.0
GDP deflator (y-o-y)	7.5	4.1	1.2	3.9	4.0	4.5	3.0	2.6
Harmonised index of consumer prices (HICP, y-o-y)	6.8	4.6	-0.9	1.2	2.6	2.5	2.3	1.9
Nominal compensation per employee (y-o-y)	8.6	9.8	6.4	10.5	9.7	7.8	6.6	5.4
Labour productivity (real, person employed, y-o-y)	3.7	2.8	2.3	1.7	3.2	.	.	.
Unit labour costs (ULC, whole economy, y-o-y)	4.7	6.8	4.1	8.7	6.3	4.7	3.5	2.3
Real unit labour costs (y-o-y)	-2.6	2.6	2.8	4.5	2.2	0.1	0.5	-0.3
Real effective exchange rate (ULC, y-o-y)	3.0	4.5	3.4	9.1	6.1	1.6	0.8	-0.1
Real effective exchange rate (HICP, y-o-y)	3.4	1.6	-1.2	0.7	3.5	0.3	-0.7	-0.3
Net savings rate of households (net saving as percentage of net disposable income)	-11.9	-2.6	-1.3	-0.8	.	.	.	.
Private credit flow, consolidated (% of GDP)	28.0	8.4	1.1	4.1	3.9	.	.	.
Private sector debt, consolidated (% of GDP)	86.7	135.1	117.5	99.0	95.0	.	.	.
of which household debt, consolidated (% of GDP)	18.0	28.0	24.3	22.6	23.0	.	.	.
of which non-financial corporate debt, consolidated (% of GDP)	68.7	107.1	93.2	76.4	72.0	.	.	.
Gross non-performing debt (% of total debt instruments and total loans and advances) (2)	3.3	14.7	14.3	9.0	6.8	.	.	.
Corporations, net lending (+) or net borrowing (-) (% of GDP)	-8.1	-0.6	6.9	7.3	6.9	10.7	11.0	11.5
Corporations, gross operating surplus (% of GDP)	27.0	28.7	29.7	30.9	30.9	31.6	31.6	31.6
Households, net lending (+) or net borrowing (-) (% of GDP)	-7.8	-2.8	-0.7	-1.4	-3.7	-5.6	-5.5	-6.1
Deflated house price index (y-o-y)	24.8	-6.8	2.7	5.3	4.5	.	.	.
Residential investment (% of GDP)	3.9	3.4	1.9	2.9	2.7	.	.	.
Current account balance (% of GDP), balance of payments	-14.6	-6.5	1.5	3.5	5.4	6.3	6.2	6.1
Trade balance (% of GDP), balance of payments	-15.4	-6.7	1.2	4.4	3.0	.	.	.
Terms of trade of goods and services (y-o-y)	2.8	1.2	1.4	0.2	1.2	2.9	0.7	0.5
Capital account balance (% of GDP)	0.2	1.1	2.2	1.0	1.1	.	.	.
Net international investment position (% of GDP)	-51.2	-88.8	-64.2	-44.2	-36.2	.	.	.
NENDI - NIIP excluding non-defaultable instruments (% of GDP) (1)	.	.	16.9	32.1	35.4	.	.	.
IIP liabilities excluding non-defaultable instruments (% of GDP) (1)	.	.	57.2	47.6	43.7	.	.	.
Export performance vs. advanced countries (% change over 5 years)	59.1	25.0	10.3	17.1	11.1	.	.	.
Export market share, goods and services (y-o-y)	6.3	-0.2	3.5	4.8	0.3	-1.5	0.0	-0.4
Net FDI flows (% of GDP)	-18.5	-6.1	-2.1	-2.5	-0.6	.	.	.
General government balance (% of GDP)	1.4	-1.6	-1.9	1.1	1.8	1.1	0.9	0.9
Structural budget balance (% of GDP)	.	.	-0.7	1.1	1.8	1.0	0.6	0.6
General government gross debt (% of GDP)	24.9	14.8	24.9	25.3	22.3	21.1	19.9	18.6
Tax-to-GDP ratio (%) (3)	30.7	27.2	28.8	29.4	29.9	29.9	29.9	29.9
Tax rate for a single person earning the average wage (%) (4)	.	21.5	21.6	22.0	22.4	.	.	.
Tax rate for a single person earning 50% of the average wage (%) (4)	.	21.5	21.6	22.0	22.4	.	.	.

(1) NIIP excluding direct investment and portfolio equity shares.
(2) Domestic banking groups and stand-alone banks, EU and non-EU foreign-controlled subsidiaries and EU and non-EU foreign-controlled branches.
(3) The tax-to-GDP indicator includes imputed social contributions and hence differs from the tax-to-GDP indicator used in the section on taxation.
(4) Defined as the income tax on gross wage earnings plus the employee's social security contributions less universal cash benefits, expressed as a percentage of gross wage earnings
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

Since the start of the European Semester in 2011, 72% of all country-specific recommendations addressed to Bulgaria have recorded at least 'some progress'([13]). 'Limited progress' has been made on 28% of these country-specific recommendations (see Graph 2.1).

Graph 2.1: **Overall multiannual implementation of 2011-2019 country-specific recommendations to date (1), (2), (3)**



(1) The overall assessment of the country-specific recommendations related to fiscal policy excludes compliance with the Stability and Growth Pact
(2) 2011 annual assessment: Different country-specific recommendations assessment categories
(3) The multiannual country-specific recommendations assessment looks at implementation from the first year of adoption up until the 2020 Country Report
Source: European Commission

The labour market continues to perform strongly. The ongoing economic growth underpinned by recent policy reforms and measures contributed to a strong decline in unemployment and a steady increase in the activity rates. However, the decline in the working-age population and further labour market tightening may limit the scope for future employment increases and create labour shortages. While some progress has been made in strengthening the employability of the workforce through additional education and training opportunities, the inactivity rates of specific groups remain a challenge.

Challenges related to healthcare, education and social inclusion remain. Access to healthcare services remains limited, especially for the poorest, and measures to address out-of-pocket payments and shortages of healthcare professionals have been inadequate. Bulgaria has made limited progress in the area of education and training, with the impact of recent measures to improve the quality and inclusiveness of education still to be seen. Key indicators have stagnated and educational challenges remain, in particular for Roma. The impact of measures undertaken to improve the labour market relevance of vocational education and training and tertiary education seems to be so far limited. New services have been introduced nation-wide to support the labour market integration of specific groups, such as family counselling or mobile labour offices, but there is limited progress with the provision of sustainable integrated support to disadvantaged groups. The postponement of entry into force of the law on social services has created additional uncertainty about the final impact of the new provisions. The adequacy and coverage of the heating allowance as part of the minimum income has slightly improved.

Some progress has been made in addressing structural challenges in the area of public finances. Bulgaria continues its efforts to improve tax collection and reduce the extent of the informal economy. The government has adopted a framework law to improve the corporate governance framework for state-owned enterprises and it is now putting it into effect.

Some progress has been achieved over 2015-2019 in strengthening banks and other financial sector undertakings and improving the financial sector supervision. Policy action and positive macroeconomic developments helped strengthen further the balance sheets and to reduce macro-financial risks stemming from the financial sector. The supervisory action plans have mostly been implemented, with some measures still underway. The full implementation of reforms to the supervision and governance of banks and other financial corporations is crucial to consolidate these positive developments.

The authorities have taken steps to address the deficiencies of the insolvency framework. In 2018, Bulgaria requested technical support to advance the insolvency framework reform. This project produced a roadmap for addressing the identified gaps in the system. The government adopted the roadmap in June 2019 and commenced its implementation. It is important to keep up the

([13]) For the assessment of other reforms implemented in the past see, in particular, Section 4.

reform momentum and to implement the roadmap in a comprehensive and a timely manner.

Bulgaria has made some ([14]) progress in addressing the 2019 country-specific recommendations. There has been substantial progress in upgrading the State-owned enterprise corporate governance framework, reinforcing the banking sector supervision, and effectively enforcing risk-based supervision in the non-banking financial sector. Some progress has been made in improving tax collection through targeted measures in areas such as fuel and labour taxes; promoting adequate valuation of assets in the banking sector and a secondary market for non-performing loans; enforcing the adopted valuation guidelines and group-level supervision in the non-banking financial sector; improving the business environment; strengthening employability by reinforcing skills and addressing social inclusion through more effective minimum income support. There has been limited progress with the enforcement of the anti-money laundering framework; reforming the insolvency framework; fostering the stability of the car insurance sector; improving access to integrated employment and social services; reforming education and healthcare sectors and focusing investment-related economic policy on research and innovation, transport, water, waste and energy infrastructure and energy efficiency.

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 2016, such support has been provided to Bulgaria for 29 projects. In 2019, several projects were delivered on the ground. The Commission, for example, provided the authorities with an insolvency framework review and roadmap. Furthermore, support was provided to improve the governance of state-owned enterprises (SOEs). As a result, in September 2019, Bulgaria adopted a new law, based on the OECD Guidelines on Corporate Governance of SOEs. In 2019, work started on providing support for the Supreme Judicial Council with the aim of reforming the payment process, improving the capacity of the Inspectorate to the Supreme Judicial Council to perform integrity checks, supporting the reform of the public administration and implementing an e-health strategy.

([14]) 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.

Table 2.1: **Assessment of 2019 CSR implementation**

Bulgaria	**Overall assessment of progress with 2019 CSRs: some progress**
CSR 1: *Improve tax collection through targeted measures in areas such as fuel and labour taxes. Upgrade the State-owned enterprise corporate governance by adopting and putting into effect the forthcoming legislation.*	**Substantial progress** (1) • **Some progress** in improving tax collection • **Substantial progress** in upgrading the corporate governance framework of state-owned enterprises in line with international good practices
CSR 2: *Ensure the stability of the banking sector by reinforcing supervision, promoting adequate valuation of assets, including bank collateral, and promoting a functioning secondary market for non-performing loans. Ensure effective supervision and the enforcement of the AML framework. Strengthen the non-banking financial sector by effectively enforcing risk- based supervision, the recently adopted valuation guidelines and group-level supervision. Implement the forthcoming roadmap tackling the gaps identified in the insolvency framework. Foster the stability of the car insurance sector by addressing market challenges and remaining structural weaknesses.* ***(MIP relevant)***	**Some progress** • **Substantial progress** in reinforcing supervision of the banking sector • **Some progress** in promoting adequate valuation of assets in the banking sector • **Some progress** in promoting a functioning secondary market for non-performing loans • **Limited progress** in ensuring effective supervision and the enforcement of the anti-money laundering framework • **Substantial progress** in effectively enforcing risk-based supervision in the non-banking financial sector • **Some progress** in enforcing the adopted valuation guidelines • **Some progress** in enforcing group-level supervision • **Limited progress** in implementing the insolvency framework roadmap. • **Limited progress** in fostering the stability of the car insurance sector
CSR 3: *Focus investment-related economic policy on research and innovation, transport, in particular on its sustainability, water, waste and energy infrastructure and energy efficiency, taking into account regional disparities, and improving the business environment.*	**Limited progress** • **Limited progress** in focusing investment-related economic policy on research and innovation • **Limited progress** in focusing investment-related economic policy on transport, in particular on its sustainability • **Limited progress** in focusing investment-related economic policy on water, waste and energy infrastructure and energy efficiency, taking into account regional disparities • **Some progress** in improving the business environment
CSR 4: *Strengthen employability by reinforcing skills, including digital skills. Improve the quality, labour market relevance, and inclusiveness of education and training, in particular for Roma and other disadvantaged groups. Address social inclusion through improved access to integrated employment and social services and more effective minimum income support. Improve access to health services, including by reducing out-of-pocket payments and addressing shortages of health professionals.*	**Limited progress** • **Some progress** in strengthening employability by reinforcing skills, including digital skills • **Limited progress** in improving the quality, labour market relevance, and inclusiveness of education and training, in particular for Roma and other disadvantaged groups • **Limited progress** in addressing social inclusion through improved access to integrated employment and social services

(Continued on the next page)

Table(continued)

	• **Some progress** in addressing social inclusion through more effective minimum income support • **Limited progress** in improving access to health services, including by reducing out-of-pocket payments and addressing shortages of health professionals

(1) This overall assessment of CSR1 does not include an assessment of compliance with the Stability and Growth Pact.
Source: European Commission

For CSR 3: 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 the structural challenges and to foster growth and competitiveness in Bulgaria

Bulgaria is one of the countries that benefits most from the EU support. The financial allocation from the EU Cohesion policy funds ([1]) for Bulgaria amounts €8.7 billion in the current Multiannual Financial Framework 2014-2020, equivalent to around 2.4% of GDP. By the end of 2019, some €7.4 billion (around 85% of the total amount planned) was allocated to projects, while €3.6 billion was reported as spent by the selected projects ([2]) with implementation levels in line with the EU average.

EU Cohesion policy funding significantly supports structural challenges in Bulgaria. The Cohesion Policy programmes for Bulgaria have allocated EU funding of €1.1 billion for smart growth, €4.1 billion for sustainable growth and sustainable transport and €1.9 billion for inclusive growth. In 2019 following a performance review ([3]) €386 million have been made available for Bulgaria within performing priorities. In addition €126 million (including national co-financing) have to be reprogrammed by the authorities within the above priority areas.

EU Cohesion policy funding is contributing to important transformations of the Bulgarian economy by investing, among other things, in research, technological development and innovation, competitiveness of enterprises, sustainable transport, education, employment and social inclusion. The estimated effect of ESI Funds boosted GDP by 5.5% and helped create 200,000 new jobs by 2019. ESI Funds alone are responsible for almost 77% of GDP growth in the country ([4]). Investments driven by EU Funds are helping to modernise 439 km of roads by end 2019, both at regional level and in connection with the TEN-T network. Almost 5,000 enterprises have already benefited from support. Private operators have signed contracts that should deliver more than €50 million of fresh private capital to the research system. Investments in 237 emergency care facilities are giving access to faster and more modern medical aid, including those in remote regions. ESF has so far supported over 600,000 people get a job, to receive training or a stage, be included in a social service or get counselling and guidance for better educational results. and overcoming learning gaps.

Agricultural and fisheries funds and other EU programmes also contribute to addressing the investment needs. The European Agricultural Fund for Rural Development (EARDF) makes available a total of €2.9 billion, and the European Maritime and Fisheries Fund (EMFF) a total of €104 million (including the national co-financing for both). Bulgaria also benefits from other EU programmes such as the Connecting Europe Facility, which allocated EU funding of €415 million to specific projects on strategic transport networks, and Horizon 2020, which allocated EU funding of €111 million (including about €24 million to73 SMEs).

EU funding helps mobilise significant private investment. European Structural and Investment funds ([5]) supported programmes mobilise additional capital by allocating more than €700 million in the form of loans, guarantees and equity. This is expected to leverage additional investment at the level of financial intermediaries exceeding €1 billion. At the end of 2018, 14.1% of the European Structural and Investment funds was paid in the form of financial instrument (based on ESIF Annual Implementation Reports 2018). EU funds already invest substantial amounts on actions in line with the Sustainable Development Goals (SDGs). In Bulgaria the European Structural and Investment Funds support 13 of the 17 SDGs and up to 96% of the expenditure is contributing to those.

([1]) European Regional Development Fund, Cohesion Fund, European Social Fund, Youth Employment Initiative, including national co-financing.
([2]) https://cohesiondata.ec.europa.eu/countries/BG.
([3]) The performance review is regulated by Article 22 of the Regulation (EU) No 1303/2013.
([4]) https://www.minfin.bg/bg/1168.
([5]) European Regional Development Fund, Cohesion Fund, European Social Fund, European Agricultural Fund for Rural Development Fund and European Maritime and Fisheries Fund.

3. SUMMARY OF THE MAIN FINDINGS FROM THE MIP IN-DEPTH REVIEW

The 2020 Alert Mechanism Report concluded that a new in-depth review should be undertaken for Bulgaria to assess the persistence or unwinding of the imbalances (European Commission, 2019d). In spring 2019, Bulgaria was identified as having macroeconomic imbalances (European Commission, 2019a). They related in particular to vulnerabilities in the financial sector coupled with high indebtedness and non-performing loans in the corporate sector. This chapter summarises the findings of the analyses carried out as part of the macroeconomic imbalances procedure in-depth review that is contained in this report ([15]).

3.1. IMBALANCES AND THEIR GRAVITY

The banking sector is sound overall, but further steps are necessary concerning individual banks. Capital and liquidity ratios in the banking sector remained strong, supported by economic growth. Banking supervision has been strengthened, and business practices in banks have improved following the 2016 asset quality review and stress test conducted by the Bulgarian National Bank. The comprehensive assessment of six banks by the ECB in the first half of 2019 revealed capital shortfalls in two banks (First Investment Bank and Investbank), which have been asked to implement capital plans by April 2020.

Insurance companies improved their financial results and the supervision framework has been strengthened, while further measures on outstanding issues are envisaged.. Remaining challenges point to the need for implementing strong risk-based supervision and addressing the challenges faced by the insurance sector. These include the adequacy of technical provisions, the appropriateness of the valuation of non-listed assets and the effectiveness of governance. Other challenges in the motor third-party liability segment include the financial stability of the 'Green Card' system, poor pricing policies and uncertainty around compensation of victims of car accidents. Group-level supervision might become relevant for one particular insurance group, depending on the outcome of the restructuring process. For pension funds, regulation has broadened the definition of related parties. Proper implementation will be key.

Non-performing loans (NPL) and private sector debt continued to decline but remain high. The share of non-performing loans dropped further in Q2 2019 to 6.9% overall (11.1% for non-financial corporations), but still remains one of the highest in the EU. In domestically owned banks the NPL ratio for loans to corporations is even higher (19.4%). In spite of positive credit flows, private sector deleveraging continues, facilitated by strong economic growth. Most of these liabilities are held by non-financial corporations and stood at 72% of GDP in 2018, below the prudential benchmark but above levels suggested by fundamentals. Although growth in household debt increased due to intensified mortgage lending, it still remains among the lowest in the EU. The ineffectiveness of the insolvency framework is slowing the reduction in private sector indebtedness and the work-out of non-performing loans.

3.2. EVOLUTION, PROSPECTS AND POLICY RESPONSES

Banking supervision and resolution have improved in terms of resources, governance and tools. Several measures aligning banking supervision with good international practices include legislation for supervising related-party exposures and a framework for implementing borrower-based measures. Provisioning policies were also enhanced and credit-granting practices have improved. Work on resolution plans has advanced and the cycle is expected to be closed in early 2020. The full impact of the measures adopted will depend on their complete implementation, regular monitoring and update where necessary.

The Bulgarian National Bank received technical assistance from the IMF in the preparation of the 2018 Supervisory Review and Evaluation Process (SREP) manual (IMF, 2019). Further recommendations are that loans granted as a result of unsound banking practices should be dealt with

([15]) Analyses relevant for the in-depth review can be found in section 4.2 on the financial sector.

more robustly than other loans and that business model frameworks of some banks need upgrading.

The prospect of close cooperation with the ECB and the adoption of best practices will contribute to the quality and stability of the regulatory environment. Addressing the capital shortfalls identified in the context of the ECB's comprehensive assessment will be key for ensuring the soundness of the sector. Furthermore, the application of harmonised procedures and the application common decision process as part of the participation in the Single Supervisory Mechanism will be beneficial to the sector as a whole. Important new regulatory guidelines based on best practices were introduced in 2019. The Bulgarian National Bank adopted the European Banking Authority guidelines on banks' internal governance rules and the management of non-performing and forborne exposures.

The supervision framework in the non-banking financial sector has been improved, while further actions in the insurance sector are planned. Positive developments include establishing a proper risk-based forward-looking supervisory process and legal and regulatory provisions to improve supervisory effectiveness and practices over valuation methods for the insurance and pension funds sectors, and related-parties transactions for the pension funds sector. Notwithstanding the progress achieved, further supervisory measures by the Financial Supervision Commission will be necessary to fully address the remaining issues in the insurance sector. To improve pricing policies in the car insurance sector, the government plans to introduce a bonus-malus system in the first half of 2020. Close monitoring of the new system will be key. The government also plans to adopt a methodology for compensation of victims of car accidents, aiming to reduce uncertainty in court rulings and facilitate pricing and provisioning.

The problems afflicting the Bulgarian Green Card Bureau are still to be fully addressed. The failure of one Bulgarian insurer to settle in time the cross-border claims from motor third-party liability insurance, has put in question the financial stability of the Bulgarian Green Card system, leading to monitoring by the international Council of Bureaux. One of the requirements of the Council was that the sector signs a sector-wide reinsurance contract, but the conclusion has been delayed and is still pending.

The private sector continues to deleverage despite positive credit flows. Consolidated private sector debt decreased from 99% of GDP in 2017 to 95% in 2018, while the debt held by non-financial corporations declined from 76.4% to 72%. A favourable economic cycle, low interest rates, increased lending activity and a more dynamic secondary market contributed to a decline in the non-performing loans. High liquidity and the entrance of large international players in the market have also bolstered demand for NPL portfolios and collateral sales.

The authorities have started to implement the roadmap to strengthen the insolvency framework. Gaps in the insolvency framework have been identified in cooperation with the European Commission, and a roadmap listing the steps that will address these gaps has been approved. The authorities are now preparing a follow-up, including legislative changes and continued capacity building necessary to secure a positive outcome of the reform.

3.3. OVERALL ASSESSMENT

Further policy measures were introduced to address the identified imbalances, while tackling some outstanding issues is still under way. Reforms in banking and non-banking supervision continued, including the adoption and implementation of manuals and rules based on best practices. Existing gaps in the insolvency framework were identified and future steps were outlined. The authorities' firm commitment to complete the measures prior to Bulgaria's application to ERM II provides further impetus to reforms in important economic areas. Positive effects from the new policies, their follow-up and possible improvement and fine-tuning are expected..

Table 3.1: **MIP assessment matrix**

	Gravity of the challenge	Evolution and prospects	Policy response
	Imbalances (unsustainable trends, vulnerabilities and associated risks)		
Financial sector	The banking sector is overall sound while further steps are envisaged to ensure the soundness of individual banks. The banking sector maintained strong capital and liquidity ratios (18.5% CET 1 ratio and 50.5% coverage ratio in Q2 2019). Business practices in banks and supervision have been strengthened, following the 2016 AQR/stress test conducted by the BNB. Shortcomings in the asset quality of two banks were identified during the 2019 Comprehensive Assessment and are being addressed. The overall ratio of non-performing loans is still well above the EU average, despite a further decline to 6.9% in 2019 Q2. Non-performing loans by non-financial corporations also dropped further in Q2 2019, but remain high at 11.1% of total loans to NFC. Credit has continued growing. It increased by 7.7% for non-financial corporations and 10.1% for households, year-on-year, in September 2019. The overall financial situation in insurance sector strengthened and the supervision framework has been reformed. Nevertheless, some challenges need to be addressed. These include the adequacy of technical provisions, appropriateness of valuation and governance practices. Other remaining issues in car insurance include the financial stability of the 'Green Card' system, poor pricing policies and uncertainty around compensations of victims of car accidents. Group-level supervision might become relevant for one particular insurance group, depending on the outcome of the restructuring process. For pension funds, a regulation has broadened the definition of related-parties and proper implementation will be key.	Banking supervision and resolution have improved. The resolution framework has been strengthened and drafting of individual resolution plans is underway. Legislation for supervising related-party exposures was applied, the supervisory review and assessment manual was revised. The framework for implementing borrower-based measures was put in place. The full impact of the measures adopted or announced will depend on their complete implementation and regular monitoring. The prospect of close cooperation with the European Central Bank (ECB) will contribute to the quality and stability of regulatory environment. The follow-up measures after the ECB's comprehensive assessment, expected until April 2020, will contribute to the soundness of the sector. The supervision framework in the non-banking financial sector has been improved. The risk-based supervision manuals in the insurance and pension insurance sectors became applicable as of 1 January 2019. The supervisory action plan in the non-banking sector is progressively being implemented and enforced, in close cooperation with EIOPA. The Bulgarian Green Card Bureau is still under monitoring and the sectoral reinsurance cover is yet to be underwritten.	The BNB adopted a number of EBA guidelines, e.g. regarding banks' internal governance rules and the management of non-performing exposures. Legal and regulatory provisions to improve supervisory effectiveness and practices over valuation methods for the insurance and pension funds sectors and related-parties transactions for the pension funds sector have been adopted. The government plans to adopt a methodology for compensation of victims of car accidents and introduce a bonus-malus system in the first half of 2020.

(Continued on the next page)

Table (continued)

Corporate debt and deleveraging	The accumulation of private sector debt in the pre-crisis years resulted in deleveraging needs that led to a prolonged period of deleveraging that is still ongoing. Non-performing loans (NPL) ratios have been decreasing but remain among the highest in the EU, in particular for non-financial corporations (NFC). The ineffectiveness of the insolvency framework is slowing the reduction in private sector indebtedness and the work-out of NPLs. Procedures are lengthy and the recovery rate is low in comparison to EU averages.	The private sector continues to deleverage despite the positive credit flows. The consolidated private sector debt decreased from 99% of GDP in 2017 to 95% in 2018. The gradual alleviation of debt burden benefits from the strong economic growth. Increased lending activity contributed to the NPL decline, amidst favourable cyclical and low interest rate conditions. This development has been supported also by a more dynamic secondary market for NPLs. The authorities identified existing gaps in the insolvency framework and prepared, in cooperation with the Commission, a roadmap listing the steps that will address these gaps. A follow up including legislative changes and continued capacity building are crucial to secure a positive outcome of the reform.	The Law on Credit Institutions was amended in December 2018, allowing the macroprudential authority to impose borrower-specific constraints and limit over-indebtedness. The government adopted the insolvency framework roadmap on 19 June 2019.

Conclusions from IDR analysis

- Positive macroeconomic developments and policy action towards reducing potential macro-financial risks stemming from the banking and non-banking sectors resulted in a further unwinding of imbalances. There was progress with the efforts to further improve financial sector stability and the regulatory framework. Additional measures to cope with remaining challenges are expected. The implementation of follow-up measures resulting from the Comprehensive Assessment is ongoing and should contribute to the resilience of the financial sector. Several legislative texts have been adopted to tackle a number of issues in the non-banking financial sector, Challenges with proper valuation and business practices in the insurance sector strengthen the need for a strong risk-based forward-looking supervision. The challenges that emerged in 2018 require decisive action, namely to ensure the financial stability of the 'Green Card' system and to ensure that risks from some motor-vehicle insurance undertakings' business models are reduced.
- The deleveraging process in the private sector continued, also benefitting from the strong growth momentum. Non-performing loans for non-financial corporations, especially for domestically-owned banks, remain relatively high but continue to decrease. The insolvency framework reform is ongoing.
- Overall, imbalances have abated, while some fragilities in the financial sector are expected to be addressed.

Source: European Commission

4. REFORM PRIORITIES

4.1. PUBLIC FINANCES AND TAXATION

4.1.1. TAX POLICY

The Bulgarian tax system remains growth-friendly, though with a limited redistributive impact. The tax burden is relatively low (29.9% of GDP in 2018). The breakdown of tax revenues for 2018 as a share of GDP shows that indirect taxes amount to 15.2% of GDP, direct taxes to 6% of GDP and social contributions to 8.7% of GDP. The burden is thus mainly on indirect taxes. The breakdown of revenue per type of tax shows a bigger share coming from personal income taxes (PIT), while the share of corporate tax revenue is lower. As for the revenue from consumption taxes, the largest portion comes from value added taxes (VAT). Bulgaria is one of the few EU member states with a very broad VAT base, with only one reduced VAT rate (on tourist services).

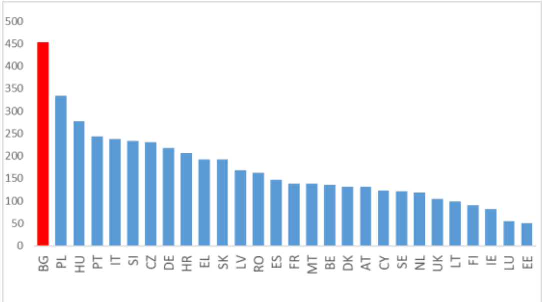
The tax system is effectively regressive. The Tax Policy in the EU Survey 2020 shows that the largest burden of PIT and social contributions is on low-income earners, especially when considering the whole tax-benefit picture. The effective average tax rates on corporate income are among the lowest of all EU Member States and the tax system structure does not promote redistribution. At the same time, the relatively low tax revenue limits the government’s ability to fund basic public services (healthcare, public education, infrastructure, etc.), which could help reduce social inequality.

Improving tax compliance could also boost public revenue and improve tax fairness. A number of surveys and estimates point to a relatively high share of foregone tax revenue in Bulgaria relative to other EU countries, due to the shadow economy and lack of compliance with tax obligations (see for example CASE, 2019). The situation seems to be challenging for the collection of both consumption and income taxes. The VAT gap, which had been decreasing since 2015 (see CASE, 2019), is projected to increase in 2018 to 13% from 12.8% in the previous year. At the same time, revenues from other consumption taxes, including excise duties, are shrinking both as a percentage of GDP and as a percentage of private consumption. It is also worrisome that estimates on wealth held offshore show a 50% increase between 2015 and 2016 (latest available years)(ECOPA and CASE, 2019).

Improving tax compliance is a priority for the tax authorities. The National Revenue Agency (NRA) is implementing a comprehensive risk-based compliance programme focusing on taxpayers with higher compliance risks, such as fuel traders, employers in construction, restaurants, retail and tourism and those involved in e-commerce. The key priority of the programme is to encourage voluntary compliance by means of awareness campaigns and direct communication with taxpayers. According to the authorities, timely collection of liabilities is increasing, and the size of tax losses in certain categories of taxes such as income taxes and social contributions has been contained. At the same time, the Customs Service has promoted a number of legislative changes to improve collection of excise duties, with an emphasis on fuel products. As a result, revenues from excise duties are improving, but are still lagging behind nominal consumption growth. Apart from voluntary compliance measures, improved tax and customs audits could also help meet the target of better tax collection. The audits seem to lack clear targeting, monitoring and follow-up of their outcome.

Bulgarian authorities have been undertaking a number of actions to reduce the tax compliance burden. These include the possibility of automatic VAT registration for companies, cashless payments of tax liabilities and social security contributions, new e-services, as well as the upcoming (in 2020) pre-filled personal income tax returns (for the financial year 2019). However, the positive trend (between 2007 and 2012) has reversed, and since 2017 the time needed to comply with tax obligations has increased. Based on the latest available data, a Bulgarian medium-sized enterprise needs the highest number of hours (441) in the EU to comply with tax obligations (EU average 171.5; EU lowest Estonia at 50) (see Graph 4.1.1). Survey evidence indicates that most of the time is spent on VAT compliance and VAT refunds (CASE, 2019).

Graph 4.1.1: **Number of hours needed to comply with taxes per year for a medium-sized company, 2018 data**



Source: World Bank, Doing Business 2020

Bulgaria has a relatively large share of environmental taxation as a share of total tax revenue. This is mainly due to high consumption of energy, rather than a strict environmental tax policy and an appropriate level of taxation. Bulgaria is the most energy- and greenhouse gas-intensive economy in EU, with coal being the main source of energy. The country lacks a clear environmental tax policy orientation, with the relevant taxes being considered purely as revenue generators rather than also as tools to influence incentives for firms and individuals. The implicit tax rate on energy is the second lowest in EU. Adjustments in tax policy could introduce incentives against environmentally damaging actions, while encouraging smart and green investment (European Commission, 2020: Taxation Trends Report 2020; 2017 data).

4.1.2. FISCAL FRAMEWORK

Bulgaria's fiscal performance reflects also a strong institutional framework. This includes mainly the constraints of the currency board arrangement and a complex set of applicable numerical rules. Based on the Commission's Fiscal Governance Database, Bulgaria has in place the highest number of numerical constraints (nine). One third of those concern the subnational and two-thirds the general government level. At the general government level, four rules are based on a Maastricht criteria (on an accrual basis), while the other two follow national accounting concepts (on a cash basis). Some recent revisions of the design features of the rules sought to improve further the compliance with EU fiscal framework. Based on compliance information in the Commission's database over the period 2015-2017, there has been a clearly improving trend as Bulgaria met eight out of its nine rules in 2017. However, the overall high number and differing accounting standards of the rules would warrant some streamlining.

4.1.3. STATE-OWNED ENTERPRISES

The performance of state-owned enterprises in Bulgaria remains a source of concern. The state-owned enterprises (SOEs) under the central government — about 220 entities out of more than 900 state-owned entities countrywide — represent around 90% of the total state-owned entities' assets. They account for more than 5% of employment and their turnover is more than 10% of GDP. Their liabilities-to-GDP ratio increased to 20.5% in 2018 from 18.7% in 2017, and their total profits decreased in the same period (Ministry of Finance). About half of liabilities belong to loss-making enterprises. Although the amount of liabilities guaranteed by the state is very limited, very often the state offers support to SOEs in order to overcome financial strains.

State-owned enterprises dominate in the systematically loss-making and highly indebted utilities sector. Despite the severe economic situation of some major SOEs, at this stage, there are no plans with the target to improve their financial and operational performance. Corporate governance framework of SOEs in Bulgaria is subject to vulnerabilities in a broad set of areas, including: weak ownership coordination and monitoring; management boards that are not always independent, qualified and transparently nominated; limited disclosure of information at the level of enterprises and of the state; instances of lack of level playing field with the private sector (see OECD, 2019a).

Bulgaria is implementing a major reform of the corporate governance framework of SOEs. The initiative was part of the government's action plan to prepare for applying to the Exchange Rate Mechanism II (ERM II). For this purpose, a technical assistance project with the European Commission and the Organisation for Economic Cooperation and Development (OECD) was launched in August 2018. The reform so far has included (i) a review and assessment of the legal, regulatory and operational framework for SOEs and (ii) a revision and alignment of Bulgaria's legislation with the OECD guidelines on corporate governance of SOEs. The law overhauling the framework and the principles for SOE corporate governance was adopted in October 2019, but the reform will only be de facto completed when the implementing acts of the law are prepared and put into effect.

The Bulgarian Development Bank was the only SOE exempted from the law. This exemption was introduced in Parliament late in the process, and was questioned by some experts involved in the project. The position of the legislators who introduced this provision was that the Bank is subject to regulations and supervisory rules governing financial institutions. Ensuring high quality management and corporate governance rules in the Bank is of critical importance due to its role in promoting investment, both as a financing mechanism for national projects and as a potential implementing partner in the context of InvestEU.

The new law prescribes the next steps and the timeline for completion of the reform. The first immediate step is to put in place the necessary rules of procedure for the newly established Agency for Public Enterprise and Control. Under the law, these rules must be adopted by the Council of Ministers by January 2020 (3 months from the promulgation of the law). By April 2020 the agency will have to prepare and the Council of Ministers will adopt the necessary secondary legislation (implementing acts). By October 2020 (one year from the promulgation of the law) the composition of the managements and control bodies of the SOEs should comply with the provisions of the law.

4.2. FINANCIAL SECTOR

In July 2018, Bulgaria announced its intention to join simultaneously the Exchange Rate Mechanism (ERM II) and the Banking Union. Bulgaria announced at the same time a set of commitments to improve the economy's resilience in areas of high relevance for smooth participation in ERM II, including strengthening the banking and non-banking financial sectors and the insolvency framework (Ministry of Finance, 2018).

4.2.1. BANKING SECTOR

The banking sector has continued to strengthen its capital and liquidity ratios, while follow-up measures are expected. Overall, banks are profitable and well capitalised, and the ratio of non-performing loans has been on a downward path. Nonetheless, Bulgaria continues to be among the EU countries with the highest rates of non-performing loans, especially for non-financial corporations (see Section 1, Economic Outlook) and the comprehensive assessment conducted by the European Central Bank (ECB) of six banks in Bulgaria revealed the need to increase capital in two banks (see below).

Several important new regulatory guidelines were introduced in 2019. The Bulgarian National Bank adopted a number of European Banking Authority (EBA) guidelines, e.g. on banks' internal governance rules (BNB, 2019) and the management of non-performing and forborne exposures (EBA, 2018). The Bulgarian National Bank has already communicated to the banks its general supervisory expectations regarding the implementation of the EBA Guidelines for the management of non-performing and restructured exposures, which entered into force on 30 June 2019. Individual compliance will be assessed during the forthcoming Supervisory Review and Evaluation Process cycle ([16]).

Follow-up action on already adopted acts will further strengthen the regulatory environment. In Ordinance 37 on the internal exposures of banks, from July 2018, the BNB laid down the internal rules and procedures for forming, calculating, monitoring and reporting internal exposures for banks. Banks implemented the internal rules and procedures within a six-month period. Follow-up steps encompass evaluation of the effectiveness of the amended framework and the reporting requirements for related parties, including further fine-tuning of the framework and the reporting forms. Continuous follow-up and assessment of banks' implementation of the adopted regulatory acts will remain key.

Progress is expected in the coming months in insolvency and resolution procedures. The application of the definition of default ([17]) and the alignment of its definition with the Single Supervisory Mechanism's approach will require amendments to BNB Regulation 7 on banks' risk management process. Work on resolution plans has advanced, in particular regarding the analysis of critical functions, feasibility and credibility of insolvency proceedings and the public interest test, and the identification of preferred strategy and resolution tools. Formal resolution plans are being prepared in several waves until early 2020, based on banks' total assets and strategy. While not yet binding, the minimum requirement for own funds and eligible liabilities (MREL) is calculated and communicated to banks in order to assist their preparation and future business decisions ([18]). Looking ahead, the relatively shallow capital markets in Bulgaria may render issuing MREL compliant liabilities more difficult.

The application of the International Financial Reporting Standard (IFRS 9) led to changes in the banks' loan-loss provisioning model and capital ratios. The existing credit risk framework was enhanced with models for exposure at default and loss given default, estimation of present value of the expected credit losses and taking into account the predefined macroeconomic scenarios. The transition to IFRS 9 resulted in a limited initial

([16]) The Supervisory Review and Evaluation Process (SREP) denotes the process of regularly assessing and measuring the risks for each bank by the supervisor.

([17]) EBA/GL/2016/07, which was notified to EBA in March 2017 and will be enforced from 1 January 2021.

([18]) The minimum requirement for own funds and eligible liabilities (MREL) was introduced as part of the EU resolution framework in order to ensure that EU banks' liabilities contain sufficient buffers of bail-in-able debt to absorb losses and, if needed, to recapitalise themselves exclusively with private funds. The main deadline is January 2024, but longer transition periods can be set based on bank-specific circumstances. Resolution authorities also have to set an intermediate target for MREL requirements by 1 January 2022.

CET1 ratio reduction at the aggregate level, as some banks decided to apply the new standard gradually. At the same time, the IFRS 9 implementation coincides with a cyclical upturn, which could result in underestimation of the risk from new unfavourable economic developments.

The comprehensive assessment of the banking sector by the ECB confirmed that further steps are necessary to ensure the soundness of individual players. As part of Bulgaria's commitments ahead of applying for Exchange Rate Mechanism (ERM II), the authorities formally notified their intention to establish close cooperation with the Single Supervisory Mechanism on 18 July 2018. The ECB conducted a comprehensive assessment — comprising an asset quality review (AQR) and a stress test — of six banks in Bulgaria. According to the results published on 26 July 2019 ([19]), based on end-2018 data, four of the six banks faced no capital shortfalls ([20]). Capital needs on the basis of the maximum shortfalls in the various components of the exercise amounted to € 262.9 million for First Investment Bank and € 51.8 million for Investbank ([21]). These two banks are required to implement their capital plans by April 2020. The balance sheets of the two banks were reviewed in the context of the AQR/stress test conducted by the BNB in 2016, after which their capital adequacy ratios fell significantly after balance sheet corrections, but remained above regulatory levels (BNB, 2016).

Some uncertainties remain over the valuation of collateral. Despite efforts and progress, a range of hard-to-value assets, such as real estate collateral still exist in the balance sheets of banks. Conditions for harmonisation in valuation practices have been put in place since June 2018, when national standards became mandatory for external independent collateral valuers, in accordance with the Independent Valuers Act ([22]).

The countercyclical capital buffer was set to 0.5% as of October 2019 and its further increases are forthcoming. According to several subsequent BNB decisions, the countercyclical capital buffer will increase to 1% from April 2020 and further to 1.5% from January 2021. The value of the reference indicator (deviation of the credit-to-GDP ratio from the long-term trend) would have corresponded to maintaining the buffer at zero, but the decision to introduce a positive value of the countercyclical capital buffer constituted an important signalling tool to the banking system. The aim of the buffer is to safeguard the banking system against potential losses during periods of excessive credit growth, frequently associated with the gradual accumulation of cyclical risks. These could materialise as borrowers' debt servicing capacity declines in an economic downturn and/or an increase in lending rates. Although not actively employed at the moment, borrower-based measures, which complement existing capital-based measures, were introduced recently as part of the macro-prudential toolkit. In October 2019, the BNB identified eight banks as other systemically important institutions (O-SIIs) and confirmed higher buffer rates from the beginning of 2020 as a last stage of the gradual phase-in of O-SII buffer, initiated in 2016. The aim of the measure is to safeguard the stability of the banking sector by strengthening the capacity of O-SIIs to absorb losses and accordingly to limit the contagion risks stemming from potential stress event in a systemically important bank to other credit institutions or the banking system as a whole.

The fintech sector offers both opportunities and challenges for the banking system. According to a recent report (Bulgarian Fintech Association, 2019) (Bulgarian Fintech Association, 2019), there are 65 fintech companies in Bulgaria, making the

([19])https://www.bankingsupervision.europa.eu/press/pr/date/2019/html/ssm.pr190726~1b474e3467.en.html.

([20]) Any need for further strengthening of capital positions was identified using the same threshold ratios that had been applied in previous exercises: a Common Equity Tier 1 (CET1) ratio of 8% for the AQR and the stress test's baseline scenario, and a CET1 ratio of 5.5% for the stress test's adverse scenario.

([21]) Starting from an initial CET1 ratio at 15.7%, First Investment Bank fell below the 8% CET1 ratio threshold for both the AQR and the stress test's baseline scenario, as well as below the 5.5% CET1 ratio threshold used in the stress test's adverse scenario. While Investbank faced no capital shortfalls for the AQR, it fell below both the 8% CET1 ratio threshold used in the stress test's baseline scenario and the 5.5% CET1 ratio threshold used in the stress test's adverse scenario.

([22]) The Bulgarian Valuation Standards are mandatory for all independent valuers entered in the register of independent valuers kept by Chamber of Independent Appraisers in Bulgaria, pursuant to the Independent Valuers Act. See Bulgarian valuation standards, 2018, Chamber of Independent Appraisers in Bulgaria, http://private.ciab-bg.com/uploads/common/g31pb9vntkf5q6aw.pdf country a leader in the South-eastern Europe region. Approximately a third of Bulgarian fintech companies operate in the field of payments. Another third specialise in personal finance and capital markets. Banks in Bulgaria are already cooperating with fintech companies, which could help with cost reduction and increase efficiency.

4.2.2. COMBATING MONEY LAUNDERING

Bulgaria has taken steps to strengthen the anti-money laundering framework. Bulgaria notified transposition measures for the 4th Anti-money Laundering Directive in April 2018, December 2018 and May 2019, but several gaps have been identified. A new law adopted in November 2019 aims to address these shortcomings and to transpose the 5th Anti-money Laundering Directive.

The national risk assessment was completed in January 2020 and highlights a number of significant threats. The national risk assessment points to several systemic risks connected to Bulgaria's geographical position (part of the 'Balkan route' for criminals), significant shadow economy and high levels of corruption. The presence of organised crime groups, professional money laundries and significant cross-border financial crimes (tax evasion, VAT fraud) play a role in exposing Bulgaria to significant money laundering risks.

The use of financial intelligence remains limited. As of November 2019, there was still no common database to identify and monitor politically exposed persons, despite their high risk exposure to money laundering. The number of suspicious transaction reports has increased, filed largely by banks. Based on the 2,777 suspicious transaction reports received in 2018, the Financial Intelligence Unit initiated 1,264 operative files which resulted in only 16 transactions being stopped ([23]), while 772 were used for analytical purposes. The limited use of financial investigation and financial profiling hinders effective asset recovery in organised crime and corruption cases ([24]). The Bulgarian financial institutions supervisors still need to take steps to implement risk-based supervision, building on the national risk assessment. The high risk of involvement in money laundering schemes by professionals providing company services (e.g. accountants, tax advisers) points to the need to carry out adequate employee screening, in line with obligations under the EU AML provisions, and more effective supervision.

The risk of corruption still needs to be better addressed, as it is a predicate offence to money laundering. A significant number of investigations into high-level corruption are ongoing, with high-ranking officials charged or brought to court. Several cases have progressed through the trial phase, some resulting in convictions. Despite sentences imposed at first instance, very few final convictions have been adopted and enforced (European Commission, 2019f).

There are risks linked to the 'Citizenship by investment' scheme. The scheme does not require that an individual spend a significant amount of time in Bulgaria to obtain Bulgarian citizenship. As such, the new citizen might not become a tax resident and their income would not be taxable in Bulgaria. This creates potential for misuse, as personal identification documents issued by Bulgaria can be used to avoid reporting assets held abroad. Bulgaria's government approved on 2 October 2019 draft amendments to the Bulgarian Citizenship Act aiming to eliminate the possibility for foreigners who have acquired permanent residence status in Bulgaria for short-term investments of subsequently obtaining citizenship under significantly facilitated conditions. As it stands, these amendments were adopted by the Cabinet, but discussions in the Parliament were postponed due to ongoing investigations into cases of unlawful granting of Bulgarian citizenship. Given the inherent money laundering risks of such schemes (European Commission, 2019g), an adequate understanding of the risks Bulgaria faces

([23]) Data received from the Bulgarian authorities in their reply to the questions posed during the Commission's fact finding mission in October 2019 (p.120)

([24]) For the 1st half of 2019, findings of the inspection were served and administrative proceedings initiated in relation to only 10 established infringements. From the beginning of 2019 to 18 October 2019 there were only 16 on-site inspections of financial institutions (replies received from the Bulgarian authorities to the questions posed during the Commission's fact finding mission in October 2019) and the adoption of appropriate mitigating measures, remain a challenge.

4.2.3. NON-BANKING SECTOR

Supervision has been enhanced in several respects, while further measures are expected. The risk-based supervision guidelines in the insurance and pension insurance sectors became applicable as of 1 January 2019. The new rules may be reviewed in 2020 based on experience and new data available. Further improvements to the new approach may be necessary to reap the full benefits of the measure. Notwithstanding the progress achieved, there are still weaknesses concerning the adequacy of technical provisions, appropriateness of the valuation of non-listed assets, and governance practices in the insurance sector. Further supervisory measures by the Financial Supervision Commission (FSC) will be necessary to fully address the issues outlined above.

The legal and regulatory framework has improved. The government amended the Financial Supervision Commission Act and the Social Insurance Code to increase the regulator's independence, decision-making process and effectiveness, as well as the framework applicable to the pension funds, including in terms of the definition of related parties. The Financial Supervision Commission adopted important amendments to two regulations in the field of insurance and pension insurance: Ordinance 53 on the requirements for accountability, valuation of assets and liabilities and formation of technical reserves of insurers, reinsurers and the Guarantee Fund, and Ordinance 9 laying down detailed rules for valuation of the assets and liabilities of the supplementary pension funds and the pension insurance company.

Group-level supervision might become relevant for one particular insurance group, depending on the outcome of the restructuring process. The Financial Supervision Commission, the European Insurance and Occupational Pensions Authority (EIOPA) and a particular insurance group have sought an agreement on the kind of group-level supervision that should apply to that entity. The group is currently taking steps to acquire a major company active outside the non-banking sector and may undergo restructuring. If this process is completed successfully, a new procedure of identification of the group will start, which will result in the group being identified either as an insurance holding company (which involves full group supervision) or a mixed holding company (which involves a more limited supervision).

Motor third-party liability (MTPL) insurance warrants attention. MTPL represents a high share in the portfolio of all Bulgarian insurers. Its profitability had remained insufficient for a long time due to strong price competition in the sector. After insurance premiums increased substantially in 2018, the financial results of the MTPL line of business have improved. The solvency of some players relies on the validity of the assumptions underlying the valuation of their assets and liabilities. The impact of the introduction of the announced bonus-malus system, the adoption of a forthcoming methodology for compensation of victims of car accidents and the situation of the Bulgarian Green Card Bureau will need to be monitored.

The government plans to introduce a bonus-malus system in the first half of 2020. A first draft of the bonus-malus system was proposed for public consultation in November 2018. Although it was more robust than the current version, it was rejected by the different stakeholders for fairness considerations and for deviating from common practices. The new draft envisages that both the owner and the registered drivers of the vehicle are separately evaluated under the bonus-malus system. The main drivers of the system will be the relevant traffic offences. Insurers would remain free to adapt the basic premium on the basis of other characteristics of the policyholder, such as the history of claims. Close monitoring of the system will be necessary to identify and swiftly address any potential shortcomings.

The government plans to adopt a methodology for compensation of victims of car accidents. The heterogeneous court practices defining compensation of victims of car accidents and their families present challenges to non-life insurers who need consistency and stability to be able to correctly estimate their technical provisions and determine their premiums. After the National Assembly imposed temporary ceilings on the amounts of compensation in November 2018, a working party was established which drafted a methodology to serve as guidance for judges assessing the amounts of damages. The Insurance Code envisages that the methodology should be by December 2019, but the proposed ordinance has not been adopted yet. The current version borrows some elements from the Spanish and French systems of quantification of damages, but has been customised to accommodate Bulgarian specificities.

The Bulgarian Green Card Bureau is still under monitoring and the sectoral reinsurance cover is yet to be underwritten. One Bulgarian insurer has not been paying the correspondents/claims-handling entities in time for cross-border MTPL claims, creating pressure on the financial stability of the Bulgarian Green Card system. The number of claims to the Bulgarian Green Card Bureau spiked from 354 in 2017 to 5 710 in 2018, reaching €19.6 million, or 70% of total claims in the system. The number of guarantee calls in 2019 decreased to 5 058, reaching €18.3 million. Out of them 27% (€4.2 million) are related to the Cyprus-based Olympic Insurance branch. In 2019 guarantee calls for an amount of €4.3 million were unpaid. In December 2018, the international Council of Bureaux increased the bank guarantee required from the Bulgarian Green Card Bureau, put it under monitoring and requested sectoral reinsurance cover. In September 2019, the General Assembly of the bureaux decided to retroactively impose ongoing fines on the Bulgarian Bureau as of 15 May 2019. Meanwhile, the competition authority considered that concluding a general reinsurance would not lead to a breach of competition law. The agreement on contributions of individual insurers to the scheme will be key for the sustainability of the sector. Some undertakings may face higher reinsurance prices under the new conditions, as they have kept their reinsurance costs low by contracting with reinsurers with subpar ratings([25]).

The liquidation of the Cyprus-based Olympic Insurance is ongoing. The official liquidation procedure started on 13 July 2019. The Cypriot court designated two liquidators. All creditors, including in Bulgaria, were invited to submit their claims. The initial report of the liquidator should provide more clarity on the amount of claims submitted by the creditors and the amount of available assets. Discussions on the interpretation of the existing convention between the guarantee funds of the two countries are ongoing, with a possibility of using an arbitration procedure to resolve the issues before any intervention for claims incurred in Bulgaria.

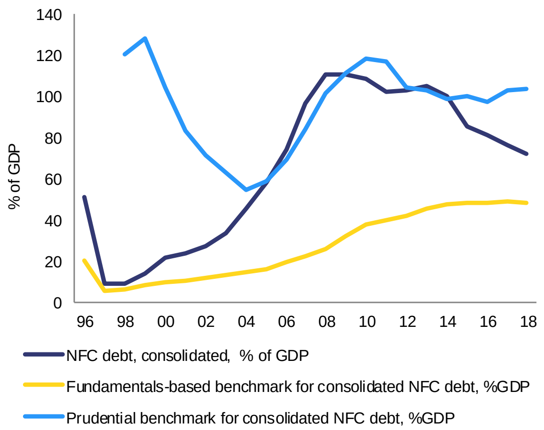
4.2.4. PRIVATE INDEBTEDNESS

The private sector continues to deleverage despite positive credit flows. Consolidated private sector debt fell from 99% of GDP in 2017 to 95% in 2018, supported by strong economic growth. The majority of debt liabilities continues to be on the books of non-financial corporations (NFCs). Their indebtedness went from 76.4% of GDP in 2017 to 72% in 2018. This is below the prudential benchmark, but still well above the fundamentals (see Graph 4.2.1) ([26]). Household debt grew more rapidly due to intensified mortgage lending, but still remains among the lowest in the EU.

([25]) Commission for Protection of Competition, Decision number AKT-1268-21.11.2019 on a draft decision by the NBBMI on the conclusion of a general reinsurance contract for payment of damages incurred abroad http://reg.cpc.bg/Decision.aspx?DecID=300056531

([26]) Fundamentals-based benchmarks are derived from regressions capturing the main determinants of credit growth and taking into account a given initial stock of debt. Prudential thresholds represent the debt threshold beyond which the probability of a banking crisis is relatively high. Methodologies are described in European Commission (2017) and updates to the methodology have been subsequently proposed in European Commission (2018).

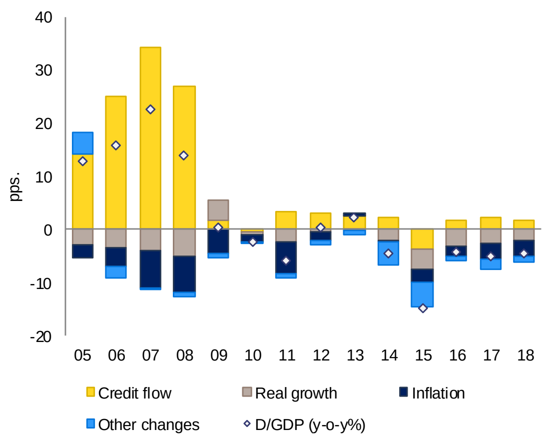
Graph 4.2.1: **Fundamental-based and prudential benchmarks and NFC debt (1)**



(1) Breakdown of the gap between changes nominal NFC debt stocks and benchmarks for changes (in %of GDP).
Source: European Commission

The largest contribution to the decline of NFC debt came from real growth. A modest increase in inflation as well as valuation changes and write-offs also helped alleviate the debt burden (see Graph 4.2.2). At the same time, in October 2019 loans to NFCs increased by 8.1% year-on-year, decelerating the deleveraging process ([27]).

Graph 4.2.2: **Breakdown of annual changes in debt-to-GDP ratios of NFC (1)**



(1) Consolidated data. Debt of Non-Financial Corporations is the sum of loans, debt securities and financial derivatives.
Source: European Commission

Non-performing loans (NPLs) remain relatively high, but are on a downward path. The share of NPLs dropped further in Q2 2019 to 6.9%, but still remains one of the highest in the EU (see Section 1). The current stock represents mainly the legacy of the credit boom before the 2009 recession. The quality of assets remains rather disparate across institutions, depending on their business model and practices ([28]). Increased lending activity with reduced new stock contributed to the NPL decline, amidst favourable cyclical and low interest rate conditions. This development has been supported also by a more dynamic secondary market for NPLs, notably for retail loans, with some improvement in the NFC segment as well. Ample liquidity is generating demand for NPL portfolios and collateral sales, with large international companies also having entered the market.

4.2.5. INSOLVENCY FRAMEWORK

Bulgarian authorities have been working in close collaboration with the Commission under the Structural Reform Support Programme (SRSP) on the reform of the insolvency framework. The aim was to identify the existing gaps in the insolvency framework and to prepare a roadmap listing the steps that will address these gaps ([29]). This measure is also part of the commitments that the Bulgarian authorities announced in view of their intention to apply for ERM II accession. T The government adopted the insolvency framework roadmap on 19 June 2019 and established a dedicated steering body, the ‘Coordinating Council’, which will be in charge of the overall management and coordination of the roadmap’s implementation.

Efforts to implement the insolvency framework roadmap have already started. The Ministry of Justice has set up a working group to draft the necessary legislative amendments by the end of June 2020. This group will have wide stakeholder participation with representatives of the

([27]) Growth rates of loans are calculated from notional stocks, which reflect only changes that arise from financial transactions

([28]) For example, the published detailed results from the 2019 ECB Comprehensive assessment for six banks in Bulgaria entailed NPL ratios ranging from 3.5% for UniCredit Bulbank to 21.9% for Investbank (https://www.bankingsupervision.europa.eu/press/pr/date/2019/html/index.en.html?skey=ECB%20concludes%20comprehensive%20assessment%20of%20six%20Bulgarian%20banks).

([29]) For more details, see the 2018 Specific Monitoring Report for Bulgaria: https://ec.europa.eu/info/sites/info/files/economy-finance/bg_sm_report_december_2018.pdf government, the judiciary, law professionals and academia. In addition, the Ministry of Justice has requested technical assistance from the SRSP for the establishment of an early warning tool to detect a deteriorating business situation, as envisaged in the roadmap. The process for conducting the technical feasibility assessment of the Commercial Registry is also underway. The roadmap will also facilitate the transposition of Directive 2019/1023 on Restructuring and Discharge of Debt, for which the transposition period of 2 years started to run on 16 July 2019.

In addition to legislative changes, capacity building activities are also included in the roadmap. A session dedicated to training the trainers of insolvency practitioners took place in July 2019, and six more pilot training sessions have been finalised in the second half of 2019. The authorities have clarified that the outcomes of these training sessions will be taken into account when preparing future education programmes and materials.

4.3. LABOUR MARKET, EDUCATION AND SOCIAL POLICIES

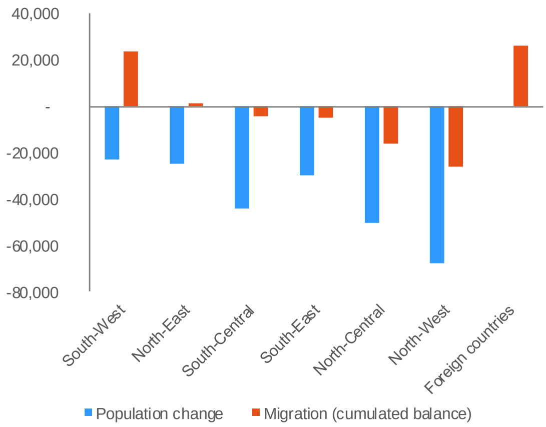
4.3.1. LABOUR MARKET

Labour market developments remain positive, though labour shortages and the steady decrease in the working-age population pose challenges. The employment rate has been increasing steadily in the past 5 years, reaching 72.4% in 2018, and leading to progress on SDG 8 'Decent work and economic growth'. The unemployment rate kept falling and reached 3.8 % in Q4-2019, which is significantly lower compared to its peak level after the crisis (13.0% in 2013). Long-term unemployment also went down (2.3% in Q3 2019) and is slightly below EU average (2.4%) At the same time, some groups (e.g. NEETs, Roma) still have high levels of inactivity, and labour shortages remain a key challenge, against the backdrop of a steadily decreasing working-age population.

Labour market outcomes differ significantly across regions. In 2018, the employment rate in the capital city region of South-West (at 78.3%) was considerably above the national average (72.4%), while it was barely 63.6% in North-West and 69.1% in North-Central. Regional disparities do not seem to have been narrowing in this regard ([30]). While the share of long-term unemployment as a percentage of total unemployment stood at 58.4% nationwide in 2018, in the North-West region it was 76.8%. Wages are increasing fast across the country, while disparities remain high. Although some regions are catching-up (North-Central, North-East), the average wage in South-West grew faster than the country average in the last year ([31]) and is about 58% higher than in North-West, which has the lowest average wage.

Demographic developments strongly affect the labour market, and may constrain future economic growth. The population decreased by 50,000 in 2018. Bulgaria's labour force is expected to decrease by 10% by 2030 ([32]). The age cohort 25-49 (average labour market participation of 86%) is expected to decline the most (by 26.7% by 2030). Such a reduction might jeopardise sustainable future growth. Measures aimed at reducing the outflow of working-age population (15-64 years), helping people find jobs and fostering the upskilling and productivity of workforce, could bear positive results.

Graph 4.3.1: **Population change and migration balances, 2013-18**



Source: European Commission, National Statistical Institute

Labour shortages are on the rise, though trends vary significantly across sectors. Shortages increased rapidly in the building and services sectors, while they stalled and even slightly decreased in furniture, repair and installation of machinery and wood manufacturing sectors in the first three quarters of 2019 (see Graph 4.3.2). Regarding future shortages, current predictions point to the education and healthcare sectors as the most problematic in 15 years' time ([33]), in particular in small localities, where the provision of basic social services could become increasingly challenging.

Upskilling measures can be instrumental in preparing the workforce to changes in labour market needs. The low skilled represent 17.4% of the working-age population (or 677,000 people), which is twice the number of jobs available that require only basic skills (357,000). Compared to the overall employment rate (72.4%), the employment rate (20-64) of the low-skilled ([34]) stood at a much lower level (46.0% in 2018).

([30]) Rather the opposite, with some regions (North-East) in which employment stalled or decreased (South Central), between 2017-2018.

([31]) 12.8% versus 10.7 % between Q3 2018 and Q3 2019, National Statistical Institute, November 2019.

([32]) The active population already decreased by 38 000 in the last five years, National Statistical Institute, 2019

([33]) Medium-term and long-term forecasts for the development of the labour market in Bulgaria, Ministry of Labour and Social Policy, June 2019.

([34]) Level of qualification ranging from (pre-) primary to lower secondary education (ISCED 0-2).

Box 4.3.1: **Monitoring performance in light of the European Pillar of Social Rights**

The European Pillar of Social Rights is designed as a 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.

Social Scoreboard for BULGARIA		
SOCIAL SCOREBOARD		SDGs
Equal opportunities and access to the labour market	Early leavers from education and training (% of population aged 18-24)	4 QUALITY EDUCATION
	Youth NEET (% of total population aged 15-24)	
	Gender employment gap	5 GENDER EQUALITY
	Income quintile ratio (S80/S20)	10 REDUCED INEQUALITIES
	At risk of poverty or social exclusion (in %)	
Dynamic labour markets and fair working conditions	Employment rate (% population aged 20-64)	8 DECENT WORK AND ECONOMIC GROWTH
	Unemployment rate (% population aged 15-74)	
	Long-term unemployment rate (population aged 15-74)	
	GDHI per capita growth	
	Net earnings of a full-time single worker earning AW	
Social protection and inclusion	Impact of social transfers (other than pensions) on poverty reduction	1 NO POVERTY
	Children aged less than 3 years in formal childcare	
	Self-reported unmet need for medical care	3 GOOD HEALTH AND WELL-BEING
	Individuals' level of digital skills	

Critical situation	To watch	Weak but improving	Good but to monitor	On average	Better than average	Best performers

Members States are classified on the Social Scoreboard according to a statistical methodology agreed with the EMCO and SPC Committees. It looks jointly at levels and changes of the indicators in comparison with the respective EU averages and classifies Member States in seven categories. For methodological details, please consult the draft Joint Employment Report 2019, COM (2018)761 final; NEET: neither in employment nor in education and training; GDHI: gross disposable household income.

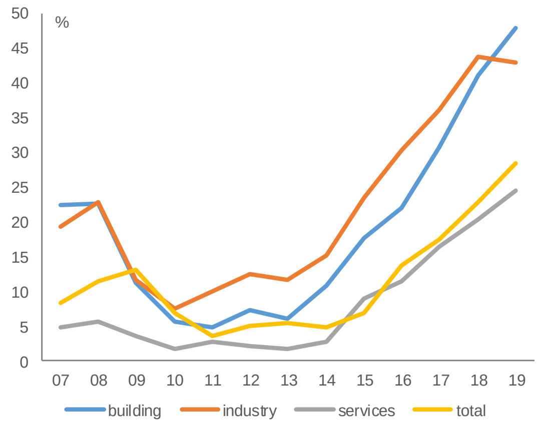
The Social Scoreboard supporting the European Pillar of Social Rights points to a number of employment and social challenges in Bulgaria. Steady economic growth has contributed to improved labour market outcomes. The employment rate has continued to increase and the gender employment gap is at the EU average. The long-term unemployment rate is now close to the EU average. Labour market participation of certain groups remains a challenge, however. The shares of young people neither in employment nor in education or training (NEET) and of early school leavers remain high (at 19.1% and 12.7%, respectively, in 2018). The level of digital skills is low, with only 29% of the population (16-74) reporting basic or above basic levels of digital skills, compared to 57% in the EU.

The share of people at risk of poverty or social exclusion remains high. Low incomes, particularly for those on the lowest incomes (e.g., the elderly, the low skilled, people with disabilities and Roma) contribute to the still high, though decreasing, income inequality, with strong regional disparities. The capacity of social transfers (excluding pensions) to reduce poverty is limited. More positively, the gross disposable household income (GDHI) per capita keeps increasing, with a growth rate among the best in the EU.

There is scope for greater coverage of early childhood education and care in Bulgaria. Good quality early childhood education and care plays a key role in creating equal opportunities, improving cognitive skills and reducing early school leaving and the risk of under-achievement at later stage. In Bulgaria, the enrolment rate of children aged less than 3 years of age in formal care is much lower than the EU average (16.2%; EU average 33.2%), particularly in some regions and among vulnerable children. The lack of facilities is limiting participation, particularly in big cities.

The Bulgarian authorities have taken measures to improve the adequacy and the coverage of the heating allowance as part of minimum income support. In 2019, changes in the access criteria and the 24.5% increase in the allowance led to almost 250,000 applications being submitted by the end of October 2019, an 18% increase on 2018.

Graph 4.3.2: **Labour shortage index (1)**



(1) Percentages show share of respondents citing labour shortage as a limiting factor on production; the index (total) averages the labour shortage indices for the building, industry and service sectors weighted by sectoral employment.
Source: European Commission

Meanwhile, the employment rate of recent graduates with medium (ISCED 3-4) and high (ISCED 5-8) skills was 67.8% and 84.5%, respectively. Despite the need for substantial upskilling and reskilling of the population in the view of expected labour market changes caused by digitalisation and climate change adaptation (European Commission, 2019a), only 2.5% of adults (25-64) have had a learning experience in the preceding 4 weeks, based on the Labour Force Survey (much lower than the EU average of 11.1%). Consolidating the outcomes of existing surveys and projection tools could prove beneficial to anticipate the future skills needs of the labour market ([35]).

([35]) The main tools are a regular business survey conducted by the PES twice a year and a macroeconomic model designed in 2013 and updated in 2019 for the Ministry of Labour and Social Policy.

The labour market integration of vulnerable groups remains low. The overall inactivity rate in Bulgaria decreased to the EU average of 25.8% in Q3-2019, but young people aged 20-24, Roma and people living in rural areas show much higher levels of inactivity. While the overall unemployment rate of Roma is 55%, it is even higher (65%) for young Roma aged 16-24 ([36]). The employment rate of people with disabilities remains one of the lowest in the EU (39.5%; EU average 50.7%), with a very high gap relative to people without disabilities (34.2 pps; EU average 24.2 pps)([37]). Several measures are being implemented to reach out to these vulnerable groups, including the ‘youth mediators’ and ‘Roma mediators’ services, as well as the ‘mobile labour offices’ for rural and remote areas. Employment quotas have been set to boost employment of people with disabilities, and dedicated support is being provided through ESF co-financed operations ([38]).

Although decreasing, the number of people not in education, employment or training (NEET) is still high. In 2018, the NEET rate for young people aged 15-24 was 15.0%, well above the EU rate of 10.5%. Almost half (47.0%) of those leaving the Youth Guarantee scheme in 2018 were either in employment or training within the target of 4 months. However, as approximately 80% of NEETs are inactive, only 1 in 10 (10.6%) is covered by the Youth Guarantee. According to a recent study ([39]), 73% of NEETs aged 15-34 live in small towns and rural areas, 57% have lower

([36]) European Commission, Report on the Implementation of the National Roma Integration Strategies, 2019. FRA 2016.
([37]) Academic Network of European Disability Experts (ANED) calculations based on Eurostat data.
([38]) ‘Training and Employment’ and ‘Training and Employment of Young People’.
([39]) Assessment of NEETs in Bulgaria and policy measures to effectively address their integration. IME, 2019.

secondary education or below, 55% are women and 38% of them are Roma. The region with the largest share of NEETs is the North-West, although in absolute figures the South Central region has the highest number.

There is still room for improvement in the effectiveness of active labour market policies. Despite the need to strengthen the labour market participation of some groups and support skills acquisition in the workforce, expenditure on active labour market policies has stagnated in recent years and still relies strongly on external funding, in particular the ESF. Current monitoring and evaluation methods of these policies seem mostly quantitative, and do not usually include a follow-up of participants after conclusion of the programmes. Better coordination between public employment services and other institutions working with the unemployed (e.g. social workers, health institutions and non-governmental organisations) could contribute to further improvement of the effectiveness of these efforts. Since 2019, new services are provided for the unemployed and the inactive, such as 'family labour adviser', 'mobile labour office' and 'post-employment counselling and mentoring', and they are being extended to all labour offices nation-wide.

Strong wage growth continues, although in some occupations, even if demand is high, salaries did not increase accordingly. Nominal compensation per employee increased by 9.7% in 2018 and is estimated to have increased by 7.8% in 2019. Public sector wages increased (10.9%) more rapidly than those in the private sector (4.2%) in 2018 ([40]). In both 2018 and 2019, real wages grew faster than labour productivity. However, in some low skilled occupations low wages appear to be a major cause of shortages. In some industries where there is a reportedly severe shortage of skilled workers —such as metal product manufacture, electrical appliances, machinery and equipment — average wages do not seem to offer a discernible premium compared to the ongoing rate of pay in the overall economy. Meanwhile, on 01 January 2020 the Government increased the minimum wage by administrative decision to BGN 610 (€312), from BGN 560 (€287) in 2019.

([40]) European Commission, Labour market and wage developments: Annual Review 2020.

The involvement of the social partners in policy development has improved, but there is still scope for further strengthening of cooperation. In recent years, the social partners and civil society organisations have participated in the formulation and discussion of national policies in relevant economic and social areas in Bulgaria, such as the 'Persons with Disabilities Act', the new Act on 'Social Services' or the design of policies to tackle the informal economy ([41]). However, there is still scope for more active engagement in consultations within the working groups for the preparation and implementation of the National Reform Programme. The social partners have also developed operations in areas such as training, prevention of undeclared work or promotion of longer working lives, supported by European Social Fund. Despite efforts, negotiations between the social partners to agree on a transparent and objective minimum wage setting mechanism appear to be in stalemate, although proposals for creating minimum wages by sector or by level of education are under discussion.

Despite positive developments, undeclared work remains high. Evidence suggests that some practices such as false part-time work or underreporting of wages remain widespread ([42]). Undeclared work is affecting several economic sectors, such as wholesale trade and retail, tourism, construction and agriculture. To tackle this challenge, Bulgaria has adopted a comprehensive set of policy measures over recent years. One of the most recent initiatives is the introduction of half-day contracts in the agriculture sector, besides the one-day contracts already in force. These measures have counted on EU funding, strengthened enforcement from public authorities and increased support from the social partners. However, challenges remain in strengthening labour inspectorates, including cooperation across key enforcement bodies and early risk assessment measures. (see Section 4.1).

([41]) With the support of the European Social Fund, Bulgaria launched the consultation portal '*strategy.bg*', where it makes available all new legislative and policy documents.

([42]) According to a Eurobarometer survey carried out in September 2019, 38% of respondents in Bulgaria know people who work without declaring part of their income to tax or social security authorities.

4.3.2. EDUCATION

Quality and inclusiveness of education remain major challenges, despite the ongoing reforms. Bulgarian average pupil performance in reading, maths and science has not improved compared to 2015 data and remains significantly below the EU average. The country has among the highest shares of low-achievers in all three domains in the EU ([43]) (OECD, 2019b). Bulgaria is also among the Member States in which socio-economic background has the strongest influence on learning outcomes ([44]) and where spatial and social segregation is the most pronounced: the mean reading score of pupils in schools located in rural areas is 115 points lower than those in cities, the equivalent of 3 years of schooling. Bulgarian pupils tend to be clustered in terms of whether they are underachieving or high-achieving, as well as according to their socio-economic status ([45]). Bulgaria has put in place a series of measures to address challenges related to quality and equity leading to progress towards SDG 4 'Quality education', but their results are yet to be seen. The coverage of the state subsidy allocated to kindergartens and schools (in place since 2018) with at least 20% of children from vulnerable groups ([46]) has been expanded to secondary and professional schools. Roma inclusion in education remains a challenge, however, due to several factors, including school segregation and barriers induced by severe poverty, with 34% of Roma completing only primary education and 44% lower secondary (FRA, 2016).

Participation in early childhood education and care is low, and declining. This is a particularly concerning development in certain regions and among vulnerable children. Good quality early childhood education and care plays a key role in creating equal opportunities, improving cognitive skills and possibly reducing the chance of underachievement and early school leaving. At the same time, some big cities are affected by a lack of facilities. The participation rate for children aged 4 years to compulsory school age stands at 83.9%, significantly below the EU average of 95.4% and on a downward trend since 2014. Only 60% of Roma children between 4 years and the compulsory school age attend kindergarten. To improve participation, an ESF co-financed project ([47]) provides support for more comprehensive early intervention measures and care-related kindergarten fees.

In spite of ongoing efforts, early school leaving is still significant in some rural areas. In 2018, the rate of early leavers from education and training (18-24 age group with at most a lower secondary education and no further education or training) was 12.7%, still above Bulgaria's national Europe 2020 target of 11% and the EU average of 10.6%. Early school leaving is particularly high in rural areas ([48]) and among Roma ([49]). The inter-institutional mechanism that aims to identify out-of-school children and return them to education is bearing some fruit, and in the 2019-2020 school year it has been refocused to prevention of drop-out and daily work to keep the interest of children in the classroom. Retention measures are also being supported by the ESF, such as overcoming learning gaps and increasing students' motivation, including through better engagement of the parents. The impact of a recent modified measure that links social assistance to school attendance is still to be analysed, as it does not address the root causes of early school leaving.

Although increasing over the years, the education budget lacks targeting and result orientation. Although increasing, public spending on education is among the lowest in the EU, at 3.6% of GDP (EU average 4.6%). Since 2018, financing of rural schools and schools that work with vulnerable children has been strengthened.

([43]) 47.1% of students are low achievers in reading (EU average 21.7%), 44.4% are low achievers in maths (EU average 22.4%) and 46.5% in science (EU average 21.6%).

([44]) The difference between the share of underachievers in reading in the socio-economic bottom quarter and in the top one is 44.9 pps, the highest gap in the EU.

([45]) Bulgaria has among the highest PISA isolation indexes (which measure whether pupils are more concentrated in some schools) in the EU when it comes to high achievers, underachievers and disadvantaged pupils (OECD, 2019, PISA results).

([46]) Vulnerable groups are defined as children whose parents have lower than secondary education. Overall, 940 schools and around 400 kindergartens with at least 20% of children from vulnerable groups received this additional financing in 2018.

([47]) Project 'Active inclusion in the system of pre-school education' co-financed by the ESF with a budget of €41.5 million.

([48]) 26.2% in rural areas, 12.2% in towns, 5.9% in cities.

([49]) 67% of Roma are early school leavers (aged 18-24 years old with at most a lower secondary education and no further education or training) (FRA 2016, Roma).

Plans are underway to double teacher salaries by 2021 compared with their 2017 level (bringing salaries to 120% of the average salary in Bulgaria). The low status of the teaching profession persists, and there are still teacher shortages in some big cities and specific areas. Only 17.7% of teachers believe that their profession is valued by society and only 60% of teaching graduates actually enter the profession (OECD, 2019c). This is problematic, as almost half of teachers are older than 50. An obligation to undertake continuing professional development (CPD) was introduced and was linked to career progression. However, Bulgarian teachers report one of the highest needs of CPD in the EU([50]), which suggests a need to strengthen delivery and better monitor and evaluate the quality and effectiveness of the training ([51]).

Digital skills are low among the young population. Only 53% of young people aged 16-19 assess their level of digital skills as basic or above basic, compared to an EU average of 83%. The usage of Information and Communications Technologies (ICTs) in schools is not optimal ([52]). Despite the support of some national programmes ([53]), the weak general performance in digital education remains. A large-scale, recently started ESF project aims to include 2,000 schools and kindergartens in activities for introducing innovative teaching methods using ICT([54]).

Vocational education and training (VET) reforms continue, although at a slow pace and with a time lag. Available data show a slight decline in total enrolment in upper secondary VET (132,932 students or 50.7% in 2017, still above the EU average of 47.8%). The list of protected occupations and list of professions facing shortages was promulgated and updated in December 2018, and includes 43 state-protected VET professions and 57 other qualifications with expected shortages. Supplementary funding was allocated to all these qualifications, while learners receive additional individual scholarships, which has contributed to an increase in enrolment of students ([55]). However, in some cases, the curriculum is outdated ([56]), which (together with the shortage of qualified teachers with up-to-date knowledge and necessary training facilities) leads to graduates with skills not corresponding to the needs of companies undergoing fast technological change. Moreover, the employment rate of VET graduates, at 66.4% in 2018, although increasing, remains significantly below the EU average of 79.5%. Another issue is the low rate of students receiving a professional qualification after graduating from a VET school.

Dual vocational education and training is being rolled out but challenges remain. In the 2019/2020 school year, a substantial increase was registered in students enrolled in dual professional education, to 5,261 students (from 353 students in 2016, when the legislative amendments providing for dual training opportunities were introduced and the Swiss-supported Domino project piloted the dual VET in Bulgaria). Still, the total share of students and schools([57]) with Dual VET programmes is relatively low. An ESF co-funded project will further strengthen the dual training systems and the link with employers and will support students, teachers and mentors in companies ([58]).

Ongoing higher education reform is still to produce tangible results. Tertiary education attainment of those aged 30-34 reached 33.7% in 2018, but it is still below the national Europe 2020 target (36%). In 2017, 8.1% of upper secondary

([50]) They report a need in CPD in knowledge of their subject field (19%, EU-23 6%), knowledge of the curriculum (20%, EU-23 5%), pedagogical competences (17%, EU-23 8%) and ICT skills (23%, EU-23 16%). (OECD, 2019b).

([51]) A large scale ESF co-financed project ‘Qualification of Pedagogical Specialists’ is currently running and aims to provide training to 52,900 teachers, with a view to acquiring qualification levels 1-3, and training to 48,000 teachers with a view to acquiring qualification levels 4-5.

([52]) 31% of pupils at lower secondary level attended highly digitally equipped and connected schools in the school year 2017/18 (52% in the EU), 37% (72%) in upper secondary level (European Commission, 2019, 2nd survey of schools: ICT in education).

([53]) e.g. ‘Training for IT career’, ‘Modernisation of the educational environment’, and Innovation in action’.

([54]) Project ‘Education for Tomorrow’ co-funded by the ESF with a budget of €53.6 million.

([55]) In the 2019/20 school year 3,554 students were enrolled in professions experiencing shortages on the labour market and 1,936 in protected profession fields.

([56]) From 2019 onwards, VET programmes and structure are expected to be updated at least every 5 years, and employers and employer organisations have been invited to take part in the planning process.

([57]) In the 2017/18 school year, only 120, or about a quarter, of all VET schools offered dual VET programmes.

([58]) An ESF co-financed project ‘Support for the dual training system’ with a budget of €12.5 million aims to increase the students in dual VET to 9,800.

graduates in Bulgaria had finalised tertiary education abroad, well above the number of international students in the country. The share of graduates in Science, Technology, Engineering and Mathematics (STEM) is still low (20.5% in 2017; EU average 25.8%) ([59]). There are still significant gender gaps, with only 37% of the STEM graduates being female, compared to a female graduation rate of 61% overall. The lack of attractiveness of the STEM field can be partially attributed to the low performance of Bulgarian pupils in maths and sciences ([60]), limited career guidance and gender imbalances in these fields.

Despite some measures taken, Bulgaria continues to have one of the lowest participation rates in adult learning in the EU. Participation in adult learning stood at a low level of 2.5% in 2018, significantly below the EU average of 11.1%. Importantly, participation rates in adult learning by low skilled adults stand at around one quarter of that for the general population. The quality of adult training provision and capacity constraints to effectively monitor quality represent a bottleneck to more effective adult participation in learning. The fact that many adult learning initiatives continue to be project-based calls into question their sustainability and strategic approach. In the context of unfavourable demographic developments and changing labour market needs, upskilling and reskilling of the workforce remains a priority, together with the creation of a comprehensive tool linking skills forecasting with education and training systems.

4.3.3. SOCIAL POLICIES

Although on the decline, the share of the population living at risk of poverty or social exclusion remains very high. Despite a continuous decline (from 41.3% in 2015 to 32.8% in 2018), some 2.3 million Bulgarians are still at risk of poverty or social exclusion. Thanks to positive labour market developments, the proportion of people living in low work intensity households continued to decline to 9% in 2018, and is now at the EU average. Nevertheless, the share of the total population that still cannot afford basic goods or services only decreased to 20.9%, remaining almost four times the EU average and monetary poverty remains stable.

The situation differs significantly across regions. The at-risk-of-poverty or social exclusion rate in the North-West region (44.4%) is almost double the rate in the South-West capital region (23.0%). At the same time, regions such as North-Central, with the highest poverty rate in 2010 (58.7%), managed to reduce it almost by half in 2018. The rural population continues to be largely affected by poverty risks and low access to services. Real median income among rural dwellers is 61% of that of urban households (EU average 84%). There are also twice as many households with very low work intensity in rural areas than in cities. The European Programme for Aid to the most Deprived continued to be the most important instrument for mitigating extreme poverty. In 2018, the support covered more than 530,000 people, including around 140,000 children and a growing number of people with disabilities ([61]).

Despite growing wages, in-work poverty is not abating and social protection of workers remains a challenge. The share of people experiencing in-work poverty slightly increased to 10.1% in 2018, reaching its second highest level since 2006. Households with medium and low work intensity face significantly higher in-work poverty rates compared to the EU average. The situation of young workers is particularly worrying, with 15.4% of them experiencing in-work poverty, which is a continuous deterioration since 2013 ([62]). Contrary to the overall trend in the EU, since 2016 the self-employed in Bulgaria have had a lower in-work poverty rate ([63]) than employees, but do not have access to unemployment benefits or accident and occupational injury insurance.

([59]) This represents 14.3 graduates in STEM for every 1,000 Bulgarians aged 20-29 and is among the lowest in the EU.

([60]) PISA 2018 results show second lowest mean score in the EU in mathematics for Bulgaria, and the lowest mean score in science (OECD, 2019).

([61]) More than 200 municipalities distributed on a daily basis hot lunches to the more than 50,000 beneficiaries, and the compulsory accompanying social inclusion measures.

([62]) In-work poverty for the Youth age group was 6.5% in 2013.

([63]) The in-work poverty rate for the self-employed in Bulgaria was 8.8% in 2017, much lower than the EU average (22.2%), however with high volatility between one year and the next.

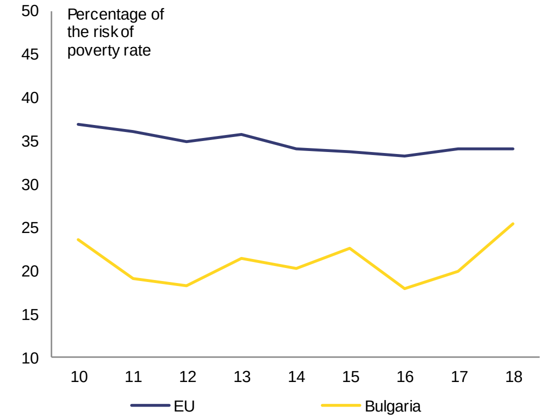
Energy poverty remains a widespread problem in Bulgaria, in most regions and across demographic groups. While the share has steadily decreased since 2011, 36.5% of households were unable to keep their home adequately warm in 2017, while 31.1% were in arrears on utility bills, placing Bulgaria among the Member States with the highest energy poverty rates in the EU ([64]). Relatively low coverage of social assistance benefits and low energy inefficiency exacerbate the problem. Policies on energy poverty have mainly focused on financial assistance or renovation and retrofitting of residential buildings. In the context of liberalising the electricity market for residential customers, the government has indicated that a mechanism for the protection of vulnerable electricity customers will be put in place ([65]).

Qualification levels and family background are the main determinants of poverty risks. People with less-than-primary, primary and lower secondary education are heavily overrepresented among those at risk of poverty, as well as among the working poor. Children of low-skilled parents continue to face a substantially higher risk of poverty than those of high skilled parents; a gap of 65.2 pps in 2018, well above the EU average of 43.3 pps. Households with a single parent, with more than one child and households in which only one of the parents is employed are also more likely to face poverty risks. In 2018, 33.7% of children (aged 0-17) were at risk of poverty or social exclusion.

Inequality of opportunity for children remains high. The latest PISA results show that the percentage of students aged 15 with a low socio-economic background who underperform in reading is 44.9 pps higher than for those of a high socio-economic background. Implementation of measures to tackle these challenges would contribute to addressing SDGs 1 'No poverty', 4 'Quality education' and 10 'Reduced inequalities'.

Though decreasing, the at-risk of poverty or social exclusion rate of elderly people remains high. The risk of poverty or social exclusion among those aged 65+ remains high, standing at 45.1% in 2018. Despite the indexation of pensions in recent years ([66]), as of July 2020, the minimum pension in 2020 will be 250 BGN (€125) per month, still 31% below the at-risk-of-poverty threshold of 363 BGN (€182), affecting around 800,000 pensioners. In addition, the benefit system still makes a relatively low contribution to poverty reduction: 25.4% in Bulgaria compared to 33.2% for the EU (see Graph 4.3.3). This also results from a low level of overall social investment ([67]).. The highest decrease in the rate of poverty was achieved by the 'Sickness and disability benefits' function, but even in this case the effect in 2017 was lower than in 2008.

Graph 4.3.3: **Impact of social transfers (excluding pensions) on poverty reduction (1)**



(1) Measured as reduction in percentage of the risk of poverty rate due to social transfers.
Source: European Commission

Income inequality has started to narrow, but remains high. In 2018, the income share of the richest 20% (S80/S20) of the population was almost eight times that of the poorest 20%, which is the highest in the EU, where the average ratio is

([64]) European Commission (2019). Member State Report of the EU Energy Poverty Observatory (EPOV) — Bulgaria, available at: https://www.energypoverty.eu/observatory-documents/bulgaria.

([65]) In accordance with Directive 2009/72, revised by Directive 2019/944 on the internal market for electricity.

([66]) The increase of pensions is done indiscriminately, with an equal percentage to all — in 2018 by 3.8%, in 2019 by 5.7%. The planned increase in July 2020 is 6.7%. From 1 July 2019, the minimum monthly pension increased from 207.60 BGN (€103.8) to 219.43 BGN (€109.7). The social pension changed from 125.58 BGN (€62.79) to 132.74 BGN (€66.37).

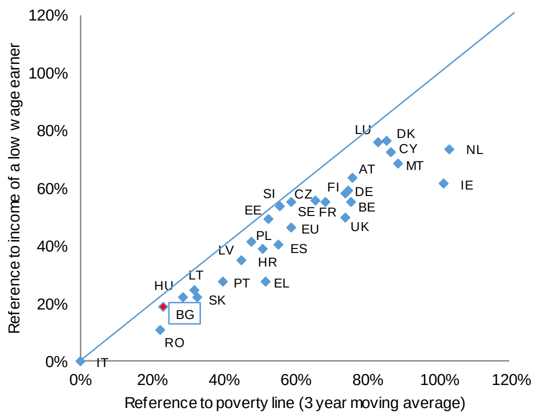
([67]) Following the data recorded in ESSPROS the expenditure on social protection, including 'Old age pension', 'Sickness/Healthcare', 'Family/Children, 'Disability', 'Unemployment' and 'Housing and Social inclusion' functions accounted for only 17% of GDP in 2017.

5.17 ([68]). The still low levels of minimum income and old age pensions contribute to this result. The capacity of the tax and benefit system to reduce income inequalities is one of the weaker in the EU: measured by the S80/S20 ratio, taxes reduce income inequality by only 4% (13% for the EU) and benefits by 28% (35% in the EU) (see Graph 4.3.3).

The overall adequacy and coverage ([69]) of the minimum income scheme remains low, and no indexation is anticipated (see Graph 4.3.4**).** The core of Bulgarian minimum income support is a monthly social benefit and 'heating allowances'. Both base their eligibility criteria on the official guaranteed minimum income (GMI). After the administrative increase of the GMI in 2018 from a monthly BGN 65 (€33.32) to BGN 75 (€38.35), no updates were implemented and no objective criteria for indexation are anticipated. The poverty line from January 2020 ([70]) will be used to determine the monthly support only for the people with disabilities ([71]). The number of registered beneficiaries for the monthly minimum income support continued to decline in 2019 to 26,000, as reported by the government (covering approximately 2% of the at-risk-of-poverty group). The overall low amount of the support, the relatively restrictive eligibility criteria and the lack of mechanisms for a smooth transfer from social assistance to employment, with the right mix of active labour market policies and support services, make the support ineffective and unattractive. The eligibility criteria for minimum income benefits have no income disregard with the exception of one-day contracts, which affects transitions to the primary labour market. On the other hand, for the heating allowance, changes to the access criteria ([72]) carried out in 2019, and the 24.5% increase in the amounts, led to 21 % more people covered compared to 2018.

([68]) The S80/S20 indicator declined from 8.2 in 2017 to 7.66 in 2018.
([69]) Benchmarking Framework on Minimum Incomes conducted within the Social Protection Committee (SPC). For details, see Proposal for a Joint Employment Report 2020.
([70]) In September 2019, the government adopted in a new methodology for the definition of the national poverty line, based largely on the EU-SICL methodology.
([71]) Poverty line of BGN 363 (€185.5) subject to annual indexation.
([72]) The overall amount of the heating allowance is BGN 93.18 (€46) per month or BGN 465.90 (€233) per heating season.

Graph 4.3.4: **Adequacy of minimum income benefits 2017**



Source: European Commission

The high staff turnover and difficult working conditions have an impact on the quality of social services. This is also due to relatively low wages and limited training opportunities. Recent wage increases in the education sector resulted in an additional staff outflow from the social sector. As of 2020, social workers will receive a 15% increase. However, the majority of them are still living with wages close to the minimum wage ([73]).

The pace of the social services reform is slow and it has been further delayed. The entry into force of the new law on social services, adopted at the beginning of 2019, was postponed by six months at the end of the year, creating further uncertainty. The new provisions envisage addressing the chronic underfinancing by introducing rules for more accurate determination of standards for financing of social services. A National Map of Social Services, to be prepared jointly with municipalities, will aim at addressing the uneven territorial distribution and insufficient coverage and quality of services. A new Agency ([74]) that will have an oversight function is envisaged to be created. A dedicated ESF project will support the setting up of the methodological framework, the update of the quality standards and the qualification of the staff of the Agency. However, the postponement of the entry into force

([73]) European Commission calculations (2019).
([74]) Social Services Agency will licence social service providers, develop common quality standards, ensure that consumer rights are respected, carry out ex-post control and monitor the quality of social services at municipal level provided by both municipalities and other service providers and assess their efficiency.

of the reform creates uncertainties about the impact of the new provisions.

Roma continue to face serious challenges. The at-risk of poverty rate (86%) remains very high. 65% of Roma still live in accommodation lacking basic sanitation amenities, while only 13% report being able afford a week's holiday ([75]). The share of Roma living in neighbourhoods where all or most of their neighbours are of the same ethnic background is the highest (83%) among the European Union Agency for Fundamental Rights surveyed countries, with direct impact on school segregation. New measures seek to improve participation in education and reduce early school leaving (see section 4.3.3). Several projects are in place to promote Roma inclusion through integrated measures, supported by the European Social Fund. The National Council on Ethnic and Demographic Issues resumed its activity in 2019 with a coordination and monitoring role. However, the working programme and specific actions are still to be implemented.

High levels of housing deprivation hamper social inclusion. Severe housing deprivation in 2018 was 10 times the EU average, while every second Bulgarian at risk of poverty is living in a household overburdened by housing costs. Social housing policies are decentralised, without a strategic framework, and housing benefits are a negligible proportion of total benefits. There are no specific measures to prevent homelessness or with specific focus on the social reintegration of homeless people, except for temporary accommodation centres and shelters which are full to capacity in the winter season ([76]). The new law on social services is expected to address homelessness with a new service from 2021.

People with disabilities still face difficulties in achieving independent living. In 2018, their at-risk of poverty or social exclusion rate stood at 49.5%, 19.5 pps higher than for people without disabilities and 20.7 pps above the EU average. New legislation strives to improve coverage and adequacy of support ([77]), depending on their level of disability and individual needs. The Bulgarian authorities report a 30% increase in recipients of support after the new methodology for determining and updating the monthly assistance ([78]) was enforced. In addition, a new state agency will be created in 2021 to coordinate the policy on people with disabilities, based on individual assessments and support. Addressing different support needs and providing alternatives and accessible environments would allow people with disabilities to participate in the community.

New services and comprehensive support for children are still under consolidation after the initial de-institutionalisation process was accomplished. All specialised institutions for children with disabilities have been closed down. The number of children in specialised institutions fell from 7,587 in 2010 to 495 in 2019 (93%). Of the 137 institutions that were identified for closure ([79]) in 2009, only 21 remained. The number of social services for the support of children and families in the community, with consultative and day-care alternatives including foster care services, has increased threefold in this period, largely piloted with the ESF. There is scope in the local and national budgets to better ensure the sustainability, quality and accessibility of services for all users.

Demand for long-term care services is increasing and new infrastructure and services are under development. In 2016 the reported unmet need for homecare services was the highest in the EU, at 65.1%, while the number of long-term care workers remains well below the EU average ([80]). With the main objective of developing long-term care services for people with disabilities and the elderly**,** the government adopted a national strategy for long-term care and an action plan for 2018-2021. Still, the process of reforming the system and restructuring and closing the current 161 specialised institutions with 11,000 adults is in its first phase, and is planned to run

([75]) Report on the implementation of National Roma Integration Strategies.

([76]) ESPN repot on homelessness: 13 temporary accommodations and 2 shelters exist in the country, with a capacity of 617 and 70 places respectively.

([77]) People with Disabilities Act and Personal Assistance Law adopted in December 2018.

([78]) Depending on the degree of disability, the monthly assistance ranges from 7% to 57% of the poverty line, which is BGN 348 in 2019.

([79]) National Strategy 'Vision for De-institutionalisation of Children in Bulgaria till 2025'.

([80]) OECD (2019). Ensuring an adequate LTC workforce.

until 2034 ([81]). The European Structural Funds support the reforming of these institutions, implementing a map of infrastructure and the development of new services such as community-based support in day-care centres and integrated health and social mobile support in the home environment.

4.3.4. HEALTH POLICIES

On average, one person in ten in Bulgaria does not have health insurance and therefore has limited access to the public health care system. The real proportion of non-insured Bulgarians is estimated to be 14% of the population (OECD/European Observatory on Health Systems and Policies, 2019). In groups like Roma or long-term unemployed the rate is much higher. This is because of the obligation for the long-term unemployed to cover health insurance premiums using their own means, and a lack of trust in the public system (abstention from paying insurance premiums) ([82]). In general, people without insurance have partial free access to services, like emergency care or care during pregnancy. They need to cover all other costs on their own. The measures to improve access to health care would lead to further progress towards SDG 3 'Good health and well-being'.

Out-of-pocket payments in Bulgaria are the highest in the EU. They cover 46.6% of current health care expenditure, against an EU average of 15.8%. Public expenditure is very low, covering only 52.1% of total health spending, which is second lowest in the EU and well below the EU average of 79.3%. In Bulgaria, 70% of out-of-pocket payments cover costs of pharmaceuticals and medical devices (EU average 35%). Patients need to co-pay for many services in the public system, and the health insurance does not protect many of them from additional financial burden caused by health problems. Moreover, general practitioners have monthly quotas of referrals they can issue. Some patients, who do not want or cannot wait for the referrals until the next month, go directly to specialists and pay for visits.

([81]) Only five homes for people with psychiatric disorders and five for people with mental disabilities have been prepared for closure.

([82]) State of Health in the EU Bulgaria Country Health Profile.

Health care affordability is especially challenging for the poorest. Despite general improvement — the percentage of Bulgarians reporting unmet medical needs in 2018 was slightly lower than the EU average — the gap in access between the poorest and the wealthiest Bulgarians is almost twice that of all Member States combined (4.8 pps; EU 2.6 pps). In households below 60% of median equalised income, 96% of people experience a high or moderate burden in obtaining medical care, against the much lower EU average of 52%.

There are more specialist physicians in Bulgaria than in many other Member States, while the number of nurses is the second lowest. The ratio of general practitioners to all medical doctors is 15.5% (EU average 27.3%). This weakens the position of primary care in the health care system. The number of nurses per 1,000 inhabitants in Bulgaria is 4.4 (EU average 8.5). The profession remains unattractive due to low salaries, lack of recognition of the profession's significance and heavy workload. The distribution of the health workforce is uneven in the country, e.g. districts that have the greatest proportion of doctors per head of population are those where there are medical universities. The system faces challenges in encouraging medical staff to establish in other locations.

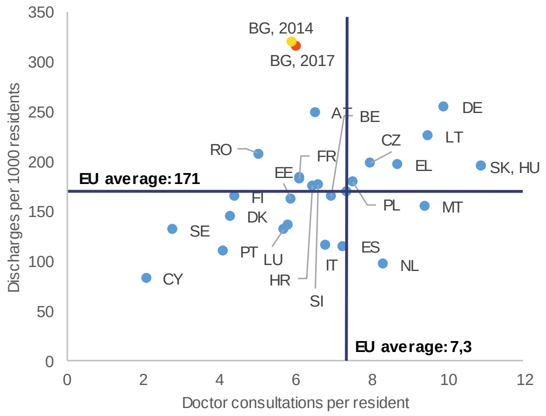
The Bulgarian health care system remains hospital-centred. Despite an average length of hospital stay below the EU average (5.3 days; EU average 7.9), the number of hospital discharges per 100,000 population is almost twice the EU average (see Graph 4.3.5). This may suggest that many patients are admitted to hospitals only for tests and check-ups that in Bulgaria, unlike in many other Member States, cannot be provided in outpatient care. Overall, the number of beds in Bulgaria is high (7.5 per 1,000 population; EU 5.0) and has increased since 2005, counter to the general trend in the European Union. This is driven by the large growth of the private sector, where the number of hospitals increased six-fold and the bed capacity 36 times between 2000 and 2016. At the same time, numbers for public entities dropped. Only recently, the government started licensing hospitals, independently of their ownership structure (public or private), using the National Health Map. Selective contracting by the National Health Insurance Fund that uses the National

Health Map should also counteract the hospital sector's growth.

The effectiveness of the health care system in Bulgaria remains low in comparison to other Member States. Preventable ([83]) and treatable ([84]) mortality in 2016 were much higher than the EU average. Both types of death were mainly the result of non-communicable diseases: lung cancer, stroke, ischaemic heart disease and hypertension. Tobacco use — the highest in the EU — with heavy alcohol consumption and obesity rates increasing among teenage boys and children respectively are partially behind this. Inappropriate use of antibiotics (e.g. prescribing them against viral diseases) and a high number of antimicrobial resistant infections indicate an antimicrobial resistance problem in Bulgaria, which increases morbidity and mortality. According to OECD estimates, this problem can be tackled with very low financing and good results ([85]). The tuberculosis notification rate in Bulgaria is falling, but still is almost twice the EU average. Between 2016 and 2017, the measles notification rate grew enormously from 0.1 per 1 million inhabitants to 23.2. Moreover, vaccination rates among children are below the EU average, notably against hepatitis B (85% in Bulgaria vs. 93% in the EU) and the 95% rate, which according to the World Health Organisation ensures herd immunity.

([83]) Preventable mortality is defined as death that can be mainly avoided through public health and primary preventive interventions.
([84]) Mortality from treatable (or amenable) causes is defined as death that can be mainly avoided through health care interventions, including screening and treatment.
([85]) Antimicrobial resistance: tackling the burden in the European Union. Briefing note for EU/EEA Countries. OECD and ECDC. 2019.

Graph 4.3.5: **Outpatient use vs inpatient use, 2017**



Source: European Commission, OECD Health Statistics 2018 (data refer to 2017 or the nearest year, no data for UK)

There are plans for reforms in the health care system. A new framework contract signed by the Ministry of Health, the public payer and physicians, designed to regulate provision of health care, entered into force in January 2020 for 3 years. Previously the contracts were signed for 1 year and were binding as of April 1st. The government proposed introducing competition in health insurance, enabling private companies to play a role as purchasers of services. An insurer based on the currently existing National Health Insurance Fund would remain in the system. Public consultations initiated in summer 2019 are to decide on the details of the proposed measures.

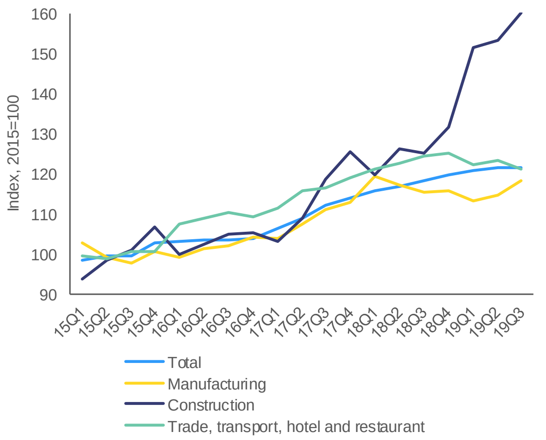
4.4. COMPETITIVENESS, REFORMS AND INVESTMENT

4.4.1. COMPETITIVENESS

Aggregate unit labour costs (ULCs) are on an upward path. ULCs for the whole economy have been increasing for more than 10 years, and this trend has continued in 2018 and the first half of 2019. The comparatively low initial levels, structural changes and the process of nominal and real convergence are among the factors behind this long-term development. Cyclical factors have also played a role, fuelling rapid ULC growth in the booming years before the 2009 crisis and limiting the pace of ULC increase afterwards. Tentative evidence suggests that unit labour costs react with a lag to the evolution of output gap.

Manufacturing sector and tradable services maintain their competitive position. Since 2018, both the manufacturing sector and services (including trade, transport, hotels and restaurants) have managed to keep their labour cost developments in line with productivity (see Graph 4.4.1). The two sectors achieved ULC moderation through different channels. While faster productivity gains in manufacturing accommodated wage increases, wage moderation helped to keep ULCs constant in the tradable services. In the construction sector, unit labour costs exhibit strong upward dynamics driven by a high growth in compensation per employee as well as stagnant productivity gains.

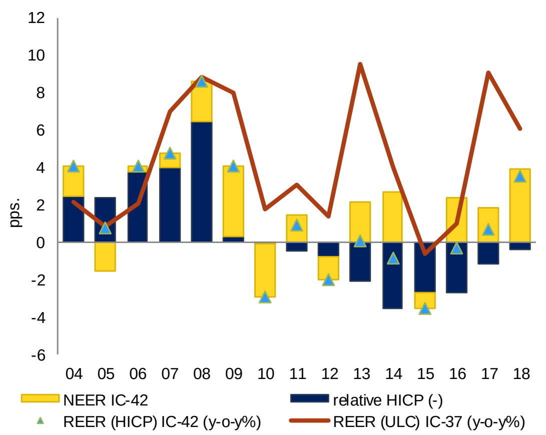
Graph 4.4.1: **Evolution of unit labour costs**



Source: European Commission

External factors, such as nominal exchange rate fluctuations, also influenced Bulgaria's external competitiveness. Given that the lev is fixed to the euro, the dynamics of nominal effective exchange rate (NEER) are determined by the price of the euro vis-à-vis the currencies of major trade partners. The high share of exports and imports outside the euro area, 51% and 55% respectively in 2018, suggest that there might be significant effects on external competitiveness. In 2013-2018, the appreciation of NEER has harmed price competitiveness, contributing four pps to the real effective exchange rate increase in 2018 (see Graph 4.4.2). The nominal appreciation of the lev in 2018 was strongly influenced by the depreciation of the Turkish lira by 38.5% against the euro. Turkey is the most important trading partner for Bulgaria outside the EU, with 8% of total exports and 6% of total imports.

Graph 4.4.2: **Breakdown of rate of change of REER**

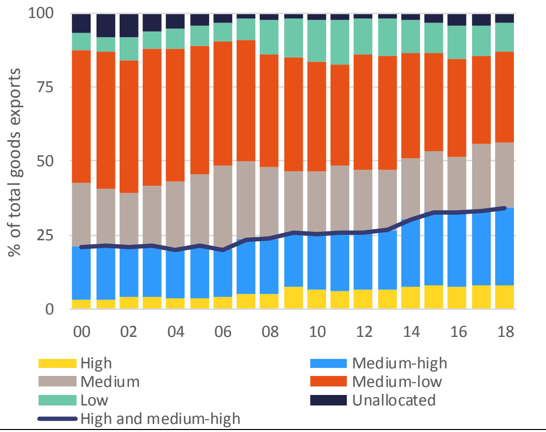


Source: European Commission

Several stylised facts point to the conclusion that external competitiveness has been preserved so far. Since 2000, export market share more than doubled, although gains were uneven across years. Nominal exports have been growing consistently since 2010. Productivity gains, expansion in production capacity and improvement in product sophistication indicate that non-price competitiveness factors compensated for price and cost increases (see Graph 4.4.3). Moreover, the labour share in manufacturing ([86]) has remained almost constant throughout the years, suggesting that the wage growth was accommodated by either productivity or price increases.

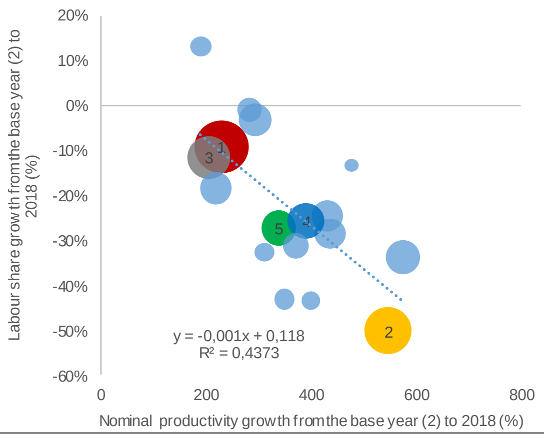
([86]) Measured as share in gross value added of manufacturing that accrues to labour as a factor of production

Graph 4.4.3: **Exports of products by R&D activity intensity**



Source: OECD

Graph 4.4.4: **Labour share and nominal productivity growth of manufacturing industries (1)**



Source: (1) Size of the bubbles represents the share of manufacturing industries in the total gross value added of the manufacturing sector. The industries with the biggest share: 1) food; 2) metal products; 3) clothes; 4) machinery and equipment 5) basic metals
(2) Base year: Average value of 2000-2002 levels
Source: European Commission

Aggregate competitiveness developments in manufacturing mask different trends across production sectors. Notwithstanding the overall positive developments in the tradable sector, competitiveness dynamics have been uneven across industries. The labour share exhibited different dynamics across sectors, largely driven by fundamental factors, such as productivity and price developments Industries that were able to achieve productivity gains or were able to charge higher prices (due to quality improvements and/or less price competition, for example) also managed to supress the labour share, while labour share increased in the rest of the manufacturing sectors (see Graph 4.4.4). This suggests that the more dynamic sectors were able to accommodate cost increases, while other industries suffered cost competitiveness losses.

Apart from unit labour costs, other factors are also important for assessing the competitive position of the economy. The gradual sophistication of exports benefits from the high and increasing trade openness and the integration of domestic producers into the global value chains. The increase in total factor productivity in recent years also suggest that the adoption of new technologies is an important factor behind competitiveness gains. The build-up of new productive capacity also facilitates the transfer of advanced technologies embodied in the new machinery and equipment. In this respect, the increasing share of imported machinery in total exports since 2015 is also a positive sign for the future competitiveness outlook of the economy.

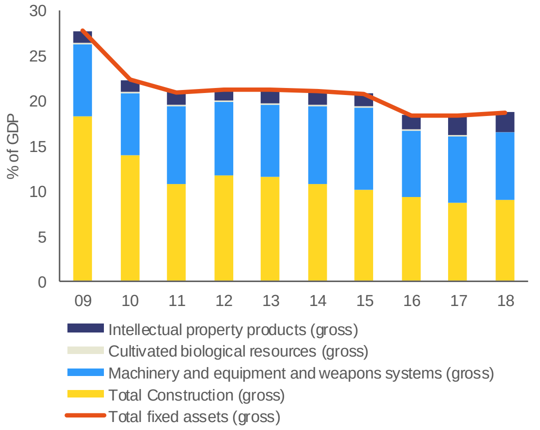
Business environment improvements could stimulate faster technological advancement. The low number of registered patents and licenses hampers faster convergence in technology. The quality and coverage of existing infrastructure, including also overall business environment, need further improvement to stimulate more dynamic competitiveness gains, including through inflows of foreign direct investments.

4.4.2. INVESTMENT AND PRODUCTIVITY

Investment activity

Although investment picked up in 2018, it remains well below the EU average. The investment to GDP ratio at 18.6% remains lower compared to those of most of the regional peers, and below the EU average of 21%. The manufacturing sector attracts the largest share of investment, although it registered a slight decline in 2018. The observed increase in total investment was driven by increases across all asset types (see Graph 4.4.5), with the most significant contribution coming from machinery and equipment. The positive trend of investment in intellectual property continued, but its level remains low. Gross fixed capital formation in information and communication technology equipment remained relatively weak, reflecting the still low digital uptake in both private and public sectors. The European Structural and Investment Funds remain pivotal for the investment activity.

Graph 4.4.5: **Investment by asset type**



Source: European Commission

Despite significant investment needs, investment remains subdued. The 2019 European Investment Bank Investment Survey (EIB, 2019) indicates that Bulgarian firms invest less than the EU average (67%; EU average 86%), and that there is a lack of ambitious investment plans. Most of the companies that are planning to spend more are in the manufacturing and infrastructure sectors. At the same time, many firms report investment gaps, and the share of firms operating above capacity (54%) has increased across most sectors. The largest share of companies report that the main obstacles to investment are the lack of skilled staff, economic and regulatory uncertainty, and energy costs.

More investment is also needed to improve the low quality of infrastructure. This pertains to both energy and water infrastructure, as well as weak transport connections, especially in the north of the country. Robust transport and energy networks would help companies to connect with global markets and suppliers and to boost their productivity. Countries with strong infrastructure are also more attractive to foreign direct investment, which can support an economy's shift to the production of higher value-added goods. Improvements in infrastructure are also needed to advance on SDG 9 'Industry, innovation and infrastructure'. It calls for reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being.

Business environment

The business environment remains weak. The slow pace of improvement and the lack of substantial reforms dragged Bulgaria down from 50th place in 2017 to 61st place in the 'Ease of Doing Business' ranking (World Bank, 2019). With few exceptions, such as in 'trading across borders' and 'protecting minority shareholder rights', Bulgaria has significant room for improvement in all of categories. The implementation of the action plan for removing obstacles to investment has not yet led to visible results. The country is still losing position in key areas like 'starting a business' or 'getting electricity'. Protection of intellectual property rights is weak, and obtaining construction permits is costly and complicated. Labour and skills shortages and institutional shortcomings continue to be among the main barriers to investment and to negatively impact growth prospects of businesses (see sections 4.3 and 4.4.4).

Small and medium-sized business (SMEs) still face many difficulties. Bulgaria scores below the EU average in the implementation of the Small Business Act ([87]). The country underperforms in most of the categories, particularly in 'entrepreneurship' and 'skills & innovation', where it has one of the weakest scores in the EU. Moreover, measures in support of SME policies have had only a limited effect. On the positive side, according to the 2019 SAFE survey (ECB, 2019), only 6% of SMEs categorised financing as their most important problem. This share has halved compared to the 2009-2013 levels. The most popular sources of financing are still credit lines, leasing and bank loans.

Bulgaria is actively using EU support to improve financing further. In terms of triggered European Fund for Strategic Investments (EFSI)-related investment relative to GDP, Bulgaria is among the best performers among Member States. Total funding under the EFSI amounts to €472 million and it is expected to generate an additional €2.4 billion of investment. Bulgaria is also one of

([87]) *The Small Business Act* is an overarching framework for the EU policy on *small* and medium-sized *enterprises*.

the largest beneficiaries of the European Investment Bank's advisory services. In addition, the COSME Loan Guarantee Facility is one of the most used centrally managed banking instruments of the Investment Plan for Europe, with more than 5,000 transactions to final recipients and €460 million committed. Finally, in 2019 a new €60 million instrument was launched in cooperation with the European Investment Fund: InvestBG Equity, which targets equity financing of high-growth and innovative SMEs.

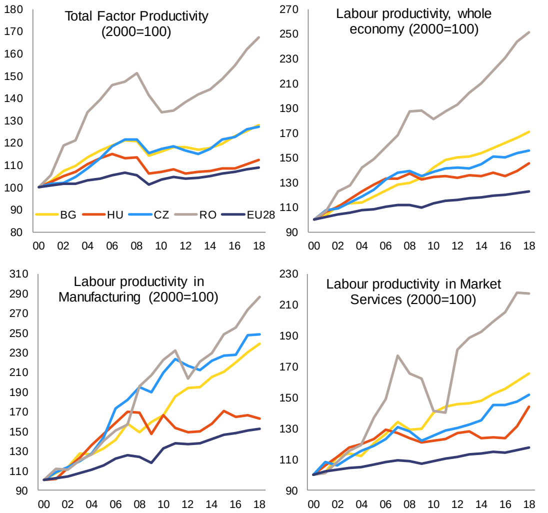
Venture capital investment got an additional boost but remains below the EU average ([88]). New instruments for equity and quasi-equity investments were introduced in 2019. The Fund Manager of Financial Instruments in Bulgaria has selected financial intermediaries for early-stage, venture and mezzanine funds amounting to €110.7 million. A tendering procedure for a Technology Transfer Fund with a budget of €30 million was also launched in 2019. Attracting large private and institutional investors remains a challenge, partially due to the still low levels of initiatives for improving investor confidence and the small size of the market. A vibrant start-up eco-system has started to emerge in the capital and it would benefit from an improved legislative framework, its consistent enforcement and strengthened institutional capacity.

Productivity

Labour productivity growth accelerated, but Bulgaria still has the lowest level in the EU. In 2018, labour productivity per hour worked increased by more than 3% and reached 47% of the EU average. The increase in labour productivity growth in 2018 was broad-based across sectors, and it helped slightly narrow the gap with the rest of the EU (see Graph 4.4.6). This higher labour productivity growth, coupled with a somewhat lower growth in employee compensation, helped cool unit labour cost growth (close to its minimum over the decade). The labour productivity of large companies was twice as high as that of micro-companies, and the gap between them keeps increasing. This can be explained by the relatively small resources of micro-firms for investment in technological upgrades, development and innovation, skills, and marketing.

Total factor productivity picked up. Whereas in the first post-crisis years labour productivity growth was mostly driven by capital accumulation, in recent years total factor productivity has also picked up and it has outperformed the EU average (see Graph 4.4.6). This might come as a result of productive investments in previous years. However, the gap remains wide and faster productivity growth is necessary to have a substantial catching up impact.

Graph 4.4.6: **Total factor productivity and labour productivity developments**



Source: European Commission

Weaknesses in the drivers of productivity growth persist. The business environment is not fully supportive of investment, and institutional quality is a challenge (see Section 4.4.4). The stock and quality of physical infrastructure remains inadequate. Business R&D and, more generally, intangible investment has increased over the past 10 years but is low in terms of GDP. Uptake of digital technologies is slow in both public and private sectors. Skills mismatches relative to labour market needs are declining, but are still high compared to the rest of the EU (see Section 4.3.1). The way skills mismatches affect companies includes additional spending on employee training, loss of competitiveness and innovation capacity and slower recruitment processes ([89]).

([88]) European Innovation Scoreboard 2019.

([89]) http://europa.eu/!dM96Ft.

Box 4.4.1: Investment challenges and reforms in Bulgaria

Section 1. Macroeconomic perspective

Total investment remains relatively low at 18.6% (compared to the EU average of 21%), although investment needs remain high in a number of areas. Private investment has been volatile and subdued in the aftermath of the crisis. Public investment increased sharply in 2018 and it is set to continue growing in 2019 with the progressive implementation of projects financed by both EU funds and national sources.

Section 2. Assessment of barriers to investment and ongoing reforms

Public administration/ Business environment	Regulatory/ administrative burden	
	Public administration	
	Public procurement /PPPs	
	Judicial system	
	Insolvency framework	CSR
	Competition and regulatory framework	
Labour market/ Education	EPL & framework for labour contracts	
	Wages & wage setting	
	Education, skills, lifelong learning	CSR

Financial Sector / Taxation	Taxation	
	Access to finance	
R&D&I	Cooperation btw academia, research and business	
	Financing of R&D&I	
Sector specific regulation	Business services / Regulated professions	
	Retail	
	Construction	
	Digital Economy / Telecom	
	Energy	
	Transport	

Public administration reform and the introduction of e-government are not progressing as envisaged (see Section 4.4.5). Labour shortages continue to be among the key obstacles to investment (see Section 4.3). Reform of the insolvency framework is ongoing. Efforts to implement the insolvency framework roadmap have already started, but proper implementation will be key (see Section 4.2.4). The effectiveness of the justice system has improved, but challenges remain. These include the effectiveness of criminal investigations, the efficiency and accessibility of the judiciary through e-justice tools and low public trust in anti-corruption institutions (see Section 4.4.5).

Non-performing loans and private sector debt continued to decline but remain high **(see Section 4.2.3).** Venture capital and the other forms of non-banking financing are still limited, although there have been improvements such as new equity and quasi-equity instruments on the market (see Section 4.4.2). Bulgaria is actively using all possibilities provided by EU funding to improve financing conditions for companies.

The EU supports investment in Bulgaria also via the European Fund for Strategic Investments (EFSI). By October 2019, total financing under the EFSI amounted to €546 million, intended to trigger €2.7 million in additional investments ([1]). By the end of 2020, EFSI and other EU financial instruments will come under the auspices of the new InvestEU programme that promotes a more coherent approach to financing EU policy objectives, and increases the choice of policy implementation options and implementing partners to tackle country specific market failures and investment gaps. In addition, under InvestEU, Member States can set up a national compartment by allocating up to 5% of their structural funds to underpin additional guarantee instruments supporting the financing of investments with a higher degree of adaptation to local conditions. InvestEU will be policy-driven and focus on four main areas, all relevant for Bulgaria: Sustainable Infrastructure, Research, Innovation, and Digitisation, Small Businesses, and Social Investment and Skills. Bulgaria has two national promotional institution that have signalled their interest in becoming implementing partners under InvestEU.

([1])https://ec.europa.eu/commission/strategy/priorities-2019-2024/jobs-growth-and-investment/investment-plan-europe-juncker-plan/investment-plan-results/investment-plan-bulgaria_en

Research and innovation

Bulgaria's research and innovation (R&I) system faces a number of structural shortcomings. In particular, these include low levels of public and private R&I investment, fragmentation of the public science base, lack and ageing of skilled human resources, weak science-business links and inefficient governance. All these deficiencies are holding back the potential contribution of R&I to productivity and economic growth and will strongly limit the capacity for upwards convergence in the midterm. Addressing these bottlenecks would help Bulgaria in making progress towards achieving SDG 9 'Industry, innovation and infrastructure'. Currently, Bulgaria is among the worst performers ('modest' innovator) in the European Innovation Scoreboard ([90]), with an overall level still below 50% of the EU average.

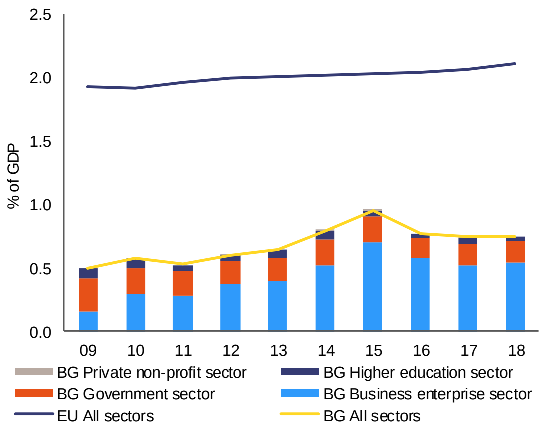
R&D spending remains very low both in the public and in private sectors. R&D intensity is very low: 0.75% of GDP in 2018, far below the national target of 1.5% (see Graph 4.4.7). The extremely low public R&D intensity (0.21% of GDP in 2018) is particularly concerning, also given that it has been on a mostly decreasing trajectory since 2000. This hinders the required capacity building, as research infrastructure is outdated and low wages act as deterrents to attracting and retaining young talent. Business R&D intensity (0.54% of GDP in 2018) is on a decreasing path as well. Investment in research remains fragmented and concentrated in the capital region and multinational companies.

Bulgaria announced its intention to gradually increase public R&D spending. By 2025 it should reach to 1% of GDP. The authorities also announced a doubling of the budget for research programmes to support the strategy for development of scientific research 2017-2030. In addition, the government has approved 11 national scientific programmes for 2018-2022, with a budget of more than €30 million. On the other hand, the Smart Growth Council that was set up in 2015 to provide independent, robust and coordinated management of national and EU funding is under-utilised.

([90]) European Commission, Innovation Scoreboard 2019, https://ec.europa.eu/growth/industry/innovation/facts-figures/scoreboards_en.

High fragmentation of the research and higher education system is a key obstacle to improving its performance. The small public research budget is distributed over a large number of universities and research institutes ([91]). This situation exacerbates the consequences of the very low public R&D expenditure: the quality of the Bulgarian science base (measured by the share of highly cited scientific publications in all national publications) is the lowest among all EU countries ([92]). Bulgaria has introduced an update of the Research Performance Assessment procedure ([93]), but the structural reform of the research landscape that was essential to tackle its fragmentation and increase performance has not been carried out. The proposed creation of a state Agency for Innovations and Applied Research to ensure stronger governance and ownership of the R&I policies could lead to positive developments.

Graph 4.4.7: **Intramural R&D expenditure by sectors of performance**



Source: European Commission

Links between academia and businesses are still insufficiently developed to support knowledge and technology transfer. This is also reflected in the low share of public-private scientific co-publications. Several relevant initiatives to promote innovation, knowledge transfer and science-business links are slowly progressing, supported by the ESIF. The future regional

([91]) 51 Universities (state and private financing), 42 Institutes of the Bulgarian Academy of Sciences (BAS), 17 Institutes of the Agrarian Academy (AA).

([92]) In 2016, 3.1% of Bulgarian publications were highly cited, compared to the EU average of 10.3%.

([93]) Horizon 2020 PSF Specific Support to Bulgaria Expert Panel conclusions: https://rio.jrc.ec.europa.eu/en/policy-support-facility/specific-support-bulgaria.

innovation centres, as well as the Centres for Competence and Centres of Excellence, will serve as a link between science and business and local/national authorities ([94]). Participation of Bulgarian scientists and innovation entrepreneurs in European programmes, as well as synergies between national and operational programmes and other Commission programmes such as Horizon 2020, are limited.

Digitalisation

Bulgaria's performance in the European Commission's Digital Economy and Society Index (2019) is very low. Bulgaria scores well below the average in the human capital category, with the overall level of digital skills in the population being among the lowest in the EU (see Section 4.3.3). Bulgarian companies also struggle to take full advantage of the opportunities offered by new digital technologies: only 6% of SMEs sell online (EU average 17%), 3% of SMEs sell cross-border and only 2% of their turnover comes from the online segment. Bulgaria performs relatively well in the connectivity dimension, especially regarding the wide availability of ultrafast and mobile broadband networks.

The authorities have taken some steps to drive forward the country's digital transformation. Bulgaria has a national programme 'Digital Bulgaria 2025'([95]) dealing with national ICT related problems in the economic and social sectors. Another high level policy document is under development to cover all aspects of digital transformation of Bulgaria, including the digital transformation of the economy. The Bulgarian SME promotional agency will manage a cohesion policy project to set up a voucher scheme benefiting up to 450 SMEs that are willing to acquire digital infrastructure. Bulgaria also has a National Centre for Supercomputing Applications, whose its activities could be stepped up to benefit SMEs. Finally, the 5 G ([96]) strategy will soon be incorporated in the National Broadband Plan. Bulgaria would benefit from making sure that all of the EU-harmonised spectrum, including the 5 G pioneer bands, is made available in good time to all relevant market players, to achieve the gigabit connectivity goals.

Transport

Bulgaria is among the Member States with the lowest perceived quality of transport infrastructure. Despite a decade of EU investments in railway infrastructure, its modernisation has been slow and satisfaction with the rail infrastructure remains low. The railway infrastructure fluidity, internal railway network interconnecting strategic points, and multimodal platform networks remain underdeveloped. The Bulgarian share of the Trans-European Transport Core Network is complete for inland waterways. On road and rail, the country is still lagging behind ([97]). This results in a declining traffic intensity for both freight and passenger rail transport (World Economic Forum, 2019). The EU-Turkey agreement for a high-speed train linking Istanbul to the Bulgarian border crossing point would be a positive development. Finally, the logistics sector scored low in the World Bank's 2018 Logistics Performance Indicator due to the poor quality of infrastructure, and absence of multimodal logistics platforms.

Connectivity with neighbouring countries remains a challenge. The implementation of the Trans-European Transport Network policy on the construction of road and rail infrastructure, building the links to the Western Balkans and exploiting the potential of the Black Sea and the Danube, would allow Bulgaria to benefit from being a transit country on the future Alpine-West Balkans Rail Freight Corridor. The priority is still to develop the corridors 'Orient/East-Med' and 'Rhine-Danube', as well as connections with Western Balkan countries.

The ongoing construction of a national motorway is a step towards modernisation, but this process is still slow. Higher revenues from the electronic vignette system should enable investment in a modern and safer road infrastructure, completion of missing network sections, faster deployment of intelligent transport

([94]) 14 Centres of Excellence (CoE) and Centres of Competence (CoC) financed by OP 'Science and Education for Smart Growth' 2014-2020.
([95]) https://www.mtitc.government.bg/bg/category/85
([96]) 5G is the 5th generation mobile network that will deliver multi-Gbps peak rates, ultra-low latency, massive capacity, and more uniform user experience. .
([97]) DG MOVE TENTec (statistics reflect the official maps contained in Annex I of Regulation (EU) No 1315/2013).

systems and interfaces with other modes of transport. The transport infrastructure in the north of the country remains generally underdeveloped and road infrastructure development to improve connectivity between the north and south has not addressed the existing regional imbalances.

The poor road safety record warrants urgent implementation of more effective measures. There were 96 deaths per million inhabitants in 2017 (EU average 49). A very old vehicle fleet and an underdeveloped road network help to explain this. While the quality of road infrastructure has been increasing slightly, following significant investments supported by ESIF, the quality of roads is still poor. There are also major road tunnels that require urgent safety improvements ([98]). Bulgaria is one of the beneficiaries of the EU Road Safety Exchange programme, with twinning activities ([99]) focusing on infrastructure safety and effective enforcement of traffic rules. A road safety action under the Connecting Europe Facility should help to improve the 25 registered blackspots on the Bulgarian road network of the Orient/East-Med Corridor ([100]). Improving Bulgaria's track record on road accidents would also advance its progress towards SDG 3 that calls for halving the number of global deaths and injuries from road traffic accidents.

The share of renewable energy in transport has increased. The main support scheme is a quota system obliging companies importing or producing petrol or diesel to ensure that biofuels make up a defined percentage of their annual fuel sales. Furthermore, biofuels are supported through a fiscal regulation mechanism. The number of electric charging points has been increasing since 2016, in line with the increase in the market share of electric vehicles in 2018. Despite this, the penetration rate of alternative-fuelled passenger cars is still low.

Environment and climate

Bulgaria has been making progress in reaching environment and climate related targets in some of the Sustainable Development Goals indicators. Indicators on exposure to air pollution, wastewater treatment, resource productivity, circular use of materials and waste recycling under the SDG 11 'Sustainable cities and communities' and SDG 12 'Responsible consumption and production' have been improving. However, this should be analysed in the context of Bulgaria's low starting levels compared to EU averages. In some of the areas Bulgaria is still to reach the objectives of the EU environmental and climate law.

Bulgaria was among the worst performing Member States in the 2018 Eco-innovation index ([101]). The main challenges include boosting domestic and foreign investment opportunities in eco-innovation and the circular economy, promoting efficient use of resources through increasing energy efficiency, further developing renewable energy sources, and improving sustainability practices within the transport sector.

Bulgaria still lacks a circular economy strategy. The circular (secondary) use of material is significantly lower than the EU average ([102]). Bulgaria also has the EU's lowest rate of resource productivity ([103]). Ongoing municipal demonstration projects, projects for composting and separate collection of bio-waste and the good practice of circular use of material in some industrial sites should be pursued and developed.

Waste management continues to be a challenge. The recycling rate of municipal waste at 36% in 2018 ([104]) is considerably lower than the EU average of 47%, putting Bulgaria at risk of not meeting the EU recycling target (50% by 2020). The 'pay-as-you-throw' principle will only be enforced as of 2022, and in the meantime, the unfair practice of not calculating waste collection fees on the basis of waste generation will continue.

There are large investment needs in the water sector. To address the weaknesses in the planning and management of water supply and sanitation projects, Bulgaria has started a structural reform to

([98]) Letter of Formal Notice sent in October 2019.
([99]) Partners: Austria and the Netherlands.
([100]) The Orient/East-Med Corridor connects large parts of Central Europe with ports of the North, Baltic, Black and Mediterranean Seas.

([101]) European Commission, Eco-innovation scoreboard.
([102]) European Commission, Circular material use rate. The circular material use rate measures, in percentages, the share of material recovered and fed back into the economy in the overall material use.
([103]) Eurostat, Resource productivity is measured as GDP divided by domestic material consumption.
([104]) Eurostat, Recycling rate of municipal waste.

consolidate the sector. Nearly €1.2 billion from the ESIF have been allocated to put in place the necessary infrastructure for collection and treatment of urban wastewater and to increase compliance with water and urban wastewater directives. So far, little progress has been observed on the ground.

Air quality in Bulgaria continues to give cause for severe concern. Bulgaria bears a significant health burden due to poor air quality, with the highest rate of years of life loss per 100,000 inhabitants, attributable to fine particulate matter (PM2.5) concentrations that are the highest in the EU (EEA, 2019a). The main causes of pollution with particular matter (dust) are the domestic heating sector using solid fuels and transport. The lignite-fired power plants are the cause of excessive sulphur dioxide pollution. Bulgaria has launched pilot projects with EU funding to address air quality issues due to the residential heating and transport sectors but it is too early to assess results.

Major threats to nature and biodiversity remain. The causes are the poor enforcement of nature conservation laws and environmental regulations together with the absence of conservation objectives and measures for Natura 2000 sites, ineffective management and administration of protected sites, and insufficient financing or inefficient spending of the available financing. These factors continue to be major threats to unique nature and biodiversity and present an untapped potential for economic growth based on the development of sustainable and niche tourism and the recreational sector. Measures to reduce the number of people affected by natural disasters and to decrease the associated direct economic losses are inadequate. According to estimates (EEA, 2019b), Bulgaria has suffered €2.5 billion of damage from extreme weather incidents between 1980 and 2017, with 205 deaths.

In terms of climate change-related economic risks, Bulgaria is among the EU countries most vulnerable to climate impacts. This includes temperature increase, soil drought, and extreme rainfall, which are worsened by the high poverty rates and relatively poor adaptation measures ([105])([106]). In 1980-2017, economic losses incurred due to the impact of extreme weather and climate-related events amounted to €2.4 billion (EEA, 2019b). The sectors most threatened by climate impacts are agriculture, tourism and water supply.

Bulgaria's current level of preparedness for responding to climate impacts is low. Consequently, 80% of the forests destroyed by forest fires in the past 5 years have not yet been restored ([107]). Nature-based solutions are a cost-effective means of tackling climate change and supporting climate adaptation strategies. In 2013-2016, around €13.2 million were allocated for afforestation, also leading to significant emission savings. Finally, the adoption of the national climate change adaptation strategy and action plan until 2030 was a welcome development.

4.4.3. FUNCTIONING OF THE MARKETS

Energy

Bulgaria has achieved important milestones in the energy sector over the past 2 years. This reform momentum needs to continue to ensure a competitive and sustainable supply of energy to businesses and society as a whole. Bulgarian power futures contracts started trading on the European Energy Exchange in June 2019, providing potential support to energy traders and much-needed liquidity. The Independent Bulgarian Energy Exchange (IBEX) joined the European Single Intraday Coupling in November 2019 and is now a part of a platform for continuous trading of intraday electricity covering 21 European countries. This would allow IBEX to pull more liquidity on the intraday segment. However, lingering problems with the liquidity of the day-ahead market and contracts on the forward curve have created tensions and prompted allegations of market manipulations on the centralised market for bilateral contracts. This was especially pronounced in periods during the summer of 2019, when prices

([105])https://unfccc.int/files/national_reports/annex_i_natcom/submitted_natcom/application/pdf/0917254_bulgaria-nc7-br3-1-vii_nc_bulgaria_2018.pdf.
([106])https://ec.europa.eu/jrc/sites/jrcsh/files/jrc_091125_newsrelease_peseta_en.pdf.
([107])https://unfccc.int/files/national_reports/annex_i_natcom/submitted_natcom/application/pdf/0917254_bulgaria-nc7-br3-1-vii_nc_bulgaria_2018.pdf.

spiked above many European references. The IBEX still lacks an operational clearing house to act as a central counterparty to transactions, to reduce risk and improve the credibility of its price discovery mechanism.

The Energy Act was amended to remove fees levied on electricity exports. This lifted obstacles to trade with market participants from neighbouring systems. Bulgaria is also working on market coupling projects with North Macedonia, Croatia and Serbia. Progress on market coupling with Romania and Greece has stalled.

Bulgaria is planning to introduce market-based elements in the formation of retail prices for electricity by July 2020. In the meantime, retail markets remain regulated and linked on a cost-plus basis to a non-market segment of wholesale supply. Consumers' access to competitive offers is limited and the perceived quality of service received is deemed to be poor and among the lowest recorded in the EU for those markets. The draft National Energy and Climate Plan sets the principle that the Bulgarian social assistance system will ensure adequate protection of vulnerable consumers against energy poverty but it does not spell out concrete measures, beyond a targeted heating allowance. SDG 7 on 'Affordable and clean energy' notes a decrease in the share of population unable to keep home adequately warm but it is still significantly above the EU average.

Important amendments to the Energy Act were adopted in October 2019 to improve the functioning of the gas market. This includes rules on gas balancing and the setting up of an organised trading point, as well as rules on a gas release programme for the public supplier. The rules will allow for gradual transition from a regulated to an organised natural gas market at freely negotiated prices. In January 2019, the Bulgarian gas transmission system operator, registered a subsidiary called Balkan Gas Hub EAD that is set to run the gas exchange, including a segment for bilateral trade. Trading has started in January 2020. So far it remains unclear what measures are envisaged to safeguard the operational independence of the subsidiary and how the prevention of potential conflict of interest with other companies in the Bulgarian Energy Holding would work in practice.

Bulgaria advanced with its plan to modernise and reinforce its high-pressure gas network. However, the final effect of the grid reinforcements on the financial situation of the gas transmission system operator, and on the retail prices, remains unclear at this stage. In September 2019, the Bulgarian gas transmission system operator signed a €1.1 billion contract with a consortium led by Saudi Arkad Engineering for the construction of a gas pipeline which will connect the country's existing gas transmission system with Serbia and carry gas from TurkStream ([108]). In October 2019, the Bulgarian gas transmission system operator also inaugurated a metering station and an 11 km pipeline from the Turkish border to the compressor station Strandzha.

Construction work on the gas interconnector between Greece and Bulgaria has started in May 2019. This project is important in terms of enhancing security of supply and ensuring the diversification of gas supplies. It benefited from a €45 million grant from the European Energy Programme for Recovery and a €39 million allocation from the European Regional Development Fund. The project company advanced with the certification process to establish an independent gas transmission operator, after national regulators from Greece and Bulgaria approved the draft network and tariff codes.

Investor protection, regulatory certainty and equal treatment of domestic and foreign investors are important factors shaping investment decisions. Potential investors in the sector are closely observing developments in the negotiation of the compensation mechanisms for the interruption of the power purchase agreements held by two operators of thermal power plants. The effort of an international power company to divest from its portfolio of power assets in Bulgaria is also on the investors' watch list. The way these situations unfold will point to the intentions of the Bulgarian authorities in terms of keeping an investor-friendly environment.

The motor fuel market and its functioning remain problematic. Following the adoption of

([108]) Gas pipeline stretching from Russia to Turkey across the Black Sea. The first string of the pipeline is intended for Turkish consumers, while the second string will deliver gas to southern and south-eastern Europe.

an Act on the administrative regulation of economic activities related to oil and petroleum products in 2018, the reform process faced hurdles. In February 2019, Parliament amended the Act, adding rules related to registration and special requirements for certain types of motor fuel selling points, with the intention to eliminate unauthorised and undeclared transactions. In January 2020, the Parliament amended the Act again, scaling down on the requirements introduced less than a year ago, this time with the intention to solve the problems faced by SMEs in the motor fuel market and ensuring a healthy competitive environment. The entry into force of an implementing act setting requirements on cash registers at motor fuel selling points ([109]) has been postponed on several occasions. In the meantime, the major challenges facing the sector — such as issues related to low fuel quality, access to tax warehouses, unregulated trades at selling points not connected to the National Customs Agency and the National Revenue Agency, VAT evasion, and enforcing fair competition — remain unchanged.

Single market for goods and services

Bulgaria is well integrated in the Single Market. Around 63% of the exported goods go to EU Member States and approximately 61% of imports comes from the EU. This integration has deepened in recent years, driven by stronger participation of Bulgaria in European value chains, especially in the automotive sector. Intra-EU export of services is even higher, reaching 65% of the total exports in 2018, with the largest share in travel and transport services (almost 70%).

Despite its relatively good performance in the Single Market, some challenges still prevent Bulgaria from unlocking its full potential. Bulgaria significantly decreased its transposition deficit for Single Market legislation, reaching the EU average, but the relatively long transposition delays and incorrect transposition of a number of directives suggest that there is insufficient administrative capacity in some areas. The sectors with the highest numbers of complaints and infringements are justice, environment and taxation. In addition, over the past few years Bulgaria has had an abnormally low level of notifications of national technical regulations ([110]), creating risks for barriers to trade and to the overall functioning of the Single Market.

Insufficient resources still pose a challenge to different market surveillance authorities. While there is some cooperation between them, there is little overall coordination. Market surveillance of the single market for goods is essential to protect consumers and to ensure a level playing field for businesses to compete. Bulgaria’s limited resources for market surveillance of product safety and compliance continue to affect its capacity to carry out effective surveillance, including product testing across a broad range of product sectors and sharing results of investigations with other EU Member States. In addition, cooperation between authorities, both at a national level, including with customs authorities, and with the EU partners, through active participation in joint activities, is not yet optimal. This affects the effective sharing of information through the European market surveillance database.

4.4.4. INSTITUTIONAL QUALITY AND GOVERNANCE

Shortcomings in the functioning of institutions are a significant obstacle to the economic and social potential of the country. International indices still point to major challenges in governance. Bulgaria ranks low in the World Bank’s Worldwide Governance Indicators and the European Quality of Government Index. While some progress in political stability has been achieved, Bulgaria did not improve its standing concerning the rule of law and the control of corruption and still ranks among the worst in the EU. In addition, institutions remain among the least performing areas in the Global Competitiveness Index 2019. Regional development is also negatively affected by the quality of the institutional framework. According the 2017 European Quality of Governance Index ([111]), Bulgarian regions are among the lowest

([109]) Ordinance H-18.

([110]) Member States are obliged to notify the Commission about all draft technical regulations on products and information society services before they are adopted in national law to ensure that these texts are compatible with EU law and the single market principles.

([111]) This index evaluates the quality of government through three dimensions: quality of services, impartiality in scoring NUTS2 regions in the EU, with the Northwest, Southeast and the capital region of Southwest ranking respectively at 200th, 199th and 195th place out of the 202 represented regions.

Tangible improvements in public administration and e-government are still limited and broadly dependent on EU support. Although achieving key 2018 milestones of the Operational Programme Good Governance, continuous delays and the lack of capacity in some of the beneficiaries of key ESF projects call into question the successful implementation of reforms. Important projects like the establishment of the National Health Information System, the introduction of the national e-identity scheme and new identity documents that provide electronic identification are significantly delayed and have shown very little progress during the past year. The lack of a comprehensive evaluation of the achievements of previous operations, especially for the same activities provided to the same beneficiaries, hinders the performance of ESF measures.

Despite significant investment, Bulgaria is still lagging behind in e-government. The creation of the State e-Government Agency was a positive step forward. The updated e-government strategy and the action plan for 2019-2023 tackle a number of important issues. However, some major problems have not been fully addressed, such as cybersecurity and security of critical infrastructure. There is some progress with the provision of e-services, in particular to businesses. At the same time, many of the e-services remain limited to delivery of information. The number of e-government users has also increased since 2018. Despite some recent improvements, the outdated legislation for the provision of specific services remains an obstacle to the widespread use of e-services. A significant constraint on the sustainability of the e-government development is the difficulty of the public sector to attract and retain IT specialists. Some recently adopted legislative changes are trying to address the remuneration and flexibility of IT specialists working in the public sector.

treatment and perceptions and experiences with corruption. Lower scores suggest unfavourable framework conditions for entrepreneurship, job creation and attraction of investments.

Provision of public services is slightly improving, but quality varies widely. Bulgaria is among the poorest performing Member States concerning quality and user friendliness of public services. In 2019, standardisation of the most widely used municipal services was launched. In addition, 50 pilot administrations introduced integrated administrative services. The registry information exchange system was upgraded, linking 65 base registers maintained by 25 administrations to the central system. The implementation of a set of around 1,500 measures to improve administrative services is ongoing, and legislative amendments facilitating the process were prepared. However, progress in administrations varies largely. The introduced service delivery performance checks with recommendations are a positive step in policy monitoring and control.

Bulgaria underperforms in policy planning, development and coordination. Despite some improvements, evidence-based policymaking continues to suffer from limited administrative capacity and insufficient data availability. The number of completed full impact assessments increased to 14 in 2018, but deficiencies in their preparation persist. In 2019, new guidelines for ex ante impact assessment were adopted. Public consultations improved, also with the elaboration of new standards in 2019. However, frequent changes to legislation and control over its implementation continue to be challenges and major obstacles to investment. The public procurement law alone was amended 11 times in 2018 (Council of Ministers, 2019) ([112]).

Transparency of the public sector has improved, but important reforms in the recruitment process have stalled. A new portal for access to public information was launched and the existing open data portal was upgraded, also with new datasets that have been provided in machine-readable formats. On the other hand, the introduction of a centrally managed competition process for the recruitment of staff was unexpectedly abolished in December 2019. This backtracking on the public sector reform also puts in question the sustainability of EU funding investments in the field.

([112]) Council of Ministers Administration (2019), Impact Assessment Annual Report 2018.

Public procurement

Regulatory changes have not yet brought tangible results to the public procurement landscape. A majority of measures announced in the national procurement strategy have been adopted, but their effective implementation remains problematic. In 2017-2019, the World Bank carried out an independent review of the public procurement system which will feed into a new national public procurement strategy for 2021-2027. The review had a number of recommendations for increasing the operational capacity of Public Procurement Agency and strengthening the efficiency of the public procurement system. There are considerable delays in the full uptake of electronic procurement. The e-procurement platform was launched in March 2019, but its use remained limited until the end of the year.

There is room for developing the proactive role of public procurement policymakers and expertise of public procurement specialists. Coordination of all actors involved in preparing regulatory measures as well as policy orientation for public contracts and concessions needs to become effective. Sharing data, promoting best practices, and deterring wrongdoing in public procurement should also be strengthened. A training programme on public procurement was developed by the Institute of Public Administration with a number of training sessions taking place. Projects aiming at boosting professionalisation in the field of concessions, co-financed by the EU, are also being implemented.

Measures introduced for limiting abusive complaints in the public procurement system have started to bring results. Since the amendments to rules on the review procedure in 2018, the review body has experienced a decrease in the number of abusive complaints despite increases in the number of complaints. Mandatory electronic communication within the review procedure would further improve the effectiveness of the process.

Development of aggregated purchases has progressed. The number of contracting authorities using the central purchasing body is growing. The central purchasing body for the health sector has finally started to launch public procurement procedures for framework agreements. There has not been any significant progress in the use of aggregated purchases at local level.

Fight against corruption

Corruption remains an area of serious concern and has a negative impact on investment. Various surveys and studies by independent observers point to this. A 2019 business Eurobarometer survey shows that 51% of businesses consider corruption to be a serious problem, and 57% consider patronage and nepotism as major obstacles to doing business. Overall, 85% of businesses think that corruption is widespread in Bulgaria and 74% say it is widespread in public procurement. 70% of the respondents find it unlikely that those engaged in corruption will face charges and go to court, and 77% do not believe that they would be fined or imprisoned (worst in the EU). Bulgaria's position on the control of corruption index of the World Governance Indicators has stagnated over the past three editions and remains among the worst in the EU(World Bank, 2019). However, SDG 16 on 'Peace, Justice and strong institutions' records some improvements in corruption perceptions.

Consolidation of the legal and institutional framework has taken place in recent years. This was noted in the Commission's 2019 report on Bulgaria's progress under the Cooperation and Verification Mechanism ([113]). Reforms will take some time to have an impact and Bulgaria is still to see a solid track record of concrete results in the investigation and prosecution of high-level corruption. The report emphasized the need to continue improving the anti-corruption framework, and engaging with stakeholders on the implementation of the anti-corruption strategy and the definition of future priorities. More generally, it was noted that anti-corruption institutions need to build public trust and gain a reputation for independence and professionalism. Recent allegations involving high-ranking public officials and politicians have further highlighted challenges in this area ([114]).

([113]) Adopted on 22 October 2019.
([114]) In 2019, the head of the anti-corruption agency had to resign amidst public allegations of irregularities in his declaration of personal property and interests. This followed the resignations of the Minister of Justice and

Justice system

Bulgaria has made further progress in its reform efforts aimed at improving the effectiveness of its justice system. In its 2019 Cooperation and Verification Mechanism progress report, the Commission noted positive developments and further commitments for continued reform. In particular, a significant number of appointments of court chairs went through without creating controversy. A project supported by EU funds is ongoing to strengthen the capacity of the Judicial Inspectorate as regards disciplinary proceedings. In addition, a new coordination council with monitoring functions is going to be established and measures have been taken to rebalance the workload between courts and to streamline local offices of the prosecution service. A number of key challenges remain: effectiveness of criminal investigations, low public trust in anti-corruption institutions, and, despite some improvements, the efficiency and accessibility of the justice system through electronic tools.

Perceptions among the public and businesses about the judicial independence continued to improve. Bulgaria continued to improve compared to the previous year, although the perception of independence continues to remain at comparatively low levels. This reflects in particular concerns that judges are perceived to face interference in their work or pressure from economic interests as well as the government and politicians (2020 EU Justice Scoreboard). Positive developments in judicial independence perceptions are also captured by SDG 16 on ‘Peace, Justice and strong institutions’.

In terms of the quality of the justice system, the results are mixed. The 2020 EU Justice Scoreboard shows that there are some positive developments, such as further improvements in online accessibility of published judgments, as well as promotion and incentives for using alternative dispute resolution methods. However, the continued lack of a reliable evaluation system is hindering the improvement of the justice system. Persisting data gaps do not allow for a comprehensive assessment of the overall efficiency of the justice system. While courts appear to perform efficiently in general terms, no specific data are available for litigious civil and commercial cases at first and second instance courts (2020 EU Justice Scoreboard).

several other high-ranking officials in the context of allegations focusing on the acquisition of real estate at below market prices.

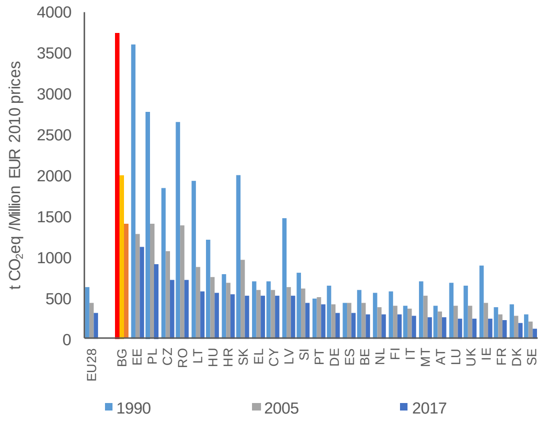
4.5. ENVIRONMENTAL SUSTAINABILITY

This section analyses the main environmental challenges of macro-economic relevance in Bulgaria, looking closely at synergies and trade-offs between environmental, social and economic objectives. Other environmental sustainability issues linked to the circular economy, waste and water management and threats to nature and biodiversity are discussed in Section 4.4.2.

The high carbon and energy intensity of Bulgaria's economy and its high dependence on coal power call for significant transition efforts, in view of the EU's emission reduction targets. Bulgaria has one of the most energy- and carbon-intensive economies in the EU (see Graph 4.5.1). In 2017, Bulgaria needed 3.8 times more energy and had 4.4 times more carbon emissions per unit of GDP than the EU average. About 48% of electricity is produced by coal-fired power plants using predominantly lignite coal (draft NECP, 2019)[115]. Solid fossil fuels also play a significant role in household energy consumption: Bulgaria being among the Member States with the highest share of solid fossil fuels in final energy consumption for households in 2017 ([116]).

The current overreliance on fossil fuels and the inefficient use of energy are creating a number of challenges for sustainability. These inefficiencies are weighing on competitiveness by limiting business opportunities arising from relatively low retail energy prices. Despite recent progress in decoupling GDP growth from energy consumption and greenhouse gas emissions, Bulgaria has difficulties in catching up with the EU and is actually moving further away from the EU averages. According to the latest national projections, Bulgaria is expected to achieve its 2020 emission target for sectors outside the EU Emissions Trading System. However, the 2030 target (emissions at levels no higher than in 2005) could be missed if no additional measures are taken. Finally, Bulgaria remains among the Member States with the most pollution-related deaths, number of years of life lost associated with air pollution, and urban population exposure to micro-particles. The main causes of pollution with particular matter (dust) are the domestic heating sector using solid fuels, transport and lignite-fired power plants (see Section 4.4.2.).

Graph 4.5.1: **Greenhouse gas intensity (1)**



(1) This indicator represents Member States' emissions relative to Gross Domestic Product. A lower value indicates that a particular economy is less carbon intensive.
Source: European Environment Agency

Economic costs of emissions are expected to rise and affect Bulgaria's competitiveness, as global and EU-wide efforts to tackle climate change intensify. Economic pressures have been increasing in the energy sector due to higher carbon prices, particularly in power generation from solid fossil fuels. With an average age of 30-50 years and efficiency of around 34%, the majority of Bulgaria's coal power plants could be decommissioned by 2030, driven by post-2020 greenhouse gas emission requirements and targets (JRC, 2018). According to projections, even without active decarbonisation measures, coal capacities will be phased out almost completely by 2050 ([117]).

Bulgaria is on track to achieve its 2020 emission target for sectors outside the EU Emissions Trading System. However, 2017 is the first year in which reported emissions exceeded Bulgaria's Effort Sharing target. The gap to target was close to 3pps (EEA, 2019c). Provisional inventories indicate that the 2018 target has also not been met, with the gap estimated to be in the same range.

[115] The Commission will assess, in the course of 2020, the final National Energy and Climate Plan. Bulgaria has not yet submitted its final Plan,

([116]) https://ec.europa.eu/eurostat/statistics-explained/index.php?title=File:Fuels_in_the_final_energy_consumption_in_the_households_2017.png.

([117]) In-depth analysis in support of the Commission Communication COM(2018) 773 'A Clean Planet for all A European long-term strategic vision for a prosperous, modern, competitive and climate neutral economy': https://ec.europa.eu/clima/sites/clima/files/docs/pages/com_2018_733_analysis_in_support_en_0.pdf.

Looking ahead to 2030, projections suggest that the target of keeping emissions no higher than their 2005 level will be missed by about 8pps (EEA, 2019c). Therefore it is important to ensure that adequate additional measures are planned and fully implemented to bridge the gap to the 2030 targets and to comply with the EU's long-term decarbonisation ambitions.

No progress has been made towards reaching the 2020 indicative national target for energy efficiency. Based on preliminary data, Bulgaria's final energy consumption in 2018 increased slightly, remaining above the linear trajectory by 11pps (EEA, 2019d). Moreover, Bulgaria's primary energy consumption in 2018 has also stayed above the linear trajectory, putting at risk the fulfilment of its obligation by 2020. There are outstanding compliance issues with the legal requirements. The current legal framework provides insufficient incentives for the obliged parties to invest more in energy savings. On the positive side, provisional inventories show that in 2018 Bulgaria has already surpassed its 2020 target for renewable energy shares by 2.7 pps. However, the share of renewables in transport at 7.99%, remains below the 2020 target of 10%.

There are serious social challenges associated with the process of effective energy transformation, such as job losses and falling life quality standards. A significant number of workers will be negatively affected by the closure of coal power plants and mines, giving rise to serious needs for requalification and the creation of new jobs. The concentration of the vast majority of coal production in only a few areas, like the Stara Zagora and Kyustendil provinces, is likely to lead to significant socio-economic and territorial disparities. Energy and job alternatives to those directly employed in the coal industry are unlikely to be found in the same areas. This would require important investments in re-skilling of the workforce, as well as sectoral and geographic mobility support to reduce net job losses (European Commission, 2019b). There will also be a significant effect on indirect jobs (e.g. suppliers, caterers, service providers) and the families of the affected workforce (see Box 4.5.1).

Some transformation opportunities lie in the environment and health sectors. Bulgaria has already met its 2020 renewable energy targets but is still working to fulfil those for 2030, which would create new economic and employment opportunities in the renewables sector, some in the regions most affected by coal transition. Additionally, the transition would require significant recultivation and restoration efforts in the lands and degraded areas affected by mining operations. This transformation would also contribute to decreasing pollution levels, which in turn would reduce associated health risks (see section 4.4.2 and Box 4.5.1).

Bulgaria has a huge energy saving and carbon reducing potential. This can be unlocked by targeted measures in industrial, transportation and residential sectors, as well as by putting in place appropriate mechanisms in line with the EU's 'Smart Finance for Smart Buildings Initiative', and by facilitating access to mechanisms that are already in place at European, national or regional levels. Proper access to financing mechanisms can support the renovation of the national stock of residential and non-residential buildings. Investments in R&D of low-carbon technologies are rather low but increasing. They are driven primarily by the private sector. A key role in the development and deployment of low-carbon technologies will be played by the 'Innovation Strategy for Smart Specialisation 2021-2027', which is currently being updated.

Internalising external and infrastructure costs in transport through taxes and charges is important for social fairness. It would help offset the costs of negative externalities in the sector (such as accidents, congestion, air pollution, climate change, noise and habitat damage) that are estimated to reach about €7 billion annually for road, rail and inland waterways ([118]). Road users generate the overwhelming majority of such costs, also because of the high share of road transport activity compared to other modes. Currently, taxes and charges linked to transport do not cover the generated costs: total revenue from all transport land modes amounts to about €4 billion. In road transport, taxes and charges cover 66% and 46% of the total external and infrastructure costs for passengers and freight, respectively.

([118]) https://ec.europa.eu/transport/themes/sustainable-transport/internalisation-transport-external-costs_en.

To facilitate a just transition towards a low-carbon economy, significant investments in the fields of climate and energy are required. Comprehensive national/regional transition strategies encompassing social, economic, environmental and technological considerations are needed to ensure an efficient phasing out process and a transformation of the coal-based economy, especially in the most vulnerable regions (see Box 4.5.1). However, up until now, transformation measures have barely started. Bulgaria has not yet finalised its energy strategy beyond 2020 and a coal phase-out is currently not being discussed. In fact, the continued use of lignite coal resources is anticipated in the medium and long term.

Bulgaria is the only Member State with a large share of coal in final energy consumption that does not participate in EU programmes for the restructuring of coal production. In October 2019, the government indicated that a debate with stakeholders has been initiated on the possibility of joining the EU platform 'Coal Regions in Transition', which, if and when realised, could help identify priority projects, measures, and investments. The Just Transition Fund could support Bulgarian policies designed to mitigate risks and to reduce the reliance on fossil fuels and greenhouse gas emissions (see Annex D).

While efforts to ensure just transition are at an early stage, the government's focus seems to be on the continued operation of the thermal power plants. Moreover, this is happening in the unfavourable context of rising carbon costs (see Section 4.4.3). To facilitate the continued operation of these plants, Bulgaria is planning to grant free emission allowances to electricity producers based on the Article 10c derogation of the revised EU ETS Directive for 2021-2030 ([119]) and many installations have applied for a derogation from the rules set in the Industrial Emissions Directive. Moreover, Bulgaria has filed an application for compliance with State aid rules for a planned recapitalisation of the Maritsa East 2 Thermal Power Plant, and there are plans to set up a capacity mechanism in which thermal power plants can participate.

To support the security of supply objectives of the Energy Union, Bulgaria is planning to rely on the use of indigenous energy resources. The operational licence of the Unit 6 reactor of the Kozloduy Nuclear Power Plant was extended until 2029, following a recent similar extension of the licence for Unit 5 in 2017. While both the continued operation of the Kozloduy Nuclear Power Plant and the usage of lignite feedstock as a source of power generation in the next 60 years were mentioned explicitly in the National Energy and Climate Plan, the potential of other indigenous sources such as renewable energy has not been sufficiently explored.

The effective use of resources has a strategic importance for the decarbonisation of the economy. In the coming years, the EU Emissions Trading System will mobilise substantial funding for climate action and low-carbon investment. In the next decade, Bulgaria will receive close to 6% of the Modernisation Fund (about €400 million, depending on the carbon price), dedicated to supporting energy efficiency and modernisation of energy systems in lower income Member States. Moreover, due to a higher carbon price, Bulgaria's auction revenues from the EU Emissions Trading System have almost tripled in 2018 compared to 2017, amounting to €368 million. These increased resources present an ongoing opportunity to channel support for sustainability and decarbonisation. The New Green Deal for Europe, with the Just Transition Fund, can also help speed up the improvement of carbon footprint and the state of the environment in the region.

([119]) Directive (EU) 2018/410 of the European Parliament and of the Council of 14 March 2018 amending Directive 2003/87/EC to enhance cost-effective emission reductions and low-carbon investments, and Decision (EU) 2015/1814, OJ L 76, 19.03.2018, p. 3.

Box 4.5.1: Coal regions in transition

In 2019, Bulgaria had 16 licensed coal mining operators and 24 local units in the mining of coal and lignite located in two NUTS2 regions ([1]). Their combined annual production amounts to 35.5 Mt (approximately 5.7 Mtoe), representing 99% of the gross inland consumption. The coal mining sector employed 15,000 people in 2018 ([2]), a fall of 2,400 compared to 2017, but still well above the 2013 level of 11,000 people in coal and lignite mining. Throughout the coal value chain, the number of jobs dependent on coal activities is estimated ([3]) to be 22 500, with two NUTS2 regions ([4]) having more than 1,000 indirect jobs each.

There are currently 38 power generation units in 11 operating coal-fired power plants with a combined installed capacity of 4,600 MW, representing almost 40% of the total installed capacity of operating power plants in the country. The coal power plants are located in all of the six NUTS2 regions of Bulgaria, and 88% of the coal power plants are located in 2 NUTS2 regions. The average age of the coal power generation units is 39.2 years, ranging from 8 years ([5]) to almost 70 years ([6]), with a combined estimated efficiency well below current state-of-the-art technologies. Coal power plants are estimated ([7]) to directly employ 5,900 people, while the multiplier effect in related industries is 2.2 or 12,800 people employed.

Potential decommissioning driven by competition in a carbon-constrained world could lead to the loss of about 20,900 direct jobs concentrated in two NUTS2 regions ([8]). Taking into account the secondary employment effects, the number of affected workers would increase by additional 35.3 thousand to overall 56.2 thousand. Having in mind that average annual wages in the mining and quarrying sector are much higher than the average wages in industry and the local economy, the potential loss of employment would also affect families in terms of lost income. Thus, accounting for 2.2 average member per household, the potential scope of people affected is estimated at 123.6 thousand. The challenge is further compounded by the fact that regions with high shares of jobs in the coal industry tend to have limited development of other economic sectors.

Regions with high levels of employment in coal mining activities will be exposed to adverse socio-economic impacts in the coming decades as the economy transitions towards low carbon and clean energy sources. The scale of the transition challenge in Bulgaria is substantial ([9]) because it accounts for 7% of EU coal production and 6% of jobs in the coal mining sector, and according to the preliminary estimates of the authorities, transition costs will also be significant. In the current context of rising prices for emission allowances, investments in refurbishment or new coal power assets are not economical, and the financial viability of many plants is in question. In addition, a large portion of the existing coal-fired power generation fleet is expected to face shareholder pressure of mothballing or early decommissioning.

According to estimates, coal power plants are responsible for more than 650 premature deaths in 2016 and health costs up to 2 billion ([10]). Since 2007, Bulgaria has persistently not complied with the limit values for particular matter (dust) concentrations in all air quality zones, and for SO_2 in the South East air quality zone, which hosts the four largest thermal power plants, all of them coal fired.

Bulgaria should therefore prepare a strategy for a gradual industrial restructuring, aiming to support redundant coal workers, develop alternative business opportunities and maintain or increase regional employment and regional economic growth. The retirement of coal assets could provide new employment and business opportunities building on the industrial heritage of the affected regions, and establishing new, competitive industries and services. Close cooperation between authorities, companies, trade unions, investors and local communities is essential to identify the most sustainable uses and maximise social-economic development. A plan to address the gap in the energy supply, especially with regard to basic supply, by building new power plants and facilities should be also developed. The EC Coal Regions in Transition Initiative can support the preparation of such a strategy and identify priority projects and measures, and assist with the dialogue at national and regional level with the managing authorities administering EU funds to facilitate funding for coal regions. The Just Transition Fund could further contribute to mitigating the adverse socio-economic impacts of the transition.

([1]) Respectively, the South Western (BG41) and South Eastern (BG34) regions.

([2]) The vast majority working in lignite mines and about 200 people employed in mining of brown coal. Source: Euruostat; Labour Force Statistics, [lfsa_egan22d].

([3]) Estimate based on OECD's 2015 'Input-Output' tables multiplier, which notes that the loss of 1 job in the coal mining sector will lead to 1.5 fewer jobs in other sectors of the economy.

([4]) See footnote 1.

([5]) For some of the refurbished plants in the Maritsa basin.

([6]) Republika 5 Unit of the Heat Distribution Company in the town of Pernik.

([7]) The Bulgarian Ministry of Finance estimate.

([8]) See footnote 1.

([10]) Source: Europe Beyond Coal Database; status: 12 Jul 2019. Interactive map available at : https://beyond-coal.eu/data/?type=maps&layer=2

ANNEX A: OVERVIEW TABLE

Commitments	Summary assessment ([120])
2019 country-specific recommendations (CSRs)	
CSR 1: Improve tax collection through targeted measures in areas such as fuel and labour taxes. Upgrade the State-owned enterprise corporate governance by adopting and putting into effect the forthcoming legislation.	Bulgaria has made **Substantial Progress** in addressing CSR 1
Improve tax collection through targeted measures in areas such as fuel and labour taxes.	**Some Progress** Overall, Bulgaria has seen some improvements in tax collection and tax compliance, particularly in the context of labour and fuel taxes. Labour tax revenues have been growing at a higher rate than the tax base (compensation of employees) in both 2017 (by 3 p.p.) and in 2018 (by 1.6 p.p.). Secondly, the amount of undeclared fuel has been decreasing, by about 14% (about 1 million litres) from 2018 to mid-2019. Current lack of plans for a future national strategy to improve tax compliance is a reason for concern, with the National Revenue Agency's strategic priorities being relatively vague ("voluntary compliance, fighting tax fraud, collection of tax liabilities, a continuation of risk-based planning) and may overly rely on soft measures resulting in increased voluntary compliance.
Upgrade the State-owned enterprise corporate governance by adopting and putting into effect the forthcoming	**Substantial Progress** A major reform of SOEs corporate governance framework is ongoing. It included the adoption of a law overhauling the framework and the principles for SOEs corporate governance. The reform will only be

([120]) 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 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.

legislation.	completed when the implementing acts of the law are prepared and put into effect. The new law prescribes the next steps and the timeline for the completion of the reform.
CSR 2: Ensure the stability of the banking sector by reinforcing supervision , promoting adequate valuation of assets, including bank collateral , and promoting a functioning secondary market for non-performing loans. Ensure effective supervision and the enforcement of the AML framework. Strengthen the non-banking financial sector by effectively enforcing risk-based supervision , the recently adopted valuation guidelines and group-level supervision. Implement the forthcoming roadmap tackling the gaps identified in the insolvency framework. Foster the stability of the car insurance sector by addressing market challenges and remaining structural weaknesses.	Bulgaria has made **Some Progress** in addressing CSR 2
Ensure the stability of the banking sector by reinforcing supervision	**Substantial Progress** The Bulgarian National Bank (BNB) observes the implementation of the guidelines, recommendations and other measures approved by the European Banking Authority (EBA) with regard to the convergence of supervisory practices throughout the EU. During the reporting period, the BNB approved decisions for the application of a number of EBA guidelines.
, promoting adequate valuation of assets, including bank collateral	**Some Progress** Despite efforts and progress, a range of hard-to-value assets, such as real estate collateral still exist in the balance sheets of banks. Conditions for harmonisation in valuation practices have been put in place since June 2018, when national standards became mandatory for external independent collateral valuers, in accordance with the Independent Valuers Act.
, and promoting a functioning secondary market for non-performing loans.	**Some Progress** The secondary market for NPLs has become more dynamic, notably for retail loans, with some improvement in the NFC segment as well. Ample liquidity is generating demand for NPL portfolios and collateral sales, with large international companies also having entered the market.
Ensure effective supervision and the enforcement of the AML framework.	**Limited Progress** Bulgaria achieved some progress in the legislative framework. At the end of November 2019, the National Parliament adopted the law aiming to amend the Anti-Money Laundering Act transposing Directive (EU) 2018/843 (AMLD 5), as well as the remaining issues of (EU) 2015/849 to prevent the use of the financial system for

	the purpose of money laundering and terrorist financing (AMLD 4). The national nisk assessment was completed in January 2020 and highlights a number of significant threats. The use of financial intelligence remains insufficient and the risk-based approach to supervision has yet to be implemented. Investigation of corruption cases has increased, but final conviction remains very limited.
Strengthen the non-banking financial sector by effectively enforcing risk-based supervision	**Substantial Progress** Supervision has been enhanced in several respects. The risk-based supervision guidelines in the insurance and pension insurance sectors became applicable as of 1 January 2019. The new rules may be reviewed in 2020 based on experience and new data available. Further enhancements to the new approach may be necessary following additional tests to reap the full benefits of the measure.
, the recently adopted valuation guidelines	**Some Progress** The regulatory framework has improved. The government adopted important amendments to two regulations in the field of insurance and pension insurance: Ordinance 53 on the requirements for accountability, valuation of assets and liabilities and formation of technical reserves of insurers, reinsurers and the Guarantee Fund and Ordinance 9 laying down detailed rules for valuation of the assets and liabilities of the supplementary pension funds and the pension insurance company. Notwithstanding the progress achieved, tackling remaining weaknesses in valuation practices is necessary, in particular regarding the adequacy of technical provisions in the Motor Third Party Liability Insurance and the ongoing appropriateness of the valuation of non-listed assets.
and group-level supervision.	**Some Progress** Group-level supervision might become an issue for one particular insurance group, depending on the outcome of the restructuring process. The Financial Supervision Commission, the European Insurance and Occupational Pensions Authority (EIOPA) and a particular insurance group have sought an agreement on the kind of group-level supervision that should apply to that entity. This group is currently taking steps to acquire a major company active outside the non banking sector and may undergo restructuring. If this process is completed successfully, a new procedure of identification of the group will start, which will result in the group being identified either as an insurance holding company (which involves full group supervision) or a mixed holding company (which involves a more limited supervision).
Implement the forthcoming roadmap tackling the gaps identified in the insolvency	**Limited Progress** The government adopted the insolvency framework roadmap on 19 June 2019 and established a dedicated steering body, the so-called 'Coordinating

framework.	Council', which will be in charge of the overall management and coordination of the roadmap's implementation. Efforts to implement the insolvency framework roadmap have already started. The Ministry of Justice has set up an interagency working group to draft the necessary legislative amendments by the end of June 2020. This group will have a wide stakeholder participation with representatives of the government, the judiciary, law professionals and the academia. However, more still needs to be done.
Foster the stability of the car insurance sector by addressing market challenges and remaining structural weaknesses.	**Limited Progress** Motor third-party liability (MTPL) still warrants attention. MTPL represents a high share in the portfolio of all the Bulgarian insurers. Its profitability has remained insufficient for a long time due to a strong price competition in the sector. After insurance premia increased substantially in 2018, the financial results of the MTPL line of business have strengthened. The solvency of some players relies on the validity of the assumptions underlying the valuation of their assets and liabilities. There are still weaknesses and areas of particular risk currently identified in the non-banking sector, including the effectiveness of the system of governance and application of the prudent person principle, for which sustainable corrections need to be ensured. The government planned to amend by 31 December 2019 the legislation on the implementation of the bonus-malus' system, in line with the results of the public consultation, but the deadline has been missed. The government planned to adopt by 31 December 2019 an ordinance on the approval of a methodology for determining the amount of compensation for material and non-material damage sustained as a result of bodily injury to the injured person and for determining the amount of the compensation for material and non-material damage of the injured person as a result of the death of a victim. However, the deadline has been missed. The Bulgarian Green Card Bureau is still under monitoring and the sectoral reinsurance cover is yet to be underwritten.
CSR 3: Focus investment-related economic policy on research and innovation , transport, in particular on its sustainability , water, waste and energy infrastructure and energy efficiency, taking into account regional disparities, and improving the business environment.	Bulgaria has made **Limited Progress** in addressing CSR 3
Focus investment-related economic policy on research and innovation	**Limited Progress** R&D spending remains very low both in the public and in private sectors. Bulgaria has the fifth lowest R&D intensity level in the EU: 0.75% of GDP in 2018, with a very small increase from 0.74% of GDP in

	2017. The extremely low public R&D intensity (0.21% of GDP in 2018, the third lowest in the EU) is particularly concerning, and it has been on a mostly decreasing trajectory since 2000. This hinders the required capacity building, as research infrastructure is outdated and the very low wages act as deterrents to attracting and retaining young talent. While the business R&D intensity increased between 2009 and 2014, it is now also on a decreasing path (0.54% of GDP in 2018, from a peak of 0.70% in 2015).
, transport, in particular on its sustainability	**Limited Progress** The quality of road infrastructure has been increasing slightly over the last years, following significant investments supported by the European Structural and Investment Funds. The on-going construction of a national motorway demonstrates good intentions to modernise but is still slow. On infrastructure, efforts are needed on railway infrastructure fluidity, without segmentation of modernized and non-modernized parts and on development of further internal railway network interconnecting strategic points while developing a network of multimodal platforms for transit and for country purposes. The penetration rate of alternative-fuelled passenger cars is still relatively low compared to the top performers in the EU. In road, rail and inland waterways transport, external costs related to accidents, environment (air pollution, climate change, energy production, noise, habitat damage) are about 7 billion EUR annually, which corresponds to 6,5% of Bulgaria's GDP. Road users generate almost 98% of such costs. While road users pay 97% of revenues in transport, the taxes and charges paid by them do not cover the total transport generated costs as they cover 66% and 46% of the total external and infrastructure costs for passenger and freight respectively. Transport modes as rail, aviation and waterborne at the moment have a very limited contribution to the transport revenues which puts in question the sustainability of transport.
, water, waste and energy infrastructure and energy efficiency, taking into account regional disparities,	**Limited Progress** Water - limited progress: limited implementation on the ground; Bulgaria is still far from achieving compliance with the drinking water and urban waste water treatment directives. Waste - some progress: some progress in closure and rehabilitation of non-compliant landfills. Implemented and on-going waste infrastructure projects financed under different programmes, including but not limited to EU funds, are with limited magnitude; many projects still remain to be implemented in the future. Investments in research and development (R&D) in low-carbon technologies are rather low but increasing. Investments are driven primarily by the private sector. A key role in the development and deployment of low-carbon technologies is played by the Innovation Strategy for Smart Specialisation 2021-2027, which is currently being updated.

	Very limited progress was made towards reaching the 2020 indicative national target for energy efficiency. In 2018 Bulgaria's final energy consumption increased slightly compared to 2017, remaining above the linear trajectory by 11pp. Similarly, in 2018 Bulgaria did not reduce its primary energy consumption sufficiently to stay below the linear trajectory. There are outstanding compliance issues with the legal requirements and the current legal framework provides insufficient incentives for the obliged parties to invest more in energy savings. Huge energy saving and carbon reducing potential yet to be unlocked by targeted measures in the industrial, transportation, and residential sectors - in 2018 the highest energy consumption was in the transport sector (34%), followed by industry (28%) and households (24%). Serious social challenges are interlinked with the process of effective energy transformation, such as job losses and falling life quality standards. To facilitate a just transition towards a low-carbon economy from a macroeconomic and socio-economic perspective, significant investments in the fields of climate and energy are required. Transformation measures have not yet been considered. In October 2019, the government indicated that a debate with stakeholders has been initiated on the possibility to join the EC platform "Coal Regions in Transition", which, if and when realized, could help with identifying priority projects, measures, and investments. Investment-related economic policy on energy infrastructure: Substantial progress in gas (construction works on IGB interconnector + reinforcing and modernisation of internal high-pressure grid + improved functioning of the wholesale market through the setting up of a gas hub + PCI projects + Council of Minsters Decision to acquire a stake of the LNG facility in Northern Greece); Some progress in electricity (capacity increase of internal lines + interconnectors + improved functioning of the wholesale market through intra-day coupling) Investment-related economic policy on energy efficiency: Limited progress. R&D investment in low carbon technologies below 1% with private R&D increasing while public R&D remain the lowest in the EU, well below 0.4% of GDP. Limited progress towards reaching the 2020 indicative national target for energy efficiency.
and improving the business environment.	**Some Progress** Bulgaria is implementing measures in order to improve the business environment and to remove the existing obstacles to investment, however, they have not led to significant improvements so far.
CSR 4: Strengthen employability by reinforcing skills, including digital skills. Improve the quality, labour market relevance, and inclusiveness of education and training, in particular for Roma and	Bulgaria has made **Limited Progress** in addressing CSR 4

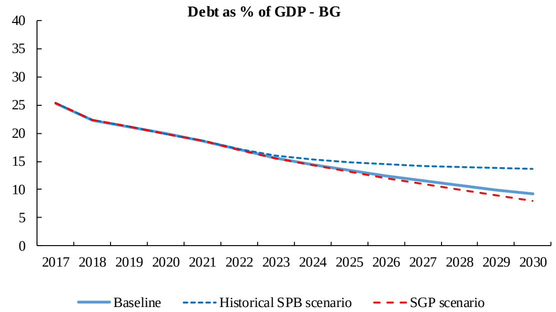
other disadvantaged groups. Address social inclusion through improved access to integrated employment and social services and more effective minimum income support. Improve access to health services, including by reducing out-of-pocket payments and addressing shortages of health professionals.	
Strengthen employability by reinforcing skills, including digital skills.	**Some Progress** Sustained efforts to increase skills of jobseekers, such as trainings, traineeships, apprenticeships and dual VET have shown positive results. Operations were implemented at national and local level in 2019 to improve employability of vulnerable groups. There are ongoing measures to improve the labour market relevance of VET and higher education, although their impact is still limited.
Improve the quality, labour market relevance, and inclusiveness of education and training, in particular for Roma and other disadvantaged groups.	**Limited Progress** There has been limited progress in the area of education and training, as the challenges of quality and inclusion, in particular for Roma, remain. The impact of the measures taken to tackle any of those is yet to be seen. There are measures undertaken to improve the labour market relevance of education, but their impact is mitigated.
Address social inclusion through improved access to integrated employment and social services	**Limited Progress** Bulgaria planned to improve the provision of social services with the new law adopted in March 2019, but its entry into force is delayed to the second half of 2020, however, there is no implementation and the timeframe could be further extended.
and more effective minimum income support.	**Some Progress** Measures have been taken to improve the adequacy and coverage of the heating allowance as part of the minimum income support. In particular, the modification of the access criteria and the increase by 24.5% of the allowance to a 21% increase of the number of recipients compared to 2018.
Improve access to health services, including by reducing out-of-pocket payments and addressing shortages of health professionals.	**Limited Progress** Majority of measures to address problems with access to health care including out-of-pocket payments and shortages of health professionals are either in drafting stage or in process of adoption.
Europe 2020 (national targets and progress)	
Employment rate target set in the NRP: 76%.	72.4% (2018)
R&D target set in the NRP: 1.5 % of GDP	There was no progress towards the R&D intensity target.
National greenhouse gas (GHG) emissions	While the 2020 target has been met, provisional inventories

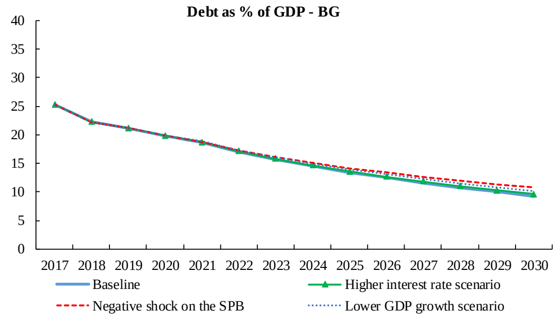
target: - +20 % in 2020 compared with 2005 (in sectors not included in the EU emissions trading system)	indicate that the gap to the 2018 target is estimated to be close to 3pp.
2020 renewable energy target: 16 % share of renewable energy in gross final energy consumption	Provisional inventories show that in 2018 Bulgaria has already surpassed its 2020 target for renewable energy shares by 2.7pp.
Energy efficiency, 2020 energy consumption targets: Bulgaria's 2020 indicative energy efficiency target is 16.9 Mtoe expressed in primary energy consumption and 8.6 Mtoe expressed in final energy consumption.	Continuing the trend from previous years, Bulgaria's final energy consumption in 2018 increased slightly, remaining above the linear trajectory by 11pp. Bulgaria's primary energy consumption in 2018 has also stayed above the linear trajectory, putting at risk the fulfilment of its obligation by 2020.
Early school/training leaving target: 11 % of population aged 18-24.	12.7 % in 2018. No progress has been made since 2010 (+0.1 point).
Tertiary education target: 36 % of population aged 30-34.	33.7 % in 2018. Tertiary educational attainment has been steadily improving (+6.9 points since 2012) but is unlikely to reach the national target by 2020.
Target for reducing the number of people at risk of poverty or social exclusion, expressed as an absolute number of people: decrease by 260 000 (baseline 2008: 1 632 120).	1 550 797 (2018)

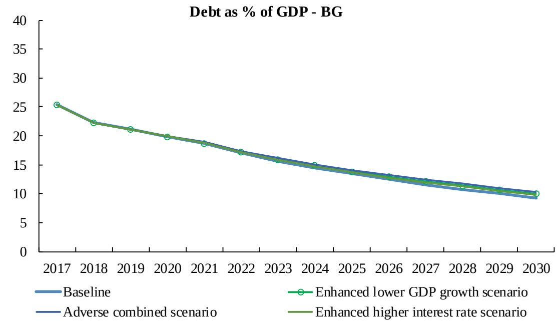
ANNEX B: COMMISSION DEBT SUSTAINABILITY ANALYSIS AND FISCAL RISKS

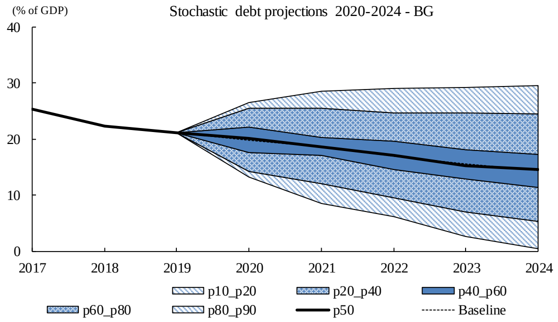
General government debt projections under baseline, alternative scenarios and sensitivity tests

BG - Debt projections baseline scenario	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Gross debt ratio	**22.3**	**21.1**	**19.9**	**18.6**	**17.0**	**15.6**	**14.5**	**13.4**	**12.5**	**11.6**	**10.8**	**10.0**	**9.3**
Changes in the ratio (-1+2+3)	*-3.1*	*-1.1*	*-1.3*	*-1.2*	*-1.6*	*-1.4*	*-1.1*	*-1.1*	*-1.0*	*-0.9*	*-0.8*	*-0.8*	*-0.7*
of which													
(1) Primary balance (1.1+1.2+1.3)	**2.4**	**1.7**	**1.4**	**1.5**	**1.4**	**1.2**	**1.0**	**0.9**	**0.8**	**0.8**	**0.7**	**0.7**	**0.6**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***2.4***	***1.5***	***1.2***	***1.2***	***1.2***	***1.1***	***1.0***	***0.9***	***0.8***	***0.8***	***0.7***	***0.7***	***0.6***
(1.1.1) Structural primary balance (bef. CoA)	*2.4*	*1.5*	*1.2*	*1.2*	*1.2*	*1.2*	*1.2*	*1.2*	*1.2*	*1.2*	*1.2*	*1.2*	*1.2*
(1.1.2) Cost of ageing					*0.0*	*0.1*	*0.2*	*0.3*	*0.4*	*0.4*	*0.5*	*0.5*	*0.6*
(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	***0.0***	***0.2***	***0.2***	***0.3***	***0.2***	***0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.0***	***0.0***	***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)	**-1.1**	**-1.1**	**-0.6**	**-0.5**	**-0.2**	**-0.2**	**-0.1**	**-0.2**	**-0.1**	**-0.1**	**-0.1**	**-0.1**	**-0.1**
(2.1) Interest expenditure	*0.6*	*0.6*	*0.6*	*0.6*	*0.5*	*0.5*	*0.4*	*0.4*	*0.4*	*0.3*	*0.3*	*0.3*	*0.3*
(2.2) Growth effect	*-0.7*	*-0.7*	*-0.6*	*-0.5*	*-0.3*	*-0.3*	*-0.3*	*-0.3*	*-0.2*	*-0.2*	*-0.2*	*-0.2*	*-0.1*
(2.3) Inflation effect	*-1.0*	*-1.0*	*-0.6*	*-0.5*	*-0.4*	*-0.4*	*-0.3*	*-0.3*	*-0.3*	*-0.2*	*-0.2*	*-0.2*	*-0.2*
(3) Stock-flow adjustments	**0.4**	**1.7**	**0.8**	**0.8**	**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)	Baseline	Historical SPB	Lower GDP growth	Higher interest rate	Negative shock on SPB	Stochastic projections	DSA	S2	Long term
LOW (S0 = 0.2)	LOW	LOW (S1 = -5.4)	Risk category	LOW	LOW	LOW	LOW	LOW	MEDIUM	LOW	LOW (S2 = 1.6)	LOW
			Debt level (2030)	9.3	13.6	10.0	9.6	10.7				
			Debt peak year	2019	2019	2019	2019	2019				
			Percentile rank	36.0%	45.0%							
			Probability debt higher						29.1%			
			Dif. between percentiles						29.2			

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)	110.5	106.4	104.6	101.9	101.9	99.3
Share of assets of the five largest banks (% of total assets)	55.0	57.6	58.0	56.5	59.7	-
Foreign ownership of banking system (% of total assets)(2)	76.1	76.3	76.5	76.4	77.9	78.0
Financial soundness indicators:(2)						
- non-performing loans (% of total loans)	16.0	14.5	12.8	10.2	7.7	6.9
- capital adequacy ratio (%)	21.5	21.6	21.5	21.8	20.6	19.5
- return on equity (%)(3)	7.2	8.0	11.3	10.2	11.8	12.1
Bank loans to the private sector (year-on-year % change)(1)	2.2	-0.2	3.4	7.8	9.9	9.1
Lending for house purchase (year-on-year % change)(1)	-1.7	-0.5	2.7	8.7	12.1	14.2
Loan-to-deposit ratio(2)	82.7	73.4	72.4	72.6	75.5	77.4
Central bank liquidity as % of liabilities(1)	0.0	0.0	0.0	0.0	0.0	0.0
Private debt (% of GDP)	125.6	109.3	104.5	99.0	95.0	-
Gross external debt (% of GDP)(2) - public	14.1	12.2	13.9	10.9	9.9	8.9
- private	65.2	53.5	47.5	44.7	41.1	39.6
Long-term interest rate spread versus Bund (basis points)*	218.4	199.6	218.2	128.5	49.6	70.0
Credit default swap spreads for sovereign securities (5-year)*	119.4	153.8	139.0	102.7	62.0	69.5

(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 annualised.
* 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)	12.9	13.4	13.8	12.7	12.7	:
Gender employment gap (pps)	6.1	6.6	7.3	8.0	8.2	8.1
Income inequality, measured as quintile share ratio (S80/S20)	6.8	7.1	7.7	8.2	7.7	:
At-risk-of-poverty or social exclusion rate(1) (AROPE)	40.1	41.3	40.4	38.9	32.8	:
Young people neither in employment nor in education and training (% of population aged 15-24)	20.2	19.3	18.2	15.3	15.0	:
Dynamic labour markets and fair working conditions						
Employment rate (20-64 years)	65.1	67.1	67.7	71.3	72.4	75.0
Unemployment rate(2) (15-74 years)	11.4	9.2	7.6	6.2	5.2	4.3
Long-term unemployment rate (as % of active population)	6.9	5.6	4.5	3.4	3.0	2.6
Gross disposable income of households in real terms per capita(3) (Index 2008=100)	113.0	116.9	123.2	130.0	:	:
Annual net earnings of a full-time single worker without children earning an average wage (levels in PPS, three-year average)	8164	8742	9329	:	:	:
Annual net earnings of a full-time single worker without children earning an average wage (percentage change, real terms, three-year average)	5.52	7.27	8.55	:	:	:
Public support / Social protection and inclusion						
Impact of social transfers (excluding pensions) on poverty reduction(4)	20.1	22.5	17.9	19.9	25.4	:
Children aged less than 3 years in formal childcare	11.2	8.9	12.5	9.4	16.2	:
Self-reported unmet need for medical care	5.6	4.7	2.8	2.1	1.9	:
Individuals who have basic or above basic overall digital skills (% of population aged 16-74)	:	31.0	26.0	29.0	:	:

(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 and/or living in households with zero or very low work intensity.
(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 2019 joint employment report.
(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)	69.0	69.3	68.7	71.3	71.5	73.3
Employment in current job by duration						
From 0 to 11 months	10.6	9.9	9.6	10.2	8.2	:
From 12 to 23 months	8.2	7.2	7.2	7.3	7.1	:
From 24 to 59 months	19.3	17.9	18.2	17.5	18.9	:
60 months or over	61.9	65.0	65.0	65.0	65.6	:
Employment growth* (% change from previous year)	0.4	0.4	0.5	1.8	-0.1	-0.2
Employment rate of women (% of female population aged 20-64)	62.0	63.8	64.0	67.3	68.3	71.0
Employment rate of men (% of male population aged 20-64)	68.1	70.4	71.3	75.3	76.5	79.1
Employment rate of older workers* (% of population aged 55-64)	50.0	53.0	54.5	58.2	60.7	64.4
Part-time employment* (% of total employment, aged 15-64)	2.5	2.2	2.0	2.2	1.8	2.0
Fixed-term employment* (% of employees with a fixed term contract, aged 15-64)	5.3	4.4	4.1	4.4	4.0	4.4
Transition rate from temporary to permanent employment (3-year average)	31.5	28.9	28.2	25.6	19.0	:
Youth unemployment rate (% active population aged 15-24)	23.8	21.6	17.2	12.9	12.7	9.5
Gender gap in part-time employment	0.5	0.5	0.5	0.3	0.3	0.4
Gender pay gap(2) (in undadjusted form)	14.2	15.4	14.4	13.6	:	:
Education and training indicators	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Adult participation in learning (% of people aged 25-64 participating in education and training)	2.1	2.0	2.2	2.3	2.5	:
Underachievement in education(3)	:	42.1	:	:	:	:
Tertiary educational attainment (% of population aged 30-34 having successfully completed tertiary education)	30.9	32.1	33.8	32.8	33.7	:
Variation in performance explained by students' socio-economic status(4)	:	16.4	:	:	:	:

* 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 10 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)						
Sickness/healthcare	4.4	4.9	4.6	4.6	4.6	:
Disability	1.4	1.4	1.3	1.2	1.2	:
Old age and survivors	8.6	8.8	8.6	8.4	8.1	:
Family/children	1.8	1.9	1.9	1.8	1.8	:
Unemployment	0.5	0.5	0.5	0.5	0.5	:
Housing	0.0	0.0	0.0	0.0	0.0	:
Social exclusion n.e.c.	0.3	0.3	0.3	0.3	0.2	:
Total	17.0	17.9	17.2	16.8	16.4	:
of which: means-tested benefits	0.7	0.7	0.6	0.6	0.5	:
General government expenditure by function (% of GDP)						
Social protection	13.5	13.4	13.3	12.7	12.5	:
Health	4.5	5.5	5.5	5.0	4.9	:
Education	3.7	4.1	4.0	3.4	3.6	:
Out-of-pocket expenditure on healthcare	47.1	45.8	47.7	48.0	46.6	:
Children at risk of poverty or social exclusion (% of people aged 0-17)*	51.5	45.2	43.7	45.6	41.6	33.7
At-risk-of-poverty rate(1) (% of total population)	21.0	21.8	22.0	22.9	23.4	22.0
In-work at-risk-of-poverty rate (% of persons employed)	7.2	9.2	7.7	11.4	9.9	9.9
Severe material deprivation rate(2) (% of total population)	43.0	33.1	34.2	31.9	30.0	20.9
Severe housing deprivation rate(3), by tenure status						
Owner, with mortgage or loan	6.5	11.8	16.0	14.2	15.6	13.0
Tenant, rent at market price	13.9	18.1	16.9	14.1	11.4	9.2
Proportion of people living in low work intensity households(4) (% of people aged 0-59)	13.0	12.1	11.6	11.9	11.1	9.0
Poverty thresholds, expressed in national currency at constant prices*	2549	2875	2941	2811	3246	3208
Healthy life years						
Females	9.9	9.6	9.5	10.1	9.2	:
Males	8.7	8.7	8.7	9.2	8.4	:
Aggregate replacement ratio for pensions(5)	0.4	0.4	0.4	0.5	0.4	0.4
Connectivity dimension of the Digital Economy and Society Index (DESI)(6)	:	36.5	44.0	48.2	52.3	:
GINI coefficient before taxes and transfers*	47.7	49.7	50.2	53.0	53.8	:
GINI coefficient after taxes and transfers*	35.4	35.4	37.0	37.7	40.2	:

* 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	3.05	3.60	1.23	6.51	2.18	-2.08
Labour productivity growth in construction	3.99	-2.58	1.74	-3.46	4.35	-3.60
Labour productivity growth in market services	0.22	0.93	3.65	1.46	3.15	5.50
Unit Labour Cost (ULC) index[2] growth (t/t-1) in %						
ULC growth in industry	3.58	3.56	1.84	2.96	7.62	10.25
ULC growth in construction	3.16	13.40	3.12	3.17	8.34	8.82
ULC growth in market services	4.58	5.84	3.36	5.91	6.37	3.84
Business environment	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Time needed to enforce contracts[3] (days)	564	564	564	564	564	564
Time needed to start a business[3] (days)	25.0	25.0	25.0	23.0	23.0	23.0
Outcome of applications by SMEs for bank loans[4]	0.86	0.97	0.54	0.49	0.25	0.61
Research and innovation	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
R&D intensity	0.64	0.79	0.95	0.77	0.74	0.75
General government expenditure on education as % of GDP	3.70	4.10	4.00	3.40	3.60	:
Employed people with tertiary education and/or people employed in S&T as % of total employment	31	32	33	33	33	33
Population having completed tertiary education[5]	22	24	24	24	25	25
Young people with upper secondary education[6]	86	86	85	85	86	86
Trade balance of high technology products as % of GDP	-2.17	-2.55	-2.50	-2.09	-1.82	-1.79
Product and service markets and competition	**2003**	**2008**	**2013**			**2018***
OECD product market regulation (PMR)[7], overall	:	:	1.57			1.93
OECD PMR[7], retail	:	:	0.20			1.56
OECD PMR[7], professional services[8]	:	:	:			2.43
OECD PMR[7], network industries[9]	:	:	2.45			1.35

***While the indicator values from 2003 to 2013 are comparable, the methodology has considerably changed in 2018. As a result, past vintages cannot be compared with the 2018 PMR indicators.**
(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).
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). ***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 / €	0.43	0.44	0.45	0.42	0.42	0.41
Carbon intensity	kg / €	1.42	1.47	1.49	1.37	1.37	-
Resource intensity (reciprocal of resource productivity)	kg / €	3.16	3.41	3.68	3.13	3.12	3.00
Waste intensity	kg / €	-	4.50	-	2.79	-	-
Energy balance of trade	% GDP	-6.2	-5.6	-3.8	-2.4	-3.0	-3.4
Weighting of energy in HICP	%	15.01	14.05	13.06	10.72	11.48	13.29
Difference between energy price change and inflation	%	-2.9	-1.3	6.2	-0.7	2.2	1.6
Real unit of energy cost	% of value added	34.0	30.8	30.4	30.4	-	-
Ratio of environmental taxes to labour taxes	ratio	0.31	0.28	0.32	0.30	0.28	-
Environmental taxes	% GDP	2.9	2.8	3.2	2.9	2.9	2.9
Sectoral							
Industry energy intensity	kgoe / €	0.28	0.27	0.27	0.26	0.26	0.26
Real unit energy cost for manufacturing industry excl. refining	% of value added	50.6	44.4	43.8	43.3	-	-
Share of energy-intensive industries in the economy	% GDP	11.33	11.59	12.05	12.92	12.66	11.68
Electricity prices for medium-sized industrial users	€ / kWh	0.08	0.08	0.07	0.09	0.08	0.08
Gas prices for medium-sized industrial users	€ / kWh	0.04	0.03	0.03	0.02	0.02	0.03
Public R&D for energy	% GDP	0.00	0.00	0.00	0.00	0.00	0.00
Public R&D for environmental protection	% GDP	0.00	0.00	0.00	0.00	0.00	0.00
Municipal waste recycling rate	%	28.5	23.1	29.4	31.8	34.6	36.0
Share of GHG emissions covered by ETS*	%	59.5	60.0	58.9	56.6	56.8	53.7
Transport energy intensity	kgoe / €	1.43	1.47	1.48	1.49	1.61	1.64
Transport carbon intensity	kg / €	2.83	2.67	2.62	2.67	2.89	2.70
Security of energy supply							
Energy import dependency	%	38.5	35.3	36.5	38.6	39.5	-
Aggregated supplier concentration index	HHI	66.0	59.3	68.3	60.2	63.6	-
Diversification of energy mix	HHI	24.6	25.7	25.6	23.7	23.9	23.3

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 00MWh 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 BULGARIA

Building on the Commission proposal, this Annex ([121]) 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 Bulgaria. 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 Bulgaria, assessed in the report. This Annex provides the basis for a dialogue between Bulgaria 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 Bulgaria ([122]).

The "Maritsa" area in the Stara Zagora province hosts the largest coal mining and coal-fired power plant area in Bulgaria. Around 85% of jobs (over 12 500 people) in Bulgaria's coal sector are concentrated there, with over 10 700 jobs in the mines and over 1 800 in the power plants. Moving away from fossil fuel production is likely not only to lead to the closure of extraction sites, but will also affect the energy-generating plants. The process of effective and just transition requires anticipation of social challenges such as job losses and lowering of life quality standards. Based on this preliminary assessment, it appears warranted that the Just Transition Fund concentrates its intervention on that province.

In order to tackle these transition challenges, high priority investment needs have been identified for diversifying and making the regional economy more modern and competitive, as well as alleviating the socio-economic costs of transition. Key actions of the Just Transition Fund could target in particular:

- productive investments in SMEs, including start-ups, leading to economic diversification and reconversion;
- investment in research and innovation activities and fostering transfer of advanced technologies;
- investment in digitalisation;
- upskilling- and reskilling of workers;
- job-search assistance to jobseekers;
- active inclusion of jobseekers.

In order to tackle the transition challenges related to environmental sustainability and resource efficiency, related investment needs have also been identified. Key actions of the Just Transition Fund could target in particular investment in:

- the deployment of technology for affordable clean energy;
- regeneration and decontamination of sites, land restoration and repurposing projects;
- enhancing the circular economy.

([121]) 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).

([122]) SWD(2019) 1001 final

The Stara Zagora province faces the challenge of substantial job losses, which realistically might not be entirely offset by the creation and development of SMEs, exceptionally, and where necessary for the implementation of the territorial just transition plan, support to productive investments in large enterprises could therefore be considered.

The Bobov Dol municipality in the Kyustendil province is the second most important area in Bulgaria when it comes to coal mining and coal-fired energy production. All together the Southwest region is currently estimated to host some 1 500 jobs in coal related activities and most of those are in Bobov Dol. The latter already experienced in recent years the negative socio-economic effects of closure of extraction sites. As a result, there has been increased unemployment but also loss of working population because of lack of alternative employment. Based on this preliminary assessment, it appears warranted that the Just Transition Fund also intervenes in that province.

In order to tackle these transition challenges, high priority investment needs have been identified for diversifying and making the regional economy more modern and competitive, as well as alleviating the socio-economic costs of transition. Key actions of the Just Transition Fund could target in particular:

- productive investments in SMEs, including start-ups, leading to economic diversification and reconversion;
- investment in research and innovation activities and fostering transfer of advanced technologies;
- investment in digitalisation;
- upskilling- and reskilling of workers;
- job-search assistance to jobseekers;
- active inclusion of jobseekers.

In order to tackle the transition challenges related to environmental sustainability and resource efficiency, related investment needs have also been identified. Key actions of the Just Transition Fund could target in particular investment in:

- the deployment of technology for affordable clean energy;
- regeneration and decontamination of sites, land restoration and repurposing projects;
- enhancing the circular economy.

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

Assessment of Bulgaria's short-term progress towards the SDGs (123)

Table E.1 shows the data for Bulgaria 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 (124). 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 Bulgaria's progress towards the SDGs**

SDG / Sub-theme	Indicator	Unit	Bulgaria Starting year	Bulgaria Starting value	Bulgaria Latest year	Bulgaria Latest value	EU-28 Starting year	EU-28 Starting value	EU-28 Latest year	EU-28 Latest value
SDG 1 – No poverty										
Multidimensional poverty	People at risk of poverty or social exclusion	% of population	2013	48.0	2018	32.8	2013	24.6	2018	21.9
	People at risk of income poverty after social transfers	% of population	2013	21.0	2018	22.0	2013	16.7	2018	17.1
	Severely materially deprived people	% of population	2013	43.0	2018	20.9	2013	9.6	2018	5.8
	People living in households with very low work intensity	% of population aged 0 to 59	2013	13.0	2018	9.0	2013	11.0	2018	8.8
	In-work at-risk-of-poverty rate	% of population aged 18 or over	2013	7.2	2018	9.9	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	12.9	2018	13.0	2013	15.6	2018	13.9
	Self-reported unmet need for medical care	% of population aged 16 or over	2013	8.9	2018	1.9	2013	3.7	2018	2.0
	Population having neither a bath, nor a shower, nor indoor flushing toilet in their household	% of population	2013	13.0	2018	8.9	2013	2.2	2018	1.7
	Population unable to keep home adequately warm	% of population	2013	44.9	2018	33.7	2013	10.7	2018	7.3
	Overcrowding rate	% of population	2013	44.2	2018	41.6	2013	17.0	2018	15.5
SDG 2 – Zero hunger										
Malnutrition	Obesity rate	% of population aged 18 or over	2014	14.8	2017	14.1	2014	15.9	2017	15.2
Sustainable agricultural production	Agricultural factor income per annual work unit (AWU)	EUR, chain linked volumes (2010)	2012	5 272	2017	8 965	2012	14 865	2017	17 304
	Government support to agricultural research and development	million EUR	2013	20.5	2018	21.5	2013	3 048.6	2018	3 242.5
	Area under organic farming	% of utilised agricultural area	2013	1.1	2018	2.6	2013	5.7	2018	7.5
Environmental impacts of agricultural production	Gross nitrogen balance on agricultural land	kg per hectare	2012	24	2017	66	2010	49	2015	51
	Ammonia emissions from agriculture	kg per ha of utilised agricultural area	2012	7.2	2017	8.3	2011	19.7	2016	20.3
	Nitrate in groundwater	mg NO_3 per litre	2012	28.0	2017	27.7	2012	19.2	2017	19.1
	Estimated soil erosion by water	km^2	2010	3 131.0	2016	3 497.7	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	74.4	2017	74.8	2012	80.3	2017	80.9
	Share of people with good or very good perceived health	% of population aged 16 or over	2013	66.4	2018	66.5	2013	67.3	2018	69.2
Health determinants	Smoking prevalence	% of population aged 15 or over	2012	36	2017	36	2014	26	2017	26
	Obesity rate	% of population aged 18 or over	2014	14.8	2017	14.1	2014	15.9	2017	15.2
	Population living in households considering that they suffer from noise	% of population	2013	11.1	2018	9.4	2013	18.8	2018	18.3
	Exposure to air pollution by particulate matter ($PM_{2.5}$)	$\mu g/m^3$	2012	29.3	2017	23.8	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	198.7	2016	193.9	2011	132.5	2016	119.0
	Death rate due to tuberculosis, HIV and hepatitis	number per 100 000 persons	2011	2.7	2016	2.2	2011	3.4	2016	2.6
	People killed in accidents at work	number per 100 000 employed persons	2012	3.82	2017	3.40	2012	1.91	2017	1.65
	People killed in road accidents	number of killed people	2012	601	2017	682	2012	28 231	2017	25 257
Access to health care	Self-reported unmet need for medical care	% of population aged 16 or over	2013	8.9	2018	1.9	2013	3.7	2018	2.0

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(123) 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).
(124) 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	Bulgaria				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	12.5	2018	12.7	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	87.1	2017	83.9	2012	94.0	2017	95.4
	Underachievement in reading	% of 15-year-old students	2015	41.5	2018	47.1	2015	19.7	2018	21.7
	Young people neither in employment nor in education and training	% of population aged 15 to 29	2013	25.7	2018	18.1	2013	15.9	2018	12.9
Tertiary education	Tertiary educational attainment	% of the population aged 30 to 34	2013	29.4	2018	33.7	2013	37.1	2018	40.7
	Employment rate of recent graduates	% of population aged 20 to 34	2013	67.7	2018	78.6	2013	75.4	2018	81.7
Adult education	Adult participation in learning	% of population aged 25 to 64	2013	2.0	2018	2.5	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	8	N/A	:	2012	8
Education	Gender gap for early leavers from education and training	percentage points, persons aged 18–24	2013	0.4	2018	0.2	2013	3.4	2018	3.3
	Gender gap for tertiary educational attainment	percentage points, persons aged 30–34	2013	15.8	2018	13.8	2013	8.5	2018	10.1
	Gender gap for employment rate of recent graduates	percentage points, persons aged 20–34	2013	2.9	2018	7.8	2013	4.4	2018	3.4
Employment	Gender pay gap in unadjusted form	% of average gross hourly earnings of men	2012	15.1	2017	13.6	2012	17.4	2017	16.0
	Gender employment gap	percentage points, persons aged 20–64	2013	5.7	2018	8.2	2013	11.7	2018	11.6
	Gender gap in inactive population due to caring responsibilities	percentage points, persons aged 20–64	2013	18.0	2018	23.5	2013	25.5	2018	27.1
Leadership positions	Seats held by women in national parliaments and governments	% of seats	2014	20.4	2019	26.4	2014	27.2	2019	31.5
	Positions held by women in senior management	% of board members	2014	17.6	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	13.0	2018	8.9	2013	2.2	2018	1.7
	Population connected to at least secondary wastewater treatment	% of population	2012	53.9	2017	63.2	N/A	:	N/A	:
Water quality	Biochemical oxygen demand in rivers	mg O_2 per litre	2012	2.89	2017	2.91	2012	2.06	2017	2.00
	Nitrate in groundwater	mg NO_3 per litre	2012	28.0	2017	27.7	2012	19.2	2017	19.1
	Phosphate in rivers	mg PO_4 per litre	2012	0.308	2017	0.108	2012	0.096	2017	0.093
	Inland water bathing sites with excellent water quality	% of bathing sites with excellent water quality	2013	75.0	2018	25.0	2013	76.5	2018	80.8
Water use efficiency	Water exploitation index	% of long term average available water (LTAA)	2012	5.7	2017	5.6	N/A	:	N/A	:
SDG 7 – Affordable and clean energy										
Energy consumption	Primary energy consumption	million tonnes of oil equivalent (Mtoe)	2013	16.5	2018	18.4	2013	1 577.4	2018	1 551.9
	Final energy consumption	million tonnes of oil equivalent (Mtoe)	2013	8.8	2018	9.9	2013	1 115.5	2018	1 124.1
	Final energy consumption in households per capita	kgoe	2013	308	2018	317	2013	605	2018	552
	Energy productivity	EUR per kgoe	2013	2.3	2018	2.4	2013	7.6	2018	8.5
	Greenhouse gas emissions intensity of energy consumption	index 2000 = 100	2012	115.4	2017	107.9	2012	91.5	2017	86.5
Energy supply	Share of renewable energy in gross final energy consumption	%	2013	18.9	2018	20.5	2013	15.4	2018	18.0
	Energy import dependency	% of imports in gross available energy	2013	38.5	2018	36.5	2013	53.2	2018	55.7
Access to affordable energy	Population unable to keep home adequately warm	% of population	2013	44.9	2018	33.7	2013	10.7	2018	7.3

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Table (continued)

SDG / Sub-theme	Indicator	Unit	Bulgaria Starting year	Bulgaria Starting value	Bulgaria Latest year	Bulgaria Latest value	EU-28 Starting year	EU-28 Starting value	EU-28 Latest year	EU-28 Latest value
SDG 8 – Decent work and economic growth										
Sustainable economic growth	Real GDP per capita	EUR per capita, chain-linked volumes (2010)	2013	5 400	2018	6 550	2013	25 750	2018	28 280
	Investment share of GDP	% of GDP	2011	20.9	2016	18.6	2013	19.5	2018	20.9
	Resource productivity	EUR per kg, chain-linked volumes (2010)	2013	0.32	2018	0.33	2013	1.98	2018	2.04
Employment	Young people neither in employment nor in education and training	% of population aged 15 to 29	2013	25.7	2018	18.1	2013	15.9	2018	12.9
	Employment rate	% of population aged 20 to 64	2013	63.5	2018	72.4	2013	68.4	2018	73.2
	Long-term unemployment rate	% of active population	2013	7.4	2018	3.0	2013	5.1	2018	2.9
	Gender gap in inactive population due to caring responsibilities	percentage points, persons aged 20–64	2013	18.0	2018	23.5	2013	25.5	2018	27.1
Decent work	People killed in accidents at work	number per 100 000 employed persons	2012	3.82	2017	3.40	2012	1.91	2017	1.65
	In-work at-risk-of-poverty rate	% of population	2013	7.2	2018	9.9	2013	9	2018	9.5
SDG 9 – Industry, innovation and infrastructure										
R&D and innovation	Gross domestic expenditure on R&D	% of GDP	2013	0.64	2018	0.75	2013	2.01	2018	2.12
	Employment in high- and medium-high technology manufacturing and knowledge-intensive services	% of total employment	2013	34.3	2018	34.7	2013	45.0	2018	46.1
	R&D personnel	% of active population	2013	0.53	2018	0.79	2013	1.15	2018	1.36
	Patent applications to the European Patent Office (EPO)	number	2012	34	2017	29	2012	56 772	2017	54 649
Sustainable transport	Share of buses and trains in total passenger transport	% of total inland passenger-km	2012	17.9	2017	15.2	2012	17.2	2017	16.7
	Share of rail and inland waterways in total freight transport	% of total inland freight tonne-km	2012	47.1	2017	43.4	2012	25.4	2017	23.3
	Average CO2 emissions per km from new passenger cars	g CO_2 per km	2013	141.7	2018	127.1	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	30.9	2018	26.9	2013	23.8	2018	24.6
	Income distribution	income quintile share ratio	2013	6.6	2018	7.7	2013	5.0	2018	5.2
	Income share of the bottom 40 % of the population	% of income	2013	18.5	2018	17.0	2013	21.1	2018	21.0
	People at risk of income poverty after social transfers	% of population	2013	21.0	2018	22.0	2013	16.7	2018	17.1
Inequalities between countries	Purchasing power adjusted GDP per capita	Real expenditure per capita (in PPS)	2013	12 200	2018	15 700	2013	26 800	2018	31 000
	Adjusted gross disposable income of households per capita	Purchasing power standard (PPS) per inhabitant	2012	8 871	2017	10 875	2013	20 392	2018	22 824
	Financing to developing countries	million EUR, current prices	2012	:	N/A	:	2012	147 962	2017	155 224
	Imports from developing countries	million EUR, current prices	2013	4 547	2018	7 032	2013	817 475	2018	1 013 981
Migration and social inclusion	Asylum applications	Positive first instance decisions, per million inhabitants	2013	339	2018	105	2013	213	2018	424
SDG 11 – Sustainable cities and communities										
Quality of life in cities and communities	Overcrowding rate	% of population	2013	44.2	2018	41.6	2013	17.0	2018	15.5
	Population living in households considering that they suffer from noise	% of population	2013	11.1	2018	9.4	2013	18.8	2018	18.3
	Exposure to air pollution by particulate matter ($PM_{2.5}$)	µg/m³	2012	29.3	2017	23.8	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	12.9	2018	13.0	2013	15.6	2018	13.9
	Population reporting occurrence of crime, violence or vandalism in their area	% of population	2013	25.8	2018	21.8	2013	14.5	2018	12.7
Sustainable mobility	People killed in road accidents	number of killed people	2012	601	2017	682	2012	28 231	2017	25 257
	Share of buses and trains in total passenger transport	% of total inland passenger-km	2012	17.9	2017	15.2	2012	17.2	2017	16.7
Adverse environmental impacts	Settlement area per capita	m²	2012	468.5	2015	613.5	2012	625.0	2015	653.7
	Recycling rate of municipal waste	% of total waste generated	2013	28.5	2018	36.0	2013	41.7	2018	47.0
	Population connected to at least secondary wastewater treatment	% of population	2012	53.9	2017	63.2	N/A	:	N/A	:

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Table (continued)

SDG / Sub-theme	Indicator	Unit	Bulgaria				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	0.32	2018	0.33	2013	1.98	2018	2.04
	Average CO2 emissions per km from new passenger cars	g CO_2 per km	2013	141.7	2018	127.1	2014	123.4	2018	120.4
	Energy productivity	EUR per kgoe	2013	2.3	2018	2.4	2013	7.6	2018	8.5
Energy consumption	Primary energy consumption	million tonnes of oil equivalent (Mtoe)	2013	16.5	2018	18.4	2013	1 577.4	2018	1 551.9
	Final energy consumption	million tonnes of oil equivalent (Mtoe)	2013	8.8	2018	9.9	2013	1 115.5	2018	1 124.1
	Share of renewable energy in gross final energy consumption	%	2013	18.9	2018	20.5	2013	15.4	2018	18.0
Waste generation and management	Circular material use rate	% of material input for domestic use	2012	1.9	2017	5.1	2012	11.5	2017	11.7
	Generation of waste excluding major mineral wastes	kg per capita	2012	2 456	2016	2 527	2012	1 716	2016	1 772
	Recycling rate of waste excluding major mineral wastes	% of total waste treated	2012	14	2016	27	2012	55	2016	57
SDG 13 – Climate action										
Climate mitigation	Greenhouse gas emissions	index 1990 = 100	2012	59.7	2017	60.5	2012	82.1	2017	78.3
	Greenhouse gas emissions intensity of energy consumption	index 2000 = 100	2012	115.4	2017	107.9	2012	91.5	2017	86.5
	Primary energy consumption	million tonnes of oil equivalent (Mtoe)	2013	16.5	2018	18.4	2013	1 577.4	2018	1 551.9
	Final energy consumption	million tonnes of oil equivalent (Mtoe)	2013	8.8	2018	9.9	2013	1 115.5	2018	1 124.1
	Share of renewable energy in gross final energy consumption	%	2013	18.9	2018	20.5	2013	15.4	2018	18.0
	Average CO2 emissions per km from new passenger cars	g CO_2 per km	2013	141.7	2018	127.1	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	:	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	2013	65.6	2018	53.9	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	2013	990	2018	2 827	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 (Fmsy)	% 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	2012	42.2	2015	44.7	2012	40.3	2015	41.6
	Biochemical oxygen demand in rivers	mg O_2 per litre	2012	2.89	2017	2.91	2012	2.06	2017	2.00
	Nitrate in groundwater	mg NO_3 per litre	2012	28.0	2017	27.7	2012	19.2	2017	19.1
	Phosphate in rivers	mg PO_4 per litre	2012	0.308	2017	0.108	2012	0.096	2017	0.093
Land degradation	Soil sealing index	index 2006 = 100	2009	100.9	2015	104.5	2009	101.7	2015	104.2
	Estimated soil erosion by water	km^2	2010	3 131.0	2016	3 497.7	2010	207 232.2	2016	205 294.5
	Settlement area per capita	m^2	2012	468.5	2015	613.5	2012	625.0	2015	653.7
Biodiversity	Surface of terrestrial sites designated under NATURA 2000	km^2	2013	38 066	2018	38 222	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	Bulgaria Starting year	Bulgaria Starting value	Bulgaria Latest year	Bulgaria Latest value	EU-28 Starting year	EU-28 Starting value	EU-28 Latest year	EU-28 Latest value
SDG 16 – Peace, justice and strong institutions										
Peace and personal security	Death rate due to homicide	number per 100 000 persons	2011	1.3	2016	1.1	2011	0.9	2016	0.6
	Population reporting occurrence of crime, violence or vandalism in their area	% of population	2013	25.8	2018	21.8	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	8	N/A	:	2012	8
Access to justice	General government total expenditure on law courts	million EUR	2012	248	2017	331	2012	48 381	2017	51 027
	Perceived independence of the justice system	% of population	2016	23	2019	34	2016	52	2019	56
Trust in institutions	Corruption Perceptions Index	score scale of 0 (highly corrupt) to 100 (very clean)	2013	41	2018	42	N/A	:	N/A	:
	Population with confidence in the EU Parliament	% of population	2013	55	2018	51	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	0.11	2013	0.43	2018	0.48
	EU financing to developing countries	million EUR, current prices	2012	:	N/A	:	2012	147 962	2017	155 224
	EU imports from developing countries	million EUR, current prices	2013	4 547	2018	7 032	2013	817 475	2018	1 013 981
Financial governance within the EU	General government gross debt	% of GDP	2013	17.1	2018	22.3	2013	86.3	2018	80.4
	Shares of environmental and labour taxes in total tax revenues	% of total tax revenues	2013	10.3	2018	9.8	2013	6.4	2018	6.1

Source: Eurostat

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