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PARLIAMENT, THE EUROPEAN COUNCIL, THE COUNCIL, THE EUROPEAN
CENTRAL BANK AND THE EUROGROUP**

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

{ COM(2020) 150 final }

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EXECUTIVE SUMMARY

This is Greece's second year of participating in the European Semester after successfully exiting the European Stability Mechanism support programme in August 2018. By reforming its economy and administration, Greece has ended 8 years of financial assistance and has been integrated into the European Semester for economic and social policy coordination. Greece is also subject to enhanced surveillance, which monitors, among other things, implementation of the post-programme policy commitments given at the Eurogroup of 22 June 2018 ⁽¹⁾.

The recovery of the Greek economy continues. After returning to economic growth in 2017, the growth rate has stabilised at around 2%, largely backed by consumer spending and net exports. Export performance has been positive in recent years backed by cost competitiveness gains. Economic growth is expected to remain robust in 2020 with the support of a growth-friendly fiscal mix and other productivity-enhancing policies.

Despite the economic upturn, large accumulated imbalances remain as a legacy of the crisis and will take some time to resolve. These imbalances concern the high public debt, the negative net international investment position, the high share of non-performing loans on banks' balance sheets and the still high unemployment rate. While significant progress has been made in correcting flow imbalances (e.g. the government's budget balance) amid the deep institutional and structural reforms of the last decade, stock imbalances (e.g. government debt) will take some time to resolve and will require sustained growth and implementation of reforms.

Potential growth, which has suffered during the last decade, is set to improve, backed by investment-supporting policies. Persistently low investment and the continued emigration of skilled workers will continue to weigh on Greece's growth prospects for some time. Investment growth is

expected to accelerate, thanks to structural reforms, including the ongoing shift towards a more investment-conducive tax framework.

Greece's international position is slightly deteriorating, amid a widening deficit in goods trade. Exports continue to grow, but more slowly than in previous years due to weakening foreign demand. Following strong growth in 2018, exports are projected to increase more slowly in 2019 and to slow down further in 2020 and 2021. Meanwhile, imports are set to pick up in response to the domestically-driven recovery, which will worsen the trade balance. Against this background and as wages and inflation start picking up, it is important that labour cost increases are matched with productivity gains so as not to hurt future competitiveness.

Labour market improvements are reducing poverty and resulting in a fairer income distribution, but substantial social challenges remain. Unemployment — including long-term and youth unemployment — has continued to fall steadily, but at around 17%, it remains very high. In response to labour market developments and the strengthening of the social welfare system in recent years, poverty has been gradually decreasing. However, it is still among the highest in the EU, with children and working-age people particularly affected. Similarly, income inequality has declined although it remains higher than the EU average.

Greece continues to consolidate its public finances. As Greece is currently subject to the preventive arm of the Stability and Growth Pact, it must comply with the agreed primary government balance target (i.e. excluding the interest payments on government balance) of 3.5% of GDP and with the medium-term budgetary objective from 2020 onwards. According to the Commission's 2019 Autumn Forecast, the government's overall budget balance is forecast to reach a surplus of 1.0% of GDP in both 2019 and 2020. Accordingly, its primary balance monitored under enhanced surveillance is projected to comply with the fiscal target of 3.5% of GDP in both years. Greece's public debt-to-GDP ratio is expected to decline significantly from 181.2% in 2018 to 163.1% of GDP in 2021.

The 2019 country report reviewed investment performance and identified priority areas for

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

public and private sector investment in order to promote long-term growth and reduce regional disparities. These areas included: (i) sustainable transport and logistics, (ii) environmental protection, energy efficiency, renewable energy interconnection projects, (iii) digital technologies, (iv) research and development, (v) education, (vi) skills, (vii) employability, (viii) health, and (ix) the renewal of urban areas. Greece's second country-specific recommendation therefore called on the authorities to use economic policy to support investment in these particular areas, while taking into account regional disparities and the need to ensure social inclusion.

Greece has made some ⁽²⁾ progress in addressing the 2019 country-specific recommendations. It has notably made some progress in addressing the first recommendation that reiterated the authorities' previous commitment to continue and complete the reforms adopted under the European Stability Mechanism programme and to ensure that the objectives of these important reforms are safeguarded. Greece has taken the necessary action to meet all of its specific reform commitments for mid-2019 and has progressed well in implementing its specific reform commitments for end-2019. The supplementary measures that are being implemented or announced by the government should allow for their completion in time for the sixth enhanced surveillance report scheduled for May 2020. This requires continuous engagement of the Greek authorities in particular in the financial sector, where significant further action is needed. Some progress has also been made in addressing the recommendation that the authorities use economic policy to support investment in the above-mentioned priority areas.

Greece has improved on most indicators of the Social Scoreboard supporting the European Pillar of Social Rights, but on several fronts, challenges remain significant. On the positive side, the effectiveness of social benefits has increased, income inequality has declined and the overall social situation has improved in the wake of social welfare system reforms. On the other

⁽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.

hand, despite steadily increasing in recent years, the employment rate remains among the lowest in the EU, and the particularly high gender gap is not narrowing. In response to the ongoing economic recovery, unemployment — including long-term unemployment — is also going down, although it is still among the highest in the EU. The high proportion of young people not in employment, education or training is a serious concern however.

On progress in reaching the national Europe 2020 strategy targets, Greece is performing well on reducing the rate of early school leavers, increasing tertiary education attainment and reducing greenhouse emissions. It is on track to reach its targets on research and development, the use of renewable energy resources and energy efficiency. By contrast, the employment rate and poverty reduction fall short of the target.

Greece has made substantial progress towards meeting its sustainable development goals over the past years. Significant progress has been observed as regards the environmental objectives (SDGs 7, 12, 13) with a very strong achievement in climate action goals. Also, Greece managed to bring income inequality below pre-crisis levels (SDG 10), thanks to deep social welfare reforms over the past years. On the other hand, the country is still struggling to generate sustainable employment for its population, notably the youth (SDG8) ⁽³⁾.

The main challenges facing Greece's economy and society are the following:

Productivity growth remains low and is coupled with high investment needs. Despite gradually recovering, the Greek economy still faces low investment, in particular by the private sector. Flagship privatisation projects and attracting foreign direct investment are crucial for increasing private investment. Other factors holding back productivity growth include: (i) low business

⁽³⁾ 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 present report contains reinforced analysis and monitoring on the SDGs. A new annex (ANNEX E) presents a statistical assessment of trends in relation to SDGs in Greece during the past five years, based on Eurostat's EU SDG indicator set

investment, notably in research and development, (ii) a still high regulatory burden, (iii) inefficiencies in public administration and the justice system, (iv) access to finance constraints, and (v) skills mismatches.

The stock of non-performing loans is declining gradually but remains very large, requiring significant further action. The Greek banking sector has become more stable and resilient to shocks, as evidenced by the improvement in liquidity and the lifting of capital controls. Nonetheless, it remains burdened by a large stock of non-performing loans. The profitability outlook of banks is fragile, and their quality of capital is low and reliant on the state. The authorities are working on a range of initiatives to strengthen the non-performing loan resolution framework, to reduce debt levels more rapidly and to improve the effectiveness of the justice system. However, there is scope to accelerate implementation in certain areas.

Regional disparities remain, mostly between the capital region and the rest of the country. Greece is a country with significant regional disparities, with half of the population and two thirds of its economy concentrated in the capital region. Given the sparse population and the morphology of the country, with its mountains and islands, ensuring connectivity with and opportunities for the peripheral regions requires substantial strategic planning. High-quality local planning is also needed to ensure an efficient and effective use of EU resources.

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

- **Macroeconomic imbalances are prevalent across sectors in Greece, but adjustment efforts are ongoing.** Under the adjustment programme, the authorities adopted a wide range of measures to: (i) put public finances on a sound footing; (ii) restore the financial sector; (iii) improve the functioning of product and labour markets; and (iv) strengthen the social welfare system. Past and ongoing institutional and structural reforms require many years of sustained implementation for their impact to unfold fully. Further measures to tackle the root causes of the imbalances, such as low productivity, are crucial to set Greece on a path to strong and sustainable economic growth.
- **The accumulated imbalances will require further reform efforts in the coming years.** Given the high stock imbalances, positive developments in flow indicators in recent years have had only a limited effect in helping Greece reach the benchmarks under the macroeconomic imbalance procedure. Policies that support economic growth and labour market recovery are expected to create an environment where imbalances can be reduced at a faster rate, also with the help of further reforms and the implementation of existing reforms.
- **The further normalisation of the financial sector is a key ingredient for sustained growth.** Thanks to continued efforts to strengthen the legal framework, the Greek banking sector has become more stable and resilient to shocks. Although non-performing loans have been decreasing significantly from their end-2016 peak, they remain very high and weigh considerably on the banking system's performance, while constraining its capacity to finance growth. The pace of implementation of ongoing initiatives to streamline the insolvency legislation and ensure appropriate enforcement of all collateral, coupled with the recently voted 'Hercules' asset protection scheme, will be critical for banks to further accelerate further their non-performing loan reduction strategies. The creation of a fully-fledged central credit registry could also further reduce information gaps between lenders and borrowers.
- **Action is being taken to improve the functioning of the labour market.** Greece is in the process of reforming the active labour market policy system and improving the capacity of the public employment service to assist jobseekers. The fight against undeclared work continues, with increased focus on preventing the abusive use of part-time work. Wage developments need to be monitored to avoid any adverse effects on competitiveness and employment. There is room to strengthen social dialogue, including by promoting a

meaningful involvement of social partners in national policy-making.

- **Despite an overall improvement, the country still faces problems with social exclusion.** The risk of poverty or social exclusion is still one of the highest in the EU. In-work poverty is still above the EU average. Children and working-age people continue to be more at risk of poverty or social exclusion than older people, and the partial roll-back of past pension reforms risks decreasing again the relative share of social benefits spent on younger generations. Access to affordable housing and energy poverty are still significant concerns. The integration of third-country nationals has become more challenging with the increased inflow of asylum seekers. In particular, access to basic services, such as education, health and housing, for these groups remains an issue.
- **Greece's fiscal outlook has improved but its government debt remains high. Achieving a more balanced current account can help it enhance its international investment position.** Although Greece's government balance has improved and the country has exceeded its annual fiscal targets since 2016, government debt — at over 180% of GDP at the end of 2018 (one of the highest in the EU) — needs to be further reduced. In order to reduce the debt-to-GDP ratio, it is important that reforms agreed under the enhanced surveillance framework, in particular pension and healthcare reforms as well as improvements in the budgetary process, continue to be implemented. Reducing the debt-to-GDP ratio will also require sustained economic growth. Improving the deeply negative net international investment position will require further adjustments to the current account balance.

Although business environment, public administration and justice reforms are under way, the policy agenda needs to be more ambitious. Since 2010, Greece has undertaken an extensive legislative reform to: (i) reduce barriers to competition; (ii) simplify administrative procedures for starting a business; and (iii) streamline the legal framework of regulated professions. Yet, Greece lags considerably behind its EU peers in 'ease of doing business'. Further

reforms are needed to improve the business environment and enable the creation and expansion of competitive firms, while attracting domestic and foreign productive investments. The most problematic areas include registering property, enforcing contracts and accessing credit. Sector-specific product market reforms have progressed but public administration inefficiencies, including a very limited provision of digital public services and red tape, continue to be obstacles for firms. The successful uptake of digital public services requires high-speed networks throughout the country. Efficiency in public spending would benefit from addressing systemic deficiencies, such as excessively low tenders in public procurement procedures. Inefficiencies in the justice system also negatively affect the investment climate and limit the provision of credit to the real economy.

The Greek health-care system has persistent weaknesses leading to both inefficient spending and high-unmet medical needs. The increasingly ageing population will be an additional challenge to the medium and long-term sustainability of the healthcare system. To respond to this upcoming demographic challenge, and to ensure the viability of Greece's healthcare and long-term care systems, it will be essential to: (i) optimise healthcare spending by discouraging the overuse of products — especially pharmaceuticals, and services; (ii) improve hospital management and public procurement procedures; and (iii) improve governance. The recently initiated primary healthcare system reform should be completed in order to improve efficiency and ensure equitable access to healthcare.

Establishing a framework in which environmental sustainability goes hand in hand with economic growth and institutional reforms is key. Partly due to the economic crisis, progress in promoting environmental sustainability has been limited and Greece now faces specific challenges in the fields of energy, transport and protection against natural disasters. Greece plans to introduce fundamental changes to improve sustainability, the social impact of which will need to be closely monitored.

Supporting sustainable growth and modernising the Greek economy will require skilled workers. Greece needs to address poor

educational outcomes, continue to upgrade vocational education and invest in lifelong learning. For this, it will need to find ways to make the education system more relevant to the labour market, especially at post-secondary level. Skills — including digital skills — and competences need to be improved. Overall, the low and inefficient funding of education and a general lack of accountability in the system remain major challenges.

Identifying investment needs for green technologies and sustainable solutions, and securing adequate funding, will be key to deliver on the climate and energy objectives and shape a new growth model. Investment is needed for sustainable growth, particularly in the energy sector. Greece is highly dependent on imports of key primary energy sources, such as oil and gas, with the former having relatively high use in electricity generation compared to the EU average. The sector also faces market distortions, a lack of competition, and slow development of renewable energy sources in recent years. Thanks to its geographical location, Greece has the potential to become an energy hub — both for gas and electricity — for Southeast Europe, but for this it would need to develop major infrastructure projects with neighbouring countries.

The transport sector is responsible for the largest share of total final energy consumption in Greece. Its external costs to society (i.e. costs related to accidents, air pollution, etc.) are estimated at around 6% of the country's GDP.

Greece faces multiple and severe natural and environmental risks, in particular floods and wildfires. An adequate response is often hampered by a lack of structures, coordination, planning and prioritization, as well as the absence of early warning systems.

The transition to a greener economy will entail severe socio-economic impacts and will necessitate significant environmental rehabilitation efforts in Greece's lignite mining regions. The government recently announced an accelerated plan to decommission Greece's lignite-based generation plants by 2028. The Commission's proposal for a Just Transition Mechanism under the next multiannual financial framework for 2021-2027 will help ensure that the

transition towards EU climate neutrality is fair by helping Greece's most affected regions address the social and economic consequences. It includes a Just Transition Fund, a dedicated just transition scheme under InvestEU, and a new public sector loan facility with the European Investment Bank. Key priorities for support by the Just Transition Fund, set up as part of the Just Transition Mechanism, are identified in Annex D, building on the analysis of the transition challenges outlined in this report

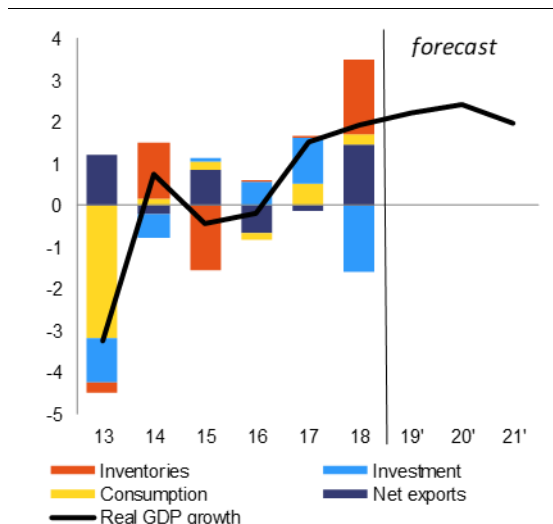
1. ECONOMIC SITUATION AND OUTLOOK

GDP growth

The recovery of the Greek economy continues.

The Commission's 2020 winter forecast projected real GDP growth in 2019 to reach 2.2%, mainly driven by exports, while consumption growth remained weak in the first three quarters of 2019. In 2020, growth is forecast to rise to 2.4%, but this is still well above potential growth and will therefore help to close the output gap.

Graph 1.1: Real GDP growth and components



Source: European Commission

Private consumption is expected to accelerate.

In 2020 and 2021, private consumption is expected to be one of the main drivers of economic growth. The tax measures adopted in 2019 should have a positive effect on private consumption in 2020 and 2021, as they aim to lower the taxation of earnings from labour (the 'tax wedge') at lower incomes and decrease the tax burden on labour and capital in general.

The saving rate remains negative. Since 2012, the gross saving rate of households has been negative, implying that households run down savings to finance consumption. Despite recent improvements, it is not expected to become positive within the next years. Coupled with still high unemployment, moderate income growth and high public debt, and given the projection that fewer people of working age will need to support more people of retirement age, the negative

savings ratio points to a continued low debt servicing capacity of households in the future.

Investment is expected to accelerate, though from a low level. Supported by positive expectations and the shift towards a more investment-conducive tax framework with the 2020 tax package, investment is expected to grow by more than 10% in 2020, making it the second main driver for growth. This will help to reduce, albeit very gradually, Greece's large investment gap compared with its EU peers, which reflects persistently low levels of investment as a legacy of the crisis years. In 2018, investment stood at 11.1% of GDP, which is less than half of its pre-crisis average level and the lowest in the EU. The decline during the crisis was due to the decrease in private investment, although public investment also decreased substantially.

Household debt remains well above prudential thresholds despite active deleveraging in 2018.

At 56.8% of GDP the debt of private households is well above the prudential- and fundamentals-based benchmarks for household debts in Greece (36.1% and 21.6% respectively in 2018) ⁽⁴⁾. Households have been actively deleveraging but the debt absorption capacity of Greek households remains too low to bring household debt down to prudential levels in the near future, due to high unemployment and reduced income levels. This goes hand in hand with the high non-performing loan ratio of private households in Greece (see Section 4.2 for further details).

Non-financial corporations are actively deleveraging but the stock of private debt and particularly non-performing debt remains high.

At 59% of GDP in 2018, the debt stock of the non-financial corporate sector remains above the fundamentals-based benchmark of 40%, but below the prudential threshold of 67%, due to the recent deleveraging efforts. Credit growth in the corporate sector has turned positive in 2019 but

⁽⁴⁾ 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, minimising the probability of missed crisis and that of false alerts. Methodologies are described in European Commission (2018c). ⁴

remains concentrated towards large corporations (see Chapter 4.2).

Exports continue to grow, but more slowly than in previous years amid weakening foreign demand. Following strong growth in 2018 and 2019, exports are projected to increase more slowly in 2020 and 2021. Despite export market gains during the last couple of years, the economy remains relatively closed. At some 36% of GDP in 2018, exports of goods and services are substantially lower than the euro area average of 48%. As economic growth slows down in the main export markets, Greek exports are expected to be affected as well, though due to their structure, Greek exports are somewhat cushioned from a slowdown in destination markets. Facilitating a shift in the economic structure towards tradable goods and services could open up further growth potential for the Greek economy (see Box 4.4.1. on export promotion strategies for further details).

Imports are set to increase due to increased consumption and investment, leading to a deterioration in the trade balance. During the crisis, the trade balance improved significantly, from -12.6% of GDP in 2008 to -0.2% of GDP in 2018, on the back of substantially lower investment and consumption activity in a recessionary environment, which in turn led to a reduction in imports. In the years ahead, with the domestically driven recovery expected to drive up imports, and lower growth of exports due to the external environment, the trade balance of goods is expected to deteriorate again.

Potential growth

Total factor productivity⁽⁵⁾ increased in 2018 but remains substantially below pre-crisis levels. Total factor productivity growth in Greece reached around 1.5% in 2018, almost three times higher than the euro area average, but is still far below pre-crisis levels (in 2018 total factor productivity was still 14.4% below the 2008 level). In the lead up to the crisis (2000-2008) annual total productivity growth was on average 1.6%, whereas during the crisis years (2008-2016) the average dropped into negative territory at -2.2%. This

⁽⁵⁾ Total factor productivity is a measure of productivity accounting for effects in total output not caused by traditionally measured inputs of labour and capital

indicates that current growth rates are not enough to foster substantial real convergence with the EU average. The recent increase in total factor productivity was driven by increases in the productivity of the capital share. This indicates that while employment is recovering, capital accumulation has been negative in the last few years. Increasing investment and replacing the diminished capital stock could therefore unlock further growth potential.

The decline in labour productivity (output per person employed) since the start of the crisis ended in 2017. In 2018, increasing employment drove the growth in value added and although labour productivity increased only marginally (0.2% growth in 2018) the prolonged period of decline since the start of the crisis in Greece came to an end. This was in line with developments in the euro area, where the labour share in total factor productivity also stagnated in 2018. However, certain sectors such as manufacturing and services had higher labour productivity growth rates (3.4% and 0.6% in 2018).

Low investment in research and development, high regulatory burden and skills mismatches weigh on productivity growth. By a variety of metrics, Greece is one of the countries with the lowest business dynamism in the EU. High regulatory burden, and inefficiencies in the public administration and the justice system hinder productivity growth. Low business investment in research development and innovation, the relatively low labour market relevance of education, and increasing skills mismatches also point to weak growth prospects in the future. Reform efforts in the last years are slowly bearing fruit, as visible in the mildly positive total productivity developments in the past year.

Competitiveness

Cost competitiveness improved during the crisis, which will be key for wage increases to be matched by productivity gains in the future. During the crisis, nominal and real unit labour costs decreased — mainly due to wage decreases and subdued inflation — and cost competitiveness recovered. As wages and inflation started picking up during the economic recovery in 2018 and 2019, unit labour costs started to increase, but less than those of the country's main trading partners.

As a result, Greece's competitiveness was resilient and export market shares recorded sizeable gains. However, in the coming years, low productivity growth will be a risk for competitiveness. With growing wages and domestically driven economic growth, Greece cannot rely on subdued wage growth to maintain competitiveness. Supporting productivity growth will therefore be of key importance.

External position

The external position is slightly deteriorating, amid a widening deficit in goods trade. The current account balance has adjusted substantially from its unsustainable pre-crisis levels, but it is expected to remain negative at -2.5% of GDP in 2019 and -2.9 in 2020. A positive trade balance of services and a smaller negative balance of goods have helped the large current account balance to improve to levels above -2% in 2017. However, as investment and consumption pick up in 2020 and 2021, the contribution of trade in goods to the current account is expected to decrease again, due to the high import content of domestic demand (see Box 4.4.1).

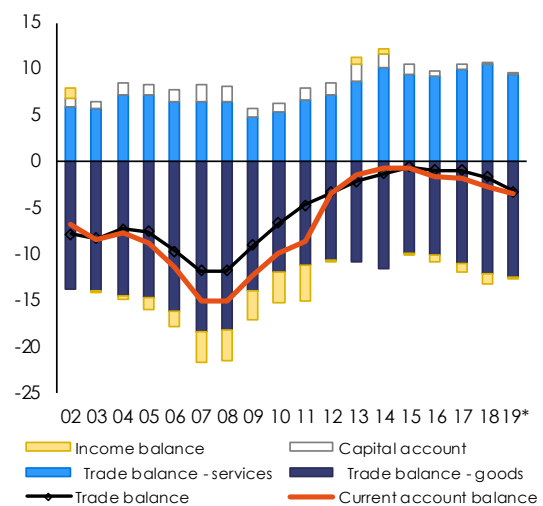
The net international investment position remains strongly negative, mostly due to public debt. At -143.3% of GDP in 2018, net external liabilities remain large. The composition of mostly public debt to official creditors mitigates the direct risk, but the country remains vulnerable to external shocks nevertheless. The current account needed to stabilise the net international investment position above -35% of GDP within the next 20 years is calculated to be 1%, which can only be reached with further reform efforts, substantial productivity growth and investment over the medium term (see Chapter 4.4 on investment and productivity).

Inflation

Inflation is expected to remain low in the short term but to increase in the medium term. The growth rate of the harmonised index of consumer prices, which is used to measure headline inflation, declined to 0.5% in 2019 partly due to a decrease in energy prices. In addition to lower energy prices, a reduction of value added tax in the second quarter of 2019 contained inflation for that year. Inflation is expected to remain broadly stable at

0.7% during 2020 and to increase slightly to just below 1% in 2021 as the output gap closes.

Graph 1.2: **Current and Capital account balance and composition in % of GDP**



Note: *19 is subject to forecast

Source: European Commission

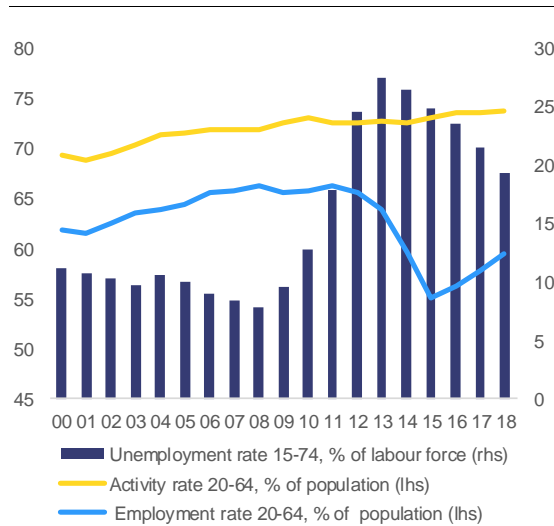
Labour market

The labour market continues to improve, but major challenges remain. Responding to the ongoing economic recovery and labour market reforms, the employment rate grew from 59.7% in the third quarter of 2018 to 61.2% in the third quarter of 2019. Nevertheless, it remains the lowest in the EU, and far below the EU average of 73.8% in the third quarter of 2019. Furthermore, while the employment rate of men stood at 71.3% it was only 51.3% for women, one of the lowest among EU Member States and significantly below the EU average of 68.2%. Employment is forecast to grow by 2.2% in 2019 and 2020.

Unemployment has continued to decrease steadily, but is still the highest in the EU. The unemployment rate decreased to 16.6% in October 2019, down from 18.5% in October 2018, and is forecast to reach 15.4% in 2020. Despite steadily decreasing since October 2013, unemployment in Greece remains among the highest in the EU, both in aggregate terms and among the various population groups. Youth unemployment declined from 37.8% in the third quarter of 2018 to 34.2% in the third quarter of 2019, but remained significantly above the EU average of 14.4%. The

long-term unemployment rate decreased from 15.6% in 2017 to 13.6% in 2018, but was still far above the EU average (2.9%).

Graph 1.3: **Activity, employment and unemployment rates, 2000-2018**



Source: Eurostat

Social developments

Poverty has been gradually decreasing, but remains among the highest in the EU, with children and working-age people being particularly affected. Between 2017 and 2018, the share of people at risk of poverty or social exclusion dropped from 34.8% to 31.8% (against an EU average of 21.9% in 2018). Similarly, severe material deprivation affected 16.7% of the population in 2018 down from 21.1% in 2017 (EU average is 5.9%). These positive trends reflect the ongoing labour market recovery, as well as the strengthening of the social welfare system that took place in recent years. Children and working-age people continue to be more affected by poverty (with the share of people at risk of poverty or social exclusion reaching 33.3% and 35% respectively) than the elderly (21.3%), despite having a greater improvement than the latter group.

Income inequality has declined but remains higher than in the EU as a whole. While in 2017 the disposable income of the richest 20% of the population was 6.1 times that of the poorest 20% (vs 5.2% in the EU), this ratio dropped to 5.5 in 2018, implying a reduction in income inequality.

This reduction was also evidenced by an increase in the income share of the poorest households, a decrease in the income share of the top 20%, and a relatively stable middle-income share. This income redistribution has also been partly due to the social benefits system, whose corrective power has increased following recent reforms, although it remains well below the EU average.

Public finances

Greece is expected to achieve a general government surplus in 2019 and 2020. According to the Commission's 2019 autumn forecast, which incorporates both the measures adopted in May worth 0.7% of GDP and the balance-neutral package of measures worth 0.6% of GDP for 2020, the headline fiscal balance is forecast to reach a surplus of 1.3% of GDP in 2019 and 1.0% of GDP in 2020. Accordingly, the primary government balance monitored under enhanced surveillance is projected to reach 3.8% of GDP in 2019 and 3.5% of GDP in 2020, i.e. meeting the target of 3.5% in both years. Greece's public debt to GDP ratio is expected to fall significantly from 181.2% in 2018 to 163.1% of GDP in 2021. Meanwhile, inequality of opportunities for children remains high (see section 4.3.2)

Financial sector

Non-performing loans, as a ratio of total loan exposures, remain the highest in the EU, despite a marked acceleration in their reduction. The stock of non-performing loans of Greek banks has declined more rapidly since the end of 2017, boosted by accelerating non-performing loan sales. By the end of June 2019, the stock of these loans had gone down by almost 30% from its peak in March 2016. However, as a share of total loan exposures, the reduction in non-performing loans has been less pronounced given the resulting deleveraging effect. Multiple systems for dealing with bankruptcy and insolvency as well as a backlog of household insolvencies is hindering a more efficient reduction of non-performing loans (for further analysis see Chapter 4.2). Systemic initiatives, like the recently adopted 'Hercules' asset protection scheme (see Section 4.2), are expected to accelerate the pace of non-performing loans reduction in the future. The still high non-performing loan ratio leaves little room for a

sizeable and sustainable rebound of credit provision to the real economy, including households and non-financial corporations, thereby hindering domestic investment.

Regional disparities

Regional disparities, notably between the capital region and the rest of the country, increased during the crisis years and remain large. In 2017, only the capital region of Attica had a GDP per capita of more than 75% of the EU average. Most other regions were well below that threshold. The region of Eastern Macedonia and Trace had the lowest GDP per capita among all Greek regions, corresponding to 46% of the EU average, while in three other regions, GDP per capita was also lower than 50% of the EU average. Disparities with the capital region increased during the crisis years, notably in the case of the three Macedonia regions and the three Aegean island regions. The large disparities in GDP per capita are due to a number of regional disparities in areas such as labour productivity, labour market conditions, investment, research and development activity, innovation and competitiveness (see section 4.4.4).

Greece has made substantial progress towards meeting its Sustainable Development Goals (SDGs) over the past years. All of the calculated headline indicators have achieved at least a moderate progress, with a very strong mass of indicators having highly positive figures. More precisely, significant progress has been achieved as regards the environmental objectives (SDGs 7, 12, 13) with a very strong achievement in climate action goals, while the economic recovery is also depicted on the majority of the related goals (SDGs 1, 2, 8, 9), due to the significant progress towards poverty reduction. On the other hand but still under a positive sign, the country seems to progress towards improving other social aspects such as the reduction of inequalities (SDGs 5, 10).

Table 1.1: Key economic indicators- Greece

| | 2004-07 | 2008-12 | 2013-16 | 2017 | 2018 | forecast | | |
|--|---------|---------|---------|--------|--------|----------|-------|-------|
| | | | | | | 2019 | 2020 | 2021 |
| Real GDP (y-o-y) | 3.6 | -5.4 | -0.8 | 1.5 | 1.9 | 2.2 | 2.4 | 2.0 |
| Potential growth (y-o-y) | 2.9 | -1.0 | -2.1 | -1.0 | -0.7 | -0.5 | -0.2 | 0.1 |
| Private consumption (y-o-y) | 3.4 | -4.6 | -0.5 | 0.9 | 1.1 | . | . | . |
| Public consumption (y-o-y) | 5.1 | -3.6 | -1.8 | -0.4 | -2.5 | . | . | . |
| Gross fixed capital formation (y-o-y) | 5.8 | -17.1 | -2.0 | 9.1 | -12.2 | . | . | . |
| Exports of goods and services (y-o-y) | 9.3 | -2.2 | 2.6 | 6.8 | 8.7 | . | . | . |
| Imports of goods and services (y-o-y) | 8.3 | -8.5 | 1.4 | 7.1 | 4.2 | . | . | . |
| Contribution to GDP growth: | | | | | | | | |
| Domestic demand (y-o-y) | 4.6 | -7.3 | -1.0 | 1.6 | -1.3 | . | . | . |
| Inventories (y-o-y) | -0.3 | -0.4 | -0.1 | 0.0 | 1.8 | . | . | . |
| Net exports (y-o-y) | -0.8 | 2.3 | 0.3 | -0.1 | 1.5 | . | . | . |
| Contribution to potential GDP growth: | | | | | | | | |
| Total Labour (hours) (y-o-y) | 0.6 | 0.0 | -0.4 | -0.2 | -0.2 | -0.2 | -0.2 | -0.1 |
| Capital accumulation (y-o-y) | 1.0 | 0.1 | -0.5 | -0.3 | -0.4 | -0.3 | -0.2 | 0.0 |
| Total factor productivity (y-o-y) | 1.4 | -1.1 | -1.2 | -0.5 | -0.2 | 0.0 | 0.2 | 0.3 |
| Output gap | 3.4 | -5.9 | -13.5 | -9.1 | -6.7 | -4.6 | -2.2 | -0.4 |
| Unemployment rate | 9.5 | 14.5 | 25.6 | 21.5 | 19.3 | 17.3 | 15.4 | 14.0 |
| GDP deflator (y-o-y) | 3.1 | 1.6 | -1.2 | 0.6 | 0.5 | 0.8 | 0.9 | 1.6 |
| Harmonised index of consumer prices (HICP, y-o-y) | 3.2 | 2.9 | -0.8 | 1.1 | 0.8 | 0.5 | 0.7 | 0.9 |
| Nominal compensation per employee (y-o-y) | 5.1 | -0.5 | -3.2 | 0.5 | 1.3 | 0.4 | 1.1 | 2.0 |
| Labour productivity (real, person employed, y-o-y) | 2.0 | -2.4 | -0.7 | 0.0 | 0.2 | . | . | . |
| Unit labour costs (ULC, whole economy, y-o-y) | 3.1 | 2.0 | -2.6 | 0.6 | 1.1 | 0.7 | 1.0 | 1.4 |
| Real unit labour costs (y-o-y) | 0.0 | 0.4 | -1.4 | 0.0 | 0.5 | 0.0 | 0.1 | -0.2 |
| Real effective exchange rate (ULC, y-o-y) | 1.6 | -0.5 | -3.3 | 1.1 | 1.1 | -2.6 | -1.7 | -0.8 |
| Real effective exchange rate (HICP, y-o-y) | 0.2 | -0.2 | -1.1 | 0.6 | 1.8 | -1.9 | -1.8 | -1.4 |
| Net savings rate of households (net saving as percentage of net | -0.7 | -6.3 | -15.6 | -16.9 | -15.1 | . | . | . |
| Private credit flow, consolidated (% of GDP) | 14.4 | 1.8 | -3.0 | -1.0 | -1.1 | . | . | . |
| Private sector debt, consolidated (% of GDP) | 88.3 | 124.1 | 129.0 | 118.1 | 115.3 | . | . | . |
| of which household debt, consolidated (% of GDP) | 37.8 | 58.3 | 62.7 | 56.8 | 56.5 | . | . | . |
| of which non-financial corporate debt, consolidated (% of GDP) | 50.5 | 65.7 | 66.4 | 61.3 | 58.8 | . | . | . |
| Gross non-performing debt (% of total debt instruments and total loans and advances) (2) | . | . | . | . | . | . | . | . |
| Corporations, net lending (+) or net borrowing (-) (% of GDP) | 5.1 | 7.4 | 11.3 | 6.1 | 4.8 | 5.1 | 4.7 | 4.0 |
| Corporations, gross operating surplus (% of GDP) | 19.0 | 18.5 | 19.0 | 18.4 | 18.0 | 18.1 | 18.0 | 18.1 |
| Households, net lending (+) or net borrowing (-) (% of GDP) | -7.9 | -5.5 | -5.2 | -6.7 | -6.0 | -5.8 | -5.3 | -4.4 |
| Deflated house price index (y-o-y) | 4.6 | -7.0 | -5.7 | -1.5 | 1.4 | . | . | . |
| Residential investment (% of GDP) | 9.9 | 5.5 | 1.1 | 0.6 | 0.7 | . | . | . |
| Current account balance (% of GDP), balance of payments | -10.8 | -9.9 | -1.2 | -1.9 | -2.8 | -2.6 | -2.9 | -2.8 |
| Trade balance (% of GDP), balance of payments | -9.1 | -7.2 | -1.3 | -1.0 | -1.7 | . | . | . |
| Terms of trade of goods and services (y-o-y) | -0.1 | -0.7 | 1.9 | -0.4 | -1.9 | 0.2 | 0.2 | 0.6 |
| Capital account balance (% of GDP) | 1.4 | 1.2 | 1.2 | 0.5 | 0.2 | . | . | . |
| Net international investment position (% of GDP) | -79.7 | -93.4 | -133.8 | -140.7 | -143.3 | . | . | . |
| NENDI - NIIP excluding non-defaultable instruments (% of GDP) (1) | . | -95.3 | -128.3 | -126.6 | -130.6 | . | . | . |
| IIP liabilities excluding non-defaultable instruments (% of GDP) (1) | . | 188.2 | 242.9 | 223.6 | 222.9 | . | . | . |
| Export performance vs. advanced countries (% change over 5 years) | 13.6 | -4.9 | -15.0 | -3.1 | 4.7 | . | . | . |
| Export market share, goods and services (y-o-y) | 0.9 | -5.9 | -1.3 | 5.1 | 8.0 | 3.0 | 0.2 | -0.6 |
| Net FDI flows (% of GDP) | 0.1 | -0.1 | -0.9 | -1.6 | -1.6 | . | . | . |
| General government balance (% of GDP) | -6.9 | -11.1 | -5.5 | 0.7 | 1.0 | 1.3 | 1.0 | 1.1 |
| Structural budget balance (% of GDP) | . | . | 4.2 | 5.2 | 5.1 | 3.0 | 1.8 | 1.1 |
| General government gross debt (% of GDP) | 104.2 | 142.8 | 177.7 | 176.2 | 181.2 | 175.2 | 169.3 | 163.1 |
| Tax-to-GDP ratio (%) (3) | 32.9 | 35.1 | 39.6 | 41.6 | 41.1 | 40.0 | 39.2 | 38.8 |
| Tax rate for a single person earning the average wage (%) (4) | 25.4 | 25.3 | 25.0 | 26.0 | 26.2 | . | . | . |
| Tax rate for a single person earning 50% of the average wage (%) (4) | 16.0 | 17.8 | 16.0 | 16.3 | 16.6 | . | . | . |

(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

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

Greece successfully exited the European Stability Mechanism support programme on 21 August 2018, marking the beginning of a new era for the country. Since then, Greece has been subject to enhanced surveillance, in line with the post-programme policy commitments given at the Eurogroup of 22 June 2018 ⁽⁶⁾, and participates in the European Semester in line with Regulation (EU) No 472/2013.

Greece received its first country-specific recommendations under the European Semester in July 2019. The Council issued no such country-specific recommendation (CSR) to Greece before 2019 because — pursuant to Article 12 of Regulation (EU) No 472/2013 ⁽⁷⁾ — Greece was exempt from this type of EU-wide monitoring and assessment since it was under EU-supported economic adjustment programmes.

To ensure full consistency between Greece's post-programme policy commitments and the European Semester, Greece received a CSR to continue and complete the reforms in line with its post-programme commitments to European partners. Greece committed to the Eurogroup of 22 June 2018 to continue and complete reforms adopted under the European Stability Mechanism programme and to safeguard the objectives of the important reforms adopted under the financial assistance programmes. These commitments are monitored as part of the post-programme enhanced surveillance framework. Specifically, progress with key structural reforms that started under the programme is measured in six key areas by agreed deadlines up to mid-2022, namely: (i) fiscal and fiscal-structural policies; (ii) social welfare, (iii) financial stability; (iv) labour and product markets; (v) privatisation; and (vi) the modernisation of public administration. The first CSR to Greece under the European Semester in July 2019 called

on the authorities to continue and complete reforms in line with these post-programme commitments that are key to achieve a sustainable economic recovery and to tackle the underlying macroeconomic imbalances.

Greece has taken the necessary action to implement policy elements of the first CSR due for mid-2019, while efforts to meet end-2019 commitments are ongoing. Progress on implementing this recommendation was monitored under the enhanced surveillance framework. The fourth enhanced surveillance report ⁽⁸⁾ of November 2019 monitored the implementation of the specific mid-2019 commitments, while taking into account the efforts of the new administration in the months following the July 2019 general election. The Eurogroup of 4 December 2019 welcomed the conclusion of the report and agreed to disburse the second tranche of policy-contingent debt measures ⁽⁹⁾. The fifth enhanced surveillance report ⁽¹⁰⁾ is issued together with this country report and monitors the progress of the specific end-2019 commitments. Overall, Greece has made **some** progress with meeting its first country-specific recommendation.

Overall, Greece has made some progress with addressing the second country-specific recommendation. The assessment of this CSR is made both quantitatively, based on a comparative analysis of recent developments in private and public investment spending, and qualitatively, notably by reviewing sectoral and cross-cutting policies with a potential positive impact on investment.

In terms of broader investment-conducive economic policies, Greece has taken important steps. The government has adopted several pieces of legislation to support the transition to a 'digital state' and to promote private investment, notably through the Development Law of October 2019. The latter paves the way for a streamlining of the investment licensing procedures and introduces

⁽⁶⁾ https://www.consilium.europa.eu/media/35749/z-councils-council-configurations-ecofin-eurogroup-2018-180621-specific-commitments-to-ensure-the-continuity-and-completion-of-reforms-adopted-under-the-esm-programme_2.pdf.

⁽⁷⁾ Regulation (EU) No 472/2013 of the European Parliament and of the Council of 21 May 2013 on the strengthening of economic and budgetary surveillance of Member States in the euro area experiencing or threatened with serious difficulties with respect to their financial stability, OJ L 140, 27.5.2013, p. 1.

⁽⁸⁾ COM(2019)930 final.

⁽⁹⁾ Eurogroup statement of 4 December 2019, <https://www.consilium.europa.eu/en/press/press-releases/2019/12/04/eurogroup-statement-on-greece-of-4-december-2019/>.

⁽¹⁰⁾ COM(2020)100 final.

changes in spatial planning to accelerate major investment projects. It also aims to increase clarity and transparency on land use rules for investors by introducing a ‘Single Digital Map’. Meanwhile, land use reforms are advancing, with the completion of forest maps for nearly 95% of the country and continued work in cadastral mapping. Efforts to fight corruption are ongoing under the coordination of a new agency and the reforms made in the past years have resulted in an improvement of business perceptions compared to previous years. The authorities have also initiated a more coordinated approach to promoting the outward orientation of the Greek economy and attracting foreign investment, and have significantly increased momentum in the privatisation process, which could have a positive impact on investment in the future. However, progress made on justice reforms has been slow overall.

In quantitative terms, investment appears to be slowly recovering following a long period of contraction. During the first half of 2019, investment increased by a mere 0.7%, as compared to an average of 4.7% in the euro area. In the second quarter of 2019, it remained broadly flat (-0.1%) compared to the same period in the previous year. Previously, investment (as a share of GDP) had fallen sharply during the crisis years 2007-2014 and bottomed out in 2015, rebounding somewhat to reach 11.1% of GDP in 2018.

The following analysis reviews public investment trends for the priority areas identified in the second CSR.

Greece has made limited progress in promoting investment in sustainable transport and logistics. Greece scores poorly in international rankings of transport and logistics infrastructures. Its inland transport system is heavily road-based and, despite sizeable EU financing, the country’s main railway axis remains incomplete. Although it is slowly recovering, investment in transport infrastructures remains relatively low. With the support of the European Commission and the European Investment Bank, the authorities have prepared, a National Transport Master Plan that, among others, sets the framework for investments in transport infrastructure. Meanwhile, a number of large investment projects are delayed, including the construction of the Thessaloniki metro system,

the expansion of the Athens metro system, and the completion of railway sections.

Some progress has been made in promoting investment in environmental protection, energy efficiency, renewable energy and interconnection projects. Investment in environmental protection is relatively low and Greece runs the risk of not meeting the EU-wide recycling target (50%) by 2020. A number of investment projects, co-financed by the EU, are underway to improve wastewater treatment in Western Attica and in the municipality of Marathonas and to improve waste management in Peloponnese. Meanwhile, law 4643/2019 introduced amendments regarding the development of installations for electric vehicles. An inter-ministerial committee has been set up to design and implement a strategic plan for the development of electro-mobility in Greece, which is expected to be ready by June 2020. On energy-related investments (energy efficiency, renewable energy and interconnection projects), some progress has been made. In December 2019, the authorities submitted the revised 2021-2030 National Energy and Climate Plan that sets out long-term goals and strategies in these areas and provides the basis for further investment. On energy efficiency, Greece is on track to meet its 2020 goals and, by 2019, investments co-financed by the EU had improved energy efficiency for 19,100 households. Programmes such as the ‘Energy saving at home’ and ‘Electra’ will further improve energy efficiency for household and public buildings (law 4643/2019). On renewables, law 4643/2019 introduced amendments to facilitate large investment projects, including the construction of hybrid plants in non-interconnected islands, while the government has announced further measures to streamline the investment-licensing framework in the area of renewable energy sources. On interconnection projects, the National Energy and Climate Plan provides a timeline for non-interconnected islands. The first phase of a major project connecting Crete to the mainland electricity transmission grid is underway, the construction of the Crete-Peloponnese interconnection is expected to be completed in 2020, and the interconnection of West Cyclades islands is scheduled for 2023.

There has been some progress in promoting investment in digital technologies. Greece has

one of the least advanced digital economies in the EU. Investments in information communication technology (as a share of total investment) increased with some fluctuations in the first two quarters of 2019 compared to the same quarters of 2017, but rose slightly as a share of GDP. In terms of policies, the authorities are working on a new national strategy ('Digital Bible') that, among others, will include a pipeline of IT investment projects for the entire public administration. Meanwhile, the authorities are taking steps as regards important projects (creation of a unified platform for electronic services, introducing digital identity cards for all citizens, developing the infrastructure on 5G networks and increasing ultrafast broadband coverage).

Some progress has been made in promoting investment in research and development. Total spending on research and development, as a share of GDP, has been steadily increasing since 2010, reaching 1.18% in 2018, but is still lagging significantly behind the EU average (2.11%). In December 2019, the authorities completed the evaluation of 2,912 proposals submitted in the context of the flagship call "Research-Create-Innovate". Overall, the budget of all announced calls regarding research and development has reached € 877 million.

Progress in promoting investment in education, skills and employability has been limited. Public expenditure on education accounted for 3.9% of GDP in 2017, among the lowest in the EU (EU average: 4.6%), including for life-long learning. Expenditure on training was €15.5 million in 2017, down from €27.8 million in 2016. Nevertheless, with the help of the European Social Fund, a number of investment projects have taken place in recent years, among others, to reduce early school leaving, expand early childhood education, upgrade the vocational education and training system, expand dual learning, and reform higher

education. Meanwhile, the share of companies (10 persons employed or more) that provide training and vocational programmes to develop and/or upgrade the information and communication technology skills of their personnel increased slightly in 2019 (from 14% to 15%), but remains well below the euro area average (25%). In terms of policy developments, law 4653/2020 allowed for increased independence of the Hellenic Authority of Higher Education and it helped standardise university evaluations, which could, in turn, facilitate performance-based funding, and increase efficiency.

There has been limited progress in investment in the health sector and in social inclusion. In 2017, investment in the health sector was among the lowest in the euro area (0.1% of GDP as opposed to 0.2% of GDP in the euro area). In recent years, EU financing through the European Social Fund has contributed to the reform of primary health care and the rolling out of a network of local healthcare units (TOMYs) to strengthen access to primary healthcare. Around 130 units were in operation by the end of 2019. Nevertheless, a long-term strategic investment plan to steer such investments remain necessary.

Limited progress has been made in facilitating investment for promoting the renewal of urban areas. Some investments have been made or are planned to promote equal opportunities and facilitate social inclusion of marginalized groups in disadvantaged urban areas.

Overall, Greece has made some progress with implementing its 2019 CSRs, and in several policy areas, it has benefited from EU-financed technical support. Since 2015, the Commission has financed more than 150 projects in Greece to support the implementation of structural reforms (see also Box 2.1 for projects implemented).

Table 2.1: Overall assessment of progress with 2019 CSRs

| Greece | Overall assessment of progress with 2019 CSRs: Some progress ⁽¹⁾ |
|--|---|
| <p>CSR 1: <i>Achieve a sustainable economic recovery and tackle the excessive macroeconomic imbalances by continuing and completing reforms in line with the post-programme commitments given at the Eurogroup of 22 June 2018.</i></p> | <ul style="list-style-type: none"> • Greece has made some progress in addressing CSR1. • Implementation of the specific post-programme policy commitments that are due by end-2019 and embedded in the first country specific recommendation is monitored under quarterly enhanced surveillance reports. The Commission considers that Greece has taken the necessary actions to achieve all specific reform commitments for mid-2019 and that the authorities have taken important steps towards meeting the end-2019 commitments. |
| <p>CSR 2: <i>Focus investment-related economic policy on sustainable transport and logistics, environmental protection, energy efficiency, renewable energy and interconnection projects, digital technologies, research and development, education, skills, employability, health, and the renewal of urban areas, taking into account regional disparities and the need to ensure social inclusion.</i></p> | <ul style="list-style-type: none"> • Greece has made some progress in addressing CSR2. • Limited progress in focusing investment-related economic policy on sustainable transport and logistics. • Some progress in focusing investment-related economic policy on environmental protection, energy efficiency, as well as on renewable energy, and interconnection projects. • Some progress in focusing investment-related economic policy on digital technologies. • Some progress in focusing investment-related economic policy on research and development. • Limited progress in focusing investment-related economic policy on education, skills, and employability. • Limited progress in focusing investment-related economic policy on health. • Limited progress in focusing investment-related economic policy on the renewal of urban areas taking into account regional disparities and the need to ensure social inclusion. |

Source: European Commission

⁽¹⁾ The assessment of CSR3 does not take into account the contribution of the EU 2021-2027 cohesion policy funds. The regulatory framework underpinning the programming of the 2021-2027 EU cohesion policy funds has not yet been adopted by the co-legislators, pending inter alia an agreement on the multiannual financial framework (MFF).

Box 2.1: Commission Structural Reform Support Programme in Greece

Upon a Member State's request the Commission can provide tailor-made expertise via its Structural Reform Support Programme to help the country design and implement growth-enhancing reforms. Such support has been provided to Greece since 2015 at the request of the Greek authorities. To date, support has been provided for more than 150 projects. While Greece still needs to comply with its commitments under the enhanced surveillance process, the implementation and completion of key reforms are showing measurable results. In 2019, several projects in various policy areas were successfully implemented.

The Commission continues to assist Greece in the area of governance and public administration, to digitise and modernise the Greek public sector at both central and local levels. This includes support for: (i) the human resources department (to modernise and depoliticise the civil service in particular); (ii) the judicial sector (with a focus on digitalisation and reducing backlogs); (iii) the fight against corruption (notably to implement the national strategy); (iv) better law making (with a focus on evidence-based law making and improved coordination); and (v) support to local authorities (notably in the area of inter-municipal cooperation). In addition, support focusses on the digital transformation of the public administration and the wider deployment of e-services. In 2019, the Commission supported Greece to strengthen its crisis management and response systems, including in the area of migration — by increasing the administrative and operational capacity to receive asylum seekers.

On growth and the business environment, the Commission has helped Greece to build a strong and green economy, and boost competitiveness and innovation. For example, the Commission has provided Greece with support to: (i) further develop its electricity distribution network, and its electricity systems and markets, taking into account geographical and regional disparities; (ii) develop a national transport plan; and (iii) complete the mapping of the national cadastre and set up cadastre offices. New initiatives were launched in 2019 to further tackle energy and environmental issues, including investment projects on effective waste management, and on clean energy to increase competitiveness in the renewable energy sector. Other projects focus on capacity building for Public Private Partnerships, the reform of business inspections, and process simplification for businesses.

Support has been provided to improve labour market and pension, social welfare, health and education systems. The Commission is helping Greece to: (i) implement its action plan for tackling undeclared work; (ii) reform its single social security agency; (iii) strengthen the capacity of its centralised health procurement agency; and (iv) improve universal access to quality health services. In 2019, support focused on: (i) reforming the quality and delivery of Greece's active labour market programmes; (ii) modernising its disability assessment system; (iii) promoting inclusive education; and (iv) facilitating the deinstitutionalisation reform. In the area of healthcare, the Commission is also helping Greece establish a diagnosis-related groups system.

Greece has been receiving support for revenue administration, tax policy and public financial management, to further simplify and increase the efficiency of its tax framework. Central to this is the modernisation of the stamp duty system and the revision of the legal framework on the liability of natural persons. In 2019, new projects began on building information technology capacity for the Ministry of Finance and the Independent Authority for Public revenue, and supporting the setting up of a Model Collection Office.

On finance and access to finance, the Commission is helping Greece to ensure an efficient allocation of capital and improve access to finance for companies. A feasibility study on the setting up of the Hellenic Development Bank was completed and its implementation is under way. The aim is to improve companies' access to finance and increase investment opportunities. Greece received support in 2019 to design and implement a comprehensive national strategy on reducing non-performing loans in the banking sector.

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

Introduction

The 2020 Alert Mechanism Report concluded that Greece should have a new in-depth review to examine whether any imbalances persist (European Commission, 2019c). The 2019 in-depth review concluded that Greece faces excessive imbalances that should be addressed through structural reforms. This chapter summarises the analyses of the in-depth review of the macroeconomic imbalance procedure contained in various sections in this report ⁽¹⁾.

Imbalances and their gravity

Greece's large debt stock is starting to decrease slowly. A high level of non-performing loans in the banking system together with high public and external debt remain a risk for the economy as it exposes the country to adverse shocks. The recovery started in 2017 but has not been strong enough to support a faster deleveraging in the private and public sector.

The high stock of public debt is slowly decreasing. In 2019, general government gross debt reached 175.2% of GDP. That is 6 percentage points less than in 2018, but remains the highest in the EU. Government debt is expected to slowly decrease in the coming years, supported by planned primary surpluses, the economic recovery and the debt relief measures agreed with European partners. However, refinancing or debt-servicing risks are expected to remain limited over the medium term, due to the special repayment terms agreed with the creditors.

The stock of external liabilities remains the second largest in the EU, although it is largely due to public debt held by creditors at highly concessional terms. The net international investment position stood at -143.3% of GDP in 2018. It is composed mainly of debt instruments and related to the high levels of public debt. High

external debt exposes the Greek economy to external shocks and market sentiment shifts.

The external position remains weak. The current account balance stood at -2.8% of GDP in 2018 as opposed to -1.9% in 2017. The cyclically adjusted current account balance ⁽²⁾ stood at -5.1% of GDP in 2018, which points to a structural imbalance even when taking out cyclical components. In contrast, the current account balance that would be necessary to stabilise the net international investment position at the macroeconomic imbalance procedure threshold level of -35% of GDP was estimated at 1.8% in 2018.

High levels of non-performing loans constrain the lending capacity of the banking sector. In September 2019, 42.1% of loans were considered non-performing, according to the Bank of Greece. This affects the lending capacity of the banking sector, limiting the supply of credit to the real economy. While the private debt stocks are contained, the economic situation with high unemployment, high ageing and age-dependency ratios and high public debt, coupled with a low household saving rate, indicates a low debt repayment capacity of households and non-financial corporations.

The severe and prolonged crisis has had lasting effects on potential growth, though it is slowly recovering. During the crisis, in which Greece's economy shrunk by 25% of GDP, potential output declined substantially. The productive capacity of the economy has suffered due to the large outward migration of skilled workers and the depletion of the capital stock. Total factor productivity grew by 1.5% in 2018, faster than in other EU countries, but coming from a low level.

The labour market is gradually recovering, but unemployment is still very high compared to other EU countries or pre-crisis levels. Employment increases in recent years have not offset yet the negative impact of the crisis. The unemployment rate remains the highest in the EU,

⁽¹⁾ Relevant analyses can be found in the following sections: Public finances and taxation are covered in Section 4.1; financial sector: banking sector, access to finance, indebtedness, non-performing loans in Section 4.2; labour productivity in Section 4.3; and investment: external competitiveness, private and public investment, business environment are covered in Section 4.4.

⁽²⁾ The cyclically adjusted or underlying current account balance is the current account balance that would prevail if all economies were at potential output. The difference between this indicator and the current account norm establishes the current account gap.

as does the long-term unemployment rate. Youth unemployment rate is still at around 35%, prompting young people to look for employment abroad and thereby limiting future potential growth. Furthermore, Greece has one of the highest qualification mismatches among EU countries and one of the highest over-qualification rates among tertiary graduates, while skill shortages exist in energy and technology sectors.

Evolution and prospects

The current account balance is expected to remain negative as domestic demand picks up. After reaching -1.9% of GDP in 2017, the current account balance widened to -2.8% in 2018 and is expected to remain below -2% for the coming years. Due to its high import content, increasing domestic demand is expected to lead to higher imports. Against this background, measures to reduce the current account deficit include: (i) increasing productivity and competitiveness; (ii) rebalancing the economy with a stronger focus on tradable sectors and better framework conditions; and (iii) introducing incentives for firms to export.

The net international investment position is strongly negative, remaining well below the fundamental benchmark and the prudential threshold ⁽¹³⁾. The composition of the net external liabilities with the overwhelmingly large share of public debt mitigates the risk of a sudden capital outflow. Nevertheless, the international investment position should be adjusted to levels that are more prudential in the medium and long term.

Following their strong rebound in 2017 and 2018, exports are expected to continue to grow albeit more slowly. High export growth in both goods and services supported the economic recovery in Greece in 2017 and 2018. In addition to profiting from the favourable economic outlook of its main EU trade partners, Greece increased its export market shares during that period. As the economic situation in most EU countries is cooling down, Greek exports are expected to continue to

grow, but at a lower rate in the coming years, while export market shares will continue to expand building on the competitiveness gains of recent years.

Diversifying service exports beyond tourism could make service exports less vulnerable to external shocks. The tourism sector, one of the main service export sectors has benefited from the unstable geopolitical situation in main competitor countries in recent years. As the number of tourists seems to have reached a plateau, growth appears to mainly be due to longer stays and higher expenditure per tourist. The concentration of service exports in tourism and transport makes Greece vulnerable to the situation in tourists' countries of origin and the situation in competitor countries. Other sectors such as information technology services, research and development, and other business services could help to diversify service exports (see Box 4.4.1).

The still high public debt is expected to drop as a share of GDP in 2019 due to a consolidation of real GDP growth, expected primary surpluses and incoming privatisation proceeds. This is in line with the overall trend recorded in the last years, apart from a one-off spike in 2018, explained by the use of a large part of the last programme disbursement to increase treasury cash buffers that are now covering more than 2 years of expected debt servicing. To mitigate risks and increase the resilience of Greece's public finances, prudent fiscal policy remains necessary. This will entail primary surpluses, appropriate cash buffers and a proactive debt management policy.

Despite slowly decreasing, the high level of non-performing loans remains a weakness for the financial system. The share of non-performing loans in total loans has been declining slowly since 2016. Nevertheless, it remains the highest in the EU and puts pressure on the banking sector. To accelerate the reduction of non-performing loans, banks and the authorities need to make additional efforts to clean out banks' balance sheets. Creating a foreclosure and insolvency framework that is conducive to deleveraging is a key way to swiftly reduce non-performing loans (see Chapter 4.2). Economic recovery with the support of new lending can only take place when a significant number of borrowers has found sustainable solutions to their over-indebtedness.

⁽¹³⁾ The current account 'norm' benchmark for Greece is -48% and it is derived from regressions capturing the main fundamental determinants of the saving-investment balance (e.g. demographics, resources), as well as policy factors and global financial conditions. For details regarding the estimation of current accounts based on fundamentals, see Coutinho et al. (2018).

Investment growth is expected to increase productivity and potential economic growth.

The ongoing economic recovery and the 2020 tax package are expected to stimulate investment and domestic consumption. This in turn can start a virtuous cycle, improving the old and depreciated capital stock, and increasing productivity and potential growth. Higher productivity could sustain increases in labour cost since 2017 and build the foundation for further increases in domestic demand.

The labour market situation is improving but employment is still lower than pre-crisis levels.

In July 2019, total employment stood at 3.9 million, which is a substantial increase compared with the lowest point during the crisis (3.5 million in 2013), but still lower than the pre-crisis levels of 4.5 million. Employment is expected to recover further in the coming years, in line with economic growth. Despite the substantial wage increase brought about by scrapping the exemption from the general minimum wage that had been applied to young workers, the rate of youth unemployment declined in the second quarter of 2019. Nevertheless, the unemployment rate among people below the age of 25 is still the highest in the EU.

Wages increased moderately during the period 2017-2019, but any wage growth that strongly outpaces productivity growth could harm competitiveness. Wage growth was in line with unemployment, inflation and productivity over the last three years. However, with low productivity growth and inflation well below 1%, there remains little room for further wage increases without detrimental effects to unit labour costs and competitiveness. Against this background, rising investment and updating and renewing the productive capital are key in order for labour productivity developments to exceed wage growth.

Overall assessment

Macroeconomic imbalances are prevalent across sectors in Greece, but adjustment efforts are under way. Greece has made progress in adjusting the current account deficit, labour market, external competitiveness and the banking sector. The net international investment position has improved, but very slowly. Progress has also been slow in productivity, as the economy is still

affected by the loss of human and physical capital during the crisis.

The accumulated imbalances will require further reform efforts in the coming years.

Given the high stock imbalances, positive flow developments in recent years have had only a limited effect in reaching the macroeconomic imbalance procedure benchmarks. Policies that support economic growth and labour market recovery are expected to accelerate the reduction of imbalances, helped along by current and future reforms. During the programme period, the authorities adopted a wide range of measures to put public finances on a sound footing, restore the financial sector, and improve the functioning of product and labour markets, while strengthening the social welfare system. These deep institutional and structural reforms require many years of sustained implementation for their impact to unfold fully. Further measures to tackle low productivity and other imbalances could set Greece on a path to sustainable economic growth.

Table 3.1: MIP assessment matrix — Greece 2020

| | Gravity of the challenge | Evolution and prospects | Policy response |
|---|--|--|--|
| | Imbalances (unsustainable trends, vulnerabilities and associated risks) | | |
| External sustainability and competitiveness | <p>Greece has a high stock of net external liabilities (its net international investment position was -143.3% in 2018), mainly composed of debt instruments. In spite of the high proportion of public debt to official creditors, this exposes Greece to adverse shocks or shifts in market sentiment.</p> <p>The current account balance widened to -2.8% of GDP in 2018 compared with -1.9% in 2017 (BoP data), which in cyclically adjusted terms represents a balance of -5.1%. This is well below what Greece would need to restore external sustainability (see Section 1).</p> | <p>The high stock of net external liabilities is adjusting very slowly amid moderate nominal GDP growth and a current account balance that remains negative.</p> <p>The current account balance has improved significantly since its trough of -15.8% in 2008, but has never reached a positive balance. Net export growth has been subdued due to a high import content of exports and investment. Greece is expected to continue to increase its world market shares in goods and services exports in the next years.</p> <p>Corporations (financial and non-financial) contribute the most to supporting net savings, while household savings remain low. (see Section 1)</p> | <p>Measures have been taken during the European Stability Mechanism (ESM) programme to restore competitiveness, including sweeping the business environment and reforms to alleviate administrative burden.</p> <p>In addition, product and labour market reforms during the ESM programme have increased cost competitiveness and should increase entrepreneurship and productivity gains in the future.</p> <p>Following the end of the programme, the new government, sworn in July 2019, has signalled its intention to pursue further efforts to modernise public administration and justice, promote e-governance and streamline the investment licensing framework.</p> |
| Public debt | <p>Greece has a high level of public debt, amounting to 181.2% of GDP in 2018.</p> <p>A large stock of public debt constrains fiscal policy and makes Greece vulnerable to changes in market sentiment. However, given the unique composition of Greece's public debt and the debt measures agreed at the Eurogroup, Greece's gross financing needs are expected to remain below 12% of GDP until 2033 (see Section 3.1).</p> | <p>The public debt ratio increased by nearly five percentage points in 2018 due to the disbursement of the ESM loan to build up a sizeable cash buffer, reaching its highest level since the end of the crisis.</p> <p>According to the Commission's forecast, the public debt ratio is projected to drop to 175.2% and 169.3% of GDP in 2019 and 2020, respectively, in thanks to the ongoing economic recovery and sound public finance policies (see Section 3.1). Standard debt sustainability analysis indicates that without further consolidation measures, debt will still be above 125% in 2027 (see Box 3.1.2).</p> | <p>Sustainability of public debt hinges on strong fiscal performance and solid nominal growth. Greece has committed to achieving primary surplus targets of 3.5% of GDP until 2022, which together with the debt relief measures agreed at the June 2018 Eurogroup meeting, will help decrease the debt-to-GDP ratio.</p> |
| Potential growth and productivity | <p>An ageing population and weak labour productivity indicate low potential growth, in the absence of strong effects from structural reforms. Nominal growth, which would help to mechanically reduce debt-to-GDP ratios, is also not favoured by the still low inflation rate, which is expected to moderately increase from 0.5% in 2019 to 0.7 in 2020 (HICP growth). Potential growth is set to be around 1% in the long term, contingent on sustained implementation of sound policies.</p> | <p>In 2018, investment had a major setback contracting by 12.2%, partly due to low public investment. Investment growth is expected to turn positive again in 2019 and to gain ground in 2020, assuming full execution of the public investment budget and in view of the gradual rebound in private investment.</p> <p>Productivity growth was negative since 2008, due to depleting human and physical capital arising from the migration of skilled workers and lack of investments. However, in 2018, it turned positive again (see Section 1) and investments and human capital will benefit from the economic stabilisation.</p> | <p>In addition to measures to improve sustainability and competitiveness, an increase of competition in product markets due to recent reforms is expected to improve the productivity prospects for the future (see Section 3.4). Furthermore, the on-going simplification of procedures for setting up businesses, such as one-stop-shops for business registration, should support the entry of new competitors.</p> |
| Financial sector | <p>The banking sector is burdened by a high stock of non-performing exposures and provisions weigh on the profitability of banks. Bank average capitalisation is overall above current capital requirements but the quality of capital remains weak, due to the high share of deferred tax credits, leading to a persistently strong link to the Greek</p> | <p>The non-performing loan ratios for non-financial corporations and households remain high and are declining at a relatively slow pace, despite stronger efforts in 2018, including outright non-performing loan disposals. Bank average capitalisation is slightly below 16% as of 2018 (in transitional terms). In terms of liquidity, emergency liquidity assistance was fully repaid in the first quarter of</p> | <p>Wide-ranging measures were taken under the programme to strengthen the framework for non-performing loans resolution (see Section 4.2), including quantitative targets for reductions, as well as continued efforts to reform the judicial system and streamline foreclosure and insolvency legislation. The positive impact of these measures on non-</p> |

(Continued on the next page)

Table (continued)

| | | | |
|---|--|---|---|
| | sovereign on top of banks' government bond holdings and the State's ownership stakes in the sector. The liquidity situation improved but, the cost of funding remains high (see Section 4.2). Private debt stocks are below the scoreboard threshold of 133%, but the debt repayment capacity of both households and non-financial corporations in Greece remains particularly low. Household debt in particular is above both prudential and fundamentals-based benchmarks (see Section 1). | 2019, while secured and interbank funding have been rising. The first issuances of long-term unsecured funding by banks after 2015 have also taken place, albeit at a high cost. Households continue to actively deleverage, with nominal growth providing only a very limited support. The reduction of non-performing loans has been hampered by poor contract enforcement, inefficiencies in the judicial system, bottlenecks in the implementation of the foreclosure and insolvency legislation and the lack of reliable information on borrowers. Efforts to improve the repayment culture have not fully yielded results | performing loans, as well as access to finance has only partially materialised at this stage. Capital controls were fully lifted on 1 September 2019, which is expected to boost depositor confidence and support banks' liquidity in the future. Major efforts to improve the banks' governance framework have taken place, as a result of the 2017 governance review. At the same time, the Hellenic Financial Stability Fund's exit strategy was approved in 2018. |
| Adjustment issues | | | |
| Labour market and unemployment | Unemployment in 2018 was 19.3% down from 21.5% in 2017, the highest in the EU. Youth unemployment is also the highest in the EU (39.9% in 2018) and the activity rate is relatively low (68.2% in 2018). High unemployment and subdued wage growth curb consumption growth, impair the deleveraging process, and limit the room for human capital investment. | Unemployment is declining at a healthy rate, but remains very high, especially for young people and the long-term unemployed. The recovery of cost competitiveness and reduction of unit labour costs during the programme should ensure that strong job creation will continue in the years to come. Employment growth is expected to reach 2.2% in 2019 and 2.2% in 2020 bringing the unemployment rate down to 15.4% by 2020 (see also Section 4.3). | Significant measures have been taken during the programme period to improve the efficiency of labour and product markets and to regain external competitiveness. Future deviations from such policies would risk hindering the recovery process. |
| Conclusions from the IDR analysis | | | |
| Greece faces major challenges in the form of a weak financial sector, combined with high unemployment, large stocks of public debt and an unfavourable net international investment position. The high ratio of non-performing loans in the domestic banking system constrains deleveraging and banks' profitability, reducing the amount of credit that can be channelled to the economy, which suffers from underinvestment and slow productivity growth. | | | |
| While unemployment and public debt are expected to decrease in coming years, the net international investment position continues to cause of concern due to the reliance of the current account adjustment on the compression of demand. As domestic consumption and investments will pick up, corresponding increases in productivity and exports will be needed to ensure that the current account and net international investment position do not worsen again. To that end, further reforming efforts are needed in the areas of business environment, investment licensing, trade facilitation, labour and product markets. In addition, investments are recovering slowly because the private sector is deleveraging and the reduction of non-performing loans continue to be hampered by poor contract enforcement, inefficiencies in the judicial system, bottlenecks in the implementation of the foreclosure and insolvency legislation and lack of reliable information on borrowers. | | | |
| Wide-ranging measures were introduced during the ESM programme to improve the business environment, the foreclosure and insolvency legislation, the credit and companies' registries, prop the efficiency of the judiciary, and allow for the sale of non-performing loans. For the post-programme phase, a series of action plans are being prepared or implemented to ensure continuity and the deepening of the reforms in these areas. Combined with the improvements in cost competitiveness, the effective implementation of reforms has the potential to jumpstart the economy, spurring the creation of productive, rewarding and sustainable jobs. | | | |

Source: European Commission

4. REFORM PRIORITIES

4.1. PUBLIC FINANCES AND TAXATION

4.1.1. FISCAL POLICY AND FISCAL FRAMEWORK

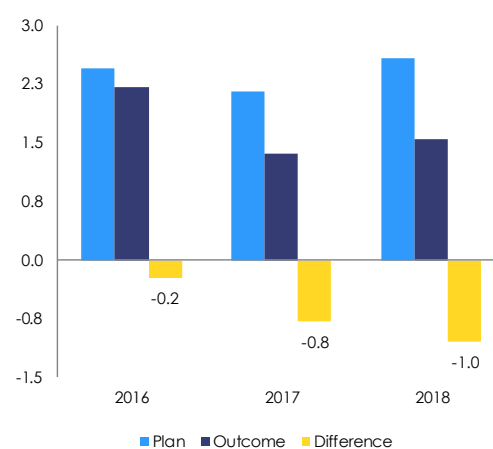
The public debt ratio is expected to decrease in the future thanks to solid growth, expected primary surpluses and relatively low interest payments. This is in line with the overall trend recorded in recent years (apart from the 2018 spike explained by the last programme disbursement). Public debt reached 178.5% of GDP in 2016 and decreased to 176.2% of GDP in 2017. Upon Greece's exit from the programme in June 2018, the Eurogroup agreed to disburse €15 billion (8.1% of GDP) for debt servicing and building up a large cash buffer estimated to cover almost 2 years of debt servicing at the end of 2019. This disbursement, included in the stock flow adjustment⁽¹⁴⁾, was a loan and therefore part of Greece's debt, which climbed to 181.2% of GDP in 2018. Net of the last disbursement, debt would have continued falling to about 173.1% of GDP in 2018. Graph 4.1.2 shows the drivers of public debt developments from 2016 onwards.

Achieving the fiscal target in 2020 and beyond will depend on a growth-friendly tax shift from distortionary to less distortionary taxes. The authorities reduced taxes on labour and capital (lowering production cost) significantly as of 2020 (see Chapter 4.1.2). These cuts are compensated by increases in revenues from the unified property tax (Enfia), value added tax, and municipal charges. This growth-friendly tax shift is expected to provide a substantial boost to growth in 2020. The future achievement of the targets is likely to be underpinned by a solid growth in households' income, which would help tax collection, and policies that limit expenditure growth, particularly the public wage bill and healthcare spending policies.

In recent years, Greece has consistently exceeded its fiscal targets. Greece's fiscal policy framework is anchored by the nominal primary

surplus target of 3.5% of GDP⁽¹⁵⁾ and requirements of the preventive arm of the Stability and Growth Pact. The primary surplus targets were exceeded in all years of the European Stability Mechanism programme — by a substantial margin for some years.

Graph 4.1.1: State investment budget execution



Note: Planned and actual expenditure from the public investment component of the state budget net of grants to general government.
Source: European Commission

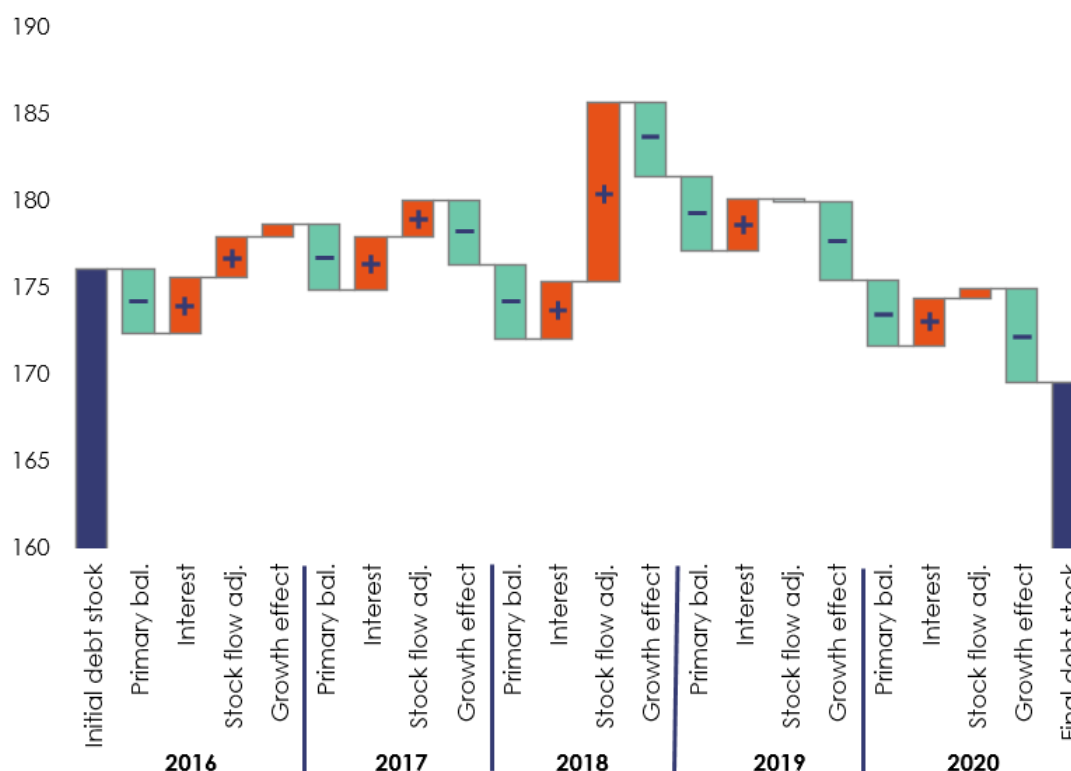
The recurrent over performance was mainly due to underspending on the initial budget ceilings, for both the ordinary and — most importantly — the investment budget. On average, only 61% of the public investment budget ceilings allocated to ministries were actually spent in 2017-2018 compared to an average of 94% in 2015-2016. This is problematic because the country's investment needs are still large and investment in sectors such as healthcare remains significantly below the euro area average.

To address the recurrent underspending, the authorities designed an action plan to improve the forecasting for and monitoring of the public investment budget. The plan includes a better and more frequent exchange of data between the responsible ministries, an increase in the frequency of revenue forecasts, and some technical adjustments to facilitate the preparation of the budget. The authorities have also adopted

⁽¹⁴⁾ The stock-flow adjustment (SFA) explains the difference between the change in government debt and the government deficit/surplus for a given period.

⁽¹⁵⁾ Council Implementing Decision (EU) 2017/1226 of 30 June 2017, OJ L 174, 7.7.2017, p. 22.

Graph 4.1.2: Debt Dynamic determinants (% GDP)



Source: European Commission

legislation on the development, management, financing, and implementation of the national component of the public investment budget. This part of the public investment budget will be programmed through a medium-term development plan, the ‘National Development Plan’, mirroring to a certain extent the management system of the EU co-financed part of the investment budget.

The authorities also took steps to address the sources of underspending in the ordinary budget. The General Accounting Office revised the budget preparation guidelines, which allowed — for the 2020 budget — to take into account the actual execution of expenditure (rather than starting with the previous year’s budget plan) and imposed a requirement to assess and scrutinise the reasons for the past underspending. This will mitigate the risk of underspending in the future.

Over the past years, Greece has established a rules-based fiscal governance framework, in line with the EU legislation. These reforms extended the budgetary scope from the state to the

general government, strengthened top-down budgeting, and introduced a medium-term budgetary framework, commitment registries and monitoring mechanisms in all spending entities. The Organic Budget Law of 2014 also set a fiscal balance rule and a public debt rule, as well as an automatic correction mechanism. The primary surplus target monitored under enhanced surveillance ensures that these rules are complied with. Additional reforms were introduced to increase accountability, transparency and enforce fiscal discipline, including potential sanctions for spending ministries should they violate legal provisions. From an institutional perspective, the roles of the General Accounting Office and line ministries were clarified and a fiscal council was created in 2015. The council endorses the government’s macroeconomic scenario that underpins fiscal planning, and issues semi-annual reports including on compliance with domestic numerical rules.

Important reforms are currently being implemented in areas such as accounting, performance budgeting, cash management and expenditure prioritisation. These reforms are expected to improve outcomes and increase resilience to any future public finance shocks in Greece. Chapter 4.1.4 provides further details.

4.1.2. TAXATION

The structure of the Greek tax system reflects the major reforms implemented under the financial adjustment programme. This includes a modernised personal and corporate income tax system, the unified property tax (Enfia), and a simplified value added tax system.

The overall tax-to-GDP ratio in Greece significantly increased during the crisis and has converged with the euro area average of 40.6%. The share of taxes and social contributions in GDP in Greece stood at 38.9% in 2018, a substantial increase from the pre-crisis level of 30.8% in 2009. The tax and social security system places a high tax burden on corporations and on low-income earners and households with children in particular. The shares of indirect taxes, corporate income taxes, taxes on the stock of capital, and property taxes are relatively high compared to other EU Member States (European Commission, 2020).

The 2020 budget represents a major start in reducing corporate and personal tax rates. Since 2019 (tax year), the corporate tax rate has decreased from 29% to 24%, while the dividends tax rate has decreased from 15% to 10% for incomes acquired since 1 January 2019 and from 10% to 5%, for incomes acquired since 1 January 2020. Since 2018, the corporate tax rate has gone down from 29% to 24% and dividends tax from 15% to 5%. These reductions should assist the recovery of investment that is currently at a historically low level of 11% of GDP. The 2020 budget also includes a reduction in the personal tax rate on incomes of up to €10 000 from 22% to 9%, and increases the tax-free threshold for taxpayers with children. In addition, social security contributions will be reduced by one percentage point for full-time salaried persons.

The value added tax was simplified under the programme with a standard rate of 24% and two reduced rates of 6% and 13%. The value added tax reform adopted in 2015-2016 considerably broadened the tax base by limiting the scope of reduced rates and exemptions. It also reduced market distortions and stabilised compliance rates. Greece's value added tax gap, however, was among the highest in the EU at 33.6% in 2017, but is expected to fall back in 2018. The special value added tax system for five Aegean islands has been extended and its elimination is contingent on the reduction of migration flows. Measures to increase the minimum qualifying expenses that taxpayers should incur via electronic payments are expected to help improve value added tax collection.

A major reform of property tax zonal values is under way to widen the tax base and align tax values with market prices by mid-2020. This will considerably increase the tax base of property taxes and improve the efficiency and fairness of the unified property tax. On the other hand, the reform of stamp duty remains pending.

4.1.3. TAX ADMINISTRATION AND COMPLIANCE

Combating tax evasion, and encouraging voluntary compliance and payment discipline remain a significant challenge. A study carried out in 2016 (DiaNeosis, 2016) estimated the scale of tax evasion in Greece at 6-9% of GDP, mainly stemming from personal income tax evasion and value added tax fraud. Increasing collection rates remain a great challenge since most they are rather low (between 80 and 90%). Greece has, however, continued modernising the tax administration by introducing more advanced and targeted tax collection methods. Their positive results are starting to become evident.

The independence and capacity of the Independent Authority of Public Revenue are continuously being strengthened. The Governor of the Authority was reappointed by the new government, following his first term that ended in that year. This was a major positive step that signals that efforts to strengthen the independence of the Authority have started to bear fruit, and that

tax collection and debt targets are being met and actually surpassed.

A number of important reforms are under way, including a new supplementary grading and wage grid for the Agency’s staff, and the ‘model tax collection office’, which began its work in 2019 with technical support by the Commission.

The model collection office will introduce a comprehensive approach to tax debt, including: (i) streamlining enforcement processes; (ii) consolidating the debts of a single debtor; and (iii) measuring office performance on a systematic basis. This pilot office is intended to serve as the model for all of the country’s tax offices. The Commission has also provided technical support for business process improvement, focusing on the Authority’s core IT processes. The Authority also plans an overall upgrade of its core information technology system (TAXIS), whose design is considered obsolete.

Efforts to improve payment discipline suffered a setback in 2019, when an ad hoc instalment scheme with up to 120 monthly instalments was introduced. Such schemes have a corrosive effect on voluntary compliance and payment discipline, as they allow tax obligations to be settled at favourable terms compared with standard rules, which lowers incentives to pay taxes on time. They also create an expectation that similar schemes will be available in future. The new government has committed not to create similar ad hoc schemes, making the only option for settlement of debts the revised basic instalment scheme, included in the tax law adopted in December 2019. The revised scheme allows up to 48 instalments, while linking the number of instalments with payment capacity and providing disincentives to dropping out of the scheme.

The Independent Public Revenue Authority initiated the ‘myDATA’ project in 2019 to provide legal entities with a digital platform for electronic bookkeeping. This platform should become operational in 2020, allowing users to automatically file their tax returns. It will also enable a more efficient selection of companies for a tax audit, which should further reduce tax evasion and smuggling. The platform will also include an e-bookkeeping component, which once completed, will enable electronic invoicing

between businesses, further decreasing their administrative burden.

Waiving debts below €10 should increase efficiency. The Authority plans to write-off aggregate debt for amounts up to €10, which should reduce the number of tax debtors by around 14% ⁽¹⁶⁾. This should increase economic efficiency considering the administrative costs of collecting these minor outstanding debts.

To improve the coordination, a new centralised customs structure — the Special Customs Service ⁽¹⁷⁾ — has been established. This structure is mandated to coordinate the operational control units (9) and the customs audit offices (2). This reform is expected to improve the ex-post control audits and strengthen the operational capacity to respond swiftly to significant cases by assigning the needed resources.

4.1.4. PUBLIC FINANCIAL MANAGEMENT AND PUBLIC PROCUREMENT

While public finance management reforms initiated since the beginning of the crisis are under way, Greece’s post-programme reform strategy now also focuses on the quality of public expenditure. The first set of public finance management reforms aimed to introduce a new budgetary and accounting framework, ensuring the clearance of arrears, streamlining the payment chain and improving the liquidity management (see enhanced surveillance reports. Section public finance management). More recently, Greece has taken some initial steps towards a more performance-oriented public finance management framework, namely through a new performance budgeting project and by regularising spending reviews across the general government.

Spending reviews are among the new administration’s priorities. Greece undertook a spending review to save on costs by streamlining ministerial utilities. For 2018, a targeted spending review was initiated in three ministries and the entities they supervise. The review continued in

⁽¹⁶⁾ At the end of 2019, the total number of debtors were 4,068,908 out of which 571,419 had an aggregated debt level below €10.

⁽¹⁷⁾ OJ B-2650/01.07/2019.

2019, also through technical support. A major step, planned for the 2021 budget, will be to scale up the exercise to encompass all ministries. However, the process has so far only addressed inputs and costs while outputs and outcomes have not been challenged.

Greece carried out extensive reforms to improve the efficiency of its public procurement, but there are still a number of deficiencies in its public procurement procedures, especially in the health sector. The authorities adopted a set of measures on: (i) consolidating and simplifying the legislation in place; (ii) improving the efficiency of prejudicial remedies system; (iii) making electronic procurement the norm; and (iv) promoting centralised procurement. The country also adopted a national strategy in 2017 on public procurement. While such measures should, over time, make public procurement more efficient, rationalise public spending and boost growth, the country's procurement market still has a number of deficiencies⁽¹⁸⁾. These include: (i) limited competition or market openness with a high number of single bid procedures (i.e. 34% in 2018, compared with 16% 10 years ago); (ii) lengthy award procedures (236 days, compared with an EU average of 86 days); and (iii) a very limited use of quality-based criteria (90% of contracts were awarded exclusively based on the lowest price in 2018, compared with 47% at EU level), which often results in excessively high discounts.

Focusing on the specific measures most likely to address these deficiencies would contribute to a more sustainable and efficient use of public resources. Such measures could include: (i) improving electronic procurement and e-invoicing; (ii) increasing administrative capacity and professionalising procurement staff, including at regional and local level; and (iii) promoting central purchasing, so as to achieve economies of scale. Promoting the use of quality criteria for awarding contracts and systematically addressing the problem of excessively low bids could also reinforce the quality and the sustainability of public purchases.

The authorities have planned some measures to address deficiencies in health sector public procurement, but they still need to be implemented. A number of challenges persist, including: (i) a lack of resources and specialised staff in several contracting authorities; (ii) an inefficient organisation of purchases leading to many last-minute direct awards; and (iii) unnecessary over-specification in tender documents that limits competition. According to Tenders Electronic Daily data⁽¹⁹⁾, Greece has one of the lowest publication rates in the EU in health procurement as a percentage of GDP (0.1% in 2017 against an EU average of 0.56%). In 2017, the authorities set up a central purchasing authority for the health sector (EKAPY). In order to fully operationalize the central procurement framework, the authorities envisage to redesign it in the course of 2020. In the meantime, with a view to phasing the setback, a temporary and centralised scheme that would involve the seven regional authorities is under drafting. According to the authorities, it would enable them to reach the post programme target of 30% central purchases in mid-2020 and 40% in mid-2022.

⁽¹⁹⁾ Tenders Electronic Daily is the internet facility of the Supplement to the Official Journal of the EU where contracting authorities publish notices related to public procurement falling under the scope of the EU Directives.

⁽¹⁸⁾ https://ec.europa.eu/internal_market/scoreboard/performance_per_policy_area/public_procurement/index_en.htm (2018 data).

4.2. FINANCIAL SECTOR

4.2.1. FINANCIAL SECTOR OVERVIEW AND FINANCIAL STABILITY ASSESSMENT ⁽²⁰⁾

While the liquidity situation of Greek banks is improving and the large stock of non-performing loans decreasing, legacy risks and challenges remain high. Greek banks' profitability has rebounded but is constrained by poor asset quality, a business model dependent on lending growth and the low interest rate environment. Capital controls were fully lifted as of September 2019 and banks have fully repaid the emergency liquidity assistance, but still not all of them can fulfil minimum liquidity regulatory requirements. Access to long-term unsecured funding is being re-established only slowly and still at a high cost. As a result, Greek banks continue to rely primarily on their internal capacity to generate capital. In the future, the Greek banking sector must boost its resilience and accelerate non-performing loans reduction, while improving its ability to finance growth based on a sustainable and sound credit provisioning policy.

The capital ratios of banks are above the capital requirements, but their capacity to generate capital internally remains limited. Banks' average common equity tier 1 ratio on a consolidated basis was at 15.6% at the end of June 2019, about the same as the previous year. This is broadly comparable with the EU average and well above minimum capital requirements (see Table 4.2.1). The common equity tier 1 ratio increased in the first half of 2019 due to a combination of a strong performance of the marked-to-market sovereign portfolio, and the reduction of risk-weighted assets due to loan sales. The banks' capital position, however, remains constrained by low recurring profitability and the still high level of impairments. Moreover, the banks' business model is exposed to the current low-rate environment due to their heavy reliance on net interest income. Net interest income is also negatively impacted by the deleveraging of non-performing loans, given the high amounts of interest income from these loans. Banks are therefore trying to realign their business strategy to boost non-interest income generation from its

⁽²⁰⁾ The analysis in the section contributes to the in-depth review under the macroeconomic imbalance procedure (see relevant section for a summary of main findings).

current low levels, while continuing efforts to contain operating expenses, which have resulted in an average cost-to-income ratio below the EU average.

The quality of Greek banks' capital remains weak and dependent on the state. In the first half of 2019, the amount of deferred tax credits decreased only marginally to €15.5 billion and still exceeded 57% of the systemic banks' common equity tier 1 capital. Consequently, the necessary gradual phasing out of beneficial transitional prudential arrangements will pose a further challenge for Greek banks. These include the transition to the new international accounting standard on impairments of financial assets ⁽²¹⁾ and the forthcoming implementation of new rules leading banks to quickly write down non-performing exposures ⁽²²⁾, in order to prevent a build-up of non-performing loans in the future. In addition, in the coming years, banks will need to issue bail-inable debt in order to meet the minimum requirement for own funds and eligible liabilities set by the resolution authorities, including any subordination requirement imposed. Another piece of evidence of the systemic banks' dependence on the state is that the Hellenic Financial Stability Fund continues to hold a stake in each of the four systemic banks, ranging from 1.4% to 40.4%.

After fully lifting capital controls, banks are expected to further improve their liquidity situation to meet regulatory targets. The improving liquidity situation of Greek banks and increased depositor confidence allowed a complete lifting of capital controls as of September 2019. Moreover, all four banks plan to comply with the liquidity coverage ratio requirement by the first half of 2020 and the net stable funding ratio by 2021, when it becomes binding. Furthermore, during the summer of 2019, Greek banks tapped for the first time since 2015 the long-term unsecured funding market with two Tier-II bond issuances, albeit at a sizeable cost. Furthermore, in the summer of 2019 and in February 2020, Greek banks tapped, for the first time since 2015, the

⁽²¹⁾ International financial reporting standard 9 replaced the previous accounting standard for financial instruments as of 1 January 2018.

⁽²²⁾ Regulation (EU) 2019/630 amending Regulation (EU) No 575/2013, as complemented by further supervisory guidance by the European Central Bank.

Table 4.2.1: Financial stability indicators / I

| | 2014q4 | 2015q4 | 2016q2 | 2016q3 | 2016q4 | 2017q1 | 2017q2 | 2017q3 | 2017q4 | 2018q1 | 2018q2 | 2018q3 | 2018q4 | 2019q1 | 2019q2 |
|---------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Non-performing loans | 39.7 | 46.8 | 47.2 | 47.4 | 46.3 | 46.6 | 46.9 | 46.7 | 45.0 | 45.4 | 44.9 | 43.5 | 41.6 | 41.6 | 39.6 |
| o/w foreign entities | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| o/w NFC & HH sectors | 41.8 | 49.5 | 50.1 | 50.3 | 50.4 | 50.3 | 50.6 | 50.4 | 49.4 | 49.2 | 48.4 | 47.3 | 46.3 | 45.6 | 43.8 |
| o/w NFC sector | 44.7 | 52.5 | 53.2 | 53.9 | 53.9 | 53.4 | 53.3 | 52.6 | 51.4 | 51.1 | 49.4 | 47.9 | 46.1 | 44.5 | 42.8 |
| o/w HH sector | 38.5 | 45.9 | 46.5 | 46.2 | 46.3 | 46.8 | 47.5 | 47.9 | 47.1 | 47.0 | 47.3 | 46.6 | 46.5 | 46.8 | 45.1 |
| Coverage ratio | 43.5 | 48.5 | 48.1 | 48.2 | 48.2 | 48.1 | 47.4 | 47.2 | 46.7 | 49.5 | 49.0 | 47.8 | 48.0 | 47.7 | 46.7 |
| Return on equity(1) | -10.6 | -24.2 | -15.8 | -9.9 | -7.5 | 1.3 | -0.4 | -0.3 | -1.3 | 0.7 | -2.4 | -0.8 | -0.4 | 1.6 | 2.6 |
| Return on assets(1) | -1.0 | -2.8 | -1.9 | -1.2 | -0.9 | 0.1 | -0.1 | 0.0 | -0.2 | 0.1 | -0.3 | -0.1 | -0.1 | 0.2 | 0.3 |
| Total capital ratio | 14.1 | 16.5 | 18.0 | 18.2 | 17.0 | 16.8 | 17.2 | 17.2 | 17.1 | 16.4 | 16.4 | 16.3 | 16.0 | 15.6 | 16.5 |
| CET 1 ratio | 13.8 | 16.3 | 17.8 | 18.1 | 16.9 | 16.7 | 17.1 | 17.2 | 17.0 | 15.8 | 15.8 | 15.7 | 15.3 | 14.9 | 15.6 |
| Tier 1 ratio | 13.8 | 16.3 | 17.8 | 18.1 | 16.9 | 16.7 | 17.1 | 17.2 | 17.0 | 15.8 | 15.8 | 15.7 | 15.3 | 14.9 | 15.6 |
| Loan to deposit ratio | 79.1 | 72.3 | 74.5 | 75.5 | 75.9 | 77.2 | 78.2 | 81.8 | 83.5 | 78.8 | 78.4 | 76.0 | 74.7 | 75.8 | 74.3 |

(1) Annualised data

Source: European Central Bank's Consolidated Banking data; own calculations.

long-term unsecured funding market with Tier-II bond issuances, at a sizeable but decreasing cost.

Non-performing loan reduction accelerated in 2019 but levels continue to remain very high.

From the peak of €107.2 billion in March 2016, the stock of non-performing loans declined to €75.4 billion by the end of June 2019, representing a ratio of 39.6% of total loans. Yet, the Greek banking sector's non-performing loan ratio is still 13 times larger than the EU average and remains the highest in the EU⁽²³⁾. The proportion of non-performing loans saw a steeper decrease in the consumer and business loans category in the past year, but the situation has only slightly improved for residential loans. The majority of non-performing loans are not expected to become performing in the near future, as half of such loans have been terminated by the banks as non-viable and are considered 'denounced', while re-default rates are still high even in loans with renegotiated terms. Moreover, 15% of non-performing loans are protected from enforcement by a law prohibiting foreclosure on borrowers' primary residences. This constrains the banks' efforts to improve the quality of their mortgage loan portfolio and adversely affects the overall availability and cost of credit for mortgages. Primary residence protection has been extended repeatedly but is now finally scheduled to expire in April 2020.

The high stock of non-performing loans requires high provisioning, which constrains banks' lending capacity. The coverage of non-performing exposures by provisions in the four systemic banks decreased year-on-year by 2.5 percentage points to 46.3%, highlighting the difficulties in maintaining a high coverage ratio while undertaking aggressive deleveraging efforts.

The coverage by collateral is at 54.5%, 1.1 percentage points higher than at the end of 2018, while the ongoing rebound in house prices since 2018, after nine consecutive years of falling prices, is a first sign of improving collateral values. Yet, the average house price as of June 2019 was still 37% less than its 2008 level⁽²⁴⁾.

The secondary market for non-performing loans is continuously developing.

According to the Bank of Greece, in the first half of 2019, banks managed to sell bad loans of €3.6 billion. From November 2019 to 2021, such sales are expected to significantly increase as the four systemic banks plan to de-consolidate non-performing loans of more than €30 billion either via outright sales or via securitisations. After sales, write-offs remained an important driver of the reduction of non-performing loans followed by liquidations and collections, while the default rate of performing loans has dropped marginally below the 'cure' rate of non-performing loans, i.e. the rate of loans for which repayments have restarted. However, 'cured' loans frequently become non-performing again, implying that banks are still struggling to put in place viable long-term restructuring solutions.

Systemic initiatives, like the 'Hercules' asset protection scheme, can help speed up the reduction of non-performing exposures.

Under the no-state-aid scheme⁽²⁵⁾, banks may transfer non-performing loans to individually managed, private securitisation vehicles, which will finance the transactions by issuing various notes. The State will provide a guarantee for the senior, less risky notes of the securitisation vehicle under strict conditions and against remuneration at market

⁽²⁴⁾ Bank of Greece data, [30 June 2019].⁽²⁵⁾ State aid case SA.53519 and press release IP/19/6058.⁽²³⁾ European Central Bank data, [30 June 2019].

terms. The scheme will run over an 18-month period, with a planned budget consisting of maximum €12 billion of guarantees and voluntary participation by all Greek banks. The success of the scheme will, depend on the balance of regulatory capital gains, guarantee related expenses and losses stemming from the sale of notes to the investors among other factors.

However, the current range of tools and policies may not be sufficient to remove non-performing loans from banks' balance sheets and settle private and public debt in the near term. To shrink non-performing loan ratios rapidly, the toolkit for reducing non-performing loans could be broadened, as it has been in other EU countries, both through systemic solutions consistent with EU rules and bank-specific 'organic' internal loan workout activities, which performed below expectations in past years. Strategic defaulters and moral hazard represent additional challenges that for many years have adversely affected the payment discipline in Greece. Resolving households and businesses' over-indebtedness in a swift and sustainable manner will be instrumental for accelerating the economic recovery.

To tackle this challenge, the authorities are preparing to streamline the multiple frameworks for bankruptcy and insolvency, while taking steps to address the backlog of household insolvency cases. The authorities therefore committed to put in place a consistent and unified framework for settling corporate and household debt, aiming to limit procedural abuse by debtors, which prevents banks from seizing collateral in case of defaults. This new framework will transpose Directive 1023/2019⁽²⁶⁾ and replace the existing out-of-court workout mechanism, which attracted relatively low interest from debtors. A related challenge is the clearance of the backlog of household insolvency cases at courts, which the authorities aim to speed up by providing specialised training to judges and increasing the number of clerical staff at courthouses.

⁽²⁶⁾ Directive (EU) 2019/1023 of the European Parliament and of the Council of 20 June 2019 on preventive restructuring frameworks, on discharge of debt and disqualifications, and on measures to increase the efficiency of procedures concerning restructuring, insolvency and discharge of debt, and amending Directive (EU) 2017/1132 (Directive on restructuring and insolvency).

The performance of e-auctions by banks to liquidate their collateral has fallen short of expectations. Electronic auctions started in November 2017 but have had so far limited impact in reducing non-performing loans. In the first half of 2019, about 40% of scheduled auctions were suspended or cancelled, due to procedural issues and filings under the household insolvency law. Moreover, more than 60% of the executed auctions did not attract any bidders, while in 75% of the successful ones the banks ended up purchasing the collateral themselves. The authorities are investigating possible improvements to the framework.

The governance of the systemic banks continued to improve gradually, with the active support of the Hellenic Financial Stability Fund. The Fund regularly evaluates the performance of the banks' Boards of Directors and their governance arrangements. As a result, by October 2019, these banks have mostly implemented the Fund's recommendations from the 2017 board performance and governance review that focused primarily on the banks' risk management culture, compliance and internal control frameworks.

The authorities have put in place an action plan to clear the backlog of claims linked to state guarantees issued to individuals and businesses. The action plan intends to streamline the bureaucratic burden of processing claims and to reinforce the department staff that manage state guarantees. The authorities are seeking ways, supported by credible measures, to accelerate the payment profile of called guarantees in question.

Greek insurance companies are adequately capitalised but their exposure to risks did not materially change in 2018. Insurer's total assets represented only 9% of GDP as of the end of 2018. The solvency position of Greek insurers is adequate. At the end of 2018, government bonds accounted for 61% of the total investment for which risk is borne by Greek insurance companies. This is twice the EU average and entails a significant home bias.

A paradigm shift has taken place in Greece in the area of card payments since mid-2015. Card payments have increased sharply since 2015, as a side effect of the imposition of capital controls.

This tendency was further reinforced by the mandatory introduction of ‘point of sale’ devices for most merchants, and linking customers’ use of electronic payments to their tax-free income. As a result, the number of point of sale terminals increased significantly from less than 200,000 in 2014 to 565,000 in 2018, the number of payment cards increased from 12.1 million in 2014 to 15.6 million in 2018, and the value of card payments with cards issued in Greece more than tripled. However, data for the first half of 2019 suggest that this trend may be losing momentum. Despite this impressive growth, card transactions per person and the penetration rate of plastic cards in Greece remain well below the EU average.

4.2.2. ACCESS TO FINANCE

Following years of contraction, bank lending remains subdued for households but shows signs of improvement for companies. From 2011 until late 2018, the growth rate of loans extended to non-financial corporations was either negative or close to zero. However, since December 2018, growth in credit to non-financial corporations turned positive and reached rates last observed in mid-2010, supported by a decline in credit risk and the average cost of financing. Yet, most of the renewed credit growth is due to large corporations in the energy, transport and tourism sectors. Loans to households continue to contract, although survey data suggest that demand has been growing for all categories of household credit since 2018. A divergence in trends is also evident in terms of lending rates. Loan rates to non-financial corporations have been steadily decreasing, reaching close to historical lows, while rates on mortgage and consumer loans have remained high.

Information asymmetries between lenders and borrowers persist. Greece currently has a privately owned credit bureau that maintains a database on the creditworthiness of borrowers (individuals or firms) and facilitates the exchange of credit information among creditors. However, the credit bureau does not provide its member institutions with credit scores of a potential borrower’s creditworthiness.

Non-financial corporations are taking advantage of alternative sources of non-bank financing, but Greek capital markets are still

underdeveloped and affected by the deep and prolonged crisis. Despite some signs of compression of the cost of market funding for large resilient Greek corporations, for the average Greek company raising capital from bond markets remains difficult. This is due to country risk, low profitability and a shallow domestic investor base.

A number of initiatives at various stages of development, aim to promote the non-bank financing of the economy. These include: (i) increasing transparency for listed companies; (ii) improving environmental and social governance disclosure among listed companies in the Athens Stock Exchange; (iii) the growth of the domestic market of collective investment funds, including via the provision of tax incentives; (iv) improving the framework for microcredit provision; and (v) the potential reduction of supervisory and information requirements for small and medium enterprises. Moreover, the gradual reduction of the dividend tax rate from 15% to 5% will reduce the tax bias towards debt financing. The development of financial innovative products and services is also starting to come into focus, with the creation of FinTech innovation hubs by both Bank of Greece and the Hellenic Capital Markets Commission.

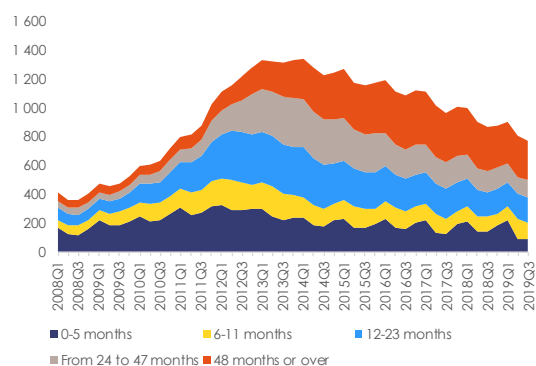
Small and medium enterprises in Greece continue to be disproportionately affected by the lack of access to finance, despite efforts to increase the availability of funds. This is also reflected in the high spread between the interest rate on small (up to €250 000) and larger corporate bank loans (above €1 million), which was on average 150 basis points during the first 7 months of 2019. The importance of financial contributions from the EU programme for the competitiveness of enterprises and small and medium-sized enterprises, the Hellenic Fund for Entrepreneurship and Development, the European Bank for Reconstruction and Development and the European Investment Bank remains significant, as they represented 44% of total loan disbursements to small and medium companies in the first half of 2019. Four new investment programmes were also announced in November 2018 as part of the New Economy Fund managed by the Ministry of Development and Investment, to inject a total of €1 billion in Greek small and medium enterprises, 30% of which is expected to come from private funds.

4.3. LABOUR MARKET, EDUCATION AND SOCIAL POLICIES

4.3.1. LABOUR MARKET

The labour market is gradually recovering, but the employment rate remains well below pre-crisis levels and that of other EU countries. Employment continued to expand in 2018 and 2019. In the third quarter of 2019, there were 67,000 more people in employment than the same time in 2018. Over that period, employment increased in all sectors except for agriculture and construction. Employment growth was the highest in industry (excluding construction), while tradable services (accounting for about one third of the Greek economy) recorded the largest expansion in absolute terms. Nevertheless, at 61.2% in the third quarter of 2019, the employment rate was 5 percentage points lower than before the crisis (for the 20-64 age group). Greece continues to have one of the lowest employment rates in the EU, while the activity rate (73.9%) is also considerably lower than the EU average (78.7%).

Graph 4.3.1: Unemployment by duration (thousands of persons), 2008-2019



Source: Eurostat

Unemployment is falling, although from a markedly high level. The unemployment rate dropped from 18.5% in October 2018 to 16.6% in October 2019, going thus down by more than 11 percentage points since its peak in 2013. However, it remains one of the highest in the EU. The long-term unemployment rate, which had peaked at almost 20% in early 2014, declined to 12.1% in the third quarter of 2019. Out of the 777,000 unemployed persons, almost three quarters have been out of work for more than 1 year, and of these, around half have been out of work for more than 4 years. Unemployment rates are particularly high in the regions of Western Macedonia and in Western Greece.

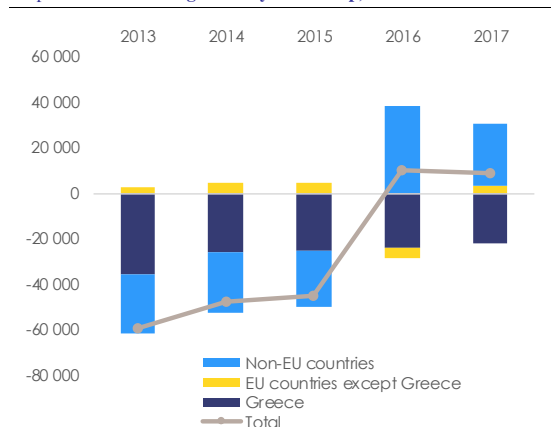
Non-standard employment has remained broadly stable. Most of the new jobs are full-time jobs based on open-ended contracts. However, transition rates are relatively low, as only 22.6% of temporary workers moved to a permanent contract in 2018, below the EU average of 26%. Dependent employment accounts for the bulk of job creation, while the share of self-employed (one of the highest in the EU) has slightly declined to 27%. The share of part-time employment is well below the EU average. Nevertheless, according to national data, more than half of new dependent jobs created in the private sector in 2017-2018 were part-time or rotational jobs. The authorities have recently taken measures to limit the abusive use of part-time work, which can mask undeclared full-time work. This includes higher remuneration for working hours provided beyond the normal part-time schedule and improvements in the registration of employment contracts.

Wage growth remained moderate in 2019, notwithstanding the sharp increase in the statutory minimum wage. The statutory minimum wage went up by 10.9%, as of February 2019, and the sub-minimum wage for people under 25 was abolished, implying a 27% increase for this group. As a result, an estimated 600,000 employees have benefited from a direct increase in their salaries. In 2018, nominal compensation per employee increased by 1.3%, while for 2019, wage growth is estimated at 0.4% in nominal terms and at -0.4% in real terms. Wage growth is expected to pick up in the future, which highlights the importance of ensuring corresponding increases in productivity.

The economic impact of statutory minimum wage adjustments should be closely monitored. It is important to monitor wage and labour market developments to avoid any negative impact on competitiveness, employment (especially for vulnerable groups, including the young) and undeclared work. To that effect, the Greek authorities are planning to conduct an ex-post assessment of the recent minimum wage increase and to improve the information base that is currently available to monitor labour market developments, with technical support from the World Bank.

The gender employment gap is particularly large, and only partly attributable to family caring responsibilities. The employment rate of women, at 51.3% in the third quarter of 2019, is 20 percentage points lower than that of men. Women are also more likely to be unemployed than men. Labour market participation of women is particularly low in the 50-64 age group, also due to more favourable retirement rules in the past. Nevertheless, women aged 25-49 also participate much less in the labour market than men. As caring responsibilities are cited as the main reason for inactivity by around one fifth of inactive women in this age group, increasing the availability of high-quality childcare and long-term care services could improve women's employment status. Overcoming gender stereotypes and promoting entrepreneurship skills of women and flexible working arrangements is also particularly important.

Graph 4.3.2: Net migration by citizenship, 2013-2017



Source: Eurostat

Greece's population is declining, with more than 100,000 people leaving the country every year. The total population decreased by almost 400,000 between 2010 and 2019 due to the combined effect of net emigration and a negative natural population change. Annual emigration flows have risen, from about 40,000 people before 2010, to above 100,000 in 2012-2017. In 2016 and 2017, the overall migration balance turned positive due to large inflows of non-EU citizens, mostly refugees. However, the net emigration of Greek citizens continued and people who left the country exceeded those who returned by 22,000 in 2017, although this trend has slowed since 2013.

The high number of people leaving the country raises serious concerns about a 'brain drain'. Although comprehensive data on the skills profile of migrants are not available, several sample studies conducted in Greece have confirmed that the emigration wave during the crisis primarily concerned young people with a high level of education (often in medicine or engineering) and previous work experience (Lazaretou, 2016). This has led to further decreases in fertility rates and a worsening of the pressure of population ageing. Many of those who left were able to advance professionally and gain valuable experience. This could prove an asset for the ongoing economic recovery especially through innovative start-up businesses that could attract those thinking about returning to Greece.

The government is taking action to address these adverse demographic challenges. The Greek authorities are trying to discourage further emigration of highly skilled people by offering financial support to young scientists at Greek universities and temporary employment to tertiary graduates in the public sector. To address low fertility rates (1.35% in 2017, compared to an EU average of 1.59%), and support women's employment, the authorities have also adopted a new childbirth grant and been expanding subsidised childcare.

Despite improvements, the employment situation of young people remains a challenge. At 13% in the third quarter of 2019, the share of young people (aged 15-24) not in employment, education or training) was 7 percentage points lower than in 2013, but is still among the highest in the EU. In the 25-29 age group, the rate of young people who are not in employment, education or training reached 29.5% in 2018, far above the EU average of 17.1%. Over 63,000 people not in employment, education or training aged 15-29 have so far benefited from the youth employment initiative, an EU funding programme, which in Greece offers, among others, training programmes in sectors with growth potential. Stronger partnerships with employers and other stakeholders, and increasing outreach to inactive people would further increase the effectiveness of such initiatives.

More investment in active labour market policies, along with a broader reform of the system would help the unemployed get jobs. As a percentage of GDP, Greece spends less than most other EU Member States on active labour market policies and coverage is low. Direct job creation through public works and hiring subsidies to businesses account for the bulk of activation programmes (66% and 28% of expenditure respectively in 2017). Training programmes have become more limited recently, mostly targeting young people under the Youth Guarantee. The new quality framework for training programmes, legislated in 2018, which, among others benefits, introduces accreditation of training curricula, has not yet been implemented. Similarly, the comprehensive monitoring and evaluation of active labour market policies is at an early stage of development.

Current activation programmes do not provide jobseekers with a prompt and tailor-made approach. Except for hiring subsidies, activation programmes are not regularly available but are launched through ad hoc project calls. Jobseekers registered in the Public Employment Service apply for these programmes independently and selection of participants is based on objective — mainly social — criteria. Based on common practice in other EU countries, the authorities are introducing a new delivery model, which comprises permanent activation programmes and a strong role for Public Employment Service counsellors to guide the unemployed into jobs or training adapted to his or her profile and needs. The transition to this model started in 2019 with a small pilot project, but it has a long way to go until it is fully implemented at national level.

The capacity of the Public Employment Service has been reinforced, but is still not commensurate to the unemployment challenge. At 74.4% in 2018, the share of unemployed people using the Public Employment Service to find a job was among the highest in the EU and has been increasing since 2013. The Service has deployed new tools to assess the profiles and skills of the unemployed and has recruited over 300 new job counsellors during the last 2 years. Still, with more than 2,000 jobseekers per counsellor in some areas, individualised support and regular follow-ups are difficult to achieve. So far, counselling has taken place only on request, while pre-scheduled

appointments with priority groups of unemployed are in a planning phase. Integrated employment and social support services are not provided for the long-term unemployed. To strengthen relations with employers, a central unit catering for large businesses was set up and employer counsellors were appointed in most local offices. However, the number of vacancies reported by employers to the Public Employment Service remains low, in view of the large number of unemployed.

Past actions to combat undeclared work are starting to bear fruit. Estimated at more than 20% of GDP (Schneider, 2015), informal work has been a longstanding feature of the Greek economy, which is characterised by a very high share of self-employment and small-sized enterprises. In a recent Eurobarometer survey, 27% of respondents in Greece admitted to having purchased undeclared goods or services in the past year. The authorities took a number of measures to combat undeclared work under a three-year action plan launched in 2017. Intensified inspections helped reduce the incidence of undeclared work in high-risk sectors from 13.5% in 2016 to 9% in 2018 (SEPE, 2019).

The transition from education to work remains difficult and skills mismatch is high. Graduates of both upper secondary and tertiary education show very low employment rates during the first 3 years after completing their studies (57.5% and 48.7% respectively, age group 20-34, compared with 69.6% and 63.5% for the cohort overall). Career orientation services and traineeships or apprenticeships remain underdeveloped, which weighs on the transition to the labour market. Graduate tracking, cooperation with business on study programme development as well as rigorous quality control are areas for action. Relative to the current low share of skill-intensive industries, Greece has one of the highest over-qualification rates of tertiary graduates and one of the highest qualification mismatches among all EU countries, according to the European Skills Index. Skills shortages are particularly high in the energy and information and communication technology sectors (SEV, 2019).

Adult learning is limited and performance in digital literacy remains low. While the challenging world of work requires upskilling and reskilling, the adult learning system continues to be highly fragmented and participation in adult

learning, at 4.5% in 2018 (against EU average of 11.1%) remains particularly low. Only 51% of people aged 16-74 appear to have at least basic digital skills, below the EU average of 58%.. Literacy and numeracy skills of adults are also lower than in most other EU countries as shown by the OECD Survey of Adult Skills.

There is scope to further improve social dialogue and develop civil society. Social dialogue in Greece is conducted formally (through standing institutions, or by committees and bodies that are set up in specific policy areas) and informally (through bilateral consultation and other dialogue processes). However, some of the committees where social partners participate convene sporadically. Also, social partners report that consultation on new policies and legislation is often more of a formality and that it does not have an impact on policy making. National social partners have recently addressed a request to the Ministry of Labour to activate a Tripartite Consultation Council to formalise and strengthen the role of social dialogue in policymaking. The impact of the recent law on investment (Law 4635/2019) on sectoral collective bargaining will also have to be monitored. Meanwhile, civil society organisations have become more prominent since the economic and refugee crises, but their capacity and impact are weakened because of the lack of appropriate regulatory framework, among other factors.

4.3.2. EDUCATION AND SKILLS

More children have access to early childhood education and care. Between 2016 and 2018, enrolment rates in formal childcare sharply increased: from 8.9% to 40.9% for children aged 0-3. It remains to be seen whether this remarkable improvement, which has placed Greece high above the EU averages (35.1%) is permanent, as sudden increases followed by sharp declines were observed in the past. A positive indication is the significant increase in the number of childcare vouchers granted to low-income families (regardless of the parents' employment status) that aim to support women's employment and the social inclusion of vulnerable groups. Greece has also extended mandatory pre-school attendance by another year to cover four year-olds, which could contribute to better outcomes in subsequent stages of education, in particular for children from disadvantaged backgrounds. However, the full roll-out of the reform in the next school year 2020/2021 may prove challenging, given capacity constraints. In 2017, the enrolment rate for pupils between 4 years old and the starting age of compulsory education was 81.5%, far below the EU average of 95.4%. Effective targeting of investment would require comprehensive data on needs and demand beyond the voucher programme.

Box 4.3.1: Social Pillar

The European Pillar of Social Rights is a compass for renewed upward convergence towards better working and living conditions in the EU. It sets out 20 essential principles and rights in the areas of equal opportunities and access to the labour market, fair working conditions, and social protection and inclusion.

The Social Scoreboard supporting the European Pillar of Social Rights points to a number of employment and social challenges in Greece. While the overall and long-term unemployment rates have been decreasing in line with the economic recovery, they remain well above the pre-crisis levels and far

above the EU average. The employment rate for women is about 21 pps below that of men. This very large gender employment gap is only partly attributable to caring responsibilities of women. Encouragingly, there has been a remarkable increase in childcare enrolment rates in recent years. The legacy of the economic and financial crisis, with still high unemployment and only moderate wage growth since 2017 (after a strong downward adjustment), is reflected in poor performance on income indicators.

Recent social welfare system reforms are gradually improving the social situation in Greece. These reforms, which notably introduced a guaranteed minimum income scheme in 2017, have boosted revenues for people with lower incomes and increased the impact of social transfers on poverty reduction. Strengthened family benefits and a new rent subsidy, introduced in 2018 and 2019 respectively (therefore not yet captured in the statistics), are expected to further increase the impact of social transfers. Income inequality has declined markedly and is now below its pre-crisis level.⁽¹⁾ Efforts to expand access to primary healthcare have helped reduce self-reported unmet medical care needs.

The employment situation of young people is still a problem. Despite a continued decline, the share of young people not in education, employment or training remains among the highest in the EU. Of particular concern is the situation for the 25-29 age group, which has almost double the number of people not in education, employment or training as

| 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 population aged 15-24) | 5 GENDER EQUALITY | | | | |
| | Gender employment gap | | | | | |
| | 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 (% of population aged 20-64) | 8 DECENT WORK AND ECONOMIC GROWTH | | | | |
| | Unemployment rate (% active population aged 15-74) | | | | | |
| | Long-term unemployment rate (% active 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 | 3 GOOD HEALTH AND WELL-BEING | | | | |
| | Self-reported unmet need for medical care | | | | | |
| | 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 proposal for a Joint Employment Report 2020, COM(2019) 653 final; NEET: neither in employment nor in education and training; GDHI: gross disposable household income. Update of January 2020.

the 15-24 age group. The remarkably low share of early school leavers may partly reflect a lack of job opportunities for young people. Performance on basic skills continues to be weak, while self-reported digital skills have recently improved.⁽²⁾

⁽¹⁾ The better-than-average performance on the respective indicator (S80/S20) is due to its significant change over time; in absolute terms, the indicator still implies a higher income inequality in Greece compared to the EU as a whole.

⁽²⁾ Similar to the S80/S20 indicator, the better-than-average performance on digital skills is due to the increase of the respective indicator between 2017 and 2019, while Greece's performance remains considerably below the EU average.

School education continues to suffer from numerous deficiencies. The system is highly centralised and focused on input control rather than on monitoring outputs. The continuing professional development of teachers decreased significantly during the last decade and was almost entirely provided through programmes co-financed by the European Social Fund. There is little accountability in schools, as school self-evaluation has yet to be implemented and teacher evaluation was abolished in 2014. The strong reliance on substitute teachers, with an additional 37,000 teachers (including 2,522 in special needs education) hired by November 2019, impacts on the quality of education. Challenges also exist in small schools, mostly in rural areas, where teachers have to teach several subjects while not having adequate credentials. The share of young people (18-24) who left school early was — at 4.7% in 2018 — among the lowest in the EU. However, the share was much higher among the foreign-born population (17.9%) and the gap between them and native-born people widened. The implementation of digital education, in particular as a cross-curricular method, is insufficient due to the content-heavy curriculum, inadequate infrastructure and in-school support.

Underachievement in basic skills remains high and heavily affected by the socio-economic background of students. According to the 2018 OECD Programme for International Student Assessment the share of low achievers among 15 year-olds remains — at 30.5% in reading, 31.7% in science and 35.8% in maths — among the highest in the EU, having increased since 2009 in all three fields. Moreover, underachievement is highly affected by the socio-economic background of students. In reading, 46.4% of students from the lowest socio-economic quartile are underachievers compared to 15.2% from the highest quartile — 25.5 percentage points higher than the EU average. Among students with a migrant background, 48.3% are low achievers compared to 27.4% among those without a migrant background. Meanwhile, a performance difference of approximately 2 years of schooling between public and private schools is among the highest in the EU and city schools outperform rural schools by between one and two years of schooling. These considerable inequities point to the need for a comprehensive long-term strategy that will take

into account the growing diversity among learners and the changing labour market needs.

Public spending on education is relatively low, and is being compensated by sizeable out-of-pocket payments by households. Public expenditure on education accounted for 3.9% of GDP in 2017, below the EU average of 4.6%, and for 8.2% of total government expenditure, one of the lowest shares in the EU. At the same time, an estimated 20% reduction in student numbers between now and 2040 and an ageing teaching workforce, with half of teachers set to retire within the next decade, represent both challenges and opportunities that call for more efficiency and a shift from input-oriented to output-focused spending patterns. In 2014, total private spending, including private tutoring, was estimated at 35% of public education expenditure (KANEP, 2017). Households' out-of-pocket payments in secondary education are especially high and largely spent on tutorial schools teaching regular school curriculum subjects.

Though a large proportion of students go to university, none of Greece's universities feature in the top 100 European universities, and the tertiary system suffers from systemic flaws. Tertiary educational attainment of 30-34 year-olds rose from 25.7% in 2008 to 44.3% in 2018, above the EU average of 40.7%. While Greek universities perform well in terms of research output, they underperform on teaching quality (Hellenic Quality Assurance and Accreditation Agency, 2019). The creation of new departments and schools when upgrading technological education institutions into universities added to an already fragmented higher education landscape. The authorities have started introducing measures to address these shortcomings in higher education, such as upgrading the quality assurance authority (European Commission, 2020). **The attractiveness of vocational education and training is low, although graduates have better employment prospects.** The proportion of upper secondary students enrolled in vocational education and training was far below the EU average (28.8% compared with an EU average of 47.8% in 2017) and has been decreasing since 2013. Following the adoption in 2016 of the national strategic framework for upgrading vocational education and training, including through apprenticeships, significant steps have

been taken to improve the training content and the quality of teaching, as well as to expand dual learning, which combines learning at school with working as an apprentice. In 2018, the employment rate of recent vocational education and training graduates was 5 percentage points higher than that of graduates from general upper secondary education.

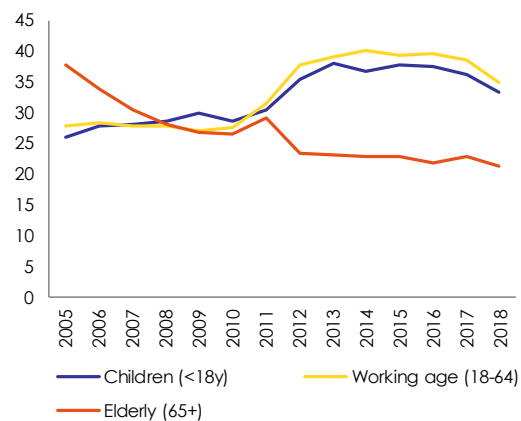
Efforts are under way to strengthen links to the labour market in vocational education and training. The flagship initiative of a nine-month apprenticeship for graduates from upper secondary vocational schools has been expanding every year. In the 2018/2019 school year, 3,700 graduates enrolled in apprenticeships, with 48% of the placements in the private sector. Quality training of teachers in vocational education and training and trainers remains a key challenge. There is still room to better align vocational education and training with labour market developments, including by updating the occupational profiles (setting out the required skills) and using the outputs of the national mechanism for diagnosing labour market needs.

4.3.3. SOCIAL POLICIES

The social situation is improving overall, partly reflecting the strengthening of the welfare system, but remains very difficult, especially for children and working-age people. Between 2017 and 2018, the share of people at risk of poverty or social exclusion declined from 34.8% to 31.8% ⁽²⁷⁾ and the share of people affected by severe material deprivation ⁽²⁸⁾ dropped from 21.1% to 16.7%, partly in response to the roll-out of the guaranteed minimum income scheme (Social Solidarity Income) in 2017. Nevertheless, poverty remains among the highest in the EU with children and working-age people being more affected than older people (see Graph 4.3.3). Moreover, there are large differences between regions, with Western Greece showing particularly high poverty rates (44.6% of people are at risk of poverty or social exclusion

and 28% of people face severe material deprivation). In-work poverty also remains among the highest in the EU, although the share of employed people at risk of poverty declined from 12.9% in 2017 to 11% in 2018.

Graph 4.3.3: Proportion of population at risk of poverty or social exclusion per age groups, 2005-2018



Source: Eurostat.

The capacity of the welfare system to protect against poverty has improved. In 2018, social transfers (other than pensions) were able to reduce the risk of poverty by 20.3%, which is a marked improvement (in the years prior to the introduction of the Social Solidarity Income, the impact was around 16%), but still far from the average impact in the EU (33.2%). The poverty-reducing impact of the child benefit introduced in 2018 and the rent benefit introduced in 2019 is still to be seen. The flash estimates of 2018 income indicate a continued decrease in relative monetary poverty ⁽²⁹⁾.

Income inequality has declined but remains higher than in the EU as a whole. While in 2017 the disposable income of the richest 20% was 6.1 times that of the poorest 20% (EU average: 5.1), this ratio dropped to 5.5 in 2018, implying a reduction in income inequality. This improvement was partly due to the social benefits system whose corrective power has increased following recent reforms, although it remains well below the EU average.

²⁷ Poverty and income inequality indicators in this chapter are based on EU-SILC data, which refer to incomes recorded in the previous year (i.e. 2017 incomes for SILC 2018).

⁽²⁸⁾ Severe material deprivation in an EU-Statistics on Income and Living Conditions indicator defined as the enforced inability to pay for some items considered by most people to be desirable or even necessary to lead an adequate life.

⁽²⁹⁾ Experimental flash estimates produced by Eurostat for income year 2018. <https://bit.ly/34HOcIG>.

Declining unemployment and rising incomes are leading to a reduction in the number of Social Solidarity Income beneficiaries. As the eligibility threshold has remained unchanged since the launch of the scheme, and incomes have continued to rise, the number of beneficiaries of the Social Solidarity Income declined from 660,000 in 2017 (about 6% of the Greek population) to 480,000 in 2019. Increasing the level of the guaranteed income would improve the adequacy of the minimum income support, which was already below the EU average in 2017 (European Commission, 2019d). The work incentives embedded in the Social Solidarity Income could be reinforced by increasing the earnings that are disregarded in the means test⁽³⁰⁾. Finally, excluding the child benefit from the calculation of income, as is done in several other Member States, would increase eligibility for the scheme and contribute to lowering child poverty. See Box 4.3.2 for simulated scenarios on possible changes in the scheme and their impact on poverty

reduction as well as monetary incentives to working⁽³¹⁾.

Greece is expanding access to local social services. Community centres now operate as one-stop shops for social services in 3 out of 4 municipalities. They provide information to the public and facilitate access to social benefits and complementary services. Branches dedicated to supporting families and better coordinating elderly care will start opening in 2020. Regional observatories for social policies are also being rolled out. The labour market activation of the Social Solidarity Income scheme's beneficiaries who are able to work and are formally obliged to register as unemployed, was piloted in 32 municipalities in 2019. Closer coordination between the community centres and the local employment offices would help beneficiaries overcome the various barriers that prevent them from participating in the labour market.

⁽³⁰⁾ At present, 20% of net income from salaried services, public works or any other activation programme is disregarded in the calculation of the benefit.

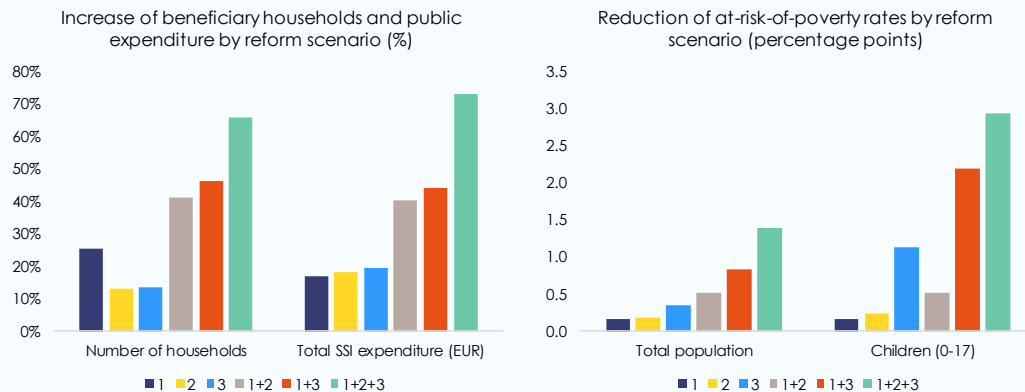
⁽³¹⁾ European Commission, Joint Research Centre, based on the EUROMOD model (version I2.0+) and Jara, H.X., Gasior, K, and Makovec, M. (2019).

Box 4.3.2: Possible adjustments to the Guaranteed Minimum Income scheme in Greece

The Social Solidarity Income benefit (SSI) complements the household's income from other sources so that the total income reaches a predetermined guaranteed level. Since the introduction of the scheme in February 2017, the guaranteed minimum income has been set at 200 EUR for the first adult in the household, increased by 100 EUR for each additional adult and 50 EUR for each child in the household (100 EUR for the first child in a single-parent household). To incentivise work, 20% of net employment income is disregarded in the income test for eligibility. For example, for a couple with one child, the guaranteed minimum income is $200 + 100 + 50 = 350$ EUR per month. If this hypothetical household earns 300 EUR of net labour income per month and as they are also entitled to a child benefit of 70 EUR per month, they will receive an SSI benefit equal to $350 - 300 \cdot 0.8 - 70 = 40$ EUR per month.

Six scenarios of possible changes to the scheme are simulated below with the EUROMOD model ⁽¹⁾: 1) increase the employment income disregard from 20% to 40%; 2) uprate the guaranteed amount by 10% 3) exclude the child benefit from the income test, 4) combination of 1+2, 5) combination of 1+3, 6) combination of 1+2+3. The first chart below shows the impact on the number of beneficiary households and on the total SSI expenditure. The simulated baseline numbers are very close to the official figures in 2019. The second chart shows the effect in terms of at-risk-of-poverty reduction, for the poverty line fixed at 60% of baseline's median equivalised disposable income. In the most ambitious scenario combining all the three changes, the number of SSI households increases by 66% (from 251,000 to 417,000) and the annual expenditure by 74% (from 592 million to 1,026 million EUR). However, as market incomes in Greece continue rising, the actual figures at the time when the reform is introduced are likely to be lower. The share of people who are at risk of poverty decreases by 1.4 percentage points (from 17.5% to 16.1%) overall and by 2.9 percentage points (from 21.2% to 18.3%) for children in this scenario.

Graph 1: Guaranteed minimum income scheme reforms



Source: European Commission, Joint Research Centre, based on the EUROMOD model

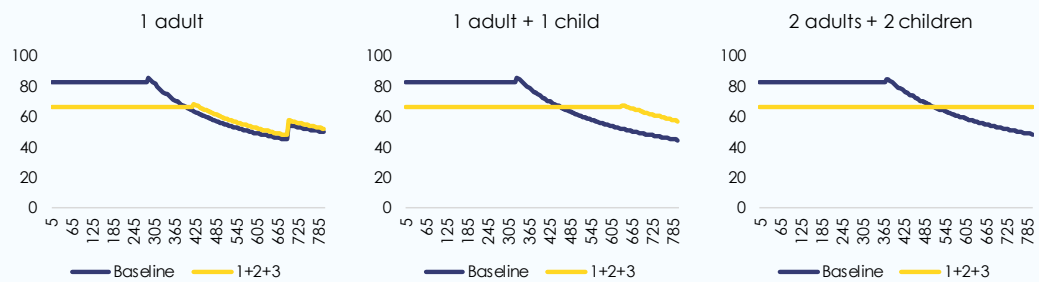
Financial work incentives of SSI beneficiaries can be assessed with using the participation tax rates (PTRs). They indicate what share of the gross earned income is “taxed away” by the loss of benefits and increase of taxes, when moving from unemployment/inactivity to work. In Greece, almost three in four SSI beneficiary households declare zero labour income. The higher the PTR, the lower the incentive to start working. The charts below compare the PTRs (in percentage) in the baseline scenario and the reform scenario 6 for three household compositions. The incentives generally improve in case of lower earnings (gross wages of up to 400-500 EUR) due to the increase in the employment income disregard. In case of higher earnings, they remain about the same for single adults and worsen for households with children, which is mainly due to the exclusion of child benefits from the income test. The earned income is from dependent employment in these simulations. For self-employment the situation is quite different: for lower

(Continued on the next page)

Box (continued)

earnings the PTRs are very high (close to or even above 100) in all scenarios, since they are strongly affected by the minimum social insurance contribution (145 EUR per month).

Graph 2: **Guaranteed minimum income scheme reforms**



Source: European Commission, Joint Research Centre, based on the EUROMOD model

⁽¹⁾ EUROMOD is the tax-benefit microsimulation model for the EU. It simulates individuals' and households' benefit entitlements and tax liabilities (including social security contributions) according to the rules in place in each Member State. Simulations are based on representative survey data from the 2017 European Statistics on Income and Living Conditions (EU-SILC) and cover the main elements of direct taxation, social contributions and non-contributory benefits. Incomes reported in the EU-SILC of 2017 refer to 2016 and are updated with 2019 uprating factors.

Access to affordable housing remains a significant concern. In 2018, almost 40% of the total population (far above the EU average of 10%) spent more than 40% of their disposable income on housing costs, with tenants in rented housing being particularly affected. In 2019, a means-tested lump-sum rent benefit was introduced, covering about 6% of the Greek population. A separate subsidy to support mortgage holders was established under the revised primary residence protection framework, but this remains severely underused. There are several programmes that provide temporary accommodation and emergency services to homeless people and refugees. However, there is currently no social housing scheme in place that provides more permanent solutions for low-income households.

A specific challenge is the integration of third-country nationals, including recently arrived refugees. People with a migrant background in Greece have lower employment rates (especially women), are more affected by social distress, have worse educational outcomes, and drop out of

school early more often than the native born and their children. The non-EU born represent 8.7% of the total population in Greece, above the EU average of 7.5%. With the intensification of migrant inflows in 2019, the integration of people benefiting from international protection will be a major challenge. An estimated 112,300 refugees and asylum seekers were hosted in Greece in December 2019 (UNHCR, 2019).

A large proportion of refugees and asylum seekers are unaccompanied minors. In December 2019 there were around 5,300 unaccompanied minors in Greece. Measures intended to address their needs, including sustainable accommodation in shelters or supported independent living and a guardianship system, are facing delays. The national strategic plan for reception has been updated to increase the country's reception capacity. The national strategy for the integration of migrants was finalised in July 2019. It sets out a comprehensive approach to support their social and economic inclusion with both short- and long-term measures. Under this

framework, the HELIOS integration programme⁽³²⁾ launched in July 2019 aims to provide autonomous housing, employment and integration courses for refugees. By September 2019 almost 3,500 refugees had enrolled in the programme.

Integrating recently arrived migrants into the Greek education system has so far primarily focused on schools. In the 2018/2019 school year, substantial efforts were made to provide schooling for 12 867 refugee children, while teacher training in secondary education and upgrading teaching material started in 2019. However, integrating refugee children into education remains an uphill struggle, considering that an estimated 28,000 refugee children reside in Greece (UNICEF, 2019). Access to education for older children and young adults is also a challenge (Tzoraki, 2019). To facilitate their integration onto the labour market, Greece has taken part in the Council of Europe's 'European qualifications passport' that assesses refugees' higher education qualifications.

Pension spending in Greece is expected to decrease substantially over the medium to long term, while leading to a reduction in inefficiency and inequalities. At 15.5% of GDP, pension spending in Greece was one of the highest in the EU in 2018. Nevertheless, according to projections (European Commission, 2018a)⁽³³⁾ that have been reviewed by the Economic Policy Committee's working group on ageing populations and sustainability, the reform legislated in spring 2016 is projected to reduce public spending on pensions to just above 13% by 2030, which is the euro-area average. The reform not only ensured the pension system's sustainability over the -medium to long-term, while reducing inefficiency and inequalities, it also improved actuarial fairness and improved incentives to declare work and pay social contributions and work for longer, where appropriate. Finally, the reforms helped to create the fiscal space to rebalance social spending and introduce policy measures targeted at those groups most at risk of poverty, namely the young and

unemployed, on whom spending remains lower than in other EU countries.

However, there was a roll-back of some 2012, 2014 and 2016 measures in the recent year. In 2019, the authorities repealed important elements of the previous pension reforms, which led to an increase in spending on pensions as a share of GDP. This pertains to the repeal of the 2016 reform of the survivors' pensions that had been modernised and aligned with standard practices in other EU Member States and the reinstatement of a permanent 13th pension, which had been eliminated in 2012. This will be paid once a year at a level of 30%-100% of current pensions (the highest percentage applying to pensions below €500 per month and the lowest to pensions above €1 000 per month) and will cost as much as €0.8 billion. Meanwhile, the Council of State has made an important ruling on the 2014 and 2016 pension reforms, according to which but some of their elements will need to be adjusted (European Commission, 2019b; European Commission, 2020).

In order to comply with the Council of State decision on the 2016 pension reform, new (increased) accrual rates for careers above 30 years are set to be introduced retroactively as from 1 October 2019. This adjustment is to ensure that the replacement rates for long insurance periods will be slightly higher than 50% as requested by the Council of State. According to the actuarial projections by the authorities, expenditure should remain virtually unchanged as a share of GDP until 2047 compared with the trajectory before this adjustment. This is because the projected impact of the new measures is below 0.5% of GDP and the authorities plan to finance this by eliminating the annual one-off benefit (i.e. the 13th payment to pensioners introduced in 2019) to finance the additional costs. The measure will lead to very high average replacement rates by European standards. This is especially the case for those with long careers with pensionable earnings at or below the average wage.

The authorities have developed an action plan to remedy the delays with the completion of the setup of the Single Social Security Fund (EFKA). An ambitious action plan for the digitalisation of the Single Social Security Fund will start to be implemented in the coming months.

⁽³²⁾ An integration project implemented by the International Organisation for Migration and its partners, with the support of the Greek government and funding from the European Commission.

⁽³³⁾ These figures reflect the most recent measures legislated up to September 2019 and update projections published in the 2018 Ageing Report.

The authorities' action plan envisages the unification of the IT systems of all the previous funds and the digitalisation of all services provided by the end of 2020. The digitalisation of pension awards should be completed by June 2021. The authorities have also announced the decision to merge the Supplementary Pension Fund into the Single Social Security Fund in order to improve the efficiency of the pension system also through reduced administrative costs.

4.3.4. HEALTH AND LONG-TERM CARE

Greece has significantly improved the efficiency of its healthcare system but can be further developed. Efforts started under the Economic Adjustment Programme have been consolidated in recent years. Issues like fragmentation of benefits and coverage, excessive pharmaceutical spending, inefficient procurement and weak primary care have been, or are in the process of being, addressed and Greece has launched an ambitious set of reforms to improve health system efficiency and reduce waste. However, results in terms of rationalisation of expenditure, have not achieved full potential and, as a result, a third of health expenditure is borne by households, one of the highest rates in the EU.

Equal access to medical care continues to be an issue. Despite the introduction of universal coverage –an ambitious programme commitment extending access to health care goods and services to uninsured citizens and other vulnerable categories– in 2018, Greece still had one of the highest levels of self-reported unmet needs for medical care in the EU, with a wide gap between the lowest and the highest income group as well as between employed and non-employed people. Access to medical care also appears to be lower for third country nationals and there are concerns that it may affect migrants, and in particular, asylum seekers and refugees. Nevertheless, the share of population declaring unmet needs declined from 13.1% in 2016 to 8.8% in 2018, after having risen for six consecutive years.

Households' out-of-pocket payments are high. In total, 35% of healthcare expenditure is financed out-of-pocket by households (among the highest in the EU). This is largely due to co-payments for pharmaceuticals. Given the persistent pressure

exerted by supply-induced demand, the structure of co-payments, despite being in line with the EU in terms of patient participation rates, may not sufficiently protect vulnerable groups from financial hardship and may warrant a revision, for instance, as regards the lack of means-tested exemptions. Concerning co-payments composition, it appears that a considerable share of the co-payments amount is due to the preference for off-patents over generics expressed by patients and seemingly encouraged by providers. Despite the extent of the services covered, direct payments for items outside the benefit package, visits to private providers (diagnostic centres and clinics), nursing care and dental care also add to out-of-pocket spending. Informal payments represent more than a quarter of out-of-pocket payments, raising serious concerns about equity and access to healthcare services.

Strong primary care is crucial for an efficient and accessible health system. Historically, the health system has been reliant on hospital care and specialist care to the detriment of developing a more comprehensive primary care system. In 2017, after a number of unsuccessful attempts, the focus shifted to a primary care reform with the aim to provide access to essential, quality services in the short term. Building a strong primary care system with an effective gatekeeping function is the main longer-term goal. A comprehensive network of primary healthcare units was being rolled out under the previous government and was then suspended. Recently, progress resumed following a redesign of the system. This has led to delays to the planned timeline, and fundamental features such as compulsory registration and gatekeeping have not yet been introduced, but are planned by the end of 2021.

Plans for a new public health Bill aim at reaching Sustainable Development Goals for health. Life expectancy, at 81.4 years, is just above the EU average. Stroke, heart disease and treatable cancers (breast, colorectal and cervical) are the leading causes of death. Systematic screening programmes would help reduce current inequities in cancer prevention. The absence of a nationwide cancer registry does not allow for quality data on cancer incidence and survival rates. Greece has one of the highest incidences of infections with antibiotic-resistant bacteria in the EU, resulting in over 1 600 deaths per year

(Cassini et al., 2019). Application of clinical guidelines and treatment protocols is low. Greece has recently reinforced tobacco control policies and announced a new bill on public health touching upon risk factors, social determinants and inequalities. This will contribute to the achievement of the SDG 3 (see Annex E).

A sustainable solution to control the health spending is yet to be devised. In 2017, public spending on health was just under 5% of GDP. However, in reality, public spending on health is higher than what official figures report by about 1% of GDP (OECD, 2019). This is due to the clawback mechanism, which applies to a large part of the National Health Fund budget. According to this mechanism, in order to meet healthcare needs the state can provide goods and services in excess of the expenditure ceiling, which are later recovered from providers. The clawback was intended as a temporary solution until the reforms' effects —namely increased efficiency and waste reduction — started to materialise and it was intended to protect access, supporting the recent implementation of universal coverage which now, also thanks to this mechanism, affordably covers uninsured citizens. The continued increase in the amounts to be clawed back is therefore becoming a matter of concern. Pharmaceutical spending and patient consumption of reimbursed medicines still regularly exceed the set ceiling by about a third. Indeed, the total clawback and rebate value for outpatient and inpatient pharmaceuticals amounted to €1.2 billion in 2017, which reached €1.3 billion in 2018. A spending level that is overall below the EU average and reports of operational disruptions in some hospitals may be indicative of a need to increase the financial envelope. The budget of public hospitals appears to have become inadequate to continuously meet the needs of the population. Available fiscal space and a redistribution of social spending represent potential tools to alleviate this pressure and to ensure uninterrupted patient access to high-quality services.

Long-term care services are inadequate to meet the increasing needs in Greece. While the share of people (aged 65+) who face serious difficulties in personal care and/or household activities is considerably higher than the EU average (34.7% against 26.3% in 2014, the latest available year), public spending on long-term care is very low (less

than 2% of total healthcare spending). In 2015, for every 100,000 inhabitants there were only 17 long-term care beds in nursing and residential care facilities, the lowest ratio in the EU. Day-care centres for the disabled and elderly exist and numerous home care schemes are operated by both public and non-governmental providers. However, the initiatives are fragmented and lack appropriate coordination and quality standards. A comprehensive long-term care policy is not yet in place, which is a concern also in view of the rapid population ageing. The transition from institutional to community-based care for people with disabilities, in particular children, is also a challenge.

4.4. COMPETITIVENESS, REFORMS AND INVESTMENT

4.4.1. INVESTMENT AND PRODUCTIVITY

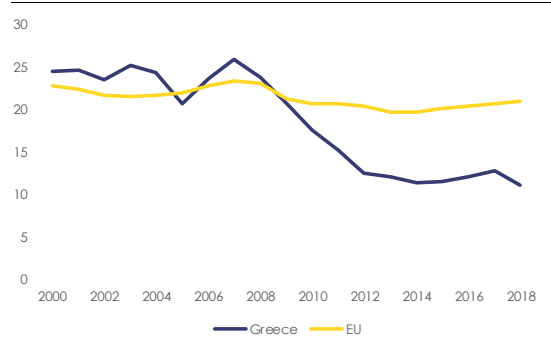
Greece's protracted economic crisis has resulted in major investment gaps in several sectors. Investment accounted for more than 25% of GDP in two of the pre-crisis years (2003 and 2007), with Greece's average performance standing at 24.1% of GDP between 2000-2007 (above the EU average of 22.3% in the same period) (Figure 4.4.1). This contributed to the build-up of macroeconomic imbalances, as high public investment during this period led to an overheating of the economy and an accumulation of public debt. Once both domestic and foreign funding dried up in the aftermath of the global financial crisis, private investment plummeted, notably residential investment. Public investment also dropped sharply. Investment slowly started to recover since 2015, with the exception of 2018. Still, at 11.1% of GDP in 2018, it remains the lowest in the EU. Investment continues to be held back by the ongoing deleveraging process of firms and banks, which, among other factors, hinders investments by small and medium sized enterprises in high-technology sectors (Centre of Planning and Economic Research, 2019).

Total factor productivity growth is positive, but too low for Greece to catch up with living standards in other euro area countries in the near term. Total factor productivity growth was just over 1.5% in 2018, higher than the euro area but not high enough to start bridging the accumulated productivity gap. The weak aggregate productivity profile can be largely attributed to the non-tradable and non-market sectors. While investment has been slowly picking up since 2015, remaining bottlenecks in the administrative and regulatory framework, as well as the outflow of skilled labour will continue to weigh on productivity growth in the future. Low productivity growth is also linked to the structure of the economy. The average firm size in Greece is smaller than in the EU, implying a relatively limited capacity to exploit economies of scale and to innovate. This distributional effect accounts for around a third of the productivity difference with respect to the EU benchmark. Addressing the remaining structural bottlenecks would be key to improving non-cost competitiveness (European Commission, 2020).

Low investment in intangible assets also undermines productivity growth. This is mainly the result of the low level of non-national accounts intangible investment, which includes assets such as design, brand, organisational capital and training, which have a major role in production. Investment in these is insufficient to cover capital depreciation, therefore leading to capital shrinking. Against this background, the benefit of additional investment is high, which indicates that Greece has a great opportunity to invest more into these assets.

The economic adjustment undertaken since 2010 is gradually helping Greek exporters to regain access to foreign markets. Export levels, in part aided by increased cost competitiveness, reached 36.1% of GDP in 2018, contributing to the decrease of the current account deficit. Furthermore, Greece's export performance in relation to the rest of the world has improved, as reflected in export market shares gains recorded over the last 2 years. However, trade openness continues to be among the lowest in the euro area. Rebalancing the economy towards high value-added tradable sectors would help Greece's economic model become much more export oriented (Box 4.4.1).

Graph 4.4.1: Investment as a percentage of GDP



Source: Eurostat

A number of flagship projects to attract fresh capital and stimulate job creation are being implemented. One of the most significant is the forthcoming Hellenikon investment project in Athens that will convert the former international airport into one of the largest urban development projects in Europe, which is estimated to increase GDP by 2 percentage points and create some 90,000 jobs in the next 15-20 years. Private investment in the Piraeus port led to an increase in

freight traffic by 600% in 2009-2018 and is expected to lead to new investment of close to 0.5% of GDP and more than 30,000 new jobs by 2025. Similarly, privatisation of the Thessaloniki port is expected to increase freight turnover by a third and bring in additional investments of 0.2% of GDP over a 10-year period (Foundation for Economic and Industrial Research, 2016a, 2016b). The award of the regional airports concession should result in new investments amounting to 0.2% of GDP by 2021, which will substantially increase airport capacity in Thessaloniki and the Aegean islands.

Research and development

Although Greece has improved its innovation performance, it continues to be a ‘moderate innovator’. Creation and diffusion of innovation is a key driver of productivity growth. Greece ranked among the lowest countries in the Commission’s 2019 European Innovation Scoreboard (European Commission, 2019e). It performs particularly well on innovation in small and medium enterprises and on the linking of these enterprises with others. Greece is also doing well in increasing its share of employment in fast growing innovative sector businesses and in knowledge-intensive activities. However, Greece lags behind in terms of creating an innovation-friendly environment with adequate levels of finance and support.

Public and private spending on research and development as a percentage of GDP has been steadily increasing since 2010, but is still relatively low. At 1.18% in 2018, Greece is approaching its national target of research and development intensity of 1.30% of GDP set for 2020⁽³⁴⁾. Despite this increase, Greece remains below the EU average (2.11%) (European Commission, 2019j). The business sector

continued to be the largest contributor to total spending, which amounted to 0.57% of GDP, of which two thirds came from the service sector (OECD, 2017).

While employment in research and development activities is increasing, the loss of skilled human capital is a major challenge for the Greek research and innovation system. In 2018, the number of people engaged in research and development activities increased by about 7.4% overall; the increase for researched was notably 4.7% (European Commission, 2018d, provisional). However, the brain drain continues to be one of the most important challenges (see also Chapter 4.3 and Amanatidou et al, 2020). Policy initiatives such as the establishment of the Hellenic Foundation for Research and Innovation, to promote research activity and support new researchers, and the Knowledge Bridges, which maps the profiles of highly skilled Greek professionals abroad and supports networking, are steps in the right direction.

Links between academia and the productive sector remain weak. While Greek universities perform well in terms of research output, this is not converted into productive uses, as demonstrated by the comparatively low number of patents⁽³⁵⁾. Furthermore, private funding for public research and development as a percentage of GDP is slowly increasing (0.041% in 2017 from 0.031% in 2016). Nonetheless, the level of public-private scientific co-publications remains comparatively low (2.3%, as a percentage of total number of publications in 2018, compared to the EU average of 5.6%). As a policy response, the country launched the ‘Research-Create-Innovate’ funding scheme in 2017 to encourage business research, development and innovation and knowledge transfer.

⁽³⁴⁾ The target was set in Greece’s 2019 national reform programme and was revised upwards from 1.2% of GDP.

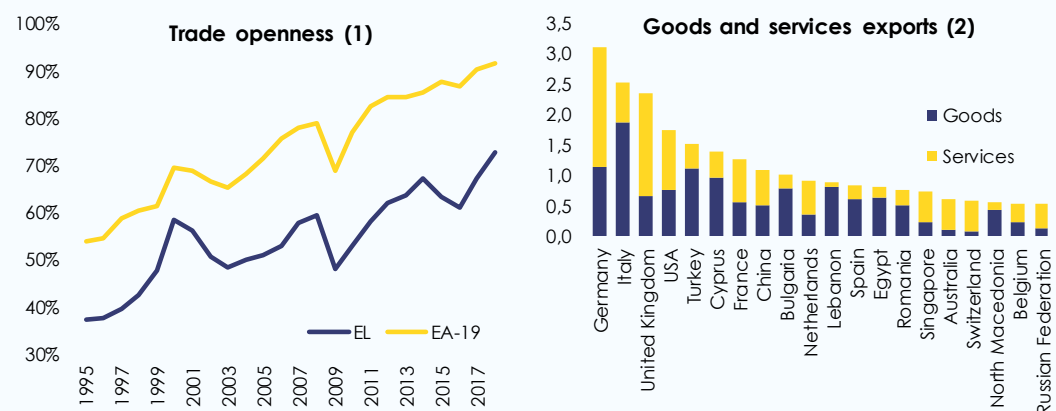
⁽³⁵⁾ 11 Patent Cooperation Treaty patents per population in 2014 versus an EU average of 102.

Box 4.4.1: Export promotion and trade facilitation strategies

Greece's economy remains relatively closed, given its small size. Despite a persistent trend towards greater openness, reflected in a doubling of the exports' share to GDP since 2003, in 2018 Greek exports still stood at 36.1% of GDP, versus a euro area average of 48%. Greece's significant gap in trade openness compared to its euro area counterparts (see Graph 4.4.2) is even more striking given the size of the economy, as smaller economies are typically more open. With exports and imports at 73% of GDP in 2018 (vs a euro area average of 92%), Greece ranks closer to the biggest EU economies, for which domestic demand and the domestic market bear a greater weight than in smaller economies. Evidence suggests that despite major improvements in cost competitiveness in recent years, factors, such as barriers to competition and the underlying institutional deficit (including limited national branding and fragmentation of export promotion tools/agencies), limit Greece's export growth. Furthermore, the exceptionally tight credit conditions observed over the past decade have been a major impediment.

The persistent trade deficit points to chronic structural weaknesses, which imply increased costs for businesses and competitiveness losses. While imports are being compressed by the slack in the economy, the incomplete adjustment in Greece's trade balance signals impediments to export growth. Despite reforms that have reduced the regulatory burden, according to the OECD's latest Product Market Regulation data, Greece is performing relatively poorly in trade facilitation (i.e. the simplification and harmonisation of international trade procedures) and treatment of foreign suppliers. Furthermore, it is often difficult for small-scale producers, which are predominant in Greece, to enter international markets and global value chains.

Graph 4.4.2: Trade openness and Greek goods and service exports by destination in % of GDP



(1) Trade openness is defined as the share of exports and imports in GDP

(2) Goods and services exports by destination country (top 20 trading partners for Greece)

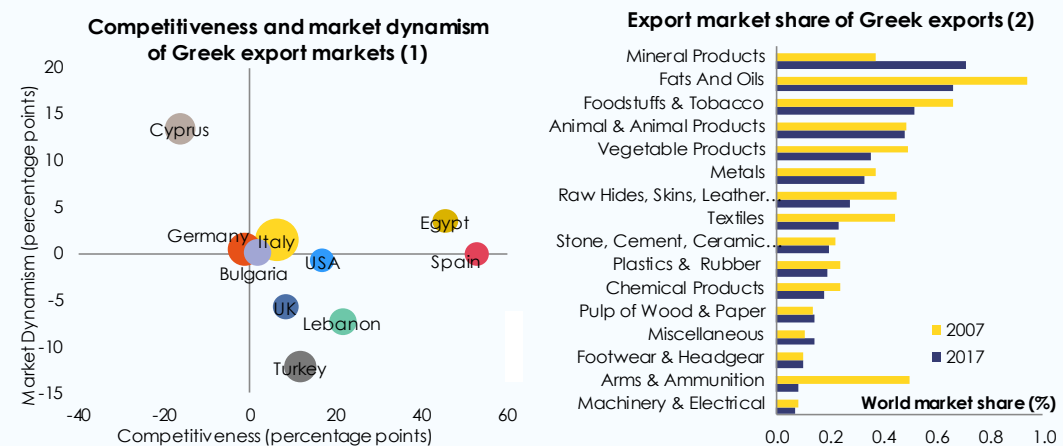
Source: European Commission based on United Nations' Commodity Trade Statistics Database

Greece's export profile comprises 54% in goods and 46% in services. The biggest shares of goods' exports are in mineral products (31%), raw materials (13%), chemicals (9%) and foodstuffs (9%). In manufacturing, Greek exports are predominantly of medium-low technology. In services, travel and transport have the highest export shares, at 53% and 31%, respectively. Greece's main partners for goods exports are EU countries (53% share) and non-EU neighbouring countries (25% share). The top 10 Greek export destinations are mainly either markets with relatively low dynamism — whose imports grow more slowly than world imports — or markets where Greece has a low competitiveness advantage, implying a lower growth of Greek exports than the overall growth of imports in that destination (see Graph 4.4.3).

Greece's export specialisation does not bode well for its future export performance. Greek exports are concentrated in products with low value-added and low-technological content, which face strong competition from countries with lower labour costs. High and medium-high technology products, which grow faster in terms of their global market, still account for only a quarter of total exports. This limits Greece's participation in global value chains. Furthermore, growth for product groups, such as mineral products and raw materials, for which Greece enjoys a comparatively higher share of world exports, can be

expected mostly from emerging economies, while Greek exports are currently concentrated on more developed economies (see Graph 4.4.2). Lastly, Greece strongly relies on tourism, which is a key asset and has shown resilience in recent years, but which can also be vulnerable to volatile international demand, especially in the absence of innovation.

Graph 4.4.3: Competitiveness and dynamics of Greek export markets and Greece's export market shares of goods.



(1) The size of the bubbles indicates the weight of the destination country on total Greek exports. Market dynamism stands for the difference between the annualised growth rates of total imports per destination country and global world imports. Competitiveness stands for the difference between the annualised growth rates of Greek exports per destination country and world imports per destination country.

Source: European Commission based on United Nations' Commodity Trade Statistics Database

Export performance would benefit from a greater focus on sectors with high growth prospects and for which Greece has a comparative advantage. Greece's strong points currently include its natural and physical assets (e.g. coastline, biodiversity and infrastructure), human capital, cultural heritage and geographic position. These create sizeable investment opportunities in sectors such as tourism, logistics and transport, energy, information and communication technology, and agro-food. Thus far, Greece has not reaped the full benefits of smart specialisation at regional level (see Section 4.4.1). Supporting small local innovative start-ups and business acceleration initiatives could help sectors such as agro-food and tourism to develop. Greater use of the public-private partnerships framework, in line with recently enacted legislation, would allow the realisation of large-scale projects, such as in infrastructure networks, energy and public sector digital infrastructure, including for public transportation.

Policy measures on key sectors include: (i) upgrading regional infrastructure (e.g. regional airports, cross-border railways, marinas and ports) to access growing markets in the broader region; (ii) upgrading the traditional tourist products into more sophisticated and higher-value products (e.g. thematic tourism) so as to increase spending per stay; (iii) exploiting growing trends in information and communication technology by setting up assembly facilities for high-tech products and devices, software product development and service centres; (iv) transforming Greece into a European gateway for natural gas, electricity and oil resources through major infrastructure projects; and (v) building of clusters to increase scale for agro-food producers, brand biodiversity and promote the uptake of 'quality label' certification, as well as expanding tradable sectors through common cross-cutting policies. Lastly, the consolidation of the Ministry of Foreign Affairs' institutional reforms and the new economic diplomacy strategy are crucial to provide the coordination for addressing the existing fragmentation of export promotion tools.

Innovation performance in Greece has not yet reached its full potential. Greece has integrated smart specialisation strategies in its innovation policy framework ⁽³⁶⁾. According to the latest

requiring every Member State and region to have a well-developed strategy in place as a pre-requisite for receiving any EU Structural Funds support for their planned innovation measures. In this context, Greece developed a centrally administered national research and innovation smart specialisation Strategy (RIS3), and 13 regional strategies, which were approved in 2015.

⁽³⁶⁾ Smart specialisation is set as an ex-ante conditionality in the cohesion policy (2014-2020) policy framework,

Community Innovation Survey (European Commission, 2019f), 57% of Greek businesses engage in innovative activity (above the EU average of 51%), pointing to a relatively high engagement of businesses in the innovation process. However, large disparities in innovation capacities remain, due to lack of robust governance, including low administrative capacity and weak coordination mechanisms. In this context, Greece is faced with particular challenges in developing adequate responses for the territories most likely to be affected by the industrial transition towards sustainability⁽³⁷⁾. Only 3 out of 13 regions established a Smart Specialisation Technical Office, and only one is operating. Business mobilisation also remains low at regional level. Finally, innovation and growth enabling finance remains limited, as supply of seed, start-up and ‘later stage’ venture capital investment remains around half of the EU average: 0.02% of GDP in 2018, compared to 0.05% of GDP in the EU (Invest Europe, 2019, Flachenecker et al., 2020).

Digital economy

Greece has one of the least advanced digital economies in the EU. According to the Commission’s 2019 Digital Economy and Society Index (European Commission, 2019g), which captures performance in the areas of connectivity, human capital, use of internet services, integration of digital technology by businesses and digital public services, Greece faces significant challenges, despite some progress in recent years. Improving performance in these areas is therefore critical for economic development.

In the area of connectivity, the transition to fast and ultrafast broadband in Greece is much slower than in the rest of the EU. Although the national broadband plan has been updated, there are considerable delays in project implementation and the absorption of allocated funds remains low. The use of internet services is picking up, although from a markedly low level. Moreover, regional disparities in terms of access to internet are particularly high.

⁽³⁷⁾ During the 2021-2027 European Regional Development Fund programming period, all Member States will have to demonstrate preparedness to manage industrial transitions.

Integration of digital technology by businesses is also relatively slow, with the exception of the use of big data and electronic information sharing, which are higher than the EU average.

In 2018, investments in information and communications technology as a share of GDP grew by 17%, exceeding the growth rate in the euro area by approximately 5 times. Nonetheless, Greece is still well behind the EU average in terms of integration of digital technology by businesses. In particular, only 7% of businesses use cloud computing compared to 18% in the EU. Meanwhile, a relatively low share of small and medium sized enterprises in Greece (11%) sells online, with turnover from e-commerce accounting for only 4% of total turnover. However, Greece has committed to advancing new digital technologies in line with the Digital Europe Programme (supercomputing, artificial intelligence, cybersecurity) and to investing strategically in digital technologies through EU-coordinated programmes⁽³⁸⁾.

Digital skills are not widespread across the population and there is evidence of skill shortages in the labour market.

As shown in Chapter 4.3, half of the Greek population lacks basic digital skills whereas around 90% of jobs require such skills. While a growing percentage of Greek businesses provided information and communications technology training to their staff in 2018 (a 17% increase in 2018, well above the 5% increase in the euro area), the private sector’s digital capability is insufficient to fully take advantage of trends such as the rise of e-commerce and reap operational efficiencies. Meanwhile, at 1.8%, Greece has the lowest share of information and communications technology specialists in total employment in the EU (EU average: 3.9%), which is partly due to outward migration, as information and communications technology graduates are, as a proportion, comparable to the EU average. Shortages in advanced digital skills weigh on productivity, as they delay the uptake of advanced digital technologies.

Greece ranks among the lowest EU Member States for the provision of online public

⁽³⁸⁾ Greece has signed the Declaration on cooperation on Artificial Intelligence, the Declaration of European Blockchain Partnership and it is a member of the EuroHPC (High-Performance Computing) Joint Undertaking.

services. Performance in terms of open data is rather satisfactory and in line with the EU average. However, the supply of digital public services remains relatively limited, as reflected in the rather low availability of pre-filled forms (25% compared with an EU average of 59%), the low share of e-government users (39% vs 67%), and the low provision of digital public services for businesses and for health and care users.

A strategic approach to accelerating the use of digital technologies across all economic sectors and investing in worker’s skills, including digital ones, would help bridge the productivity gap with euro area countries. A more pronounced focus on educational and vocational training of workers on digital skills, regardless of age, and improving the attractiveness of relevant academic studies and encouraging graduates to search for employment within the country would boost both employability and the capacity of businesses to innovate. Greater private and public investment into integration of digital technologies would also modernise the public administration and also help businesses to compete in global markets.

To respond to these challenges, the government places the development of the digital economy and society high on its policy agenda. The government has adopted legislation to support digital public administration and has set up a new Ministry for Digital Governance that takes a leading role in coordinating relevant government measures and delivering several major information technology projects (European Commission, 2020). These efforts, which aim to bring Greece’s particularly low digital performance in line with the EU average within the next 4 years, are a step in the right direction.

4.4.2. MARKET FUNCTIONING

Investment and productivity depend heavily on the healthy functioning of product markets. High regulatory burden and weak framework conditions in Greece had held back innovation and productivity growth, and hindered business investment even before the crisis (business investment averaged 7% of GDP in 2003-2008 compared to 12.5% in the EU). This resulted in the current predominance of small and inward-looking businesses with relatively low investment intensity and low capacity to export. As evidenced by the relatively low and declining proportion of high-growth firms, Greek businesses still face difficulties to grow (Flachenecker et al., 2020) (Table 4.4.1).

Table 4.4.4: Share of high growth enterprises (1)

| | 2017 | Δ 2017-2016 |
|------------------------|------|-------------|
| Greece | 6.7 | -6.9% |
| EU average | 11.3 | 3.6% |
| Lowest 5 Member States | 2.9 | -2.1% |
| Top 5 Member States | 16.5 | 1.1% |

(1) Measured as the proportion of high-growth enterprises in the total number of active enterprises with at least 10 employees. High growth firms are firms with at least 10 employees in the beginning of their growth and average annualised growth in number of employees greater than 10% per annum over a 3-year period.

Source: Eurostat

Greece has one of the lowest levels of business dynamism in the EU. In terms of firm churn rates between 2015-2017, i.e. the sum of the birth rates and death rates of firms over this period, Greece ranks amongst the last in the EU. Distortions in the level-playing field, high tax and labour costs, financing constraints, regulatory barriers and weaknesses in the insolvency framework also adversely affect firm creation, expansion and exit. Creating an open, dynamic and competitive business environment would therefore foster business dynamism, and boost productivity.

Box 4.4.5: Investment challenges and reforms in Greece

Macroeconomic perspective

Greece has accumulated a sizeable investment gap during the near-decade of recession. Despite the return to growth since 2017, extensive structural reforms, and a recent upswing in the business climate, investment remains less than half of its pre-crisis level and the lowest in the euro area (11.1% of GDP in 2018). While domestic savings appear insufficient to meet Greece's investment needs, there have been gains in inflows of foreign direct investment since 2016, aided by privatisation proceeds. Regional disparities in terms of the ability to offer an attractive and sustainable environment for businesses and residents persist.

Assessment of barriers to investment and ongoing reforms

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

Legend:

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

Several factors impinge on Greece's investment potential, both in the corporate and public sectors. Inefficiencies in managing EU funds remain (see Section 4.4.5). Strengthening the governance of public investment and its complementarity with private investments is a priority. Credit constraints, increases in unit labour cost, high taxation and energy costs, as well as restrained demand weigh negatively on private sector investment. Furthermore, there are persisting weaknesses in the public administration and the judicial system. Given the lack of investment capacity, it is important to develop a pipeline to prioritise and manage projects of strategic and national importance, including infrastructure networks and energy, as well as Greek private sector and foreign direct investment projects in the context of privatisation and public private partnerships.

Selected barriers to investment and priority actions underway

1. Following years of pronounced contraction, bank lending to firms shows signs of improvement but overall access to credit remains low, as cost and collateral requirements continue to be challenging. Small and medium sized enterprises continue to be disproportionately affected (see Section 4.2.2). Efforts to accelerate the clearing of banks' balance sheets and to improve household insolvency frameworks would help provide certainty to bank lending and support the next upswing in business credit. Against this background, the importance of alternative financing is increasing, including through EU programmes, international organisations and the Hellenic Development Bank, which is currently being established.

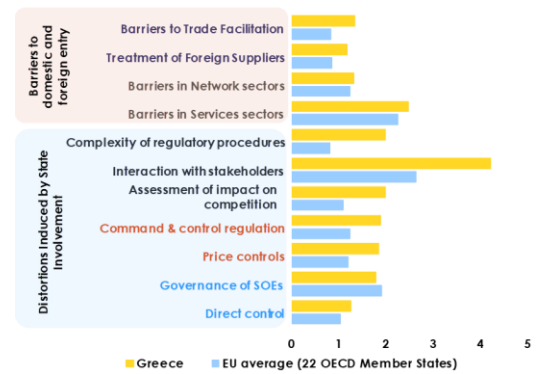
2. Despite extensive structural reforms, the administrative and regulatory burden remains high and continues to dampen the private sector's growth potential (see Section 4.4.1). The authorities have therefore taken initial steps to improve the regulatory framework, ease licensing requirements and accelerate the preparation of local spatial plans, as well as to develop tools to facilitate investments. They are also preparing a new national growth strategy. An ambitious agenda on digitalisation projects is also under way. Nonetheless, a more pronounced approach to streamlining and expediting the licensing process — especially for the environmental permit process, fast tracking strategic investments and promoting the sustainable development of the Attica region would help the authorities achieve their investment objective.

Greece still lags considerably behind its EU peers in widely-used market functioning indicators. Notwithstanding a comparatively good performance in certain areas such as the process to start a business, the OECD's 2018 product market regulation data ⁽³⁹⁾, point to the existence of comparatively high barriers to domestic and foreign entry of firms into Greek markets, and market distortions induced by the state. This mainly stems from complex regulatory procedures and weaknesses in the simplification and evaluation of regulations (Graph 4.4.5). Moreover, according to the World Bank's latest (2020) Doing Business report, Greece is ranked only 79th out of 190 countries in 'ease of doing business' (Graph 4.4.6) ⁽⁴⁰⁾. While Greece has made progress in areas such as reducing the time to register a business and strengthening the protection of minority investors, the rankings point to persisting weaknesses for registering property, enforcing contracts and resolving insolvency. There is also significant room for improvement in terms of accessing credit, paying taxes and trading across borders.

⁽³⁹⁾ The OECD's sectoral Product Market Regulation indicators measure regulatory barriers to firm entry and competition at the level of individual sectors, with a focus on network industries, professional services, and retail distribution. Due to considerable revisions in the calculation methodology in 2018 compared to previous assessments, only cross-country (and not over time) comparisons can be made (OECD, 2018).

⁽⁴⁰⁾ Year-to-year changes in the number of indicators and changes in methodology affect the comparability of World Bank rankings of prior years. Rankings are based on the assessment of 10 topics: starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting investors, paying taxes, trading across borders, enforcing contracts and resolving insolvency. Revised rankings for 2011 are used to take into account changes in the set of topics under assessment in relation to the next year and to reflect data revisions. Depicted rankings are controlled for changes in the number of economies, as all new economies included in the sample in 2011-2020 ranked below the countries being assessed.

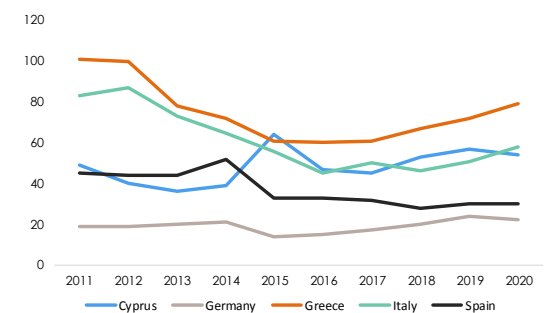
Graph 4.4.5: **Economy-wide Product Market Regulation index (a lower value indicates lighter regulation)**



Note: The colour coding indicates: barriers to trade and investment (dark blue), barriers in service and network sectors (light grey), simplification and evaluation of regulations (dark grey), involvement in business operations (orange) and public ownership (light blue). EU average concerns the 22 EU Member States that are also OECD Members.

Source: Organisation for Economic Co-operation and Development

Graph 4.4.6: **Ease of doing business ranking (a higher ranking denotes worse performance)**



Source: World Bank

Restrictiveness remains relatively high in economically important professions and sectors. Notwithstanding extensive legislative and administrative reforms ⁽⁴¹⁾, certain economically important professional services are characterised by a higher than average level of regulation. This has been highlighted by the European Commission assessment ⁽⁴²⁾ and confirmed by the OECD 2018 product market regulation data. Notably, the

⁽⁴¹⁾ The reforms were based on three competition assessment reviews ('toolkits') conducted between 2013 and 2016 by the OECD and the Hellenic Competition Commission to improve the overall regulatory framework. In total 773 reforms were recommended in 14 economic sectors to reduce entry barriers and increase competition, and their implementation was launched under the European Stability Mechanism programme.

⁽⁴²⁾ Communication on reform recommendations for regulation in professional services COM(2016) 820 final and SWD(2016) 436 final

highest levels of restrictiveness are observed for lawyers and notaries, as well as for the retail distribution and retail sales of medicines sectors (Graph 4.4.7). Certain regulatory requirements, including shareholding requirements and restrictions on multidisciplinary activities for lawyers and law firms, limit innovation, competition and responsiveness to changing client requirements. There is also potential for helping new businesses to enter regulated sectors, such as tourist guides or leisure sailing services. Implementation further reforms to ease entry into certain regulated professions and sectors on the basis of an assessment of the proportionality, appropriateness and necessity of intervention would help increase competition and a more efficient allocation of resources in such areas.

Graph 4.4.7: **Product Market Regulation index for retail and professional services (a lower value indicates lighter regulation)**



Note: The EU average refers to 22 EU Member States that are also members of the Organisation for Economic Co-operation and Development.

Source: Organisation for Economic Co-operation and Development

Due to these distortions, Greece struggles to integrate in the EU single market, especially with respect to trade in goods. In 2017, Greece was among the lowest ranking countries in the Commission's Single Market Scoreboard (European Commission, 2019h) ⁽⁴³⁾, reflecting low performance in integration into European value chains as well as low levels of openness, competitiveness and internal demand. These

⁽⁴³⁾ The indicator is based on the percentage of a country's GDP that is represented by goods trade with other EU countries (average of imports and exports).

factors limit consumer choices and may result in higher prices. Furthermore, the regulatory tools to prevent barriers to trade in the internal market are not adequately exploited ⁽⁴⁴⁾. This suggests that Greece is missing an opportunity to increase the positive impact of integration on its economy.

Greece does not dedicate adequate resources to market surveillance. Greece carries out inspections in less than half of the product sectors covered and its spending on market surveillance is below the EU average. In the platform for cooperation and information sharing on market surveillance among Member States, the number of entries made by the Greek authorities is among the lowest in the EU. The comparatively low level of detection of dangerous products and the low numbers of non-compliance findings shared with other Member States affect the entire single market, given that non-compliant products entering the Greek national market may be subsequently marketed in other Member States.

4.4.3. INFRASTRUCTURE INVESTMENT

Energy

The Greek energy market is characterised by a concentrated structure, relatively high wholesale prices and a reliance on fossil fuels, particularly lignite for electricity generation, as well as imported oil and gas. The incumbent Public Power Corporation remains responsible for the majority of generation and supply. Prices were liberalised in July 2013 and only social tariffs for those in need are still in place, though market distortions (such as the Public Service Obligation and certain discounts) has kept the link between wholesale and retail electricity weak, though recent reforms of energy bills taken by the authorities will strengthen this connection. This negatively affects the competitiveness of the economy, the climate and the local environment. It also increases the financial burden on consumers leading to incidences of energy poverty. Greece has started to carry out a number of key reforms towards a more modern model, including a

⁽⁴⁴⁾ In the area of the Single Market Transparency Directive (EU) 2015/1535, Greece notified 100 out of the total 2196 notifications in 2016-2018, whilst the number of formal reactions issued by the Commission and Member states on these was high (117).

plan to move away from lignite-based generation (on the National Energy and Climate Plan, see below in chapter 4.5 on energy and environmental sustainability). Effective delivery of these reforms will be crucial.

Competition levels in the electricity market remain low. Although competition has increased in recent years, the Public Power Corporation still holds a 74% share of the retail market as of August 2019 (45) (down from 80 % in June 2018). For wholesale, its share is about 55% of installed capacity, but this figure is higher (around 70%) for baseload energy such as coal lignite and hydro, not taking account of renewable energy sources that intermittently produce power.

Supplier switching in the market is still rather limited in Greece, in particular in the high-voltage and low voltage levels⁽⁴⁶⁾, indicating that consumers may not be fully reaping the benefits of liberalisation. Smart meters will eventually lead to consumers' increased engagement in the market and enable them to participate in and benefit from energy efficiency, and demand response/flexibility schemes. However, current plans involve only pilot installations. One major concern to be addressed is the issue of arrears. Many customers are behind on their payment obligations, and collection while improving is still slow. The authorities have recently announced various measures to improve collection and payment culture.

At regional level, Greece is taking steps to implementing the internal market rules for electricity as soon as possible. This should allow the country to couple its wholesale markets with Italy and Bulgaria and, and with its neighbouring Energy Community Countries in the future. Close cooperation with the South Eastern region and the Energy Community is crucial here. The Hellenic Energy Exchange, established in 2018, is accelerating this process. Other coordination bodies, such as a Regional Coordination Centre,

still have to be set up in accordance with the body of EU law on electricity.

While mainland Greece has a good level of interconnection for electricity, additional investment is needed in particular to complete the interconnections with the Cyclades islands, and to create interconnections with Crete and neighbouring countries. Better uptake of renewable energy and the discontinuation of the polluting and inefficient diesel-based generation on islands depend on such investments. Adequate interconnection is necessary for more responsive pricing, which in turn encourages investment.

The gas market is small, but growing. Gas currently provides about 35% of electricity generation capacity, and the share has increased in recent years. Supplier switching has been allowed since 2018. The consumer market for natural gas is still quite small. Greece lags behind EU averages for connected households and some areas of the country have no connection. Investment in grids should help this share to grow, and the successful sale of the transmission grid is an encouraging sign.

The potential for deploying renewable energy is very high across all sectors. Greece put in place a new tendering scheme for renewable energy in 2018 and under the European Stability Mechanism programme it focused on keeping its Renewables Special Account in surplus. The framework conditions offer encouragement as they favour new investments in the Greek renewables sector. The domestic renewables sector has responded positively to this new regulatory environment, particularly in wind energy. The development of other renewable sources was comparatively moderate until 2018. Finally, a large part of the newly-awarded capacity under the renewables tendering scheme will be realised after 2020.

Energy consumption in Greece slightly increased in 2018 and 2019, putting the achievement of the 2020 energy efficiency target at risk. Article 7 of the Energy Efficiency Directive requires savings of 1.5 % of the annual energy sales to final customers. A preliminary comparison of the cumulative savings reported for 2014-2017 to the estimated cumulative energy savings for 2014-2017 based on the average yearly delivery shows that Greece achieved less than 80%

⁽⁴⁵⁾ Monthly wholesale and retail penetration and market share report (August 2019) of the Greek market operator, page 49, http://www.enxgroup.gr/fileadmin/groups/EDSHE/FEP/MonthlyReports/FEPAS_MonthlyReport_201908_EN_V01.pdf

⁽⁴⁶⁾ Idem; Public Power Corporation supplied 97% of high voltage costumers, 78% of low voltage, and 54% of medium voltage customers in August 2019.

in 2017. Additional efforts are therefore needed to ensure the achievement of the EU energy efficiency target.

Accelerating the agreed reforms will ensure that the energy sector's growth potential is unlocked. The reforms include introducing more efficient and environmentally-friendly technologies for electricity production plants. The interconnection of islands to the mainland needs to be accelerated and technologies for innovative renewable energy sources need to be developed in non-interconnected islands. These reforms will also allow Greece to fully benefit from its comparative advantages, such as its sizeable renewable energy potential and its strategic geographic location, particularly in terms of current and future interconnection networks. This is expected to have a positive effect on all sectors through reduced production costs.

Transport and logistics

The Greek transport system, which is largely road-based, lacks competitiveness and scores low on carbon emissions performance, road safety and service quality. According to the Global Competitiveness Report 2019, Greece ranks 39th in transport infrastructures globally and 18th among EU Member States (World Economic Forum, 2019). The Greek fleet is among the oldest in Europe, in particular the medium- and heavy-duty vehicles (18.7 years in Greece versus an EU-average of 11.7), which contributes to the transport system's heavy dependence on oil and the low use of renewables, which accounted for only 1.7% in 2016, against an objective of 10% by 2020. Low penetration of intelligent transport systems contributes to the generally low scores for Greece in the digital economy. Meanwhile, the number of road fatalities in Greece is still considerably higher than the EU average (64 fatalities per million inhabitants in 2018, against an EU average of 49). Particular problems include speeding and the safety of powered two-wheelers.

The rail network remains incomplete, which limits its transport capacity, hampers the multimodality of the transport system, and impacts negatively on mobility and transport costs. Despite the sizeable investment from EU funds in the modernisation of railway infrastructures, in excess of €3 billion over the last

20 years, the country's principal railway axis Patras-Athens-Thessalonica remains incomplete. The capacity of railway lines is limited in both cargo and passenger traffic. The share of rail in freight transport remains negligible at 1.3% compared to an EU average of 16.6%. For passenger traffic, the share of rail transport in passenger traffic (based on passenger-kilometres) is 1% compared to an EU average of 7.6%. The key steps for developing competitive rail freight and passenger transport services and unlocking further investment opportunities are the modernisation of the Piraeus-Thessalonica-Eidomeni railway axis, the implementation of the logistics strategy and the operation of Thriasio Pedio freight complex.

Greece's competitive advantages in maritime transport implied by its geographical position are not fully exploited. As shown by considerable foreign investments, Piraeus and Thessaloniki have the potential to evolve into gateway ports to Southeast and Central Europe, if long distance reliable railway connections are established and that the country's seaports system is further developed to improve the competitiveness of the domestic economy. The privatisation of the Port of Thessaloniki creates the opportunity for Northern Greece to become a major logistics and industrial hub, serving neighbouring countries. This requires close coordination of new port investments with other public sector investment schemes (e.g. local road access) and the modernisation of cross-border rail linkages. Supportive planning policies and investment in human capital can create the conditions for socially inclusive growth and urban regeneration.

Despite these dynamics, the logistics' performance of Greece is average on the world market. In 2018 Greece ranked 42nd in the World Bank's Logistics Performance Indicator. The swift implementation of the national logistics action plan and the operation of the Thriasio freight complex could give a further boost to the sector.

Infrastructure projects in Greece suffer from systematic slippages in preparation, execution and operation. The loss of investment and business opportunities due to distortive regulation, lack of capacity of project promoters and poor preparation costs Greece an estimated 0.8% of GDP (PwC, 2019). Ongoing projects such as the

Haidari–Piraeus metro line extension and the Thessalonica metro are facing continued slippages, while there are persistent delays in the contracts for new projects (Athens Metro line 4, Patra-Pyrgos and Amvrakia-Aktion motorway sections, Kiato–Rododafni rail line electrification, and the connection of the Thessalonica port to the Patras-Thessaloniki motorway). The lack of a single independent road agency and sustainable urban mobility plans for the relevant geographical areas are key bottlenecks to investment in this sector.

To address the above challenges, the authorities, with the support of the European Commission and the European Investment Bank, have prepared a National Transport Master Plan for Greece. The Plan provides the basis for sustainable transport infrastructure and service development in Greece over the medium to long-term horizon, covering both organisational and institutional interventions and investments in transport infrastructure. Investments considered for the future include (i) the completion of the modernisation of the rail network, (ii) increased multi-modality for freight transport by improving rail connections to Trans-European Networks ports, (iii) logistics platforms and industrial zones, (iv) road safety investments, and (v) redesign of the coastal shipping network to create regional nodes that will allow faster transfer to smaller ports and islands across the Aegean Sea.

Agriculture and rural development

Agriculture in Greece is based on small-sized, family-owned dispersed units, while the extent of cooperative organisation stays at low comparative levels. The market share of Greek agricultural cooperatives is less than 20%. However, a significant number of Producers Organisations was established in 2019. The small size weights on the productivity but also offers opportunities to develop variety and product differentiation and in some mountainous regions, it is the only feasible structure. Greek agriculture employs about 500 000 farmers, corresponding to 12% of the total labour force, earning relatively low income (on average 73% of average wage over the long run). The majority of the employment is covered by the owners of the farms and members of their families.

Given the size of the sector, investments into more efficient production methods, promotion of producer organisations and cooperatives, and re-orientation to products with higher added value could turn the sector into a significant driver of growth and exports going ahead. Trade balance for agricultural products is negative (€-657.4 million in 2018) but the deficit has narrowed in recent years. Greece has a positive trade balance with countries outside the EU but the intra-EU trade is negative. A key strategic objective for the agro-food sector is to focus on gradually shifting the production model towards quality products and products with an identity, whose prices are higher and where Greek products can compete favourably. The promotion of well-functioning collective agricultural organisations (cooperatives, farmers groups) is also key to boosting the agricultural income.

In the past couple of years, Greece has launched the procedure for the establishment of a farm advisory system. This will help farmers become more aware of the relationship between agricultural practices and management of farms on the one hand, and a wide range of regulatory standards (relating to the environment, climate change, and good agricultural condition of land, food safety, public health, animal health, plant health and animal welfare).

Environment

Environmental legislation in Greece suffers from several interrelated problems⁽⁴⁷⁾. Environmental legislation remains non-codified, and there is lack of digital tools for monitoring its implementation, which limits its accessibility to citizens and businesses. Moreover, administrative acts required for the implementation of laws are issued with significant delays or not at all. Laws are frequently changed without previous evaluation, and without any discernible factual basis. Finally, where the use of public consultation is not required by EU law (i.e., in the case of an Environmental Impact Assessment), the use of public consultation faces problems such as constricted time-limits or limited publicity.

⁽⁴⁷⁾ See for instance World Wide Fund for Nature Annual report on environmental legislation in Greece, December 2019.

The management of solid waste continues to be a major structural challenge. Greece relies heavily on landfilling (80% compared to an average 24% in the EU) and mechanical-biological treatment as opposed to more modern techniques. According to the European Commission's 2018 'early warning report', Greece runs a risk of not being able to meet the EU reuse and recycling targets (50% by 2020), as only 17% of municipal waste is currently recycled against an average 46% in the EU⁽⁴⁸⁾. Moreover, it will need significant efforts in reaching the revised recycling targets for the future (up to 65% by 2035). Particularly problematic is the situation in Attica, which produces half of total of solid waste in the country, and on many islands where handling capacity is scarce. In spite of a decrease in recent years, there are still large numbers of illegal landfills in operation, for which the country has been paying fines. Two infringement procedures for non-compliance with EU law on illegal landfills and hazardous waste management resulted in large fines.

Some progress has been made through legal and institutional steps to increase waste recycling and the expansion of Extended Producer's Responsibility schemes. The strategic framework for waste management is now in place, with the adoption of the national and regional Waste Management Plans. These plans are expected to be updated by July 2020, to take into account the new requirements of waste legislation. In most cases these plans and associated legal tools were supported by LIFE, the EU's funding instrument for the environment and climate action, or the European Regional Development Fund. However, to date, very few are formally adopted and implemented. The use of financial instruments to incentivise prevention, reuse and recycling is insufficient and the existing schemes are performing poorly.

Investments are needed to improve water treatment, also with a view to respecting the guidelines of the Urban Waste Water Treatment Directive. In fact, only about 90% of the generated load is connected to collecting systems, representing slightly more than half of the Greek agglomerations. The rest is treated exclusively through individual or appropriate

systems (for instance septic tanks, storage units or individual treatment plants) and needs upgrading. Moreover, the necessary information to analyse compliance with the directive in these systems is missing. Significant investments are also still required to fully comply with the Water Framework Directive and the Floods Directive in order to proceed with important actions such as the removal of obstacles to fish migration, the re-naturalisation of the flow of rivers, and measures for flood prevention and mitigation.

Air pollution continues to cause severe concerns in Greece, with significant health impacts. Around 11.7 years of life lost per 1 000 inhabitants in 2016 were attributable to exposure to fine particulate matter. Greece is yet to submit their National Air Pollution Control Programme. The recent announcement to close down all lignite plants is a bold and ambitious plan. Whilst driven by energy market and climate concerns, its implementation could have positive effects on air quality.

4.4.4. REGIONAL DISPARITIES

Regional disparities have started to diminish since 2013, following years of divergence. This is happening against a background of strongly decreasing GDP per head in all Greek regions, with growth rates in 2010-2017 between -2.1% and -4.2% (national average: -3.2%). The recent evidence for regional convergence is due more to the higher contraction of more developed regions than to growth in the less developed ones. Attiki, the capital city region, is the only Greek region with a GDP per head above 75% of the EU average, although even its performance had decreased substantially during the crisis (2017: 92% of the EU average, down from 124% in 2009).

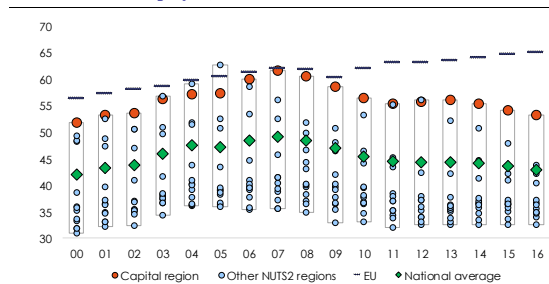
Disparities in labour productivity between the Greek regions have been widening ever since 2004, albeit slowly. After 2004, a double process of divergence can be observed: both for the Greek national labour productivity vis-à-vis the EU average, and for the internal labour productivity gaps between the Greek regions.

Large disparities exist also at regional level when it comes to unemployment rates and

⁽⁴⁸⁾ European Commission (2018b).

investment. The unemployment rate is highest in Western Macedonia (27.0% in 2018) and Western Greece (24.1%), and lowest in Kriti (13.4%). Chapter 4.3 provides further analysis. The ratio of investment over GDP varies significantly across regions, with large investment needs in many sectors. There are important gaps across regions also regarding investment in research and development: research and development expenditure ranges from 1.53% of GDP in Kriti to as low as 0.19% in Notio Aigaio. This low intensity of research and development weighs on Greece's growth potential.

Graph 4.4.8: **Real gross value added per worker (thousands € per employed)**



Source: European Commission

The 2019 Regional Innovation Scoreboard considers nearly all of the Greek regions as “moderate innovators”. In line with the low intensity of research and development, the Notio Aigaio region is assessed as only a “modest innovator”, while Kriti stands out as a “strong innovator”.

The 2019 Regional Competitiveness Index paints a very gloomy picture of competitiveness of Greece's regions. With the exception of Attiki (rank 180 out of 268), all the Greek regions are at the bottom of the Regional Competitiveness Index ranking, between positions 239 and 268. Most worryingly, when compared to their peer regions, all Greek regions underperform in many key dimension of competitiveness from institutions and technological readiness, to innovation.

Recent reforms have improved the business environment. The World Bank Doing Business in the European Union 2020 report compares the regulatory hurdles that Greek entrepreneurs face in six cities when they establish their business and found that recent reforms that streamlined the registration process, plus the roll-out of digital

tools made the process more efficient in all six cities than anywhere else in the EU. On the other hand, there are significant disparities among the cities when it comes to dealing with construction permits, getting electricity, registering property and enforcing contracts.

Because of the crisis, Greece reduced public investment and growth-friendly public expenditure⁽⁴⁹⁾ between 2008 and 2017 (more than public expenditure as a whole, which hardly went down). This applies equally to national and sub-national levels of government. Both for general and growth-friendly expenditure, there has not been any major shift between central and local government levels: public gross fixed capital formation went down at all levels. Further post-crisis investments are needed to clear the investment backlog.

4.4.5. PUBLIC ADMINISTRATION AND JUSTICE

Public administration

Following its entry into office, the new government proceeded with a restructuring of ministries. This entailed the merge of the Ministry of Administrative Reform with the Ministry of Interior, as well as the creation of a new Ministry of Digital Governance. In the expanded Ministry of Interior, the Secretariat General for Human Resources of the Public Sector is responsible for various reforms to modernise the public administration.

Five priority areas have been identified by the authorities, including proceeding with the establishment of a human resources management system, efficient staffing, capacity building and strengthen transparency and integrity. As concerns the human resources management system, work on two main building blocks, namely completion of digital organigrams and job descriptions, is progressing well. Once finalised, the human resources management system, for which the Commission provides

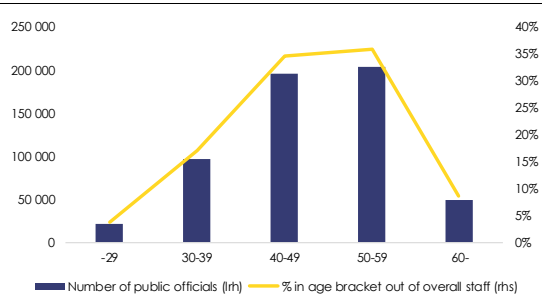
⁽⁴⁹⁾ Growth-friendly public expenditure is calculated based on the data on the classification of the functions of government. Public expenditures considered growth friendly include basic research and economic affairs (education, health and environment protection).

technical support, and will allow for efficient data collection and processing as well as interoperability with existing systems, such as the census database and the single payment authority.

The new government's ambitious reform agenda to continue modernising the public administration is welcomed, as Greece maintains a low ranking in various indicators measuring the efficiency of the public administration. As a result, due to the relatively low capacity of the public administration's institutional capacity, a low degree of trust remains between the public sector and the citizens (Spanou, 2018).

The Greek public administration will face a high degree of turnover in the next 10-15 years. As a side effect of the large downsizing of the public sector over the past decade, which was mainly achieved through strict hiring limits, the average age of the public officials rose. Currently, close to 45% of its permanent staff are above the age of 50. This will pose a challenge in terms of securing institutional continuity in the medium term. The authorities have identified the need to replace a significant part of its work force as a key challenge and are taking steps towards a more strategic multi-annual hiring plan. The authorities are also designing actions focusing on the training needs of the ageing workforce and plan to support alternative working patterns, as e.g. currently only around 2% of employed persons (aged 15-64) are usually working from home, compared with the EU average of 5% (Eurostat, 2017).

Graph 4.4.9: Distribution of public officials by age group



Source: Greek authorities (census database)

Greece has continued implementing and improving a number of reforms, such as mobility and the performance assessment, with technical support provided by the Commission.

As concerns the mobility cycle, the link with the recruitment planning process has been strengthened. The performance assessment process has a steady participation, but its relevance is currently limited by the relatively weak link to the public official's career. The high frequency of awarding top ratings reduces its utility as a tool for managing human resources.

A significant development was the adoption of a comprehensive law concerning the functioning of the central administration level. Symbolically, this law, which is in fact a codification law that brings together and updates a number of laws, was the first major piece of legislation brought forward by the new government. The law addresses a number of issues seen as long-standing weaknesses of the Greek public administration.

To empower central coordination, the law strengthens the role of the Government's Presidency Office, which will have a key role in coordinating and monitoring the government's work. To enable efficient monitoring, it introduces annual programming plans for each ministry, including the annual hiring plan, and includes guidance on how the annual programme will be regularly assessed. The law includes human resources provisions, where it sets out new job classifications (e.g. public/digital policy analysts and legal drafters) that are expected to staff up the new 'executive' structures at each ministry that will contribute in implementing and monitoring the adopted government policies.

The law delegates a significant number of decisions from the political to administrative level, which is ground-breaking step to further shelter the public administration from political influence and to enhance its efficiency. This should facilitate the ongoing depoliticisation process, which was an important objective of the stability support programme, and underpin administrative continuity, which has been one of the key weaknesses of the Greek administration. This is important, as one of the most frequent criticism of public administration reforms is their 'on and off' nature, where reforms undertaken or ongoing are cancelled or drastically changed when a new administration takes over (see e.g. Spanou, 2018).

The cancellation of specific selection processes for senior management posts provides a more worrying signal as concerns the ongoing efforts to depoliticise the public administration. Although, these selection processes had experienced significant problems and delays, reverting to a system where these posts are ministerial appointments does not seem to be aligned with the new administration's position to continue and enhance the depoliticisation. Since the adoption of these provisions covering the legal entities of public and private law, the government has stated that it plans to reintroduce an open and improved selection process for these posts, including hospital managers. Related to this, the government plan to adopt a new law to strengthen the Supreme Council for Civil Personnel Selection.

Finally, to improve the law making process the law introduced provisions concerning improving the scope and quality of the impact assessment and the legal codification process. To strengthen the transparency and integrity of the public administration covering issues relating to conflict of interest for political appointees and cooling off period, the law also established the National Authority for Transparency (see below).

Administrative capacity to manage European Structural and Investment Funds

Greece benefits from extensive experience with the management and implementation of Cohesion Policy. It disposes of competent staff with considerable skills and knowledge, a reliable management and control system and generally competent managing authorities. Yet, the design and implementation of European Structural Investment Fund is often hampered by inefficiencies in the project cycle and by lack of an efficient coordination. Another problem is the limited capacity of beneficiaries notably in the case of small municipalities, utilities and other local beneficiaries, and in some sectors such as the railways.

The simplification of the 2021-2027 regulations provides an excellent opportunity to build up efficient and effective simplified procedures and mechanisms. The key challenges for 2021-2027 are the following:

Clearer division of responsibilities in the programming, management and implementation cycle, including a much streamlined and simpler mechanism for thematic policy coordination and monitoring. The practice of cross-delegating fund/programme management was reduced in 2014-2020 when compared to the previous period. However, its continuous presence in some sectors (such as wastewater & solid waste) creates dysfunctionalities, avoidance of responsibility and implementation blockages. The specialisation stage in the programming as it is done causes additional layers of complexity with little demonstrable value added; and the executive units set up in 2014-2020 which were intended to provide policy coordination for particular sectors, have proliferated all over the system, acquiring functions and roles going beyond policy coordination, which has often contributed to implementation blockages.

Simpler coordination mechanism that avoids overlaps and acts faster, including the governance architecture. This is considered in the context of an Organisation for Economic Co-operation and Development study on post 2020 regional policy, whereas the governance architecture including the composition and orientation of programmes related to small and medium-sized enterprises and smart specialisation strategies is the subject of a another study.

Reduction in the administrative burden and red tape and simpler management and control systems. Greece is expected to set targets to capture efficiency and simplification (like reduction of the number of signatures or reduce the periods for selection and, approval of proposals; introduce a simplified project submission process for small projects; develop a lighter implementation process especially for territorially focused interventions (e.g. sustainable urban development), which are currently hampered by lengthy procedures and involvement of many authorities; consider ways to simplify the award of contracts and the state aid clearance, which currently create a disproportionate burden for small scale projects.

Higher technical and organisational capacity of certain categories of beneficiaries need to be strengthened. This can be done with flexible administrative arrangements, such as pools of engineers and experts by region, possibly based on the technical services formerly organised at prefecture level, common projects at regional, interregional or intraregional level, common training and support actions and peer reviews and exchanges between beneficiaries and with organisations outside Greece. Technical support can be provided in a targeted, systematic and efficient way through a) the setup of Project Preparation Facility for big scale projects, b) specific units to be mobilised at regional level for supporting final beneficiaries and c) the central service of Management Organisation Unit of Development Programmes on a structural basis.

Development of sectoral action plans would help broaden the operational programmes, which are often framework plans limited to programming and administrative targets. For a number of sectors like wastewater, energy efficiency, flood protection and circular economy Greece is expected to establish action plans (per region where possible), create a steering committee with key stakeholders and set up a technical secretariat to implement the action plan and follow up progress. Such a model was applied successfully in the course of 2018 in the field of wastewater and was positively received by the competent Greek authorities.

Justice

The Greek justice system continues to face challenges and requires sustained reform efforts, as this will contribute to unlock investment and to improve the functioning of the financial system as well as the business environment. Reforms adopted under the economic adjustment programmes have been mostly implemented in a partial manner and much work remains to be done concerning the following areas: (i) the adoption of organisational changes to courts, (ii) addressing operational issues in the efficient management of courts, (iii) the adoption of measures for the acceleration of the

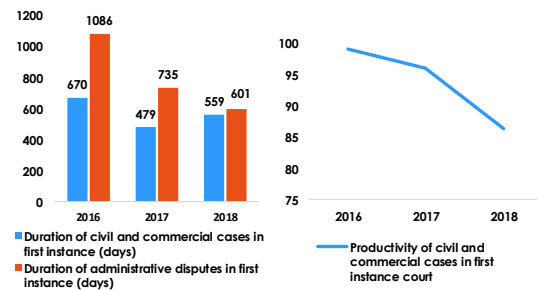
administration of justice, (iv) enabling and encouraging the recourse to alternative dispute resolution mechanisms and (v) reforming and consolidating outdated and often fragmented as well as overly complex legislation.

While Greece has adopted a number of key reforms in the field of justice, it is important to assess their impact and propose improvements where necessary. For example, the authorities are in the process of completing an evaluation of the implementation of the new Code of Civil Procedure, which entered into force on 1 January 2016. It is crucial to assess whether the new Code of Civil Procedure has succeeded to improve efficiency in civil and commercial litigation. Key elements of this reform include a shift from oral to written procedures, stricter procedural discipline through clear time-frames and a limitation of possibilities to postpone hearing dates.

The authorities have announced their intention to create special chambers within courts to deal with various categories of cases considered of high relevance to economic development. This would e.g. concern investment-related cases, competition cases, significant commercial cases, and could contribute to improve efficiency.

The Greek justice system also continues to face challenges as regards its effectiveness. Recent judicial statistics show that in particular the civil court system continues to face mounting efficiency challenges as the time needed to resolve civil and commercial disputes in first instance has increased again, staying significantly above pre-crisis levels (559 days in 2018 vs. 190 days in 2010). In addition, the productivity of first instance courts is falling as regards the resolution rate for litigious civil and commercial cases, which means that Greece is facing a clear risk of building up new backlogs (graph 4.4.10). The administrative branch of courts continues to improve its performance, maintaining a high resolution rate (163.5% in 2018), reducing the time needed to resolve administrative disputes in first instance and lowering existing backlogs by resolving more cases than incoming new cases. However, both the time needed to resolve administrative cases in first instance (601 days in 2018) as well as existing backlogs remain comparatively high and require further attention by the authorities (European Commission, forthcoming).

Graph 4.4.10: Efficiency of the Greek justice system



Note: As measured based on clearance rate, i.e. pending versus resolved cases, also taking into account the nature of the backlogs (static or increasing).

Source: European Commission

In terms of quality, the Greek justice system lags behind in a number of aspects. This concerns in particular areas such as electronic filing and processing of documents and electronic communication between courts and court users, the availability of information about the justice system, both for the general public as well as specific user groups or the use of surveys conducted among court users or legal professionals (European Commission, forthcoming).

Newly adopted measures defining legislating procedures and methods should contribute to raising the quality and systematic coherence of legislation. The Executive State law⁽⁵⁰⁾ introduced a comprehensive reform of legislating procedures, based on good legislation principles and techniques, with an emphasis on improving the impact assessment survey. The law also created an independent scientific evaluation body, and strengthened the institutional setup for legal codification and reform. The activation of the newly created bodies and the strict and effective implementation of the principles and techniques stipulated by the law will be the next crucial stages towards attaining the ambitious targets of the reform.

Management of public assets

The Hellenic Corporation of Assets and Participations, established in 2017, plays a crucial role in improving the management of public assets. It holds a significant portfolio of assets and shareholdings in state-owned enterprises. Its direct subsidiaries include the

⁽⁵⁰⁾ Law 4622/2019 (OJ A 137/07.08.2019)

Hellenic Republic Asset Development Fund – the privatisation agency, and the Public Properties Company – the real estate subsidiary. The overarching objective of the Corporation is to effectively manage these assets, preserve, develop and ultimately maximise their value, and to enhance the quality of the services provided to the Greek people as well as to contribute to reducing the financial obligations of Greece.

The Hellenic Corporation of Assets and Participations has focused on improving governance as a source of value creation.

Key to this is the establishment of professional management within the Corporation's subsidiaries (its direct subsidiaries and state-owned enterprises). By the end of 2019, the Corporation had appointed close to 65 Board Members for the state-owned enterprises under its portfolio. The Corporation has also focused on the enhancement of the roles and responsibilities of the Audit Committees in its subsidiaries, and set key performance indicators for its direct subsidiaries and the non-listed state-owned enterprises with majority participations. These aim to enhance economic and public value, as well as improve financial performance, corporate governance, service quality, operational efficiency and innovation.

Achieving the full potential of the real estate portfolio remains a key challenge for the Corporation and should be a primary source of value creation.

Given the importance of the real estate portfolio, the Public Properties Company has been provided with a set of performance targets during 2019, covering asset registry, maturation and exploitation, portfolio management and revenue enhancement. The targets are monitored by the Hellenic Corporation of Assets and Participations on a regular basis. Over the past months, some progress has been made on real estate valuations and increasing the book value, as well as on the improvement of lease revenue collection. However, the performance of the Public Property Company is still to reach its full potential.

The ongoing process of privatisation aims at making the economy more efficient, stimulating private investment and providing financial resources to the State. The new administration has committed to continuing the implementation of the privatisation programme as reflected in the

Asset Development Plan of the Hellenic Republic Asset Development Fund. Several projects in the privatisation programme have progressed significantly, including on the Hellinikon transaction. Maintaining the momentum and finalising flagship privatisation projects – such as Hellinikon, Egnatia and Public Gas Corporation of Greece – is expected to lead to important investments in the assets and, moreover, give an important positive signal to potential future investors.

Fight against corruption

Perceptions of corruption remain high, but indicators show improvement compared to previous years. Greece's score on the Corruption Perception Index ⁽⁵¹⁾ has improved by 3 points in 2019 (from 45 to 48/100). More than half (58%) of business representatives say that corruption is a problem for their company when doing business, according to a Eurobarometer survey of 2019. This is a significant decrease compared to 2015 (74%) but it is still the 3rd highest in the EU. Businesses perceive corruption to be rather widespread in public procurement (72%), with 83% of businesses citing tailor-made specifications as a particular issue. Companies appear to be rather pessimistic as regards the criminal justice response to corruption, especially involving high-level or senior officials, with only 20% considering that people caught for bribing a senior-official are adequately punished. In general, 32% of respondents think that people engaged in corruption are likely to be caught by police, 37% that they are likely to face charges and go to Court and 34% that significant sanctions will be applied, all below the EU average ⁽⁵²⁾.

The anti-corruption institutional framework was streamlined as a new authority was established in August 2019 to enhance cooperation and coordination among the different audit authorities and inspection bodies. The National Transparency Authority has replaced the General Secretariat for Anti-corruption and is endowed with greater institutional capacity to fight corruption. It is expected to become fully operational by 2020. The agency brings together a number of functions

previously followed by different bodies: investigation of corruption, prevention, and improving public awareness. The Authority is also the designated Greek Anti-Fraud Coordination Office. As far as the investigation and audit role of the agency is concerned, it merges five sectoral inspection bodies existing until now, which is a major step forward considering the previous fragmentation of the different audit bodies and the need to streamline competences and allocate resources more efficiently. Raising awareness around the benefits of strengthening integrity in both public and private sectors is part of National Transparency Authority's mission on corruption prevention.

The implementation of the national anti-corruption action plan appears to be on schedule, but some actions require more attention. There are more than 100 National Anti-Corruption Action Plan actions. Their vast majority of the over 100 actions in the plan have been launched, are completed or are continuous actions. The reformed asset declaration system is now fully operational. Greece also has a new modern system of party financing after a series of reforms. However, the competent audit committee of the Parliament has not yet imposed administrative sanctions related to party financing to date. The coordination mechanism for corruption and other financial crimes remains a pending issue in need of immediate attention. According to an evaluation report the coordination procedure for combating financial crimes ⁽⁵³⁾ is fully operational but the number of cases and values reported from the tax administration to judicial authorities has decreased since March 2018. Lobbying also remains largely unregulated.

Shortcomings in criminal legislation potentially affect the treatment of corruption cases. The amendments passed in June 2019, downgrading main active bribery offence, have been repealed in November 2019, following criticism from the Organisation for Economic Co-operation (OCDE) and Development and the Council of Europe Group of States against Corruption (GRECO), and as also flagged by the European Commission in its post-programme enhanced surveillance review of Greece (see European Commission, 2019). Nevertheless, a number of ongoing cases will still

⁽⁵¹⁾ Transparency International (2020). Corruption Perception Index 2019

⁽⁵²⁾ European Commission (2019i).

⁽⁵³⁾ Law 4512/2018, article 388

be affected⁽⁵⁴⁾ and some other issues in criminal legislation require further attention and have been subject to GRECO recommendations.

Progress has been made to eliminate obstacles to the prosecution of high-level corruption. The constitutional provisions regarding the immunity regime for Members of Parliament and of serving or former Ministers have been modified in 2019. The special statute of limitations has also been abolished, thus lifting some important legal hurdles to the prosecution of high-level corruption, notably also as regards the removal of the time limit for the Parliament to adopt a motion for prosecution against serving or former Ministers. These modifications will help address long-standing GRECO recommendations on the matter.

The National Transparency Authority plans to take important steps in the field of detecting and tackling fraud. It will be responsible for the fight against fraud in both the national and the European Union budget. The Authority plans to undertake four work streams, including a project on enhancing the functioning of the European Anti-Fraud Coordination Office in Greece in

accordance with EU regulations. For this project, the Authority is receiving technical support since November 2019. Building on the support provided, the Authority is expected to establish a holistic action plan to strengthen the role and capacity of the Anti-Fraud Coordination Office. As regard protection of whistle-blowers, the authorities plan to adopt the national law transposing the EU Directive⁽⁵⁵⁾ by end-March 2020.

The authorities have announced plans to develop a coherent national framework for integrity in public institutions jointly with the National Authority for Transparency. As part of establishing this framework, various existing tools will be reviewed (e.g. Code of Ethics) and to new tools introduced (e.g. a network of certified integrity advisors across the public administration, registry for lobbyists). In this context, it is noted that the Executive State Law⁽⁵⁶⁾ includes provisions relating to conflict of interest and other integrity issues for political appointees, senior officials at independent authorities and other legal entities as well as for non-permanent officials. The same law also establishes units responsible for internal control.

⁽⁵⁴⁾ This is due to the *lex mitior principle* applicable in criminal law in Greece. See Ad hoc Report on GREECE (Rule 34) adopted by GRECO at its 84th Plenary Meeting (Strasbourg, 2-6 December 2019).

⁽⁵⁵⁾ Adopted the 16 April 2019

⁽⁵⁶⁾ Law 4622/2019 (OJ A 137/07.08.2019)

Box 4.4.6: EU funds and programmes to address structural challenges and to foster growth and competitiveness in Greece

Greece is one of the countries that benefits the most from EU support. The financial allocation from the EU cohesion policy funds¹ for Greece amounts to €20.5 billion in the current multiannual financial framework, equivalent to around 1.6% of its GDP. By the end of 2019, Greece had allocated around 93% of this amount to projects, while spent some €6.6 billion on them, showing a level of implementation below the EU average².

While bringing about a more harmonious development through reducing economic, social and territorial disparities, EU cohesion policy funding also significantly supports structural challenges in Greece. The cohesion policy programmes for Greece have allocated €3.1 billion for smart growth, €7.8 billion for sustainable growth and sustainable transport and €4.8 billion for inclusive growth. In 2019, following a performance review³ €946 million have been made available for the well performing priorities of the cohesion programmes in Greece.

EU cohesion policy funding helps to transform the Greek economy by promoting growth and employment. By 2019, investments driven by the European Regional Development Fund and the Cohesion Fund had improved energy efficiency in 19 100 households, and 42 800 people benefitted from a modern water supply and wastewater facilities. So far, financial support to 18 600 businesses has generated 6 300 direct jobs; projects worth €1 billion have been approved for co-financing in the field of innovation and research; the regions of Western Macedonia and Epirus completed projects for the management of solid waste by means of public private partnerships. The European Social Fund (ESF) has provided key support for young people and improved the services offered by social and employment administrations. Over 63,000 young people not in employment, education or training (NEETs) benefitted from the Youth Employment Initiative (YEI). The ESF supported the implementation of the minimum income scheme through the financing of 241 Community Centres, which have already served 350 000 citizens with guidance on social benefits and services. As part of the reform of the primary healthcare, a network of 127 local health care units (TOMYs) has been established.

Agricultural and fisheries funds also help address the country's investment needs. Greece benefits from the European Agricultural Fund for Rural Development (EARDF) with €5 billion and the European Maritime and Fisheries Fund (EMFF) with €523 million. It also benefits from other EU programmes such as the Connecting Europe Facility, which contributes €575 million to strategic transport networks and Horizon 2020, which has allocated €1 billion to research and innovation actions.

EU funding helps mobilise key private investment. Greece receives some €970 million in the form of loans, guarantees and equity, which is expected to leverage an additional €624 million. The Equity Fund, with an allocation of €400 million, supports the creation, growth and competitiveness of innovative SMEs and is already fully subscribed.

EU funds already invest substantial amounts on actions in line with the Sustainable Development Goals. In Greece, the European Structural and Investment Funds support 13 out the 17 SDGs and up to 92% of the funds' expenditure is contributing to those.

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

² <https://cohesiondata.ec.europa.eu/countries/GR>

³ The performance review is regulated by art 22 of the Regulation (EU) No 1303/2013, whereby 5–7 % of overall resources allocated are released to performing priority axes of the operational programmes. The amount refers to EU co-financing.

4.5. ENVIRONMENTAL SUSTAINABILITY

Establishing the right framework for environmental sustainability, going hand in hand with economic growth and institutional reforms, is fundamental to Greece's future progress. This chapter looks at how Greece is facing its particular sustainability challenges, in the fields of energy, transport and prevention of natural disasters. In the context of the green transition, fundamental changes will be taking place in Greece in coming years in the energy sector with associated challenges and opportunities. For the continued investment and sustained policy support necessary to implement such changes, the social impacts of reforms also have to be carefully considered and managed.

Sustainable development has a potential competitive advantage for the Greek economy in sectors such as tourism, agro-food and renewable energy sources. Greek small and medium-sized enterprises' environmental performance lags behind the EU averages, but Greece has been catching up in recent years. Small and medium-sized enterprises are strongly investing in resource efficiency in order to reduce production costs. Many SMEs are also beginning to offer green products and Greece is amongst the EU leaders in terms of numbers of EU ecolabels. However, there are many further opportunities for expansion. Greek eco-innovation lags behind the EU average, but has been catching up over recent years. Additional investment in resource efficiency and new products is essential to support economic recovery in Greece.

Key local environmental issues for Greece are management of solid waste, water treatment, and air pollution, as noted in chapter 4.4 on Environment. Greece relies a lot on landfilling. Investment is needed here but financial instruments to aid this are performing poorly. Water collection needs to be improved to comply with the Water Framework Directive. Air pollution has significant health impacts. Here, investments in more sustainable transport and a shift to green energy can yield large improvements.

Towards a more sustainable energy system – modernising the electricity market and improving energy efficiency

As per the Regulation on the Governance of the Energy Union and Climate Action, ⁽⁵⁷⁾ Greece provided its National Energy and Climate Plan (NECP) by 31 December 2019. In its June 2019 recommendation on the draft NECP ⁽⁵⁸⁾ the Commission called on Greece to analyse and include in its final Plan more concrete information and measures in order to fulfil the targets of the Energy Union. Greece raised its ambitions, in particular regarding the country's contribution to the EU 2030 target for renewable energy (e.g. share in gross final energy consumption of at least 35% against 31% in the draft NECP) and the energy efficiency targets (at least 38% reduction in final energy consumption based on 2007 forecasts against 32% in the draft NECP). The Commission will assess, in the course of 2020, the final National Energy and Climate Plans submitted by Member States.

Two structural challenges of the Greek electricity market are concentration and a reliance on lignite, and efforts are underway to deal with these. As part of its energy strategy, Greece recently announced the early closing down of its lignite-based electricity generation as part a transition process towards greener energy sources. Combined with other reforms, this will also help with the competitive element, opening up the market to new electricity generation, both renewable and fuel-based.

Greece's regions suffer from high rates of air pollution. This is largely due to electricity production with fossil fuels. More than 38% of the country's electricity comes from lignite mined in two areas: Western Macedonia (286,000 inhabitants), most notably the Kozani prefecture (150,000 inhabitants) and the much smaller Megalopolis area of the Peloponnese region (6,000 inhabitants).

⁽⁵⁷⁾ Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action.

⁽⁵⁸⁾ Commission Recommendation of 18.6.2019 on the draft integrated National Energy and Climate Plan of Greece covering the period 2021-2030, SWD(2019) 261 final.

Greece's energy mix, in terms of installed capacity, is dominated by lignite, gas and hydroelectric power. The respective shares in 2019 stood at 22% lignite, 28% gas, 18% hydro, with various renewables making up the remaining share. Lignite-based generation is carbon-intensive, and with increasing carbon credit prices it becomes progressively less economical. It is also incompatible with Greece's targets for decarbonisation. A core reason for this large amount of lignite is that Greece sources its own lignite, which means that the activity has implications for energy security and the related economic activity.

The recently announced plan to decommission Greece's lignite-based generation plants by 2028 will have a positive environmental impact, but pose significant economic and social challenges in the two above-mentioned areas. Lignite-based electricity production is by far the most important economic sector of the region, accounting for 33-40% of regional GDP and indirectly providing some 22,000 jobs. Western Macedonia is also one of the Greek regions that suffered the strongest economic downturn during the crisis and still has the highest unemployment rate (31%) of all EU coal/lignite regions. Furthermore, over 100,000 inhabitants in Kozani and Florina are currently connected to district heating systems that receive their heat from the lignite-fuelled power plants. The impact of closing down lignite-based generation plants in Megalopolis will also be pronounced, but it will be cushioned by the diverse economic activities in the immediate surroundings. Therefore, a concrete plan on social and regional development measures to benefit affected areas and communities is required. The work conducted under the EU initiative for coal regions in transition will be essential in developing a strategy and action plan in that respect. The Commission's proposal for a Just Transition Mechanism will also help ensure that the transition towards climate neutrality is fair by helping most affected regions address the social and economic consequences (see Annex D).

The transition from lignite will significantly test active labour market and inclusion policies. The current workforce in the lignite sector is ill prepared for switching to other economic activities and the contractual status of many employees as public employees might limit potential flexible

solutions. Experience from other locations that underwent similar transitions in the past highlight the importance of strong partnerships among regional and local authorities and relevant stakeholders, e.g. small and medium sized enterprises, the education sector, and professional and civil society associations.

Designing tailor-made support for local small businesses directly and indirectly affected by the closure of the lignite sector will be vital to ensure a just transition. In this respect, any alternative to lignite-based generation will probably not be able to directly counterbalance the negative employment effects of closing down the lignite sector in the affected regions. Mitigating negative social consequences will be important to gain political support for the project. Possible solutions could involve focusing the same local economy on different forms of energy, such as hydroelectricity, or on energy storage systems. However, this may raise social and environmental concerns for the region. Efforts towards re-skilling and targeted schemes to re-employ laid-off workers will be important. The challenge is not unique to Greece, as some other Member States will be facing similar challenges.

From the security of supply perspective, reducing the output of lignite suggests a need to replace it with sufficient alternative capacity. As noted in Chapter 4.4 on energy, Greece has considerable potential for deploying renewable energy and the framework for investments in this area has improved in recent years. Greece's special renewable energy sources account and its auctions will be important in this respect. So while renewables have some space to grow, their intermittency causes problems at least in the mid-term. Therefore the authorities expect that gas will also play an important role.

Gas already represents about a quarter of installed capacity, and the share appears set to grow further. Although there is investments in this area, distortions in the electricity market have a negative impact on the relevant business decisions. Competitors struggle to enter the market and financial problems faced by the incumbent Public Power Corporation have left no room for investments from the company in recent years.

Investment in electricity networks will be vital to fully realise the potential for renewable energy generation, particularly from islands. It could also relieve providers, as currently only the incumbent Public Power Company takes the entire burden of the Public Service Obligation that requires non-interconnected islands to get power at the price of the connected mainland.

Thanks to its geographical location, Greece has a potential to become an energy hub for South East Europe. This would require developing major infrastructure projects in Greece and with the neighbouring countries to strengthen Greece's security of supply, further diversify its energy sources and improve the functioning of its electricity and gas markets. Notably, the Interconnector with Bulgaria will boost the regional gas market and provide access to the soon-to-be operational Trans-Adriatic Pipeline. As for electricity, Crete's connection to the mainland will improve the island's security of supply and integrate more renewables. Key schemes to be developed as Projects of Common Interest will address issues such as low interconnectivity levels and Cyprus' energy isolation.

Other more technically advanced solutions, like increasing storage, could also provide solutions in the future. Such technologies will also bring new job opportunities for skilled workers, which could go some way to addressing the social challenge of job losses connected to the lignite sector, if accompanied by appropriate re-skilling schemes.

The transition to a green economy will also create new employment opportunities. Most new jobs are expected to be in the green areas of manufacturing, construction and services sectors as well as waste management and sustainable finance. Climate action is expected to favour job creation for all skill groups, introducing in particular more low-skilled jobs in the Greek market (Eurofound 2019, European Commission, 2019a). Preparation of the labour force is essential for the successful green transition. Greece needs to invest in up-skilling and re-skilling of its labour force towards the greening of the economy and the wider use of energy efficient technologies.

Careful management is needed to ensure that nobody is left behind in the transition. In this

context, social dialogue is crucial. A special focus on the gender dimension of a just transition is essential to ensure that women benefit equally from arising opportunities. As highlighted in chapter 4.3, the gender employment gap is very large in Greece. Since new green jobs are expected in sectors with traditionally limited female representation, education and skills in the relevant fields need to be strengthened to mitigate pre-existing gender inequalities.

With respect to energy efficiency, in 2005-2015 Greece's primary and final energy consumption levels were lower than the indicative national 2020 targets⁽⁵⁹⁾. However, as the reduction was influenced by the severe economic crisis, efforts are needed to keep the primary energy consumption stable or minimise its increase as the economy grows.

The building sector will be a key area for energy savings. Greece is transposing the new revised provisions of the Energy Performance of Buildings Directive and strengthening the implementation of the existing provisions. Despite previous years' efforts, the specific energy consumption of the building stock remains high. The buildings sector in Greece accounts for 41% of total final energy consumption, mostly in the residential sector. The age of building stock, with many residential and commercial buildings built before 1980 with no or low levels of thermal protection, is a substantial source of inefficiency. This means that there are considerable potential benefits to improving efficiency standards in the buildings sector and in residential appliances, but also that significant investments are needed.

Renovations of existing buildings will be fundamental to achieving energy efficiency targets. The energy efficiency programme co-funded by the EU ('Energy Saving at Home') shows considerable success, but employs a very high share of grants and only a limited private participation through loans/guarantees. Over the period 2014-2020 42,626 households will have benefitted from measures to improve energy efficiency financed through this mechanism, whereas primary energy consumption in public

⁽⁵⁹⁾ The 2020 national targets are for consumption levels to be below 24.7 million tonnes of oil equivalent in primary energy and 18.4 megatons of oil equivalent in final energy

buildings is estimated to have decreased by 97 million kWh per year. Using this instrument, Greece plans to renovate 60,000 building units per year. There is therefore scope to increase the renovation rate and depth significantly, and to unlock investments and attract private financing for energy efficiency projects. Putting in place appropriate mechanisms in line with the EU's Smart Finance for Smart Building Initiative would help in this respect, as would facilitating access to mechanisms that are already in place at European, national or regional level.

Investing in energy efficiency of buildings would also help alleviate energy poverty in Greece. Improving the energy efficiency of buildings could significantly unlock economic and social benefits on top of environmental ones. In 2018, 22.7% of the population (far above the EU average of 7.4%) were unable to keep their home adequately warm and 35.6% had arrears on utility bills.

Towards a more sustainable transport system

The transport sector is responsible for the largest share of total final energy consumption in Greece. Road transport is the dominant mode, accounting for 88% of total energy consumption for transport in 2014. Oil accounts for 97% of the energy use of the transport sector. The market uptake of vehicles and vessels fuelled by alternative fuels is at very early stage, except for vehicles using liquefied petroleum gas whose number is expected to rise to more than a quarter million in Greece by 2020.

A recent study published by the European Commission estimates the total external costs of transport for road, rail and inland waterways in Greece at €13 billion annually, which corresponds to 6% of Greece's GDP. This includes external costs related to accidents, environment (air pollution, climate change, the costs related to energy production, i.e. the well-to-tank emissions, noise, habitat damage) and road congestion. Environmental costs make up 40% of the total, while 36% of the costs are related to road congestion. The figures on external costs do not include infrastructure costs, which for land transport modes amount to almost €4 billion annually (including fixed infrastructure costs).

Internalising external and infrastructure costs – for example through taxes and charges – is important for social fairness and contributes to reducing external costs. Looking at the taxes and charges paid by transport users, road users pay for a slightly higher share of their external and infrastructure costs than rail users. Excluding fixed infrastructure costs, road users pay around 96% (passenger) and 77% (freight) of their total external and variable infrastructure costs while rail users pay 46% for passenger and 28% for freight. In order to ensure that the transition to a climate neutral economy leaves no one behind, distributional effects of environmental taxation and respective compensator measures for the most vulnerable households should be taken into account ⁽⁶⁰⁾.

Prevention of natural disasters

Greece faces multiple and severe natural and environmental risks, in particular floods and wildfires. Tackling such issues is often hampered by a lack of structures, coordination, planning and prioritisation, as well as the absence of early warning systems. Within the context of the EU Civil Protection Mechanism, Greece has to upgrade its National Risk Assessments. As such phenomena are recurrent also in border areas, cooperation with neighbouring countries for risk prevention and disaster resilience plans and nature based solutions will need to be further explored. Severe weather events such as droughts, heatwaves or water shortages also call for a rethinking of social assistance, education and training and other climate change adaptation policies, along with re-prioritisation of public expenditure.

Management and prevention of floods is an area where solutions could improve resource efficiency through reducing costs and delivering multiple benefits. Over the last decade, Greece has claimed damages to the EU Solidarity Fund for one major and three regional floods, which caused damages of over €3 billion. The full application of the Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on the assessment and management of flood risks is crucial for addressing the issue. Flood risk

⁽⁶⁰⁾ See European Commission, 2019, Employment and Social Developments in Europe: Sustainable growth for all choices for the future of social Europe.

management plans have been drawn up for the areas at risk. The flood risk maps and the accompanying plans will include measures to reduce the probability of flooding and its potential consequences.

The years 2017 and 2018 saw increasing numbers of forest fires. In 2017, five major fires occurred in Kythira, Zakynthos, Messinia (twice) and Achaia. By far the largest fire was in Attica, where more than 2 000 hectares were burnt. During the 2017 fire season, more than 1 000 fires were recorded, with an affected burnt area of almost 14 000 hectares, mainly forests. The numbers of fires increased by almost 40% in 2017 in comparison to the previous year⁽⁶¹⁾. The source of fires is often associated with traditional agricultural burning practices or deliberate clearing of areas for housing construction; but for the majority of fire incidents the cause remains unknown. Extremely warm summer weather conditions, with maximum temperatures above 40° C in many parts of the country, often combined with strong winds, increase fire risk. Illegal construction is a factor contributing both to the risk and impact of fires.

⁽⁶¹⁾ Forest Fires in Europe, Middle East and North Africa 2017, JRC

ANNEX A: OVERVIEW TABLE

| Commitments | Summary assessment ⁽⁶²⁾ |
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| <p>CSR 1: Achieve a sustainable economic recovery and tackle the excessive macroeconomic imbalances by continuing and completing reforms in line with the post-programme commitments given at the Eurogroup of 22 June 2018.</p> | <p>Greece has made some progress in addressing CSR1.</p> <p>The implementation of this CSR is monitored under enhanced surveillance. Greece has taken the necessary actions to achieve all specific reform commitments for mid-2019 and efforts towards meeting the end-2019 commitments are ongoing.</p> <p>This overall assessment of country-specific recommendation 1 does not include an assessment of compliance with the Stability and Growth Pact. The compliance assessment with the Stability and Growth Pact will be included in Spring when final data for 2019 will be available.</p> |
| <p>CSR 2: Focus investment-related economic policy on sustainable transport and logistics, environmental protection, energy efficiency, renewable energy and interconnection projects, digital technologies, research and development, education, skills, employability, health, and the renewal of urban areas, taking into account regional disparities and the need to ensure social inclusion.</p> | <p>Greece has made some progress in addressing CSR2.</p> <p>In terms of horizontal investment-conducive economic policies, Greece has taken important steps. Since the adoption of the CSR, the government has adopted several pieces of legislation to foster the transition to a ‘digital state’ and to promote private investment, notably through the Development Law of last October. The latter paved</p> |

⁽⁶²⁾ 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.

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| | <p>the way for a streamlining of the investment licencing procedures and introduced changes in spatial planning to accelerate major investment projects. The law also aims to increase clarity and transparency on land use rules to investors through the introduction of a ‘Single Digital Map’,.. Meanwhile, in the area of land use, reforms are advancing with the completion of forest maps for nearly 95% of the country and continued work in cadastral mapping, while in the area of justice, reforms have been slow overall. Efforts to fight corruption are ongoing. The authorities have also taken steps towards a coordinated approach to promoting the outward orientation of the Greek economy and attracting foreign investment, and have greatly strengthened momentum in the privatisation process that could have a positive impact on investment.</p> <p>In quantitative terms, investment appears to be slowly recovering following a protracted contraction period. During the first half of 2019, investment increased by a mere 0.7%, as compared to an average 4.7% in the euro area. In the second quarter of 2019, it remained broadly flat (-0.1%) compared to the same period last year. Looking backwards, investment (as a share of GDP) fell sharply during the crisis years 2007-2014 and bottomed out only in 2015 to reach 11.1 % of GDP in 2018. In what follows, the analysis reviews public investment trends for the priority areas identified in the second CSR.</p> |
| <p>Focus investment-related economic policy on</p> <ul style="list-style-type: none"> • Sustainable transport and logistics | <p>Limited progress. According to the Global Competitiveness Report 2019, Greece ranks 39th in terms of transport infrastructures, out of 141 countries assessed and 18th among EU countries. Meanwhile, the share of energy from renewable resources used for transport accounted for only 1.7% in 2016, against a 10% target set for 2020. Greece also ranks 42nd in logistics, according to the Logistics Performance Indicator of the World Bank.</p> <p>Investment in transport averaged 1.7% of GDP in the first three quarters of 2019, having increased since 2018 (1.4% of GDP), but remain below the euro area average (2% of GDP).. Moreover, despite sizeable EU financing, the country’s main railway axis Patras-Athens-Thessaloniki remains incomplete, hindering the multimodality of the transport system and negatively affecting the transport cost of goods and thus price</p> |

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| | <p>competitiveness. The authorities have prepared, with the support of the European Commission and the European Investment Bank, a National Transport Master Plan that, among others, sets the framework for investments in transport infrastructure. Meanwhile, a number of large investment projects are delayed, including the construction of the Thessaloniki metro system, the expansion of the Athens metro system, and the completion of railway sections.</p> |
| <ul style="list-style-type: none"> • Environmental protection, energy efficiency, renewable energy and interconnection projects | <p>Some progress. In the field of environmental protection, Greece suffers from serious and long-standing inefficiencies, notably in the management of solid waste and water waste. The situation in Attica, which produces half of total solid waste in the country, is of particular concern.</p> <p>Investment in environmental protection is relatively low and Greece runs the risk of not meeting the EU-wide recycling target (50%) by 2020. A number of investment projects, co-financed by the EU, are underway to improve wastewater treatment in Western Attica and in the municipality of Marathonas and to improve waste management in Peloponnese. Meanwhile, law 4643/2019 introduced amendments regarding the development of installations for electric vehicles, and an inter-ministerial committee has been set up to design by June 2020 a strategic plan for the development of electro-mobility in Greece. The authorities are also currently revising, as envisaged by the EU legislation, their national and regional Waste Management Plans; their finalization is expected by July 2020.</p> <p>On energy-related investments (energy efficiency, renewable energy and interconnection projects), some progress has been made. In December 2019, the authorities submitted the revised 2021-2030 National Energy and Climate Plan that sets out long-term goals and strategies in these areas and provides the basis for further investment.</p> <p>On energy efficiency, Greece is on track to meet its 2020 goals and, by 2019, investments co-financed by the EU had improved energy efficiency for 19,100 households. Programmes such as the ‘Energy saving at home’ and ‘Electra’ will further improve energy efficiency for household and public buildings (law 4643/2019 introduced amendments on the program ELEKTRA allowing energy service</p> |

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| | <p>companies to participate in the development and financing of energy upgrading projects).</p> <p>On renewables, law 4643/2019 introduced amendments to facilitate large investment projects, including the construction of hybrid plants in non-interconnected islands, while the government has announced further measures to streamline the investment-licensing framework in the area of renewable energy sources.</p> <p>On interconnection projects, the National Energy and Climate Plan provides a timeline for non-interconnected islands; the first phase of a major project connecting Crete to the mainland electricity transmission grid is underway, the construction of the Crete-Peloponnese interconnection is expected to be completed in 2020, and the interconnection of West Cyclades islands is scheduled for 2023.</p> |
| <ul style="list-style-type: none"> • Digital technologies | <p>Some progress. Greece has one of the least advanced digital economies in the EU. Integration of information and communication technologies in Greek businesses is low, the percentage of small and medium-sized enterprises selling online remain at 11% and their e-commerce turnover stays low at 4%.</p> <p>Investments in information communication technology (as a share of total investment) increased with some fluctuations in the first two quarters of 2019 compared to the same quarters of 2017, but rose slightly as a share of GDP. In terms of policies, the authorities are working on a new national strategy ('Digital Bible') that, among others, will include a pipeline of IT investment projects for the entire public administration. Meanwhile, the authorities are taking steps as regards important projects (creation of a unified platform for electronic services, introducing digital identity cards for all citizens, developing the infrastructure on 5G networks and increasing ultrafast broadband coverage).</p> |
| <ul style="list-style-type: none"> • Research and development | <p>Some progress. Despite steady increases in total spending on research and development since 2010, Greece is still lagging behind the euro area average (1.18% for Greece in 2018 compared to 2.11% for EU). Nonetheless, there are persisting weaknesses, with the loss of skilled human capital remaining a major challenge. Despite a relative high engagement of businesses in innovative activities, the production</p> |

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| | <p>of academic research is not appropriately oriented to support the productive sector, as reflected by the low number of patents. Further, large disparities in innovation capacities remain, due to lack of robust governance, including low administrative capacity and weak coordination mechanisms. In December 2019, the authorities completed the evaluation of 2,912 proposals submitted in the context of the flagship call “Research-Create-Innovate”. Overall, the budget of all announced calls regarding research and development has reached €877 million.</p> |
| <ul style="list-style-type: none"> • Education | <p>Limited Progress. Public expenditure in education is among the lowest in the EU and has contracted in recent years. Nevertheless, with the help of the European Social Fund, investments have taken place, among others, to reduce early school leaving, expand early childhood education, upgrade the vocational education and training system, expand dual learning, and reform higher education. In term of policy developments, law 4653/2020 allowed for increased independence of the Hellenic Authority of Higher Education and it helped standardise university evaluations, which could, in turn, facilitate performance-based funding, and increase efficiency.</p> |
| <ul style="list-style-type: none"> • Skills | <p>Limited Progress. The number of companies that provide training and vocational programmes to develop and/or upgrade the information and communication technology skills of their personnel increased slightly in 2019 (from 14% to 15%), but remains well below the euro area average (25%). Participation of adults (aged 25-64) in education and training stood at 4.5% in 2018, one of the lowest in the euro area, where the average was 11.5%.</p> |
| <ul style="list-style-type: none"> • Employability | <p>Limited progress. Public expenditure on active labour market policies accounted for 0.18% of GDP in 2017, less than in most other EU member states. Moreover, the impact of policies on employability has been hampered by a flawed delivery model, the reform of which has started only recently, by a lack of monitoring and evaluation that would allow for design improvements, as well as by low quality of some training programmes that has not yet been sufficiently addressed. On the positive side, investment in the programme of childcare vouchers has increased with a view to facilitating labour market participation of women. Meanwhile, the ‘Post-Lyceum Year - Apprenticeship Class in Greece’ programme, providing participants with</p> |

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| | better employment prospects, has expanded with steady increases in the number of apprentices, areas of specialisation and number of schools. |
| • Health | Limited Progress. Largely as a legacy of the crisis, few investments took place in the health sector between 2010 and 2017. In particular, investments in health accounted for 0.1% of GDP in 2017, while expenditure on health decreased with some fluctuations, until it reached just over 5.2% in 2017. Meanwhile, EU financing through the European Social Fund has contributed to the reform of primary health care and the rolling out of a network of local healthcare units (TOMYs) to strengthen access to primary healthcare. Around 130 units were in operation by the end of 2019. |
| • And the renewal of urban areas, taking into account regional disparities and the need to ensure social inclusion. | Limited progress. Some investments have been made or are planned to promote equal opportunities and facilitate social inclusion of marginalized groups in disadvantaged urban areas. As regards social inclusion, public expenditure for family support or housing was considerably below the EU average in 2017. Investment in minimum income support has decreased, as the parameters of the scheme have not been updated since its introduction in 2017. On the other hand, Greece has invested, with support from the European Social Fund, in expanding the network of community centres, which facilitate citizens' access to social services at local level, and it has introduced a means-tested housing benefit in 2019. |
| Europe 2020 (national targets and progress) | |
| Employment rate target: 70% of population aged 20-64 | The employment rate for workers aged 20-64 was 59.5% in 2018, up from 57.8% in 2017. This rise continued in 2019, with an average 61.2% employment rate in the first three quarters. However, the 70% target remains out of reach at this stage, in spite of continued job creation. The employment rate is very low and significantly below the EU average (73.2% in 2018). |
| R&D target: 1.30% of GDP | In 2018, Greece reached a research and development intensity of 1.18% of GDP, according to provisional data by Eurostat (compared to 1.13% of GDP in 2017). In 2018, research and development intensity was composed of 48% private investment (0.57% of |

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| | GDP) and 51% public investment (0.60% of GDP). |
| Greenhouse gas (GHG) emissions target: 4% reduction by 2020 compared to 2005 (in non-ETS sectors) | Greece is expected to over-achieve its 2020 effort sharing decision greenhouse gas emissions target by a significant margin, with a reduction of 22% by 2020 relative to the 2005 level. |
| Renewable energy target: 18% of gross final energy consumption from renewable sources. | The renewable energy share in Greece was 18% in 2018. While being above the 2017/2018 indicative trajectory (14.1%), further efforts are necessary to reach the 2020 target. |
| Energy efficiency target: absolute level of primary consumption of 24.7 Mtoe | At 23.01 Mtoe in 2017, Greece is on track to meet its primary energy consumption targets for 2020, but it should make more efforts to keep the primary energy consumption at this level or to minimise its increase when the GDP grows again during the next five year period. |
| Early school leaving target: 10% early leavers from education and training aged 18-24. | At 4.7% in 2018, the share of early school was well below the EU average of 10.6% and the national target of 10%. |
| Tertiary education target: 32% tertiary education attainment, age group 30-34. | At 44.3% in 2018, Greece is well above the EU average (40.7%) and the national target. However, the attainment gap between foreign- and native-born students (33pps) is one of the largest in the EU and skills mismatches are pronounced. |
| Risk of poverty or social exclusion target: 450 thousands less people at risk of poverty or exclusion compared to 2008. | Greece targeted to lift out 450 thousand people from poverty or social exclusion by 2020 with 2008 as a baseline year. Greece is far from achieving its target as in 2018 still 302 thousand more people lived at risk of poverty compared to 2008. |

ANNEX B: COMMISSION DEBT SUSTAINABILITY ANALYSIS AND FISCAL RISKS

The long-term sustainability of public finances is discussed in the fifth enhanced surveillance report published in parallel to this country report (European Commission, 2020).

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) | 222.7 | 217.8 | 199.4 | 167.3 | 158.4 | 167.0 |
| Share of assets of the five largest banks (% of total assets) | 94.1 | 95.2 | 97.3 | 97.0 | 96.8 | - |
| Foreign ownership of banking system (% of total assets)(2) | 2.9 | 1.7 | 2.0 | 2.1 | 2.0 | 1.7 |
| Financial soundness indicators:(2) | | | | | | |
| - non-performing loans (% of total loans) | 39.7 | 46.8 | 46.3 | 45.0 | 41.6 | 39.6 |
| - capital adequacy ratio (%) | 14.1 | 16.5 | 17.0 | 17.1 | 16.0 | 16.5 |
| - return on equity %(3) | -10.6 | -24.2 | -7.5 | -1.3 | -0.4 | 2.6 |
| Bank loans to the private sector (year-on-year % change)(1) | -3.1 | -3.9 | -1.5 | -1.5 | -2.1 | -2.4 |
| Lending for house purchase (year-on-year % change)(1) | -3.0 | -3.5 | -3.5 | -3.1 | -2.9 | -5.4 |
| Loan-to-deposit ratio(2) | 79.1 | 72.3 | 75.9 | 83.5 | 74.7 | 74.3 |
| Central bank liquidity as % of liabilities(1) | 18.3 | 38.2 | 26.6 | 16.2 | 5.2 | 3.2 |
| Private debt (% of GDP) | 130.8 | 128.0 | 125.1 | 118.1 | 115.3 | - |
| Gross external debt (% of GDP)(2) - public | 149.4 | 149.8 | 152.9 | 154.1 | 161.8 | 161.5 |
| - private | 15.9 | 14.6 | 15.0 | 15.3 | 23.4 | 22.4 |
| Long-term interest rate spread versus Bund (basis points)* | 576.6 | 917.1 | 827.0 | 566.1 | 378.8 | 294.0 |
| Credit default swap spreads for sovereign securities (5-year)* | - | - | - | - | - | - |

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

(2) Latest data Q2 2019.

(3) Quarterly values are annualized.

* Measured in basis points.

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

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

| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 ⁵ |
|---|-------|-------|-------|------|------|-------------------|
| Equal opportunities and access to the labour market | | | | | | |
| Early leavers from education and training (% of population aged 18-24) | 9.0 | 7.9 | 6.2 | 6.0 | 4.7 | : |
| Gender employment gap (pps) | 18.3 | 18.0 | 19.0 | 19.7 | 21.0 | 20.2 |
| Income inequality, measured as quintile share ratio (S80/S20) | 6.5 | 6.5 | 6.6 | 6.1 | 5.5 | : |
| At-risk-of-poverty or social exclusion rate(1) | 36.0 | 35.7 | 35.6 | 34.8 | 31.8 | : |
| Young people neither in employment nor in education and training (% of population aged 15-24) | 19.1 | 17.2 | 15.8 | 15.3 | 14.1 | : |
| Dynamic labour markets and fair working conditions | | | | | | |
| Employment rate (20-64 years) | 53.3 | 54.9 | 56.2 | 57.8 | 59.5 | 61.2 |
| Unemployment rate(2) (15-74 years) | 26.5 | 24.9 | 23.6 | 21.5 | 19.3 | 17.5 |
| Long-term unemployment rate (as % of active population) | 19.5 | 18.2 | 17.0 | 15.6 | 13.6 | 12.3 |
| Gross disposable income of households in real terms per capita(3) (Index 2008=100) | 70.4 | 69.6 | 68.8 | 69.3 | : | : |
| Annual net earnings of a full-time single worker without children earning an average wage (levels in PPS, three-year average) | 18169 | 18447 | 18577 | : | : | : |
| Annual net earnings of a full-time single worker without children earning an average wage (percentage change, real terms, three-year average) | -3.1 | -1.1 | 0.0 | : | : | : |
| Public support / Social protection and inclusion | | | | | | |
| Impact of social transfers (excluding pensions) on poverty reduction(4) | 15.0 | 16.1 | 15.9 | 15.8 | 20.3 | : |
| Children aged less than 3 years in formal childcare | 12.8 | 11.4 | 8.9 | 20.5 | 40.9 | : |
| Self-reported unmet need for medical care | 10.9 | 12.3 | 13.1 | 10.0 | 8.8 | : |
| Individuals who have basic or above basic overall digital skills (% of population aged 16-74) | : | 44.0 | 46.0 | 46.0 | : | : |

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

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

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

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

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

Source: Eurostat

Table C.3: Labour market and education indicators

| Labour market indicators | 2014 | 2015 | 2016 | 2017 | 2018 | 2019⁵ |
|---|-------------|-------------|-------------|-------------|-------------|-------------------------|
| Activity rate (15-64) | 67.4 | 67.8 | 68.2 | 68.3 | 68.2 | 68.6 |
| Employment in current job by duration | | | | | | |
| <i>From 0 to 11 months</i> | 9.9 | 10.1 | 9.5 | 9.9 | 9.9 | : |
| <i>From 12 to 23 months</i> | 6.1 | 6.9 | 7.1 | 7.2 | 7.0 | : |
| <i>From 24 to 59 months</i> | 11.9 | 11.2 | 12.5 | 12.8 | 13.3 | : |
| <i>60 months or over</i> | 72.1 | 71.9 | 70.9 | 70.1 | 69.8 | : |
| Employment growth* | | | | | | |
| (% change from previous year) | 0.9 | 0.7 | 0.5 | 1.5 | 1.7 | 2.0 |
| Employment rate of women | | | | | | |
| (% of female population aged 20-64) | 44.3 | 46.0 | 46.8 | 48.0 | 49.1 | 51.2 |
| Employment rate of men | | | | | | |
| (% of male population aged 20-64) | 62.6 | 64.0 | 65.8 | 67.7 | 70.1 | 71.4 |
| Employment rate of older workers* | | | | | | |
| (% of population aged 55-64) | 34.0 | 34.3 | 36.3 | 38.3 | 41.1 | 43.0 |
| Part-time employment* | | | | | | |
| (% of total employment, aged 15-64) | 9.3 | 9.4 | 9.8 | 9.7 | 9.1 | 9.0 |
| Fixed-term employment* | | | | | | |
| (% of employees with a fixed term contract, aged 15-64) | 11.6 | 11.9 | 11.2 | 11.4 | 11.3 | 12.6 |
| Transition rate from temporary to permanent employment | | | | | | |
| (3-year average) | 17.9 | 17.7 | 21.5 | 20.0 | 21.9 | : |
| Youth unemployment rate | | | | | | |
| (% active population aged 15-24) | 52.4 | 49.8 | 47.3 | 43.6 | 39.9 | 34.9 |
| Gender gap in part-time employment | 6.4 | 6.4 | 6.7 | 7.5 | 7.2 | 7.5 |
| Gender pay gap ⁽²⁾ (in undadjusted form) | 12.5 | : | : | : | : | : |
| Education and training indicators | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
| Adult participation in learning | | | | | | |
| (% of people aged 25-64 participating in education and training) | 3.2 | 3.3 | 4.0 | 4.5 | 4.5 | : |
| Underachievement in education ⁽³⁾ | : | 35.8 | : | : | : | : |
| Tertiary educational attainment (% of population aged 30-34 having successfully completed tertiary education) | 37.2 | 40.4 | 42.7 | 43.7 | 44.3 | : |
| Variation in performance explained by students' socio-economic status ⁽⁴⁾ | : | 12.5 | : | : | : | : |

* 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. Values for 2015 refer to mathematics and for 2018 to reading.

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

Source: Eurostat, OECD

Table C.4: Social inclusion and health indicators

| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|------|------|------|------|------|------|
| Expenditure on social protection benefits* (% of GDP) | | | | | | |
| <i>Sickness/healthcare</i> | 5.4 | 4.7 | 4.9 | 5.2 | 5.1 | : |
| <i>Disability</i> | 1.6 | 1.6 | 1.6 | 1.5 | 1.5 | : |
| <i>Old age and survivors</i> | 16.2 | 16.7 | 17.0 | 16.8 | 15.6 | : |
| <i>Family/children</i> | 1.1 | 1.1 | 1.1 | 1.0 | 1.4 | : |
| <i>Unemployment</i> | 1.3 | 1.1 | 1.0 | 1.0 | 0.9 | : |
| <i>Housing</i> | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | : |
| <i>Social exclusion n.e.c.</i> | 0.1 | 0.3 | 0.1 | 0.2 | 0.4 | : |
| Total | 25.8 | 25.5 | 25.8 | 25.8 | 24.9 | : |
| <i>of which: means-tested benefits</i> | 1.2 | 1.5 | 1.4 | 1.3 | 1.7 | : |
| General government expenditure by function (% of GDP) | | | | | | |
| <i>Social protection</i> | 19.6 | 20.2 | 20.3 | 20.4 | 19.4 | : |
| <i>Health</i> | 5.2 | 4.7 | 4.7 | 5.0 | 5.2 | : |
| <i>Education</i> | 4.5 | 4.3 | 4.2 | 4.0 | 3.9 | : |
| Out-of-pocket expenditure on healthcare | 33.7 | 36.6 | 36.4 | 34.6 | 34.8 | : |
| Children at risk of poverty or social exclusion (% of people aged 0-17)* | 38.1 | 36.7 | 37.8 | 37.5 | 36.2 | 33.3 |
| At-risk-of-poverty rate ⁽¹⁾ (% of total population) | 23.1 | 22.1 | 21.4 | 21.2 | 20.2 | 18.5 |
| In-work at-risk-of-poverty rate (% of persons employed) | 13.1 | 13.4 | 13.4 | 14.1 | 12.9 | 11.0 |
| Severe material deprivation rate ⁽²⁾ (% of total population) | 20.3 | 21.5 | 22.2 | 22.4 | 21.1 | 16.7 |
| Severe housing deprivation rate ⁽³⁾ , by tenure status | | | | | | |
| <i>Owner, with mortgage or loan</i> | 3.7 | 3.4 | 4.9 | 5.5 | 4.8 | 5.3 |
| <i>Tenant, rent at market price</i> | 9.9 | 8.0 | 8.8 | 8.2 | 8.0 | 8.0 |
| Proportion of people living in low work intensity households ⁽⁴⁾ (% of people aged 0-59) | 18.2 | 17.2 | 16.8 | 17.2 | 15.6 | 14.6 |
| Poverty thresholds, expressed in national currency at constant prices* | 4232 | 3916 | 3889 | 3921 | 3973 | 4065 |
| Healthy life years | | | | | | |
| <i>Females</i> | 6.8 | 7.1 | 7.5 | 7.8 | 7.8 | : |
| <i>Males</i> | 8.0 | 7.7 | 7.9 | 8.0 | 8.1 | : |
| Aggregate replacement ratio for pensions ⁽⁵⁾ | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| Connectivity dimension of the Digital Economy and Society Index (DESI) ⁽⁶⁾ | : | 35.0 | 42.9 | 44.9 | 48.0 | : |
| GINI coefficient before taxes and transfers* | 57.3 | 57.2 | 56.6 | 57.0 | 53.8 | : |
| GINI coefficient after taxes and transfers* | 34.4 | 34.5 | 34.2 | 34.3 | 33.4 | : |

* 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 | 5,12 | -1,60 | -3,76 | 4,48 | 0,78 | 1,35 |
| Labour productivity growth in construction | -16,80 | -14,13 | -0,25 | 22,81 | -1,10 | 6,82 |
| Labour productivity growth in market services | 1,13 | -0,60 | -2,53 | -3,76 | 0,16 | 0,22 |
| Unit Labour Cost (ULC) index ² growth (t/t-1) in % | | | | | | |
| ULC growth in industry | -8,07 | 4,01 | 1,61 | -4,05 | -1,77 | 1,18 |
| ULC growth in construction | 5,83 | -5,59 | -12,46 | -17,12 | -7,55 | -7,23 |
| ULC growth in market services | -10,21 | -2,89 | -2,49 | 3,14 | 3,29 | 1,96 |
| Business environment | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
| Time needed to enforce contracts ³ (days) | 1300 | 1580 | 1580 | 1711 | 1711 | 1711 |
| Time needed to start a business ³ (days) | 14,0 | 13,0 | 13,0 | 13,0 | 12,5 | 12,5 |
| Outcome of applications by SMEs for bank loans ⁴ | 1,54 | 1,81 | 1,21 | 1,54 | 1,14 | 1,05 |
| Research and innovation | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
| R&D intensity | 0,81 | 0,83 | 0,96 | 0,99 | 1,13 | 1,18 |
| General government expenditure on education as % of GDP | 4,50 | 4,30 | 4,20 | 4,00 | 3,90 | : |
| Employed people with tertiary education and/or people employed in S&T as % of total employment | 34 | 33 | 34 | 36 | 37 | 37 |
| Population having completed tertiary education ⁵ | 24 | 25 | 25 | 26 | 27 | 28 |
| Young people with upper secondary education ⁶ | 87 | 88 | 90 | 91 | 92 | 94 |
| Trade balance of high technology products as % of GDP | -1,24 | -1,18 | -1,31 | -1,22 | -1,37 | -1,49 |
| Product and service markets and competition | 2003 | 2008 | 2013 | | | 2018* |
| OECD product market regulation (PMR) ⁷ , overall | 2,51 | 2,21 | 1,74 | | | 1,56 |
| OECD PMR ⁷ , retail | 4,50 | 3,85 | 2,55 | | | 2,54 |
| OECD PMR ⁷ , professional services ⁸ | 3,30 | 3,26 | 3,01 | | | 2,19 |
| OECD PMR ⁷ , network industries ⁹ | 4,29 | 3,13 | 2,55 | | | 1,19 |

(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 6 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 of population aged 15-64 having completed tertiary education.

(6) Percentage of 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>

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

(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.

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 / € | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | - |
| Carbon intensity | kg / € | 0.56 | 0.53 | 0.52 | 0.50 | 0.51 | - |
| Resource intensity (reciprocal of resource productivity) | kg / € | 0.73 | 0.75 | 0.71 | 0.67 | 0.65 | 0.64 |
| Waste intensity | kg / € | - | 0.38 | - | 0.39 | - | - |
| Energy balance of trade | % GDP | -3.7 | -3.4 | -2.1 | -1.6 | -1.8 | -2.4 |
| Weighting of energy in HICP | % | 9.55 | 11.96 | 8.45 | 6.66 | 7.68 | 8.78 |
| Difference between energy price change and inflation | p.p. | 16.2 | 0.1 | -10.5 | -5.3 | 6.9 | 1.4 |
| Real unit of energy cost | % of value added | 13.1 | 13.2 | 13.7 | 14.2 | - | - |
| Ratio of environmental taxes to labour taxes | ratio | 0.25 | 0.26 | 0.26 | 0.25 | 0.25 | - |
| Environmental taxes | % GDP | 3.7 | 3.7 | 3.8 | 3.8 | 4.0 | 3.7 |
| Sectoral | | | | | | | |
| Industry energy intensity | kgoe / € | 0.11 | 0.13 | 0.14 | 0.13 | 0.12 | - |
| Real unit energy cost for manufacturing industry excl. refining | % of value added | 9.2 | 9.7 | 9.8 | 9.9 | - | - |
| Share of energy-intensive industries in the economy | % GDP | 5.60 | 5.43 | 5.19 | 5.47 | 5.77 | - |
| Electricity prices for medium-sized industrial users | € / kWh | 0.12 | 0.13 | 0.12 | 0.11 | 0.11 | 0.10 |
| Gas prices for medium-sized industrial users | € / kWh | 0.05 | 0.05 | 0.04 | 0.03 | 0.03 | 0.03 |
| Public R&D for energy | % GDP | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | 0.02 |
| Public R&D for environmental protection | % GDP | 0.01 | 0.01 | 0.02 | 0.01 | 0.03 | 0.02 |
| Municipal waste recycling rate | % | 15.8 | 15.4 | 15.8 | 17.2 | 18.9 | - |
| Share of GHG emissions covered by ETS* | % | 57.0 | 55.5 | 52.3 | 50.8 | 52.2 | 51.2 |
| Transport energy intensity | kgoe / € | 0.58 | 0.58 | 0.64 | 0.70 | 0.67 | - |
| Transport carbon intensity | kg / € | 0.50 | 0.52 | 0.66 | 0.72 | 0.83 | - |
| Security of energy supply | | | | | | | |
| Energy import dependency | % | 61.7 | 65.4 | 71.0 | 72.9 | 71.1 | - |
| Aggregated supplier concentration index | HHI | 32.2 | 37.6 | 33.8 | 40.9 | 44.7 | - |
| Diversification of energy mix | HHI | 32.3 | 33.0 | 33.0 | 33.7 | 32.0 | - |

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Proportion of GHG emissions covered by EU emissions trading system (ETS) (excluding aviation): based on GHG emissions.

(excl. land use, land use change and forestry) as reported by Member States to the European Environment Agency.

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

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

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

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

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

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

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

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

Building on the Commission proposal, this Annex ⁽⁶³⁾ 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 Greece. 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 Greece, assessed in the report. This Annex provides the basis for a dialogue between Greece 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 Greece ⁽⁶⁴⁾.

Greece produces high greenhouse gas emissions- 9.2 tons per capita every year, compared to 8.8 tons per capita at EU level. This is mainly due to fossil fuel dependency, with more than 30% of electricity generated from lignite in the two lignite mining areas (the Western Macedonia region and the Megalopolis area in the Peloponnese region), and close to 10% generated by heavy oil or diesel on the islands.

In the region of Western Macedonia (286,000 inhabitants), notably in the Kozani prefecture (150,000 inhabitants) where the largest mines and most power plants are located, lignite-based electricity production is the most important economic sector, accounting for over one third of regional GDP. Therefore, while closing down the lignite sector will have positive environmental and health impacts, it poses significant economic and social challenges. An estimated 5,500 jobs in the lignite mines and power plants are directly at risk. An additional 20,000 jobs are indirectly at risk. At 31% (2016), the region already has one of the highest unemployment rates of all EU coal/lignite regions, and its GDP/capita collapsed from 86% to 59% of the EU average between 2009 and 2017. Furthermore, over 100,000 inhabitants are connected to district heating systems, which function with the residual heat of the lignite-fuelled power plants. The environmental rehabilitation and repurposing of the mining areas is another important challenge to address, taking into account the “polluter pays” principle.

Megalopolis in the central-south part of the Peloponnese region is a small area, with a population of less than 6,000 inhabitants. The lignite mines and related power plants are by far the most important activity in the area. An estimated 1,600 jobs are at risk due to the closing of the lignite sector, equally divided between direct and indirect employment. Two of the four lignite-fired power plants were closed down recently, and one natural gas fired unit has been built.

In its revised National Energy and Climate Plan, the Greek government has committed itself to the full closure of the lignite sector by 2028. To this aim, an Intergovernmental Committee was set up in 2019 to promote the fair transition in the regions in reference. This presents a huge challenge in terms of transforming the Western Macedonia economy from its near to complete lignite dependency to other, diversified economic activities. Key to the latter should be the sectors identified in the region's regional innovation strategy ⁽⁶⁵⁾, namely: (i) agro-food; (ii) environment and energy; (iii) the luxury clothing industry; and (iv) tourism, in particular agro-tourism. The energy component of such a new regional model would concern the development of hydroelectricity, other local renewables and energy storage solutions in relation to renewables. As concerns Megalopolis, the reduced size of the area and the presence of diversified economic activities in its immediate surroundings will render the transition to a new development model much less challenging than in Western Macedonia.

⁽⁶³⁾ 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)

⁽⁶⁴⁾ SWD(2020) 1007 final

⁽⁶⁵⁾ As defined in Article 2(3) of Regulation EU 1303/2013 (CPR).

The Greek government is also committed to phasing out the inefficient and very polluting heavy oil and diesel fired power plants on the islands. In line with the Clean Energy for EU islands initiative they are planned to be substituted by onshore and offshore renewables, for which Crete and the Aegean islands have very high potential. Interconnectors with the mainland and between the islands will be extended to optimise the use of renewable energy.

To tackle these transition-related challenges in the mentioned areas, priority investment needs to be targeted at diversifying the regional economy and making it more modern and competitive. Notable actions to alleviate the socio-economic costs of the transition include:

1. Western Macedonia:

- productive investments in SMEs, including start-ups, leading to economic diversification and reconversion;
- the deployment of technology and infrastructures for affordable clean energy, in greenhouse gas emission reduction, energy efficiency and renewable energy;
- regeneration and decontamination of sites, land restoration and repurposing projects;
- upskilling and reskilling of workers;
- job-search assistance to jobseekers;
- active inclusion of jobseekers.

Western Macedonia is expected to experience job losses, which realistically might not be entirely offset by creating and developing SMEs. Support to productive investments in large firms could therefore be considered.

2. Megalopolis:

- productive investments in SMEs, including start-ups, leading to economic diversification and reconversion; and
- regeneration and decontamination of sites, land restoration and repurposing projects;
- upskilling and reskilling of workers.

3. Crete and the Aegean islands:

- the deployment of technology and infrastructures for affordable clean energy, in greenhouse gas emission reduction, energy efficiency and renewable energy;
- upskilling and reskilling of workers.

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

Assessment of Greece's short-term progress towards the SDGs ⁽⁶⁶⁾

Table E.1 shows the data for Greece 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](#) ⁽⁶⁷⁾. 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.

⁽⁶⁶⁾ 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>).

| SDG / Sub-theme | Indicator | Unit | Greece | | | | EU-28 | | | |
|--|--|--|----------|----------|--------|----------|----------|-----------|--------|-----------|
| | | | Starting | | Latest | | Starting | | Latest | |
| | | | year | value | year | value | year | value | year | value |
| SDG 1 – No poverty | | | | | | | | | | |
| Multidimensional poverty | People at risk of poverty or social exclusion | % of population | 2013 | 35.7 | 2018 | 31.8 | 2013 | 24.6 | 2018 | 21.9 |
| | People at risk of income poverty after social transfers | % of population | 2013 | 23.1 | 2018 | 18.5 | 2013 | 16.7 | 2018 | 17.1 |
| | Severely materially deprived people | % of population | 2013 | 20.3 | 2018 | 16.7 | 2013 | 9.6 | 2018 | 5.8 |
| | People living in households with very low work intensity | % of population aged 0 to 59 | 2013 | 18.2 | 2018 | 14.6 | 2013 | 11.0 | 2018 | 8.8 |
| | In-work at-risk-of-poverty rate | % of population aged 18 or over | 2013 | 13.1 | 2018 | 11.0 | 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 | 14.0 | 2018 | 12.9 | 2013 | 15.6 | 2018 | 13.9 |
| | Self-reported unmet need for medical care | % of population aged 16 or over | 2013 | 9.0 | 2018 | 8.8 | 2013 | 3.7 | 2018 | 2.0 |
| | Population having neither a bath, nor a shower, nor indoor flushing toilet in their household | % of population | 2013 | 0.7 | 2018 | 0.2 | 2013 | 2.2 | 2018 | 1.7 |
| | Population unable to keep home adequately warm | % of population | 2013 | 29.5 | 2018 | 22.7 | 2013 | 10.7 | 2018 | 7.3 |
| | Overcrowding rate | % of population | 2013 | 27.3 | 2018 | 29.2 | 2013 | 17.0 | 2018 | 15.5 |
| SDG 2 – Zero hunger | | | | | | | | | | |
| Malnutrition | Obesity rate | % of population aged 18 or over | 2008 | 17.6 | 2014 | 17.3 | 2014 | 15.9 | 2017 | 15.2 |
| Sustainable agricultural production | Agricultural factor income per annual work unit (AWU) | EUR, chain linked volumes (2010) | 2012 | 13 315 | 2017 | 15 070 | 2012 | 14 865 | 2017 | 17 304 |
| | Government support to agricultural research and development | million EUR | 2013 | 28.1 | 2018 | 32.0 | 2013 | 3 048.6 | 2018 | 3 242.5 |
| | Area under organic farming | % of utilised agricultural area | 2013 | 7.4 | 2018 | 9.3 | 2013 | 5.7 | 2018 | 7.5 |
| | Gross nitrogen balance on agricultural land | kg per hectare | 2010 | 71 | 2015 | 59 | 2010 | 49 | 2015 | 51 |
| Environmental impacts of agricultural production | Ammonia emissions from agriculture | kg per ha of utilised agricultural area | 2012 | 11.1 | 2017 | 9.7 | 2011 | 19.7 | 2016 | 20.3 |
| | Nitrate in groundwater | mg NO ₃ per litre | N/A | : | N/A | : | 2012 | 19.2 | 2017 | 19.1 |
| | Estimated soil erosion by water | km ² | 2010 | 11 721.2 | 2016 | 11 639.3 | 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 | 80.7 | 2017 | 81.4 | 2012 | 80.3 | 2017 | 80.9 |
| | Share of people with good or very good perceived health | % of population aged 16 or over | 2013 | 74.1 | 2018 | 76.4 | 2013 | 67.3 | 2018 | 69.2 |
| Health determinants | Smoking prevalence | % of population aged 15 or over | 2012 | 40 | 2017 | 37 | 2014 | 26 | 2017 | 26 |
| | Obesity rate | % of population aged 18 or over | 2008 | 17.6 | 2014 | 17.3 | 2014 | 15.9 | 2017 | 15.2 |
| | Population living in households considering that they suffer from noise | % of population | 2013 | 24.2 | 2018 | 19.3 | 2013 | 18.8 | 2018 | 18.3 |
| | Exposure to air pollution by particulate matter (PM _{2.5}) | µg/m ³ | 2011 | 17.0 | 2016 | 14.7 | 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 | 124.6 | 2016 | 119.4 | 2011 | 132.5 | 2016 | 119.0 |
| | Death rate due to tuberculosis, HIV and hepatitis | number per 100 000 persons | 2011 | 1.4 | 2016 | 1.5 | 2011 | 3.4 | 2016 | 2.6 |
| | People killed in accidents at work | number per 100 000 employed persons | 2012 | 0.69 | 2017 | 1.22 | 2012 | 1.91 | 2017 | 1.65 |
| | People killed in road accidents | number of killed people | 2012 | 988 | 2017 | 731 | 2012 | 28 231 | 2017 | 25 257 |
| Access to health care | Self-reported unmet need for medical care | % of population aged 16 or over | 2013 | 9.0 | 2018 | 8.8 | 2013 | 3.7 | 2018 | 2.0 |

(Continued on the next page)

Table (continued)

| SDG / Sub-theme | Indicator | Unit | Greece | | | | 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 | 10.1 | 2018 | 4.7 | 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 | 75.2 | 2017 | 81.5 | 2012 | 94.0 | 2017 | 95.4 |
| | Underachievement in reading | % of 15-year-old students | 2015 | 27.3 | 2018 | 30.5 | 2015 | 19.7 | 2018 | 21.7 |
| | Young people neither in employment nor in education and training | % of population aged 15 to 29 | 2013 | 28.5 | 2018 | 19.5 | 2013 | 15.9 | 2018 | 12.9 |
| Tertiary education | Tertiary educational attainment | % of the population aged 30 to 34 | 2013 | 34.9 | 2018 | 44.3 | 2013 | 37.1 | 2018 | 40.7 |
| | Employment rate of recent graduates | % of population aged 20 to 34 | 2013 | 40.0 | 2018 | 55.3 | 2013 | 75.4 | 2018 | 81.7 |
| Adult education | Adult participation in learning | % of population aged 25 to 64 | 2013 | 3.2 | 2018 | 4.5 | 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 | 7 | N/A | : | 2012 | 8 |
| Education | Gender gap for early leavers from education and training | percentage points, persons aged 18–24 | 2013 | 5.2 | 2018 | 2.1 | 2013 | 3.4 | 2018 | 3.3 |
| | Gender gap for tertiary educational attainment | percentage points, persons aged 30–34 | 2013 | 8.2 | 2018 | 13.8 | 2013 | 8.5 | 2018 | 10.1 |
| | Gender gap for employment rate of recent graduates | percentage points, persons aged 20–34 | 2013 | 4.8 | 2018 | 5.1 | 2013 | 4.4 | 2018 | 3.4 |
| Employment | Gender pay gap in unadjusted form | % of average gross hourly earnings of men | 2010 | 15.0 | 2014 | 12.5 | 2012 | 17.4 | 2017 | 16.0 |
| | Gender employment gap | percentage points, persons aged 20–64 | 2013 | 19.4 | 2018 | 21.0 | 2013 | 11.7 | 2018 | 11.6 |
| | Gender gap in inactive population due to caring responsibilities | percentage points, persons aged 20–64 | 2013 | 29.1 | 2018 | 24.9 | 2013 | 25.5 | 2018 | 27.1 |
| Leadership positions | Seats held by women in national parliaments and governments | % of seats | 2014 | 21.0 | 2019 | 21.7 | 2014 | 27.2 | 2019 | 31.5 |
| | Positions held by women in senior management | % of board members | 2014 | 8.9 | 2019 | 10.2 | 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 | 0.7 | 2018 | 0.2 | 2013 | 2.2 | 2018 | 1.7 |
| | Population connected to at least secondary wastewater treatment | % of population | 2011 | 88.2 | 2016 | 93.4 | N/A | : | N/A | : |
| Water quality | Biochemical oxygen demand in rivers | mg O ₂ per litre | N/A | : | N/A | : | 2012 | 2.06 | 2017 | 2.00 |
| | Nitrate in groundwater | mg NO ₃ per litre | N/A | : | N/A | : | 2012 | 19.2 | 2017 | 19.1 |
| | Phosphate in rivers | mg PO ₄ per litre | N/A | : | N/A | : | 2012 | 0.096 | 2017 | 0.093 |
| | Inland water bathing sites with excellent water quality | % of bathing sites with excellent water quality | 2013 | 33.3 | 2018 | 33.3 | 2013 | 76.5 | 2018 | 80.8 |
| Water use efficiency | Water exploitation index | % of long term average available water (LTAA) | 2011 | 13.8 | 2016 | 15.6 | N/A | : | N/A | : |
| SDG 7 – Affordable and clean energy | | | | | | | | | | |
| Energy consumption | Primary energy consumption | million tonnes of oil equivalent (Mtoe) | 2013 | 23.3 | 2018 | 22.4 | 2013 | 1 577.4 | 2018 | 1 551.9 |
| | Final energy consumption | million tonnes of oil equivalent (Mtoe) | 2013 | 15.3 | 2018 | 16.0 | 2013 | 1 115.5 | 2018 | 1 124.1 |
| | Final energy consumption in households per capita | kgoe | 2013 | 348 | 2018 | 365 | 2013 | 605 | 2018 | 552 |
| | Energy productivity | EUR per kgoe | 2013 | 7.1 | 2018 | 7.4 | 2013 | 7.6 | 2018 | 8.5 |
| | Greenhouse gas emissions intensity of energy consumption | index 2000 = 100 | 2012 | 93.4 | 2017 | 83.3 | 2012 | 91.5 | 2017 | 86.5 |
| Energy supply | Share of renewable energy in gross final energy consumption | % | 2013 | 15.3 | 2018 | 18.0 | 2013 | 15.4 | 2018 | 18.0 |
| | Energy import dependency | % of imports in gross available energy | 2013 | 61.5 | 2018 | 70.5 | 2013 | 53.2 | 2018 | 55.7 |
| Access to affordable energy | Population unable to keep home adequately warm | % of population | 2013 | 29.5 | 2018 | 22.7 | 2013 | 10.7 | 2018 | 7.3 |

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Table (continued)

| SDG / Sub-theme | Indicator | Unit | Greece | | | | EU-28 | | | |
|--|--|--|----------|--------|--------|--------|----------|---------|--------|-----------|
| | | | Starting | | Latest | | Starting | | Latest | |
| | | | year | value | year | value | year | value | year | value |
| SDG 8 – Decent work and economic growth | | | | | | | | | | |
| Sustainable economic growth | Real GDP per capita | EUR per capita, chain-linked volumes (2010) | 2013 | 16 800 | 2018 | 17 780 | 2013 | 25 750 | 2018 | 28 280 |
| | Investment share of GDP | % of GDP | 2013 | 12.2 | 2018 | 11.1 | 2013 | 19.5 | 2018 | 20.9 |
| | Resource productivity | EUR per kg, chain-linked volumes (2010) | 2013 | 1.37 | 2018 | 1.56 | 2013 | 1.98 | 2018 | 2.04 |
| Employment | Young people neither in employment nor in education and training | % of population aged 15 to 29 | 2013 | 28.5 | 2018 | 19.5 | 2013 | 15.9 | 2018 | 12.9 |
| | Employment rate | % of population aged 20 to 64 | 2013 | 52.9 | 2018 | 59.5 | 2013 | 68.4 | 2018 | 73.2 |
| | Long-term unemployment rate | % of active population | 2013 | 18.5 | 2018 | 13.6 | 2013 | 5.1 | 2018 | 2.9 |
| | Gender gap in inactive population due to caring responsibilities | percentage points, persons aged 20–64 | 2013 | 29.1 | 2018 | 24.9 | 2013 | 25.5 | 2018 | 27.1 |
| Decent work | People killed in accidents at work | number per 100 000 employed persons | 2012 | 0.69 | 2017 | 1.22 | 2012 | 1.91 | 2017 | 1.65 |
| | In-work at-risk-of-poverty rate | % of population | 2013 | 13.1 | 2018 | 11 | 2013 | 9 | 2018 | 9.5 |
| SDG 9 – Industry, innovation and infrastructure | | | | | | | | | | |
| R&D and innovation | Gross domestic expenditure on R&D | % of GDP | 2013 | 0.81 | 2018 | 1.18 | 2013 | 2.01 | 2018 | 2.12 |
| | Employment in high- and medium-high technology manufacturing and knowledge-intensive services | % of total employment | 2013 | 37.9 | 2018 | 37.8 | 2013 | 45.0 | 2018 | 46.1 |
| | R&D personnel | % of active population | 2013 | 0.88 | 2018 | 1.10 | 2013 | 1.15 | 2018 | 1.36 |
| | Patent applications to the European Patent Office (EPO) | number | 2012 | 102 | 2017 | 90 | 2012 | 56 772 | 2017 | 54 649 |
| Sustainable transport | Share of buses and trains in total passenger transport | % of total inland passenger-km | 2012 | 18.4 | 2017 | 17.5 | 2012 | 17.2 | 2017 | 16.7 |
| | Share of rail and inland waterways in total freight transport | % of total inland freight tonne-km | 2012 | 1.5 | 2017 | 1.8 | 2012 | 25.4 | 2017 | 23.3 |
| | Average CO2 emissions per km from new passenger cars | g CO ₂ per km | 2013 | 111.9 | 2018 | 111.1 | 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 | 32.7 | 2018 | 29.1 | 2013 | 23.8 | 2018 | 24.6 |
| | Income distribution | income quintile share ratio | 2013 | 6.6 | 2018 | 5.5 | 2013 | 5.0 | 2018 | 5.2 |
| | Income share of the bottom 40 % of the population | % of income | 2013 | 18.5 | 2018 | 20.2 | 2013 | 21.1 | 2018 | 21.0 |
| | People at risk of income poverty after social transfers | % of population | 2013 | 23.1 | 2018 | 18.5 | 2013 | 16.7 | 2018 | 17.1 |
| Inequalities between countries | Purchasing power adjusted GDP per capita | Real expenditure per capita (in PPS) | 2013 | 19 200 | 2018 | 21 100 | 2013 | 26 800 | 2018 | 31 000 |
| | Adjusted gross disposable income of households per capita | Purchasing power standard (PPS) per inhabitant | 2012 | 15 123 | 2017 | 14 715 | 2013 | 20 392 | 2018 | 22 824 |
| | Financing to developing countries | million EUR, current prices | 2012 | 706 | 2017 | 322 | 2012 | 147 962 | 2017 | 155 224 |
| | Imports from developing countries | million EUR, current prices | 2013 | 13 686 | 2018 | 17 843 | 2013 | 817 475 | 2018 | 1 013 981 |
| Migration and social inclusion | Asylum applications | Positive first instance decisions, per million inhabitants | 2013 | 46 | 2018 | 1 417 | 2013 | 213 | 2018 | 424 |
| SDG 11 – Sustainable cities and communities | | | | | | | | | | |
| Quality of life in cities and communities | Overcrowding rate | % of population | 2013 | 27.3 | 2018 | 29.2 | 2013 | 17.0 | 2018 | 15.5 |
| | Population living in households considering that they suffer from noise | % of population | 2013 | 24.2 | 2018 | 19.3 | 2013 | 18.8 | 2018 | 18.3 |
| | Exposure to air pollution by particulate matter (PM _{2.5}) | µg/m ³ | 2011 | 17.0 | 2016 | 14.7 | 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 | 14.0 | 2018 | 12.9 | 2013 | 15.6 | 2018 | 13.9 |
| | Population reporting occurrence of crime, violence or vandalism in their area | % of population | 2013 | 19.0 | 2018 | 13.5 | 2013 | 14.5 | 2018 | 12.7 |
| Sustainable mobility | People killed in road accidents | number of killed people | 2012 | 988 | 2017 | 731 | 2012 | 28 231 | 2017 | 25 257 |
| | Share of buses and trains in total passenger transport | % of total inland passenger-km | 2012 | 18.4 | 2017 | 17.5 | 2012 | 17.2 | 2017 | 16.7 |
| Adverse environmental impacts | Settlement area per capita | m ² | 2009 | 562.0 | 2015 | 627.7 | 2012 | 625.0 | 2015 | 653.7 |
| | Recycling rate of municipal waste | % of total waste generated | 2012 | 17.0 | 2017 | 18.9 | 2013 | 41.7 | 2018 | 47.0 |
| | Population connected to at least secondary wastewater treatment | % of population | 2011 | 88.2 | 2016 | 93.4 | N/A | : | N/A | : |

(Continued on the next page)

Table (continued)

| SDG / Sub-theme | Indicator | Unit | Greece | | | | EU-28 | | | |
|--|---|--|----------|----------|--------|----------|----------|-----------|--------|-----------|
| | | | Starting | | Latest | | Starting | | Latest | |
| | | | year | value | year | value | year | value | year | value |
| SDG 12 – Responsible consumption and production | | | | | | | | | | |
| Decoupling environmental impacts from economic growth | Consumption of toxic chemicals | million tonnes | N/A | : | N/A | : | 2013 | 300.3 | 2018 | 313.9 |
| | Resource productivity | EUR per kg, chain-linked volumes (2010) | 2013 | 1.37 | 2018 | 1.56 | 2013 | 1.98 | 2018 | 2.04 |
| | Average CO2 emissions per km from new passenger cars | g CO ₂ per km | 2013 | 111.9 | 2018 | 111.1 | 2014 | 123.4 | 2018 | 120.4 |
| | Energy productivity | EUR per kgoe | 2013 | 7.1 | 2018 | 7.4 | 2013 | 7.6 | 2018 | 8.5 |
| Energy consumption | Primary energy consumption | million tonnes of oil equivalent (Mtoe) | 2013 | 23.3 | 2018 | 22.4 | 2013 | 1 577.4 | 2018 | 1 551.9 |
| | Final energy consumption | million tonnes of oil equivalent (Mtoe) | 2013 | 15.3 | 2018 | 16.0 | 2013 | 1 115.5 | 2018 | 1 124.1 |
| | Share of renewable energy in gross final energy consumption | % | 2013 | 15.3 | 2018 | 18.0 | 2013 | 15.4 | 2018 | 18.0 |
| Waste generation and management | Circular material use rate | % of material input for domestic use | 2012 | 1.9 | 2017 | 2.4 | 2012 | 11.5 | 2017 | 11.7 |
| | Generation of waste excluding major mineral wastes | kg per capita | 2012 | 2 051 | 2016 | 1 328 | 2012 | 1 716 | 2016 | 1 772 |
| | Recycling rate of waste excluding major mineral wastes | % of total waste treated | N/A | : | N/A | : | 2012 | 55 | 2016 | 57 |
| SDG 13 – Climate action | | | | | | | | | | |
| Climate mitigation | Greenhouse gas emissions | index 1990 = 100 | 2012 | 108.5 | 2017 | 93.6 | 2012 | 82.1 | 2017 | 78.3 |
| | Greenhouse gas emissions intensity of energy consumption | index 2000 = 100 | 2012 | 93.4 | 2017 | 83.3 | 2012 | 91.5 | 2017 | 86.5 |
| | Primary energy consumption | million tonnes of oil equivalent (Mtoe) | 2013 | 23.3 | 2018 | 22.4 | 2013 | 1 577.4 | 2018 | 1 551.9 |
| | Final energy consumption | million tonnes of oil equivalent (Mtoe) | 2013 | 15.3 | 2018 | 16.0 | 2013 | 1 115.5 | 2018 | 1 124.1 |
| | Share of renewable energy in gross final energy consumption | % | 2013 | 15.3 | 2018 | 18.0 | 2013 | 15.4 | 2018 | 18.0 |
| | Average CO2 emissions per km from new passenger cars | g CO ₂ per km | 2013 | 111.9 | 2018 | 111.1 | 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 | 4.6 | 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 | 93.4 | 2018 | 97.1 | 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 | 7 186 | 2018 | 22 796 | 2013 | 251 566 | 2018 | 551 899 |
| Sustainable fisheries | Estimated trends in fish stock biomass | index 2003 = 100 | N/A | : | N/A | : | 2012 | 110.0 | 2017 | 136.0 |
| | Assessed fish stocks exceeding fishing mortality at maximum sustainable yield (F _{MSY}) | % of stocks exceeding fishing mortality at maximum sustainable yield (F>F _{MSY}) | N/A | : | N/A | : | 2012 | 52.9 | 2017 | 42.7 |
| SDG 15 – Life on land | | | | | | | | | | |
| Ecosystems status | Share of forest area | % of total land area | 2009 | 38.4 | 2015 | 44.5 | 2012 | 40.3 | 2015 | 41.6 |
| | Biochemical oxygen demand in rivers | mg O ₂ per litre | N/A | : | N/A | : | 2012 | 2.06 | 2017 | 2.00 |
| | Nitrate in groundwater | mg NO ₃ per litre | N/A | : | N/A | : | 2012 | 19.2 | 2017 | 19.1 |
| | Phosphate in rivers | mg PO ₄ per litre | N/A | : | N/A | : | 2012 | 0.096 | 2017 | 0.093 |
| Land degradation | Soil sealing index | index 2006 = 100 | 2009 | 101.3 | 2015 | 103.7 | 2009 | 101.7 | 2015 | 104.2 |
| | Estimated soil erosion by water | km ² | 2010 | 11 721.2 | 2016 | 11 639.3 | 2010 | 207 232.2 | 2016 | 205 294.5 |
| | Settlement area per capita | m ² | 2009 | 562.0 | 2015 | 627.7 | 2012 | 625.0 | 2015 | 653.7 |
| Biodiversity | Surface of terrestrial sites designated under NATURA 2000 | km ² | 2013 | 35 761 | 2018 | 35 982 | 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 | Greece | | | | EU-28 | | | |
|--|---|---|----------|--------|--------|--------|----------|---------|--------|-----------|
| | | | Starting | | Latest | | Starting | | Latest | |
| | | | year | value | year | value | year | value | year | value |
| SDG 16 – Peace, justice and strong institutions | | | | | | | | | | |
| Peace and personal security | Death rate due to homicide | number per 100 000 persons | 2011 | 1.5 | 2016 | 0.8 | 2011 | 0.9 | 2016 | 0.6 |
| | Population reporting occurrence of crime, violence or vandalism in their area | % of population | 2013 | 19.0 | 2018 | 13.5 | 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 | 7 | N/A | : | 2012 | 8 |
| Access to justice | General government total expenditure on law courts | million EUR | 2012 | 583 | 2017 | 596 | 2012 | 48 381 | 2017 | 51 027 |
| | Perceived independence of the justice system | % of population | 2016 | 47 | 2019 | 57 | 2016 | 52 | 2019 | 56 |
| Trust in institutions | Corruption Perceptions Index | score scale of 0 (highly corrupt) to 100 (very clean) | 2013 | 40 | 2018 | 45 | N/A | : | N/A | : |
| | Population with confidence in the EU Parliament | % of population | 2013 | 28 | 2018 | 37 | 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 | 0.13 | 2013 | 0.43 | 2018 | 0.48 |
| | EU financing to developing countries | million EUR, current prices | 2012 | 706 | 2017 | 322 | 2012 | 147 962 | 2017 | 155 224 |
| | EU imports from developing countries | million EUR, current prices | 2013 | 13 686 | 2018 | 17 843 | 2013 | 817 475 | 2018 | 1 013 981 |
| Financial governance within the EU | General government gross debt | % of GDP | 2013 | 177.4 | 2018 | 181.2 | 2013 | 86.3 | 2018 | 80.4 |
| | Shares of environmental and labour taxes in total tax revenues | % of total tax revenues | 2013 | 10.2 | 2018 | 9.5 | 2013 | 6.4 | 2018 | 6.1 |

Source: Eurostat

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