EUROPEAN
COMMISSION

Brussels, 23.5.2022
SWD(2022) 623 final

COMMISSION STAFF WORKING DOCUMENT

2022 Country Report - Portugal

Accompanying the document

Recommendation for a COUNCIL RECOMMENDATION

on the 2022 National Reform Programme of Portugal and delivering a Council opinion on the 2022 Stability Programme of Portugal

{COM(2022) 623 final} - {SWD(2022) 640 final}

European Commission

Portugal

2022 Country Report



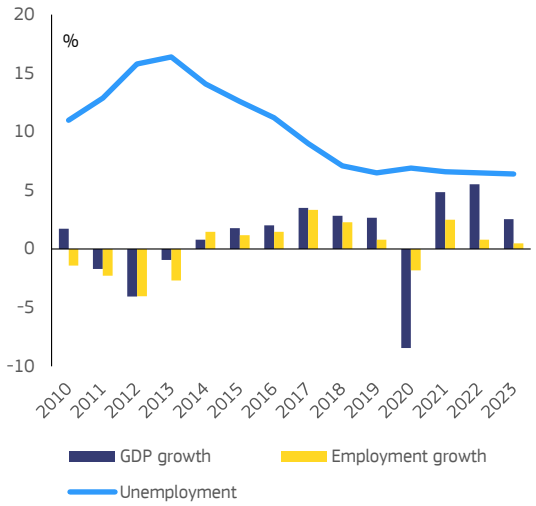
ECONOMIC AND EMPLOYMENT SNAPSHOT

Portugal's economy is on its way to recovery and expansion

Portugal's economy continues to recover after being hit hard by the pandemic. The economy was growing at a sound pace before the COVID-19 crisis. However, the country's large exposure to tourism (13% of employment in 2019) [1] made the economy more vulnerable to the pandemic, with GDP contracting by 8.4% (see Annex 19) in 2020. Portugal's economy grew by 4.9% in 2021, recovering more than half of the output level lost in 2020. Thanks to the relaxation of restrictions, Portugal's high vaccination rates, and the projected recovery in the export of services led by the country's large tourism sector, growth is forecast to increase further to 5.8% in 2022. GDP is estimated to have reached pre-pandemic levels in the first quarter of 2022. Inflation increased to 0.9% in 2021 and is expected to increase further to 4.4% in 2022, amid significant volatility in commodity markets affected by Russia's invasion of Ukraine.

The labour market showed resilience, but youth unemployment remains high. Most headline labour market indicators recovered to pre-pandemic levels in 2021. Unemployment fell to 6.6% in 2021. Employment and activity rates rebounded to historic highs, helped by labour support schemes, including financial assistance under the EU instrument Support to mitigate Unemployment Risks in an Emergency (SURE) (see Annex 3), which offset the impact of the pandemic. With the phasing out of most support schemes, employment is projected to increase at a much slower pace than GDP over 2022 and 2023 (Graph 1.1). Youth in precarious employment were badly affected by the pandemic. The youth unemployment rate, already above the EU average before the crisis, peaked at 26.1% in the third quarter of 2020 and remained above 20% in 2021, with particularly high rates in the Azores and Madeira.

Graph 1.1: **Real GDP growth and selected labour market indicators**



Source: European Commission

Regional disparities persist. Portugal's GDP per inhabitant dropped from 76% of the EU average in 2020 to 74% in 2021, with Lisbon being the only Portuguese region close to the EU average. Portugal continues to face challenges in achieving a greater level of inter, and intra-regional cohesion. The capital city region concentrates high value added activities and public services, and strong disparities persist between Lisbon and the rest of the country (see Annex 15).

(1) 'Behavioural changes in tourism in times of Covid-19', JRC121262

Public finances benefit from the recovery but economic imbalances remain

Portugal's budgetary situation has started to improve. Starting from a surplus of 0.1% of GDP in 2019, the public budget balance turned into a deficit of 5.8% of GDP in 2020, which subsequently eased to 2.8% of GDP in 2021. As the economic recovery takes hold, the phasing-out of crisis mitigation measures and growing tax revenue are projected to lead to a further reduction of the deficit in 2022 and 2023. Portugal's sustained trend of low public investment has been reversed and public investment is projected to continue to increase towards historically high levels in the coming years, prompted by implementation of the recovery and resilience plan (RRP). The public debt-to-GDP ratio has resumed a downward path in 2021, but remained one of the highest in the EU (127.4% in 2021). Adverse demographic trends and the growing public sector workforce are exerting pressure on public expenditure. Implementing a more robust budgetary framework, and reducing long-lasting and emerging vulnerabilities in state-owned enterprises remain key to strengthening the sustainability of Portugal's public finances.

Portugal is facing a number of persistent macroeconomic imbalances. The main imbalances identified in the In-Depth Review for Portugal ([2]) relate to high external, private and government debt in a context of low productivity growth (see Annex 17). The outbreak of the COVID-19 pandemic in 2020 has temporarily derailed the process of adjustment, particularly of Portugal's high debt-to-GDP ratios. The economic recovery in 2021, together with the projections for 2022 and 2023, suggest that the country is back on a more favourable track.

After improving in 2019, productivity growth ([3]) deteriorated in 2020 as a result of the outbreak of the COVID-19 pandemic. Different factors determine the observed sluggish productivity growth in Portugal in recent years (see Annex 10). These factors include low levels of capital per worker, low levels of investment, moderate innovation capacity, overall low skill levels of the population, and a business environment hampered by, among others, a complex tax system and a judiciary with low efficiency.

Sustainability and social indicators reflect a positive trajectory but challenges remain

Portugal continues to make progress towards all of the UN's Sustainable Development Goals (SDGs) despite challenges. Most of the indicators have evolved favourably in recent years (see Annex 1). The improvement is most marked in the social and labour market areas (SDG 1 No poverty and SDG 8 Decent work and economic growth). On the other hand, SDG 11 (Sustainable cities and communities) is only improving slightly due to poor performance in the circular economy and waste management. Progress is visible for SDG 3 (Good health and wellbeing) and SDG 9 (Industry, Innovation, Infrastructure) but the situation is still far below the EU average. This reflects some of the challenges identified in the upcoming sections related to the health and long-term care systems and innovation.

Portugal performs well in the implementation of the European Pillar of Social Rights. The number of early school leavers from education and training has decreased significantly. Disability and gender employment gaps have narrowed, and childcare coverage has improved (see Annex 12). Income inequality diminished in the years before the pandemic, converging with the EU average as reflected by inequality indicators like the income quintile share ratio or the GINI coefficient ([4]). The at-risk-of-

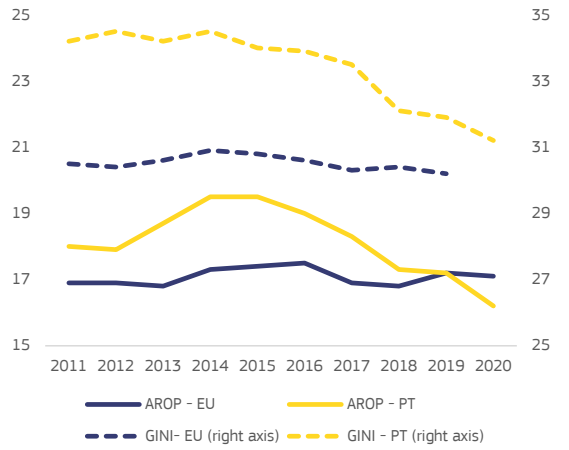
([2]) SWD(2022) 637

([3]) Productivity is measured as the ratio of output in real terms per hour worked (see Annex 19).

([4]) The income quintile ratio, or S20/S80, corresponds to ratio of total income received by the 20% of the

poverty rate (AROP) also decreased significantly and was below the EU average before the COVID-19 crisis (see Graph 1.2). Regional disparities persist with the poverty rate in Madeira and the Azores remaining almost double than that of Lisbon.

Graph 1.2: **Poverty (AROP) and inequalities (GINI) 2011-2020 (%)**



Source: Eurostat, EU-SILC

Portugal still faces coverage and adequacy challenges in social protection. The adequacy of the minimum income is low at 37.5% of the poverty threshold (EU: 58.9%) ([5]) and the coverage of social benefits is weak. Gaps also persist in formal coverage for non-standard workers. In-work poverty remains also relatively high. The rate of employed people at risk of poverty was 9.5% in 2020, with stronger incidence amongst part-time workers. The persistently low level of poverty and inequality reduction by social transfers (see Annex 12) points to lower expenditure on social protection than the EU average and to inefficiencies in the structure and design of the social protection system. The social housing stock, while being developed, is still lagging behind demand. Energy poverty is also a challenge (see Annex 6). Whereas recent increases of the minimum wage may reduce in-work poverty, they could also discourage individuals from investing in their education due to the related lower differentiation between the wages of the low- and high-skilled. Moreover, the impact of the COVID-19 pandemic risks halting the positive overall trend. The poverty gap, which measures the depth of poverty, increased in 2020. National data ([6]) point to the deterioration of social indicators in poverty and inequality in 2021, impacted by the pandemic.

Portugal is expected to achieve its greenhouse gas emission reduction targets. Portugal has committed to reaching climate neutrality by 2050. It has surpassed its EU 2020 emission reduction target for the sectors not covered by the EU Emissions Trading System. By continuing current policies, Portugal is expected to meet its 2030 target by a wide margin (see Annex 5).

Portugal has a high share of renewable energy but its potential is not yet fully used. Solar and wind energy, in particular offshore, could be further developed (see Annex 5) given the country's high potential. In addition, the strengthening of energy cross-border interconnections would help to improve the security of supply.

Portugal will face increasing challenges due to climate change. Natural hazards such as droughts and forest fires are increasing. Climate change adaptation, in particular in forest and water management, is a major challenge for Portugal.

Russia's invasion of Ukraine is expected to have limited direct impact on the Portuguese recovery

Russia's invasion of Ukraine is expected to have a limited direct economic impact on Portugal, yet indirect effects may be significant. Portugal has a low dependency on Russian energy supply. In 2020, it imported

population with the highest income to that received by the 20% of the population with the lowest income. The GINI coefficient measures the extent to which the distribution of income within a country deviates from a perfectly equal distribution.

([5]) Joint Employment Report 2022 (incomes 2019)

([6]) Portuguese National Statistics Office (INE) 2021, Survey on Income and Living Conditions.

from Russia 10% of its natural gas (only liquefied natural gas, which is more easily replaceable) while not importing any Russian coal and oil ([7]). The overall trade volume between Portugal and both Russia and Ukraine is low. Portugal relies on Ukraine for some basic agricultural products such as cereals and oilseeds. However, the total share of agricultural imports from Russia and Ukraine remains small. Nevertheless, the indirect impact via global supply chain disruptions may be significant. Risks relate to high commodity prices, particularly energy, but also metals, agricultural products, construction materials and car parts. In terms of food supply, risks are aggravated by local factors such as the droughts in Portugal, which are increasing in frequency and intensity, negatively impacting crop yields and leading to higher dependency on imported agricultural products.

Portugal is implementing measures to cushion the rise in energy prices. Those measures include a temporary subsidy on fuel consumption, a reduction in fuel tax, a reimbursement of the additional VAT raised on the higher fuel prices via fuel tax, and a freeze on the carbon rate under the fuel tax. Sector-specific measures include a temporary subsidy for the passenger transport sector (buses and taxis), extended benefits under vehicle and fuel taxes for the road haulage sector, as well as a tax deduction under corporate income tax for the transport sector as a whole. Portugal also allocated EUR 150 million of carbon tax revenues to subsidise the national electricity system. This should help lowering access tariffs to the electricity grid. In addition, a fixed social benefit of EUR 60 was granted in April 2022 to low-income households most vulnerable to rising food prices. The overall budgetary impact of these measures is estimated at around 0.6% of GDP by the end of June 2022, when all such measures are planned to expire.

Portugal introduced policies to address the humanitarian crisis in Ukraine. A special reception scheme to grant temporary protection to displaced persons from Ukraine was adopted. This regime clarifies the legal status of the displaced persons from Ukraine and facilitates the provision of housing, education and employment.

([7]) Eurostat (2020), share of Russian imports over total imports of natural gas, crude oil and hard coal. Crude oil does not include refined oil products. Portugal imported 4% of its refined oil from Russia in 2020. Accounting for the secondary dependence on Russian coal through intra-EU imports would lead to the estimation that Portugal has a 55% Russian import dependency on coal, noting that the share of coal in the energy mix is very small (2.6%).

THE RECOVERY AND RESILIENCE PLAN IS UNDERWAY

Portugal is set to receive EUR 16.6 billion in grants and loans. The RRP includes a broad set of structural reforms and investments addressing most challenges identified in the European Semester (see Annex 4). These measures focus on strengthening the competitiveness of the Portuguese economy, improving skills and qualifications, increasing territorial and social cohesion, and boosting public and private investment to support the digital and green transition (see Annex 2).

Employment, education and fair society

The RRP includes various measures to increase labour market participation and address high youth unemployment, contributing to the implementation of the European Pillar of Social Rights. The Decent Work Agenda includes legislation to regulate platform work and ensure equal pay. It is complemented by hiring subsidies to create sustainable jobs. These measures aim to reduce segmentation and precariousness in the Portuguese labour market. The hiring subsidy scheme includes a specific focus on young workers to help address high levels of youth unemployment. Major education and skills measures, which focus on vocational training, are also expected to support the employment of young people. Providing more permanent and quality employment for youth remains one of the key employment challenges for Portugal.

The RRP constitutes a strong response to the socio-economic challenges. It addresses structural social challenges for populations and regions in need, both in mainland Portugal and in the regions of Azores and Madeira. As part of the RRP, Portugal has adopted national strategies to combat poverty and for the inclusion of people with disabilities. These aim to improve social care facilities and the coverage of social services with a community-based approach.

Portugal is taking actions to address the social challenge of housing affordability. Rising housing and rental prices ([8]) (see Annex 19) are creating affordability issues and are increasing financial pressures on households. This is coupled with a rise in households' indebtedness driven by household credit growth and the issuance of new mortgages (see Annex 16). Despite improvements since 2008, the proportion of Portuguese households overburdened by housing costs was of 4.1% in 2020, and more than four times higher for households below the poverty line. Public housing accounts for only 2% of the total stock. The RRP includes EUR 2.73 billion of investments to increase the social and affordable housing supply both in mainland Portugal and in the Azores and Madeira regions, to create a public network for temporary accommodation, and to increase the supply of affordable student accommodation.

The RRP is expected to continue improving education outcomes for all. Despite major progress in most education performance indicators, the level of progress differs between Portuguese regions and socio-economic background still play a significant role in students' performance (see Annex 13). Portugal plans to expand its pre-school network, invest in the digitalisation of schools, and improve the attractiveness of higher education. Several measures focus on promoting science and technology fields in

([8]) House prices show signs of potential overvaluation in Portugal. The European Systemic Risk Board considers high flow risks (increasing prices, growing lending or rising indebtedness) to be present in the Portuguese real estate sector.

higher education institutions but also in schools through science clubs and technology laboratories.

Portugal is introducing ambitious measures to address the overall low skill level of its adult population. Despite progress in recent decades, Portugal still has a significant skills deficit relative to the EU. Around half of the population has not completed more than lower secondary education ([9]). The RRP includes a comprehensive reform of the vocational education and training system coupled with major investments in training for various social and age groups. These measures aim to upskill and reskill workers to adapt to labour market needs, and broaden education, training and lifelong learning opportunities. On digital skills, while slightly above the EU average, 45% of the Portuguese population still lacks basic digital skills. This raises important equity and inclusion issues regarding access to public services that have gone online (see Annex 11). The RRP includes targeted measures to tackle the digital skills gap for various social and age groups, including civil servants. Investment in digital education and training is expected to tackle the high number of workers who lack basic digital skills and to reskill workers with digital competences.

Comprehensive reforms and investments focus on long-standing issues of the Portuguese health and long-term care systems. The National Health Service has faced a challenging situation for years. It has been under considerable pressure since the outbreak of the COVID-19 pandemic. The health emergency has disrupted planned care and disease detection ([10]), against the backdrop of high out-of-pocket payments (direct spending on healthcare by households, see Annex 14). The pandemic has also exposed the fragility of Portugal's long-term care system, which is expected to face increasing pressure in the coming years due to the ageing population. The RRP introduces reforms and investments to strengthen the networks of primary, palliative, integrated and mental health care services and to promote de-institutionalisation (moving from institutional to community-based services) and independent living. Investments in infrastructure, equipment and digitalisation for hospitals and health services in mainland Portugal and the Azores and Madeira are also included, along with measures to encourage physical activities at all ages. Crucially, the RRP includes a reform to strengthen the efficiency and financial sustainability of public hospitals through an improved governance model anchored in managerial accountability and performance-based management.

([9]) In 2020, amongst the population aged 15-64, 55.5% had more than lower secondary education compared to 75% in the EU (Source: Eurostat).

([10]) Around 34% of Portuguese people reported some unmet healthcare needs during the first 12 months of the pandemic, a much higher share than the EU average of 21%. Eurofound survey - Living, working and COVID-19 survey, May 2021

Resilience and competitiveness

A stronger budgetary framework could underpin the recovery. Efficiency-oriented spending reviews and the 2015 Budgetary Framework Law remain of key importance for improving the quality of public finances and making them more growth-friendly. The effective implementation of the 2015 Budgetary Framework Law has been subject to systematic delays and the RRP includes decisive steps towards its implementation. These should go hand in hand with the planned upgrade of the information systems for public financial management, as well as full adherence to the new accrual-based accounting system.

Measures to address vulnerabilities in state-owned enterprises are being taken. The COVID-19 crisis hit many Portuguese state-owned enterprises, in particular, those operating in the transport sector that have been affected by the containment measures. The government granted capital injections and loans to some firms that operate the road, rail and metro networks. Measures to swiftly identify and correct deviations from the approved budgets, as well as strengthen transparency and reporting standards, are being implemented at a gradual pace. To

increase responsibility and accountability, new management contracts anchored in performance-oriented incentives for public managers were incorporated in the RRP and entered into force in December 2021.

The RRP aims to create a more business-friendly environment. Despite significant improvements in recent years, late payments remain problematic for small and medium-sized enterprises, and Portuguese companies continue to be undercapitalised. A legal regime for participatory loans was established in January 2022, aimed at diversifying their sources of financing. RRP measures include the establishment and capital reinforcement of the National Promotional Bank (*Banco Português de Fomento*) to improve financing conditions for viable companies. While Portugal has shown some progress on the efficiency of insolvency and civil enforcement proceedings, it still rates among the Members States with the lengthiest judicial proceedings, notably for administrative and tax justice (see Annex 11), and with one of the highest backlogs of pending administrative cases. As part of the RRP, Portugal aims to modernise its administrative and tax courts, and to streamline legal procedures. Additional structural improvements are expected from the further digitalisation of administrative procedures, in particular related to late payments by public buyers, but also from the facilitation of investment through the removal of barriers to licensing scheduled for 2025, and from the planned lifting of restrictions on regulated professions.

The RRP has the potential to transform the Portuguese research and innovation (R&I) system. Despite a progressive improvement in recent years, Portugal still has a moderate level of R&D intensity. Coupled with modest cooperation between academia and businesses and the limited monitoring and coordination of the smart specialisation agenda ([11]), this hampers the potential upgrade of the R&I system. Portugal is a moderate innovator (see Annex 9), with a relatively good level of government support for business R&D but with room for improvement on business investment, and the proportion of small and medium-sized enterprises introducing innovation. The RRP includes measures to support R&I based on business-academia consortia and collaborative laboratories, the expansion of technology centres, the development of digital innovative products and processes, and the provision of services by interface entities. A review of the 2018-2030 Innovation Strategy was completed, aimed at improving public-private partnerships and increasing R&D funding and its predictability. In addition, the RRP includes reforms and investments in sectoral R&I systems, such as agriculture, the bioeconomy, and the blue economy (ocean-based economy).

Green transition

The RRP will contribute to Portugal's green transition. The RRP contributes to climate change objectives through various measures, which account for EUR 6.29 billion (38% of the total allocation). The RRP includes investments and reforms to promote sustainable public transport, notably in Lisbon and Porto. The RRP also includes reforms and investments to support R&I&D for decarbonisation and to boost the use and production of hydrogen and renewable gases, which should help diversify and decarbonise the energy mix. Other measures in the autonomous regions of the Azores and Madeira will invest in renewables and storage solutions and will revamp the electricity grid. In addition, EUR 715 million has been allocated to the decarbonisation of industrial processes. Measures for the development of a sustainable blue economy will also contribute to the green transition Furthermore, adaptation measures in the field of water efficiency and landscape management are included to help Portugal better deal with the current and future impacts of climate change.

([11]) 'Implementation of Smart Specialisation Strategies in Portugal: An assessment', JRC121189

The RRP's energy efficiency measures will contribute to reduce emissions and to address energy poverty. The RRP provides for sizeable investments in building renovation, including schools, and is expected to make a sizeable contribution to meet Portugal's energy efficiency contribution to the EU target ([12]). At the same time, rising energy prices disproportionately affect low and lower-middle-income households. While energy poverty has decreased in Portugal in recent years, it remains among the highest in the EU (see Annex 6). The RRP includes energy efficiency measures in residential and non-residential buildings and in social housing, complemented by 100 000 energy efficiency vouchers for low-income households.

Digital transition

The RRP aims to strengthen and support the digital transition. Portugal is a medium performer in the digital area (see Annex 8). It performs slightly above the EU average in the areas of basic and advanced digital skills (ICT specialists) and digital public services. It performs well above the EU average for fixed connectivity and the use of AI by businesses. However, it lags behind in 5G coverage. Also, the proportion of Portuguese firms with at least basic digital intensity, and using cloud and big data applications, is still below the EU average. The RRP includes various measures to boost the digital transition (22% of the total allocation). The most prominent measures address education and training in digital skills, the digital transformation of businesses, and the digitalisation of public services.

Box 1:

Key deliverables expected under the Recovery and Resilience Plan in 2022-23

- New law on regulated professions
- Modernisation of the cadastral information system (land register)
- Creation of specialised chambers in the higher administrative and tax courts
- Legislative package for the re-organisation of the public administration
- Creation of at least 30 000 permanent jobs (hiring subsidy programme)
- Health-care reform (primary health care, mental health, long-term care services)
- 14 100 new or renovated vocational training stations
- New system of special lanes for zero emission buses in Porto and 145 zero emission buses
- Strengthening of the legal framework to develop the capital market
- Capitalisation support for Portuguese businesses (EUR 1.3 billion)
- 12 000 small and medium-sized enterprises supported by digital commerce accelerators
- 3 000 additional dwellings for social housing and 7 000 student accommodation places
- Digitalisation of schools
- 179 firefighting and fire-prevention vehicles, machinery and equipment

([12]) 35% increase of efficiency by 2030 in terms of primary energy intensity compared to 2005.

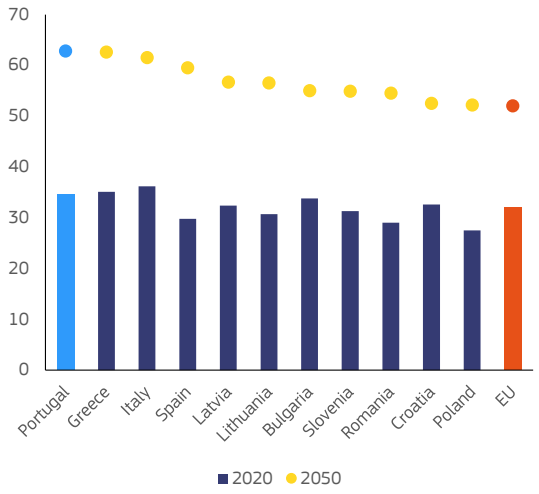
FURTHER PRIORITIES AHEAD

Beyond the challenges addressed in the RRP, as outlined above, Portugal faces additional challenges. Portugal's public finances remain sensitive to shocks, with the ageing population posing an important challenge in the medium term. The modernisation of public administration will need to continue to allow for a more competitive economy and a fairer society. The effects of climate change are a key structural challenge. Similarly, the rise in energy prices, aggravated by Russia's invasion of Ukraine, are posing challenges for Portugal, which is still highly dependent on fossil fuels. Furthermore, Portugal is still lagging behind on the circular economy, a key aspect for sustainable growth. Addressing these challenges will help to make further progress on achieving SDGs related to areas where Portugal still performs below its potential, such as sustainable cities (SDG 11), innovation (SDG 9), health (SDG 3) and sustainable consumption and production (SDG 12).

Ageing is exerting pressure on Portugal's public finances in a high-debt context

Portugal's high public debt-to-GDP ratio makes it sensitive to shocks. After the peak driven by the COVID-19 pandemic in 2020, the public debt-to-GDP ratio started to decline again in 2021. According to the Commission 2022 spring forecast, it would continue to decline in 2022 and 2023. At the same time, any worsening of Portugal's economic and financing conditions could lead to higher public debt-to-GDP ratios, compared to those projected by the Commission services (see Annex 20). This underlines the importance of prudent fiscal policies, alongside economic growth, which would contribute to a sustained reduction of public debt. At the same time, several factors already mitigate the challenges arising from high public debt. These include Portugal's comfortable cash buffer, the gradual lengthening of debt maturity, and its relatively stable financing sources and favourable financing conditions, supported by Eurosystem interventions in recent years.

Graph 3.1: **Old age dependency ratio 2020 – 2050 (Member States above EU average in 2050)**



Source: European Commission

Public finances are under pressure from adverse demographic trends. The old-age dependency ratio ([13]) stood at 34.5% in 2020, above the EU average of 32%. Against the background of rising life expectancy and a very low fertility rate, the ratio is projected to increase significantly to 62.8% by 2050 (Graph 3.1). This implies that Portugal would go from having approximately three working-age people for every person aged over 65 years to less than two working-age people. As a direct result of this demographic trend, pension spending is expected to rise to a peak

([13]) Proportion of people aged 65 and over relative to those between 20 and 64.

in 2035 ([14]). This is compounded by expected additional spending needs, notably on health and long-term care, which are also set to increase over the medium to long term. Furthermore, while past reforms improved the long-term sustainability of the pension system, recurrent special increases in pensions and early retirement reforms further added to the upward trend driven by ageing. All these elements combined are expected to have a lasting effect on current spending.

Portugal's public sector employment faces performance and attractiveness challenges

The public sector workforce has been growing steadily in recent years, putting pressure on public expenditure. The number of public sector workers reached its peak of the last decade in the fourth quarter of 2021, leading to a permanent increase in public expenditure. As a result, Portugal's spending on public sector wages exceeded the EU average by more than 1.3 percentage points of GDP in 2021 (11.8% of GDP in Portugal, compared to 10.5% in the EU). Rationalising the public sector wage bill and employment levels, while at the same time ensuring an efficient delivery of effective public services, is important for safeguarding the government's ability to adjust public spending in line with shifting policy priorities or the need to smooth out economic fluctuations.

A key challenge is to adapt the public sector workforce to changing demands. Ageing is expected to lead to higher demand for health and long-term care services, while the fall in school-age children may translate into lower demand for education services. Public sector workers are also ageing, especially in specific sectors. For instance, Portugal has one of the highest proportions of teachers aged 50 years and over in the EU. Moreover, there are challenges with staff retention in strategic sectors (notably in health and long-term care), where the government competes with private employers. Although some measures, including in the RRP, aim to upskill public sector workers and develop their digital and managerial skills, these risk falling short of a cross-cutting and comprehensive overhaul of Portugal's public sector workforce.

Simpler tax and social protection systems would support sustainable and inclusive growth

The tax system remains very complex. The report by the 2019 Working Group on Tax Benefits, commissioned by the Ministry of Finance, concluded that Portugal's tax benefit system is rather cumbersome and not sufficiently transparent (more than 500 tax benefits have been identified, spread over more than 60 legal texts), and that the economic efficiency of tax expenditures would benefit from consistent monitoring and assessment ([15]). Furthermore, the rate structure of the corporate income tax is compounded by state and municipal surcharges, generating complexity for taxpayers and an additional burden for the tax administration ([16]). Direct tax withholdings are often too high ([17]), resulting in sizeable refund claims in the subsequent year (structurally above 2% ([18]) of GDP in the recent past), which entails additional costs for both taxpayers and the tax administration.

There is scope to make the management of taxes and social contributions more efficient and taxpayer friendly. This would improve the business environment and reduce administrative costs for both taxpayers and

([14]) 'The 2021 Ageing Report', European Commission, Institutional Paper 148, May 2021.

([15]) 'Tax benefits in Portugal – concept, methodology and practice', Working Group on Tax Benefits, May 2019.

([16]) Braz, C., Cabral, S., and Campos, M. M. (2022). 'A micro-level analysis of corporate income taxation in Portugal', Economic Studies, Volume VIII, Number 1, Banco de Portugal.

([17]) 'Analysis of the Draft State Budget for 2022', Public Finance Council, April 2022.

([18]) Budget Execution Reports, Directorate-General for the Budget, Ministry of Finance.

the tax administration. Paying VAT and social contributions appears to be particularly time-consuming for businesses in Portugal. The size of outstanding tax arrears and the recurrent cost of tax collection are both high compared with the EU average (see Annex 18). Specifically, for the corporate income tax, the Commission services estimate that a reduction of compliance costs to close to the EU average could boost GDP by close to 0.5 % ([19]). At the same time, despite Portugal's tax and customs administrations investing comparatively less than most EU Member States in information and communication technologies, the e-filling of taxes is prevalent. Overall, a more streamlined and better coordinated system – covering both taxes and social contributions – is still lacking, leading to the duplication of reporting requirements and creating room for inspections to become more targeted and effective.

The complexity of the social protection system hinders its effectiveness and adequacy. The impact of social transfers in reducing poverty is below the EU average. There is a multitude of social benefits directed at vulnerable groups, often serving similar objectives and resulting in relatively low take-up rates. This leads to the fragmentation of the social protection system, a lack of effective focus on those most in need, and undue complexity. The process of verifying the eligibility of applications for social benefits, such as the minimum income, is also time-consuming, when there is insufficient administrative capacity to conduct the necessary checks in a timely manner. Administrative complexity generates costs and long waiting times. This may end up hindering the social protection's system coverage, with the people who are eligible running the risk of missing out on receiving social benefits. Tackling these challenges is key for Portugal to contribute to reaching the 2030 EU headline target on poverty reduction (see Annex 12).

Portugal is particularly vulnerable to the effects of climate change

Portugal is facing increasing natural hazards. Droughts, floods, coastal erosion and forest fires are increasing in frequency and intensity. Effective water and forest management is crucial for tackling falling water levels and the high exposure to forest fires. In turn, the consequences of climate change, including extreme weather events such as droughts and wildfires, carry the imminent risk of adversely affecting public finances. Emergency support directly linked to the provision of assistance to households or investment schemes to ensure the replacement of damaged infrastructure naturally result in additional public spending ([20]). The RRP includes measures related to landscape transformation in vulnerable forest areas and the prevention and combating of rural fires. It also includes water management measures, as water loss reduction and water resilience, focusing on the three Portuguese regions suffering the most from water scarcity: Alentejo, the Algarve and Madeira. A new strategic plan for water and wastewater is under development. Further investments throughout the country would be needed in areas such as water governance, water body rehabilitation and water efficiency (see Annex 5). Portugal would also benefit from the deployment of alternatives to hydropower as renewable energy sources.

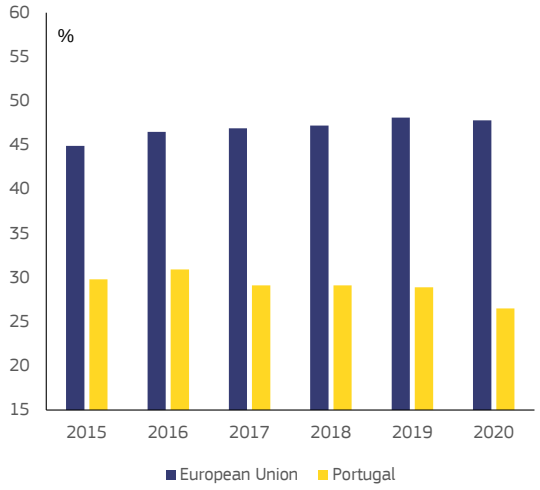
([19]) The analysis used the CORTAX general equilibrium model and the framework described in Barrios, S., d'Andria, D., Gesualdo, M. (2019), 'Reducing tax compliance costs through corporate tax base harmonisation in the European Union', JRC Working Papers on Taxation and Structural Reforms No 2/2019. Tax compliance costs were expressed in relative terms to labour costs. The simulation incorporated a 40% reduction in tax compliance costs for all firms operating in Portugal, thus bringing them close to the EU average.

([20]) Such fiscal risks have manifested recently in the context of the unprecedented large-scale wildfires occurring in 2017, where Portugal benefited from the application of the 'unusual event clause' of the Stability and Growth Pact in relation to exceptional expenditure for preventive measures to protect the national territory against wildfires.

Waste management remains a major obstacle to ensuring environmental sustainability

Portugal is far below the EU average on circular economy and waste management indicators. The quantity of municipal waste generated in Portugal is around the EU average. However, the average municipal recycling rate is low and decreasing (Graph 3.2). Portugal performs very poorly against the EU and missed the EU target of recycling half of municipal waste by 2020. In this regard, the EU has set even more ambitious targets for the next decade. There are also major regional disparities, with many regions in the Centre and the region of Beja lagging behind in waste valorisation (which includes recycling, composting and re-using waste materials). The percentage of municipal waste that is still landfilled (48%) is more than double the EU average. Furthermore, and despite some positive developments such as packaging recycling and recovery, the circular material use rate (proportion of material recycled and fed back into the economy) was 2.2% in 2020, one of the lowest in the EU, and has not significantly improved since 2015. All this holds back circular economy opportunities (see Annex 7). The RRP addresses some circular economy aspects and includes a new waste management regime, transposing EU regulations. Specific support measures relate to one specific waste stream (use of bioproducts in industry). Broader support for improving waste management and the circular economy in Portugal would be needed.

Graph 3.2: **Municipal recycling rate (2015-2020)**



Source: Eurostat

Energy supply needs to be made more diverse and resilient

Portugal has a high share of renewable energy but is still dependent on imported fossil fuels. Portugal exceeded its renewable energy target in 2020 with a share of 34% of gross final energy consumption ([21]) and 60% of electricity generation in 2021, mainly thanks to hydropower and wind generation. However, fossil fuels still accounted for 69% of its gross inland energy consumption in 2020, despite a decreasing trend. Oil dependency is particularly high in transport. Road transport continues to represent a large share of Portugal's energy consumption and GHG emissions. Portugal imports all its fossil fuels but it is not highly dependent on Russia, with 10% of its natural gas (only liquefied) imports from Russia in 2020. Nevertheless, Portugal's current energy mix is mostly based on oil. While coal for electricity production has been phased out with the closing of the last coal power plants, the share of gas ([22]) used for power generation was 33% in 2020, partly

([21]) Portugal has set targets of 31% in 2020 and 47% in 2030.

([22]) The vast majority of Portugal's gas import are in the form of liquefied natural gas (LNG), making it easier to diversify its origin.

because of lower hydropower availability as a result of frequent droughts. Portugal is taking steps to accelerate renewables deployment, including through RRP investments in renewables, particularly in Madeira and the Azores. Portugal aims to achieve around 2 GW of installed capacity to produce renewable hydrogen by 2030 (reaching 5 GW in 2050), leading to fewer gas imports. However, Portugal still has under-exploited potential, especially related to offshore energy ([23]), local and small-scale solar energy generation, and sustainable biogas. Despite the improvements achieved with the introduction of the recent legal framework for renewables, obstacles remain in the Portuguese system for issuing production licences and installing and connecting plants to the electric grid.

Transmission grids and cross-border energy interconnections are limiting factors for the electricity system. The level of electricity interconnection between Portugal and Spain has progressed and is now around 10% ([24]). The low level of energy interconnection, in particular with France, affects the whole of the Iberian Peninsula. As stated in the REPowerEU Communication ([25]), increasing the interconnection level among these countries is critical. The current status of the electricity transmission and distribution grids, including electric vehicle charging and smart meters, aggregation of energy use, and long term renewable storage/flexibility markets, remains a challenge for the resilience of the Portuguese electricity system and is limiting the development of renewable energies. The Portuguese RRP includes investment in the transmission and distribution grids in Madeira, but not in mainland Portugal.

Further energy efficiency measures would also reduce the need for fossil fuels. The energy renovation rate of buildings remains low for both public and private buildings. While the RRP includes sizeable renovation measures, Portugal would need to invest EUR 4.95 billion per year until 2050 for the full transformation of the Portuguese building stock ([26]). School buildings in particular require extensive renovation (see Annex 13). Effective reforms and incentives will be required to transform the old and inefficient building stock, which could also help to mitigate energy poverty.

([23]) Portugal has currently 25 MW offshore wind capacity while the EU has 16 GW and aims to reach at least 60 GW by 2030.

([24]) The national target for 2030 stands at 15%.

([25]) COM(2022) 108 final, 8 March 2022

([26]) National Long-term Renovation Strategy (ELPRE)

KEY FINDINGS

Portugal's Recovery and Resilience Plan includes measures to address a series of its structural challenges through:

- increasing employment, addressing youth unemployment and reducing labour market segmentation;
- improving the skills of the adult population, including those related to the digital transition;
- ensuring the resilience and inclusiveness of the social protection, health and long-term care systems in view of the demographic shifts;
- strengthening the budgetary framework and the financial sustainability of state-owned enterprises;
- improving the business environment, including digitalisation, firms' productivity, the R&I system, and firms' access to financing.

Beyond the reforms and investments in the RRP, Portugal would benefit from:

- simpler tax and social protection systems to reduce the associated administrative burden, improve the business environment, and strengthen the effectiveness and adequacy of minimum income and other social benefits;
- boosting the economic potential of all Portuguese regions to promote social and territorial cohesion and develop new sources of growth;
- making the public sector more attractive to skilled and talented staff, to improve the efficiency and performance of the public sector workforce;
- improved water management to strengthen resilience against the effects of climate change;
- improved waste management to support the transition towards a circular economy and help meet EU recycling and landfilling targets on a sustainable basis;
- further deployment of wind and solar energy, including offshore, and the strengthening of energy interconnections and transmission infrastructure;
- further sustainable transport and improved energy efficiency framework.

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ANNEX 1: SUSTAINABLE DEVELOPMENT GOALS

This Annex assesses Portugal's progress on the Sustainable Development Goals (SDGs) along the four dimensions of competitive sustainability. The 17 SDGs and their related indicators provide a policy framework under the UN's 2030 Agenda for Sustainable Development. The aim is to end all forms of poverty, fight inequalities and tackle climate change, while ensuring that no one is left behind. The EU and its Member States are committed to this historic global framework agreement and to playing an active role in maximising progress on the SDGs. The graph below is based on the EU SDG indicator set developed to monitor progress on SDGs in an EU context.

Portugal performs well or is improving overall on SDG indicators related to *environmental sustainability* (SDG 2, 7, 9, 11, 12, 13). Portugal increased the share of renewable energy in gross final energy consumption from 30.5% in 2015 to 34% in 2020, which is high in comparison to the EU average (22.1% in 2020). The circular economy indicators, on the other hand, still pose a challenge: the municipal waste recycling rate further deteriorated to 26.5% in 2020 (against 47.8% for the EU average) and the circular material use rate is only one fifth of the EU average. Various measures in Portugal's recovery and resilience plan (RRP), such as energy efficiency renovations, the extension of metro lines, increased use of bioproducts in industry, and the decarbonisation of industry, aim to further contribute to general greenhouse gas emission savings.

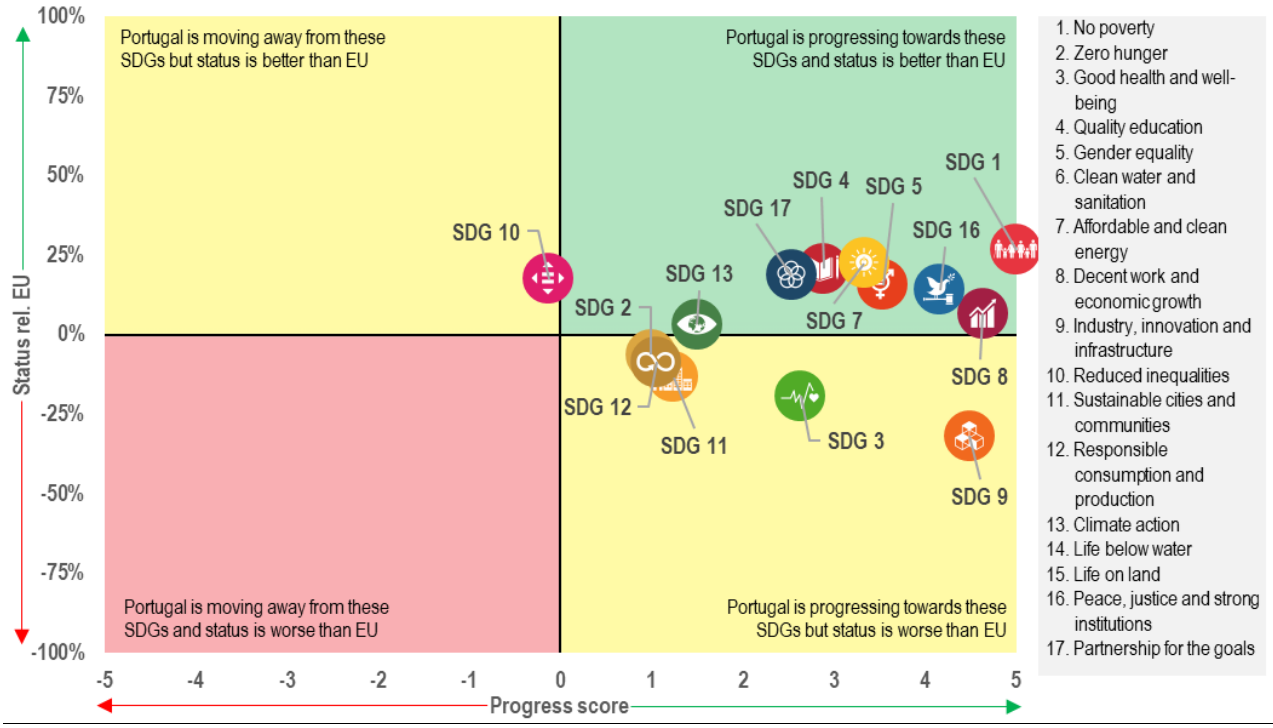
Portugal performs well or is improving overall on SDG indicators assessing the *fairness* of society and the economy (SDG 1, 2, 3, 4, 5, 8, 10) ([27]). Almost all poverty indicators have improved markedly in Portugal between 2015 and 2020 and are now firmly better than the EU average. Inequalities have also reduced but some challenges remain. The difference between cities and rural areas ('urban-rural gap') remains high and the citizenship gap (difference between EU and non EU nationals) increases for employment and the integration of young people. Despite some improvements, most of the health and well-being indicators are still far from the EU average, in particular on noise pollution, road deaths, obesity rate and healthy life years at birth (59.2 years in 2019 against 64.6 years for the EU). On education, the tertiary education attainment rate (population aged 25-34) in Portugal increased from 35.0% in 2016 to 47.5% in 2021 and is now slightly above the EU average for the participation of adults in learning (12.9%). The Portuguese RRP includes far-reaching measures to progress towards a more equal and healthy society, such as a reform of primary care services and investments in community-based social services.

Portugal is improving on SDG indicators related to *productivity (SDG 4, 8, 9).* Basic digital skills among the adult population are progressing (55% in 2021) and on par with the EU average. The Portuguese labour market is performing relatively well in comparison with the EU average, with a high employment rate (75.9%) and a sharp decrease of long-term unemployment from (2.9% in 2021). R&D and innovation, while improving, remain an area of concern. Only 1.62% of GDP was allocated to R&D in 2020 (EU: 2.32%), the number of patent applications to the European Patent Office (EPO) per million inhabitants, while improving in recent years, remains very low at 24 in 2020 (EU: 147). The ambitious RRP measures to improve the business-academia link, increase R&D, or reform vocational education and training have the potential to transform the Portuguese business sector and the R&I system. The RRP also includes the lifting of some restrictions on regulated professions.

Portugal is performing well or improving on SDG indicators related to *macroeconomic stability (8, 16).* Portugal is closing its gap with the EU in terms of investment share of GDP with 19.1% in 2020 (EU: 22.33%). The expenditure on law courts from central government progresses in line with the rest of the EU. The share of population reporting a crime, violence or vandalism dropped to 6.6% in 2020 (EU: 10.9%). The RRP includes measures to modernise administrative and tax courts.

([27]) See Annex 12.

Graph A1.1: **Progress towards SDGs in Portugal in the last five years**



For detailed datasets on the various SDGs see the annual ESTAT report 'Sustainable development in the European Union', https://ec.europa.eu/eurostat/product?code=KS-09-22-019; Extensive country-specific data on the short-term progress of Member States can be found here: Key findings - Sustainable development indicators - Eurostat (europa.eu).

Source: Eurostat, latest update of 28 April 2022. Data mainly refer to 2015-2020 and 2016-2021.

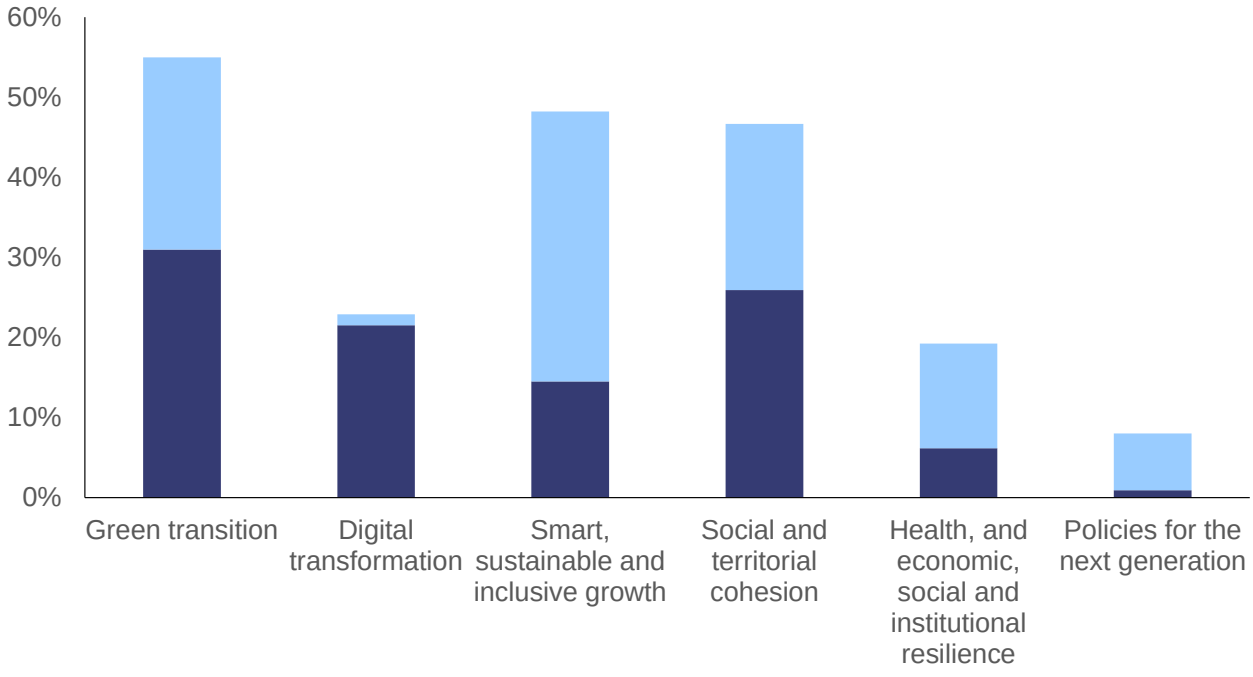
The Recovery and Resilience Facility (RRF) is the centrepiece of the EU's efforts to support its recovery from the COVID-19 pandemic, fast forward the twin transition and strengthen resilience against future shocks. Portugal submitted its recovery and resilience plan (RRP) on 22 April 2021. The Commission adopted a positive assessment of Portugal's RRP on 16 June 2021, which was approved by the Council on 13 July 2021 ([28]). This paved the way for disbursing EUR 13.9 billion in grants and EUR 2.7 billion in loans under the RRF over 2021-2026. The financing agreement, the loan agreement and operational arrangement were signed on 27 July 2021, 29 July 2021 and 18 January 2022 respectively. The key elements of the Portuguese RRP are set out in Table A2.1.

Table A2.1:**Key elements of the Portuguese RRP**

Total allocation	EUR 13.9 billion in grants (6.5% of 2019 GDP) and EUR 2.7 billion in loans
Investments and Reforms	83 investments and 32 reforms
Total number of Milestones and Targets	341
Estimated macroeconomic impact (1)	Raise GDP by 2.4% by 2026 (0.4% in spillover effects)
Pre-financing disbursed	EUR 2.2 billion (August 2021)
First instalment	EUR 1.16 billion (May 2022)

(1) Pfeiffer P., Varga J. and in 't Veld J. (2021), 'Quantifying Spillovers of NGEU investment', European Economy Discussion Papers, No. 144 and Afman et al. (2021), "An overview of the economics of the Recovery and Resilience Facility", Quarterly Report on the Euro Area (QREA), Vol. 20, No. 3 pp. 7-16.
Source: European Commission

Graph A2.1: **Share of RRF fund contributing to each policy pillar**



(1) Each measure contributes towards two policy areas of the six pillars, therefore the total contribution to all pillars displayed on this chart amounts to 200% of the estimated cost of the Portuguese RRP. The bottom part represents the amount of the primary pillar, the top part the amount of the secondary pillar.
Source: RRF Scoreboard

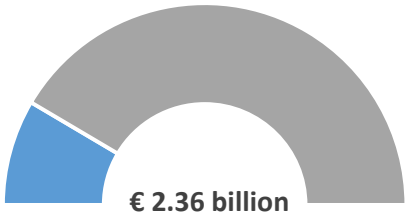
([28]) Council Implementing Decision of 13 July 2021 on the approval of the assessment of the recovery and resilience plan for Portugal.

The Portuguese RRP includes a balanced response to the RRF's six policy pillars ([29]). Most of the components in the plan are directly related to the green and digital transitions. The remaining policy areas, such as social and territorial cohesion or health and economic social and institutional resilience, including with a view to increasing crisis reaction capacity and crisis preparedness, were appropriately addressed through the different measures included in the RRP. Graph A2.1 shows the share of funds contributing to each of the RRF's six policy pillars.

Implementation of the Portuguese plan is underway. The Commission disbursed EUR 2.2 billion to Portugal in pre-financing in August 2021, equivalent to 13% of the total financial allocation, to support the implementation of the crucial investment and reform measures included in the Portuguese RRP. The Portuguese first payment request was positively assessed by the Commission, taking into account the opinion of the Economic and Financial Committee (EFC), leading to a disbursement of EUR 1.16 billion in financial support (net of pre-financing) on 9 May 2022. The related 38 milestones and targets cover reforms and investments in the areas of health, housing, social policies, innovation, infrastructure, skills and education, forestry, the 'blue economy', bio-economy, decarbonisation of industry, hydrogen, public finances and public administration. Their satisfactory fulfilment helps address the related country-specific recommendations addressed to Portugal in 2019 and 2020 (see Annex 4). Overall, Portugal reports a timely implementation of the milestones and targets due by the end of Q1 2022, which does not however prejudge the timing of submission of subsequent payment requests nor the formal assessment of the fulfilment of the relevant milestones and targets. Graphs A2.2 and A2.3 display the amount of grants and loans disbursed so far to Portugal under the RRF.

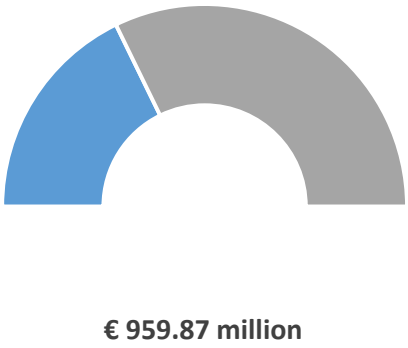
The progress made by Portugal in the implementation of its plan is published in the Recovery and Resilience Scoreboard. The Scoreboard also gives an overview of the progress of implementing of the RRF as a whole, in a transparent manner. Graph A2.4 shows the current state of play of fulfilment of milestones and targets, as completed by Portugal and subsequently assessed as satisfactorily fulfilled by the Commission.

Graph A2.2: **Total grants disbursed under the RRF**



(1) This graph displays the amount of grants disbursed so far under the RRF. Grants are non-repayable financial contributions. The total amount of grants given to each Member State is determined by an allocation key and total estimated cost of the respective recovery and resilience plan.
Source: RRF Scoreboard
https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/country_overview.html?lang=en

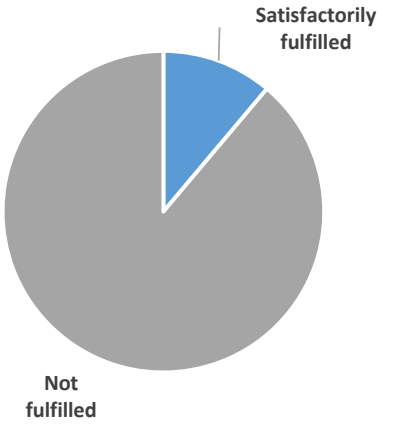
Graph A2.3: **Total loans disbursed under the RRF**



(1) This graph displays the amount of loans disbursed so far under the RRF. Loans are repayable financial contributions. The total amount of loans given to each Member State is determined by the assessment of its loans request and cannot exceed 6.8% of its 2019 GNI.
Source: RRF Scoreboard.
https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/country_overview.html?lang=en

([29]) Regulation (EU) 2021/241 of the European Parliament and of the Council of 12 February 2021 establishing the Recovery and Resilience Facility.

Graph A2.4: **Fulfilment status of milestones and targets**



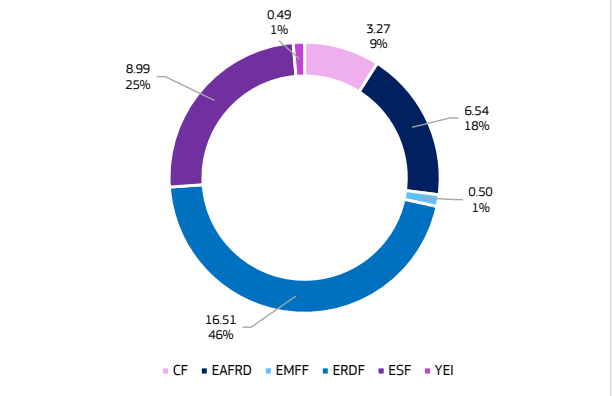
(1) This graph displays the share of satisfactorily fulfilled milestones and targets. A milestone or target is fulfilled once a Member State has provided evidence to the Commission that it has completed the milestone or target and the Commission has assessed it positively in an implementing decision.
Source: RRF Scoreboard. https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/country_overview.html?lang=en

The EU's budget of more than EUR 1.2 trillion for 2021-2027 is the investment lever to help implement EU priorities. Underpinned by an additional amount of about EUR 800 billion through NextGenerationEU and its largest instrument, the Recovery and Resilience Facility, it represents significant firepower to support the recovery and sustainable growth.

In 2021-2027, EU cohesion policy funds ([30]) will support long-term development objectives in Portugal by investing EUR 23.80 billion ([31]) including EUR 223.8 million from the Just Transition Fund to alleviate the socio-economic impacts of the green transition in the most vulnerable regions. The 2021-2027 cohesion policy funds partnership agreements and programmes are take into account the 2019-2020 country-specific recommendations, as well as recent developments and investment guidance provided as part of the European Semester, ensuring appropriate prioritisation, taking into account synergies and complementarities with other EU funding. In addition, Portugal will benefit from EUR 6.1 billion support for the 2023-27 period from the Common Agricultural Policy, which supports social, environmental, and economic sustainability and innovation in agriculture and rural areas, contributing to the European Green Deal, and ensuring long-term food security.

In 2014-2020, the European Structural and Investment Funds (ESIF) for Portugal are set to invest EUR 28.84 billion ([32]) from the EU budget. The total investment including national financing amounts to EUR 36.31 billion (Graph A3.1), representing around 2.67% of GDP for 2014-2020 and 110.18% of public investment ([33]). By 31 December 2021, 122% of the total was allocated to specific projects and 73% was reported as spent, leaving EUR 9.74 billion to be spent by the end of 2023 ([34]). Among the 11 objectives the most relevant ones for cohesion policy funding in Portugal are R&I, competitiveness of small and medium-sized enterprises, education, vocational training, environment protection and resource efficiency (EUR 17.7 billion). By the end of 2020, cohesion policy investments (implemented) supported 13 870 businesses, with over 1 200 set to introduce new products and around 385 businesses cooperating with research institutions, 30 573 new direct jobs, almost 253 000 long-term unemployed and contributed to 9.5 million kWh/year of reduced consumption in public buildings.

Graph A3.1: **ESIF 2014-2020 total budget by fund**



(1) EUR billion, %
(2) The data for the EAFRD and REACT-EU refer to the period 2014-2022.
Source: European Commission, Cohesion open data

Cohesion policy funds already contribute substantially to the Sustainable Development Goals (SDGs) objectives. In Portugal, these funds support 11 of the 17 SDGs with up to 93% of expenditure contributing to the attainment of the goals. (see Graph A3.2)

REACT-EU (Recovery Assistance for Cohesion and the Territories of Europe), under NextGenerationEU, already provided EUR 1 596.3 million of additional funding to the 2014-2020 cohesion policy programmes in Portugal to ensure a balanced recovery, boost convergence and provide vital support to regions following the coronavirus outbreak. REACT-EU provided support in Portugal to SMEs operating in the sectors most affected by the coronavirus crisis,

([30]) European Regional Development Fund (ERDF), European Social Fund+ (ESF+), Cohesion Fund (CF), Just Transition Fund (JTF), Interreg.

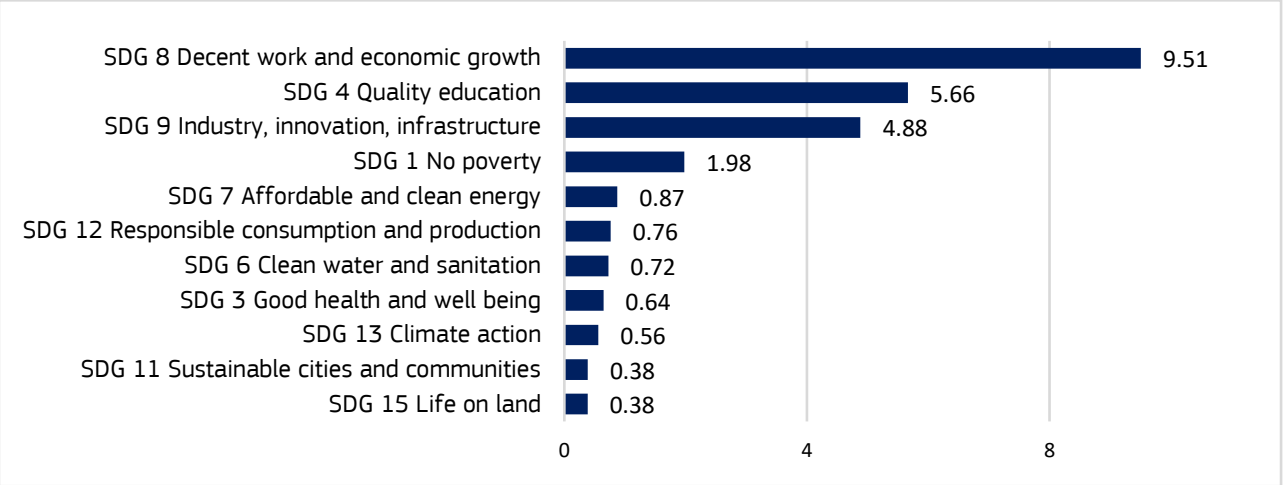
([31]) Current prices, source: Cohesion Open Data

([32]) ESIF includes cohesion policy funds (ERDF, ESF, CF, Interreg) and European Agricultural Fund for Rural Development (EAFRD) and European Maritime and Fisheries Fund (EMFF). According to the 'N+3 rule', the funds committed for the years 2014-2020 must be spent by 2023 at the latest (by 2025 for EAFRD). Data source: Cohesion Open data, cut-off date 31.12.2021 for ERDF, ESF+, CF, Interreg; cut-off date 31.12.2020 for EAFRD and EMFF.

([33]) Public investment is gross fixed capital formation plus capital transfers, general government.

([34]) Including REACT-EU. ESIF data on https://cohesiondata.ec.europa.eu/countries/PT

Graph A3.2: **Cohesion policy contribution to the SDGs**



(1) EUR billion
Source: European Commission, DG REGIO

as well as for the digital transformation of companies, employment activation measures, training and skills development, the purchase of vaccines, strengthening primary healthcare, improving education, and boosting investments in climate transition.

The Coronavirus Response Investment Initiative ([35]) provided the first EU emergency support to Portugal in relation to the COVID-19 pandemic. It introduced extraordinary flexibility enabling Portugal to shift resources to purchase protective equipment and healthcare material, support economic stabilisation, provide grants for R&D into COVID-19, and support to school's digital transformation. This includes resources for immediate public health needs (EUR 97 million) and support to enterprises (EUR 55 million) Portugal also benefited from the temporary 100% EU financing of incurred measures in cohesion policy, with approximately EUR 1 046 million in 2021 through 100% co-financing.

Portugal received support under the European instrument for temporary support to mitigate unemployment risks in an emergency (SURE) to finance short-time work schemes, similar measures and as an ancillary, health-related measures. The Council granted financial assistance under SURE to Portugal in September 2020 for a maximum of EUR 5.934 billion, which was disbursed by 29 March 2022. SURE is estimated to have supported approximately 25% of workers and firms for at least one month in 2020 and 15% of workers and 20% of firms in 2021, primarily in accommodation and food services, wholesale and retail trade, and other services. Portugal is estimated to have saved a total of EUR 0.38 billion on interest payments as a result of SURE's lower interest rates.

The Commission provides tailor-made expertise via the Technical Support Instrument to help Portugal design and implement growth-enhancing reforms, including for implementing its recovery and resilience plan (RRP). Since 2017, Portugal has received assistance through 49 technical support projects. Those delivered in 2021 aimed for example to improve Portugal's capacity to collect and use statistical data to support regulatory impact assessment so as to contribute to the implementation of the Commission's "one in, one out" approach for regulatory simplification. The Commission also assisted Portugal in implementing specific reforms and investments in the RRP, for instance in the digital transition of the justice sector. In 2022, new projects will be started to support, among others, gender mainstreaming in public policy and budgetary processes.

Portugal also benefits from other EU programmes. These include the Connecting Europe Facility, which allocated EU funding of EUR 719.5 million to specific projects on strategic

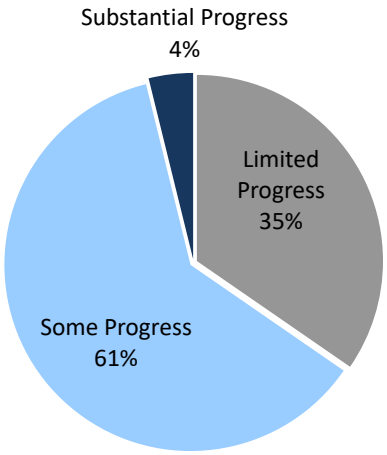
([35]) Re-allocating ESIF resources according to Regulation (EU) 2020/460 of the European Parliament and of the Council of 30 March 2020, and Regulation (EU) 2020/558 of the European Parliament and of the Council of 23 April 2020.

transport networks for 2014-2020, and Horizon 2020, which allocated EU funding of EUR 1 150 million.

ANNEX 4: PROGRESS IN THE IMPLEMENTATION OF COUNTRY-SPECIFIC RECOMMENDATIONS

The Commission assessed the 2019-2021 country-specific recommendations (CSRs) ([36]) addressed to Portugal in the context of the European Semester. The assessment takes into account the policy action taken by Portugal to date ([37]), as well as the commitments in the Recovery and Resilience Plan (RRP) ([38]). At this early stage of the RRP implementation, overall 65% of the CSRs focusing on structural issues in 2019 and 2020 have recorded at least "some progress", while 35% recorded "limited progress" (see Graph A4.1). Considerable additional progress in addressing structural CSRs is expected in the years to come with the further implementation of the RRP

Graph A4.1: **Portugal's progress on the 2019-2020 CSRs (2022 European Semester cycle)**



Source: European Commission

([36]) 2021 CSRs: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32021H0729%2822%29&qid=1627675454457
2020 CSRs: https://eur-lex.europa.eu/search.html?textScope0=ti&lang=en&scope=EURLEX&qid=1526385017799&type=quick&AU_CODED=CONSIL&DD_YEAR=2020&andText0=recommendation&DD_MONTH=07
2019 CSRs: https://eur-lex.europa.eu/search.html?textScope0=ti&lang=en&scope=EURLEX&qid=1526385017799&type=quick&AU_CODED=CONSIL&DD_YEAR=2019&andText0=recommendation&DD_MONTH=07

([37]) Incl. policy action reported in the National Reform Programme, as well as in the RRF reporting (bi-annual reporting on the progress with implementation of milestones and targets and resulting from the payment request assessment).

([38]) Member States were asked to effectively address all or a significant subset of the relevant country-specific recommendations issued by the Council in 2019 and 2020 in their RRPs. The CSR assessment presented here takes into account the degree of implementation of the measures included in the RRP and of those done outside of the RRP at the time of assessment. Measures foreseen in the annex of the adopted Council Implementing Decision on the approval of the assessment of the RRP which are not yet adopted nor implemented but considered as credibly announced, in line with the CSR assessment methodology, warrant "limited progress". Once implemented, these measures can lead to "some/substantial progress" or "full implementation", depending on their relevance.

Table A4.1:**Summary table in 2019, 2020 and 2021 CSRs**

Portugal	Assessment in May 2022*	RRP coverage of CSRs until 2026**
2019 CSR1	**Some Progress**	
Achieve the medium-term budgetary objective in 2020, taking into account the allowance linked to unusual events for which a temporary deviation is granted. Use windfall gains to accelerate the reduction of the general government debt ratio.	Not relevant anymore	Not applicable
Improve the quality of public finances by prioritising growth-enhancing spending while strengthening overall expenditure control, cost efficiency and adequate budgeting, with a focus in particular on a durable reduction of arrears in hospitals.	Limited Progress	Relevant RRP measures being planned as of 2022
Improve the financial sustainability of State-owned enterprises, while ensuring more timely, transparent and comprehensive monitoring.	Some Progress	Relevant RRP measures being implemented as of 2021
2019 CSR 2	**Some Progress**	
Adopt measures to address labour market segmentation.	Some Progress	Relevant RRP measures being implemented as of 2021
Improve the skills level of the population, in particular their digital literacy, including by making adult learning more relevant to the needs of the labour market.	Some Progress	Relevant RRP measures being implemented as of 2021
Increase the number of higher education graduates, particularly in science and information technology.	Some Progress	Relevant RRP measures being implemented as of 2021
Improve the effectiveness and adequacy of the social safety net.	Some Progress	Relevant RRP measures being implemented as of 2021
2019 CSR 3	**Limited Progress**	
Focus investment-related economic policy on research and innovation,	Some Progress	Relevant RRP measures being implemented as of 2021
railway transport and port infrastructure,	Limited Progress	Relevant RRP measures being planned as of 2022
low carbon and energy transition and extending energy interconnections, taking into account regional disparities.	Limited Progress	Relevant RRP measures being implemented as of 2021
2019 CSR4	**Some Progress**	
Allow for a swifter recovery of the collateral tied to non-performing loans by increasing the efficiency of insolvency and recovery proceedings.	Some Progress	Relevant RRP measures being planned as of 2022
Reduce the administrative and regulatory burden on businesses, mainly by reducing sector-specific barriers to licensing.	Limited Progress	Relevant RRP measures being implemented as of 2021
Develop a roadmap to reduce restrictions in highly regulated professions.	Limited Progress	Relevant RRP measures being planned as of 2022
Increase the efficiency of administrative and tax courts, in particular by decreasing the length of proceedings.	Some Progress	Relevant RRP measures being planned as of 2022
2020 CSR1	**Limited Progress**	
In line with the general escape clause, take all necessary measures to effectively address the pandemic, sustain the economy and support the ensuing recovery. When economic conditions allow, pursue fiscal policies aimed at achieving prudent medium-term fiscal positions and ensuring debt sustainability, while enhancing investment.	Not relevant anymore	Not applicable
Strengthen the resilience of the health system	Limited Progress	Relevant RRP measures being planned as of 2022
and ensure equal access to quality health and long-term care.	Limited Progress	Relevant RRP measures being planned as of 2022

(Continued on the next page)

Table (continued)

2020 CSR2	**Some Progress**	
Support employment and prioritise measures to preserve jobs.	Some Progress	Relevant RRP measures being planned as of 2022
Guarantee sufficient and effective social protection and income support.	Some Progress	Relevant RRP measures being implemented as of 2021
Support the use of digital technologies to ensure equal access to quality education and training	Some Progress	Relevant RRP measures being implemented as of 2021
and to boost firms' competitiveness	Some Progress	Relevant RRP measures being implemented as of 2021
2020 CSR 3	**Some Progress**	
Implement the temporary measures aimed at securing access to liquidity for firms, in particular small and medium-sized enterprises.	Substantial Progress	Relevant RRP measures being implemented as of 2021
Front-load mature public investment projects and	Limited Progress	Relevant RRP measures being implemented as of 2021
promote private investment to foster the economic recovery.	Some Progress	Relevant RRP measures being implemented as of 2021
Focus investment on the green and digital transition, in particular on clean and and efficient production and use of energy,	Some Progress	Relevant RRP measures being implemented as of 2021
rail infrastructure	Limited Progress	
and innovation.	Some Progress	Relevant RRP measures being implemented as of 2021
2020 CSR 4	**Some progress**	
Increase the efficiency of administrative and tax courts	Some Progress	Relevant RRP measures being planned as of 2022
2021 CSR1	**Substantial Progress**	
In 2022, use the Recovery and Resilience Facility to finance additional investment in support of the recovery while pursuing a prudent fiscal policy. Preserve nationally financed investment. Limit the growth of nationally financed current expenditure.	Full implementation	Not applicable
When economic conditions allow, pursue a fiscal policy aimed at achieving prudent medium-term fiscal positions and ensuring fiscal sustainability in the medium term.	Substantial Progress	Not applicable
At the same time, enhance investment to boost growth potential. Pay particular attention to the composition of public finances, both on the revenue and expenditure sides of the budget, and to the quality of budgetary measures, to ensure a sustainable and inclusive recovery. Prioritise sustainable and growth-enhancing investment, notably supporting the green and digital transition.	Full implementation	Not applicable
Give priority to fiscal-structural reforms that will help provide financing for public policy priorities and contribute to the long-term sustainability of public finances, including by strengthening the coverage, adequacy, and sustainability of health and social protection systems for all.	Some Progress	Not applicable

* See footnote 38

** Measures indicated as "being implemented as of 2021" are only those included in the first RRF payment request submitted by Portugal and positively assessed by the European Commission.

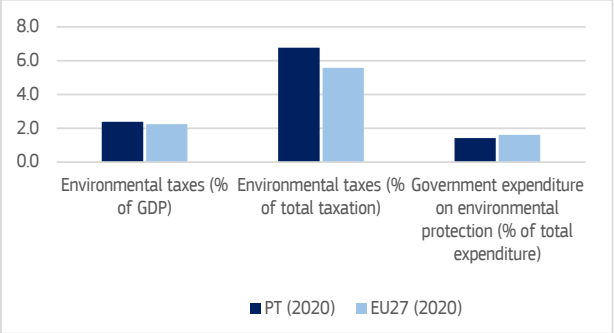
Source: European Commission

The European Green Deal intends to transform the EU into a fair and prosperous society, with a modern, resource-efficient and competitive economy where there are no net emissions of greenhouse gases in 2050 and where economic growth is decoupled from resource use. This annex offers a snapshot of the most significant and economically relevant developments in Portugal in the respective building blocks of the European Green Deal. It is complemented by Annex 6 on the employment and social impact of the green transition and Annex 7 for circular economy aspects of the Green Deal.

Portugal is on track to achieve its domestic greenhouse gas reduction targets and to surpass its share of the EU target. Portugal's government has committed in its Roadmap for Carbon Neutrality 2050 to reaching climate neutrality by 2050, with an intermediary target of 45-55% emissions reductions by 2030 (compared to 2005) and 65-75% by 2040. By 2020, the country's total greenhouse gas emissions were just below 1990 levels. At the same time, Portugal has exceeded its EU 2020 emission reduction target for the sectors not covered by the EU Emissions Trading System (buildings, road and domestic maritime transport, agriculture, waste and small industries). By continuing current policies, Portugal is expected to largely meet its increased 2030 GHG emission reduction target, in line with the European Climate law. Transport, mainly road transport, continues to represent a large share of Portugal's energy consumption, which in 2019 represented 28% of the total greenhouse gas emissions. The national energy and climate plan (NECP) provides a broad overview of the measures planned to achieve Portugal's climate and energy targets ([39]). However, these are not always well defined and there is scope for strengthening policies and measures, in particular by addressing emissions reductions in the building and transport sectors. In its recovery and resilience plan, Portugal allocates 38% of the plan to climate objectives and outlines crucial reforms and investments to further the transition to a more sustainable, low-carbon and climate-resilient economy ([40]).

While Portugal's revenues from environmental tax collection are above the EU average, investing in environmental protection and decreasing fossil fuel subsidies both present more of a challenge. Portugal's environmental tax revenues, both as a share of total tax revenues and as a share of GDP, are higher than the EU average, with energy taxes largely driving total environmental taxes. A considerable percentage is also taken up by taxes on transport and, to a smaller extent, taxes on pollution. At the same time, however, the Portuguese government spends a smaller proportion of its expenditure on environmental protection than in the EU overall, while fossil fuel subsidies have been steadily increasing since 2016. Meanwhile, the climate risk to public finances due to uninsured assets is considered low/medium, with a significant proportion of uninsured climate related losses. For more indicators on taxation, see Annex 18.

Graph A5.1: **Fiscal aspects of the green transition Taxation and government expenditure on environmental protection**

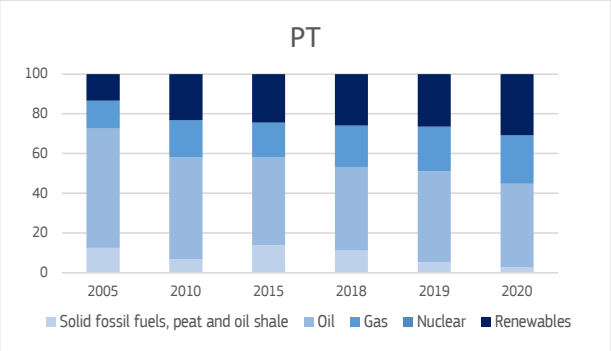


Source: Eurostat

([39]) Portugal's NECP will require an update in view of the higher ambition proposed for greenhouse gas emission reduction, renewables and energy efficiency; but also to reflect changes of the energy mix in view of reducing import dependency.

([40]) The share of financial allocation contributing to climate objectives has been calculated using Annex VI of the RRF Regulation.

Graph A5.2: **Thematic – Energy**
Share in energy mix (solids, oil, gas, nuclear, renewables)



(1) The energy mix is based on gross inland consumption, and excludes heat and electricity. The share of renewables includes biofuels and non-renewable waste.
Source: Eurostat

Portugal remains reliant on imported fossil fuels, which accounted for 69% of gross inland energy consumption in 2020 (42% oil, 24% natural gas and 3% coal). All oil, natural gas and coal is imported. The NECP includes the ambition to reduce energy import dependency to 65% by 2030, anticipates a renewable energy contribution to the EU's 2030 target of 47% of the gross final energy consumption, and aims to reach 80% renewable electricity by 2030. Portugal is taking steps to accelerate renewables deployment, especially for solar photovoltaics, and is finalising new hydropower projects. Portugal surpassed its renewable energy target of 31% of gross final energy consumption in 2020, reaching a 34% renewables share. Thanks mainly to hydropower and wind generation, renewables covered 60% of electricity generation in 2020 (wind and solar were responsible for 23.2% and 3.2% respectively of total electricity generation). However, gas consumption has increased rapidly since 2014 due to an increase in demand from power plants, partly because of lower hydropower availability as a result of frequent droughts. The proportion of gas used for power generation accounts for 62% of total gas consumption in 2020, while industry accounts for 24% and buildings for 11%. There is high use of bioenergy in industry and buildings. In response to policy and market pressures, the private operators of Portugal's two coal-fired power plants closed both plants in 2021. The government indicates that natural gas electricity generation will be maintained until at least 2040.

Portugal boasts a rich biodiversity. 20.6% of the Portuguese territory belongs to the EU Natura 2000 network (EU average: 18.5%). However, a scientific assessment of Natura 2000 in Portugal concluded that some species and habitats, particularly in the marine environment, are not sufficiently protected. Therefore, additional designations would be needed to extend the Natura 2000 network, particularly for marine sites. Management plans of the sites already designated should identify the conservation objectives and conservation measures and provide the necessary resources. Complementary measures are still required to ensure the proper implementation of the EU Invasive Alien Species Regulation.

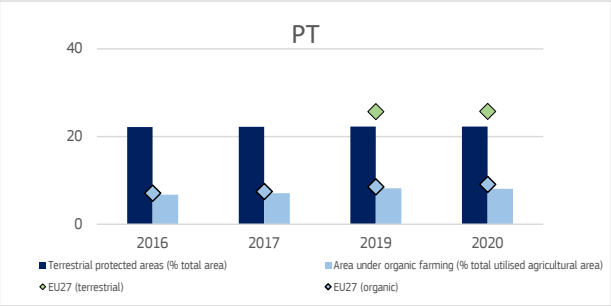
In terms of air pollution, Portugal presents a mixed picture. While emissions of several air pollutants have decreased in Portugal during the last decades, air quality in Portugal continues to give cause for concern, mainly related to nitrogen dioxide. In particular, personal transport exacerbates air quality and traffic congestion problems in Portugal's major metropolitan areas, namely Lisbon, Porto and Braga, leading to health and economic costs. Furthermore, Portugal is considered at high risk of missing its emission reduction commitments for various air pollutants under the Directive 2016/2284 (the National Emissions Reduction Commitments Directive).

Despite the progress that Portugal has made in recent years and the measures included under the recovery and resilience plan, challenges remain in water management, **especially in the areas of water governance, water body rehabilitation and water efficiency.** Further actions would be needed to improve water management, such as in wastewater collection and treatment, reduction of leaks in the networks and general water supply, promoting the reuse of treated wastewater for appropriate purposes, improving monitoring (quality and quantity), as well as nature-based solutions for river restoration. At municipal level, the water sector remains fragmented and the reorganisation of water and wastewater services has not yet shown its full potential. Further measures are also needed to deal with water scarcity and droughts. Water policies should ensure that all relevant sectors are prepared for future climate impacts, which requires improvements in the monitoring of projected water availability and the integration of water policy into the relevant sectoral policies.

In terms of mobility, in Portugal the share of zero-emission vehicles in new vehicle registrations has

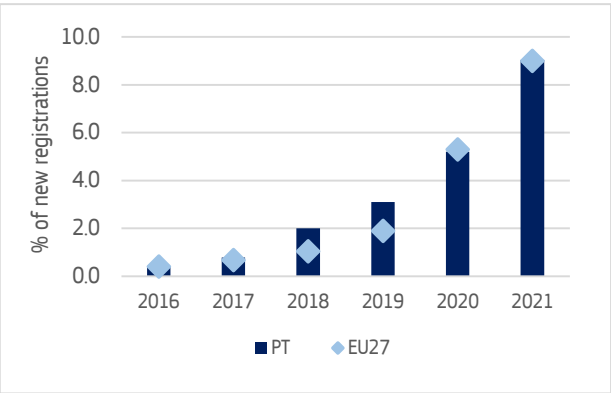
grown very dynamically in recent years. The electrification of the railway network is more advanced than on average in the EU.

Graph A5.3: **Thematic – Biodiversity**
Terrestrial protected areas and organic farming



(1) For terrestrial protected areas for 2018, and data for the EU average (2016, 2017) is lacking.
Source: EEA (terrestrial protected areas) and Eurostat (organic farming).

Graph A5.4: **Thematic – Mobility**
Share of zero emission vehicles (% of new registrations)



(1) Zero emission vehicles (passenger cars) include battery and fuel cell electric vehicles (BEV, FCEV).
Source: European Alternative Fuels Observatory.

Table A5.1:**Indicators underpinning the progress on EU Green Deal from macroeconomic perspective**

						Target	Distance		'Fit for 55' Target	Distance	
			2005	2019	2020	2030	WEM	WAM	2030	WEM	WAM
Progress to policy targets	Non-ETS GHG emission reduction target [1]	MTCO2 eq; %; pp [2]	48.6	-15%	-19%	-17%	21	24	-29%	9	12
			2005	2015	2017	2018	2019	2020	National contribution to		
	Share of energy from renewable sources in gross final consumption of energy [1]	%	20%	31%	31%	30%	31%	34%	47%		
	Energy efficiency: primary energy consumption [1]	Mtoe	24.9	21.8	22.8	22.6	22.1	19.5	21.5		
	Energy efficiency: final energy consumption [1]	Mtoe	19.0	16.2	16.6	16.9	17.1	15.0	14.9		
			PORTUGAL						EU		
			2015	2016	2017	2018	2019	2020	2018	2019	2020
Fiscal and financial indicators	Environmental taxes (% of GDP)	% of GDP	2.4	2.6	2.6	2.6	2.5	2.4	2.4	2.4	2.2
	Environmental taxes (% of total taxation)	% of taxation [3]	7.0	7.6	7.6	7.4	7.3	6.8	6.0	5.9	5.6
	Government expenditure on environmental protection	% of total exp.	1.25	1.25	1.33	1.39	1.48	1.41	1.66	1.70	1.61
	Investment in environmental protection	% of GDP [4]	0.38	0.27	0.30	0.31	-	-	0.42	0.38	0.41
	Fossil fuel subsidies	EUR2020bn	0.65	0.60	0.72	0.78	0.94	-	56.87	55.70	-
	Climate protection gap [5]	score 1-4	2 out of 4 (increase from historical level of 1.5). This is a low/medium risk category (4 being a high risk).								
Climate	Net GHG emissions	1990 = 100	116	113	124	118	113	99	79	76	69
	GHG emissions intensity of the economy	kg/EUR'10	0.41	0.39	0.40	0.37	0.34	0.35	0.32	0.31	0.30
	Energy intensity of the economy	kgoe/EUR'10	0.13	0.13	0.13	0.12	0.12	0.12	0.12	0.11	0.11
Energy	Final energy consumption (FEC)	2015=100	100.0	101.2	103.5	105.5	107.1	93.9	103.5	102.9	94.6
	FEC in residential building sector	2015=100	100.0	102.5	101.8	104.6	105.1	109.5	101.9	101.3	101.3
	FEC in services building sector	2015=100	100.0	97.2	97.7	101.0	100.1	91.6	102.4	100.1	94.4
Pollution	Smog-precursor emission intensity (to GDP) [4]	tonne/EUR'10 [6]	1.48	1.43	1.41	1.32	1.26	-	0.99	0.93	-
	Years of life lost caused due to air pollution by PM2.5	per 100.000 inh.	570	469	583	541	523	-	863	762	-
	Years of life lost due to air pollution by NO2	per 100.000 inh.	92	58	85	84	57	-	120	99	-
	Nitrate in ground water	mg NO3/litre	16.8	19.3	18.5	18.3	18.0	-	21.7	20.7	-
Biodiversity	Terrestrial protected areas	% of total	-	22.2	22.3	-	22.3	22.3	-	25.7	25.7
	Marine protected areas	% of total	-	3.8	-	-	4.5	-	-	10.7	-
	Organic farming	% of total utilised agricultural area	6.5	6.7	7.0	5.9	8.2	8.1	8.0	8.5	9.1
			2000-2006		2006-2012		2012-2018		00-06	06-12	12-18
	Net land take	per 10,000 km2	31.0		11.0		4.1		13.0	11.0	5.0
			2015	2016	2017	2018	2019	2020	2018	2019	2020
Mobility	GHG emissions intensity of transport (to GVA) [7]	kg/EUR'10	1.20	1.20	1.17	1.16	1.20	0.95	0.89	0.87	0.83
	Share of zero emission vehicles [8]	% in new registrations	0.4	0.4	0.8	2.0	3.1	5.4	1.0	1.9	5.4
	Number of plug-in electric vehicles per charging point		3	5	11	21	30	28	8	8	12
	Share of electrified railways	%	64.4	64.9	64.4	64.4	67.1	-	55.6	56.0	-
	Congestion (average number of hours spent in road congestion per year by a representative commuting driver)		27.7	29.0	28.7	28.4	27.3	-	28.9	28.8	-

			Year	PT	EU
Digital	Share of smart meters in total metering points [9] - electricity	% of total	2018	25.0	35.8
	Share of smart meters in total metering points [9] - gas	% of total	2018	0.0	13.1
	ICT used for environmental sustainability [10]	%	2021	85.5	65.9

(1) The 2030 non-ETS GHG target is based on the Effort Sharing Regulation. The FF55 targets are based on the COM proposal to increase EU's climate ambition by 2030. Renewables and Energy Efficiency targets and national contributions under the Governance Regulation (Regulation (EU) 2018/1999).
(2) Distance to target is the gap between Member States' 2030 target under the Effort Sharing Regulation and projected emissions, with existing measures (WEM) and with additional measures (WAM) respectively, as a percentage of 2005 base year emissions.
(3) Percentage of total revenues from taxes and social contributions (excluding imputed social contributions). Revenues from the ETS are included in environmental tax revenues (in 2017 they amounted to 1.5% of total environmental tax revenues at the EU level).
(4) Covers expenditure on gross fixed capital formation to be used for the production of environmental protection services (i.e. abatement and prevention of pollution) covering all sectors, i.e. government, industry and specialised providers.
(5) The climate protection gap indicator is part of the European adaptation strategy (February 2021), and is defined as the share of non-insured economic losses caused by climate-related disasters.
(6) Sulphur oxides (SO2 equivalent), Ammonia, Particulates < 10µm, Nitrogen oxides in total economy (divided by GDP).
(7) Transportation and storage (NACE Section H).
(8) Zero emission vehicles include battery electric vehicles (BEV) and fuel cell electric vehicles (FCEV).
(9) European Commission Report (2019) 'Benchmarking smart metering deployment in the EU-28'.
(10) European Commission (2021). Each year the DESI is re-calculated for all countries for previous years to reflect any possible change in the choice of indicators and corrections to the underlying data. Country scores and rankings may thus differ compared with previous publications.
Source: Eurostat, JRC, European Commission, EEA, EAFO.

The green transition not only encompasses improvements to environmental sustainability, but also includes a significant social dimension. While measures in this regard include the opportunity for sustainable growth and job creation, it must also be ensured that no one is left behind and all groups in society benefit from the transition. Portugal faces challenges on the way to a fair green transition, with a relatively high level of energy poverty and a need for significant investments.

Portugal's recovery and resilience plan (RRP) includes some skills and social investments contributing to a fair green transition. Under the 'Skills and Qualifications' component, at least two investments are adapted to the need for economic specialisation resulting from the green transition, while the 'Social Responses' component provides three investments aligned with this aspect. More specifically, the modernisation of course content offered by vocational education and training institutions and the adult qualification and lifelong learning investments (in the Azores) contribute to achieving a fair transition. Projects intended to improve the social services network and facilities in mainland Portugal and in the outermost regions contain energy efficiency and clean urban transport features to support the achievement of the climate target. In synergy with the Recovery and Resilience Facility, the European Social Fund Plus will help employment, skills and social investments that will support a fair green transition. The Just Transition Fund (EUR 224 million; current prices) will help mitigate the impact of the transition in three Portuguese NUTS II regions (Norte, Centro, Alentejo). The Portuguese national energy and climate plan fails to properly integrate just and fair transition aspects on social, employment and skills impacts. It also fails to sufficiently develop approach to identify and address energy poverty aspects.

Portugal has slightly reduced its carbon footprint, while significant investment is still needed to meet the carbon neutrality goal. Portugal's greenhouse gas (GHG) emissions intensity in terms of gross value added slightly decreased between 2015 and 2020, remaining around 30% above the EU average, where the energy and transport sectors are the main GHG emitters ([41]). The footprint per worker stands at 10.68 tonnes of GHG emissions (see Figure 1), below the EU average (13.61 in the EU). Declining sectors in the Portuguese economy include petroleum refineries and fossil fuel based energy production, while transformations are expected in the paper industry ([42]). Energy intensive sectors provide employment for 2.5% of the total employed workforce, for which up- and reskilling, job search assistance and support is particularly important (see Annex 15). Jobs in environmental goods and services correspond to the EU average share of employment of the (2.2%) ([43]), while wind and solar potential as well as energy efficiency offer further opportunities for green jobs ([44]). Labour shortages in sectors linked to the transition to a climate-neutral economy have been identified in the construction, energy and transport sectors ([45]).

As for the social dimension of the green transition, access to essential energy services remains a challenge, with energy poverty levels significantly higher than the EU average. A relatively high proportion of the population at risk of poverty lives in rural areas (21.1% vs 18.7% in the EU) ([46]). The proportion of the population unable to keep their homes adequately warm remains relatively high (almost double the EU average of 8.2%), despite having decreased from 23.8% in 2015 to 17.5% in 2020. Lower-income groups are most affected (see Figure 2). Consumption patterns vary across the population: the average carbon footprint of the top 10% of emitters is about 5.6 times higher than that of the bottom 50% of the population (5.3 times in the EU).

([41]) SWD(2020) 521 final, Annex D.

([42]) SWD(2021) 275 final.

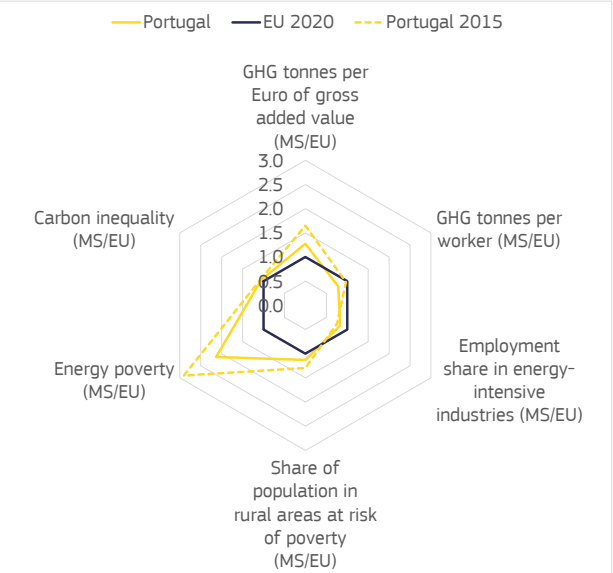
([43]) There is currently no common EU-wide definition of green jobs. The environmental goods and services sector (EGSS) accounts only report on an economic sector that generates environmental products, i.e. goods and services produced for environmental protection or resource management.

([44]) https://publications.jrc.ec.europa.eu/repository/handle/JRC126047

([45]) Eurofound (2021), Tackling labour shortages in EU Member States, Publications Office of the European Union, Luxembourg.

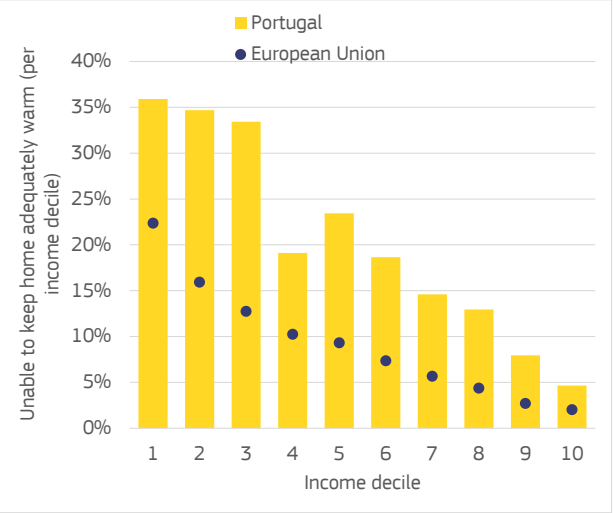
([46]) Based on COM(2021) 568 final (Annex I) as a proxy for potential transport challenges in the context of the green transition (e.g. due to vulnerability to fuel prices).

Graph A6.1: **Fair green transition challenges**



(1) Numbers are the normalised indicator performance, signifying factors relative to EU-27 average
Source: Eurostat, World Inequality Database

Graph A6.2: **Energy poverty by income decile**



Source: Eurostat EU-SILC survey (2020)

Tax systems are key to ensuring a fair transition towards climate neutrality ([47]). Portugal's revenues from total environmental taxes slightly increased from 2.42% of GDP in 2015 to 2.53% in 2019, but slightly decreased to 2.38% in 2020 (2.24% in the EU). The labour tax wedge for low-income earners ([48]) had remained constant at 28.1%, at least since 2010, but increased to 35.1% in 2021, compared to 31.9% in the EU (see Annex 18). Redistributive measures accompanying environmental taxation can have the potential to foster progressivity and to have a positive impact on the disposable income of households in the lowest segments of the income distribution ([49]).

([47]) COM(2021) 801 final.

([48]) Tax wedge for a single earner at 50% of the national average wage (Tax and benefits database, European Commission/OECD).

([49]) SWD(2021) 641 final PART 3/3, on distributional effects of energy taxation revision, based on the European Commission Joint Research Centre GEM-E3 and Euromod models.

ANNEX 7: RESOURCE EFFICIENCY AND PRODUCTIVITY

The efficient use of resources is key to ensuring competitiveness and open strategic autonomy, while minimising the environmental impact. The green transition presents a major opportunity for European industry by creating markets for clean technologies and products. It will have an impact across the entire value chains in sectors such as energy and transport, construction and renovation, food and electronics, helping create sustainable, local and well-paid jobs across Europe.

Portugal is far below the EU average on circular economy and waste management indicators. The circular (secondary) use of material has been almost stable since 2015, varying from 2.1% to 2.2% in 2020, which relegates Portugal to 25th place, well below the EU average of 12.8% of material recycled and fed back into the economy in overall material use.

Resource productivity expresses how efficiently the economy uses material resources to produce wealth. Improving resource productivity can help to minimise negative impacts on the environment and reduce dependency on volatile raw material markets. With 1.4 purchasing power standards (PPS) generated per kg of material consumed in 2020, resource productivity in Portugal has not significantly improved since 2015 and keeps the country well below the EU average of 2.2 PPS.

Portugal is one of the countries which has missed the EU target of recycling 50% of municipal waste by 2020. The overall recycling rate was 28.9% in 2019 and 26.5% in 2020 (provisional data), against an EU average of 47.8%. The EU has set even more ambitious targets for the next decade, including achieving a rate of 55% of recycling of municipal waste by 2025. There are also big differences across the Portuguese regions. Therefore, significant efforts are needed to increase the prevention, minimisation, sorting, reuse and recycling of waste, thereby diverting waste away from landfills or incinerators, and to modernising waste recycling and treatment facilities. Supporting circular economy innovations and business models could further support the circular economy in Portugal.

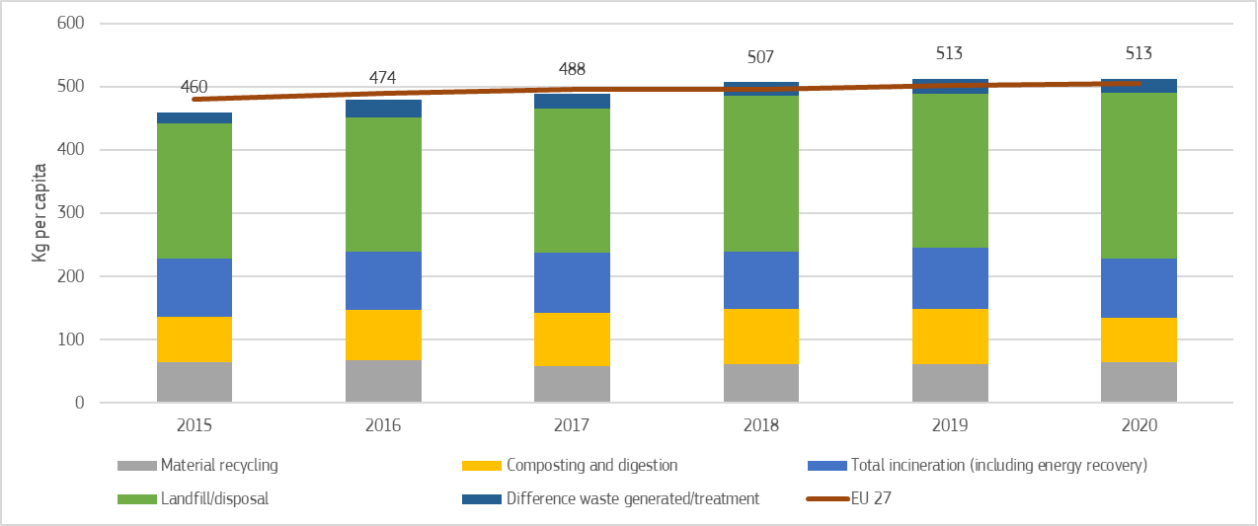
A successful transition to a circular economy requires social and technological innovation as the full potential of a circular economy can only be reached when implemented across all value chains. Therefore, eco-innovation is an important enabling factor for the circular economy. Product design approaches and new business models can help to produce systemic circularity innovations, creating new business

Table A7.1:**Selected resource efficiency indicators**

SUB-POLICY AREA	2015	2016	2017	2018	2019	2020	EU27	Latest year EU 27
Circularity								
Resource Productivity (Purchasing power standard (PPS) per kilogram)	1.4	1.5	1.4	1.4	1.5	1.4	2.2	2020
Material Intensity (kg/EUR)	0.7	0.7	0.7	0.7	0.7	0.7	0.4	2020
Circular Material Use Rate (%)	2.1	2.1	2.0	2.2	2.3	2.2	12.8	2020
Material footprint (Tones/capita)	15.9	15.0	17.0	16.8	17.1	-	14.6	2019
Waste								
Waste generation (kg/capita, total waste)	-	1427	-	1546	-	-	5234	2018
Landfilling (% of total waste treated)	-	34.7	-	34.3	-	-	38.5	2018
Recycling rate (% of municipal waste)	29.8	30.9	29.1	29.1	28.9	26.5	47.8	2020
Hazardous waste (% of municipal waste)	-	5.7	-	7.0	-	-	4.3	2018
Competitiveness								
Gross value added in environmental goods and services sector (% of GDP)	2.3	2.3	2.3	2.3	2.3	-	2.3	2019
Private investment in circular economy (% of GDP)	0.1	0.1	0.1	0.1	-	-	0.1	2018

Source: Eurostat

Graph A7.1: **Municipal waste treatment**



Source: Eurostat

opportunities.

Portugal registered a total score of 115 in the Eco-Innovation Scoreboard of 2021, just below the EU average of 121. In three components of the 2021 Eco-innovation index, Portugal performs below the EU average (eco-innovation inputs, eco-innovation outputs, resource efficiency outcomes), while it performs above the EU average in two of them (eco-innovation activities, socio-economic outcomes).

The Digital Economy and Society Index (DESI) monitors EU Member States' digital progress. The areas of human capital, digital connectivity, the integration of digital technologies by businesses and digital public services reflect the Digital Decade's four cardinal points ([50]). This Annex describes Portugal's DESI performance.

Portugal's contribution to the digital objectives represents 22% of its recovery and resilience plan allocation ([51]). The most prominent digital reforms and investments address education and training in digital skills; digital transformation of businesses; and digitalisation of the State as a lever for: sustainable public finances, an investment-friendly business environment; and an efficient public administration.

On human capital, Portugal has a medium performance. It scores slightly above the EU average for both basic digital skills and for the share of ICT specialists. The proportion of female ICT specialists also surpasses the EU average. Still Portugal has significant room for improvement to catch up with the top performers. Improving digital skills is a national priority reflected in the RRP with initiatives for various population groups.

On connectivity, Portugal shows mixed results. It performs well in fixed very high-capacity network (VHCN) coverage, significantly surpassing the EU average. However, it is well behind in 5G coverage. Although in 2022 some 5G coverage is available the roll-out is delayed compared to other EU countries. Additional effort would ensure that fixed VHCN coverage and especially 5G mobile coverage reach all households, including those in rural areas.

On the integration of digital technology, Portugal has room for improvement. The share of Portuguese businesses with at least basic digital intensity is approaching the EU average. The same applies to the share of businesses using cloud or big data applications. The share of businesses using Artificial Intelligence is far ahead of the EU average.

Portugal is a good performer in digital public services. Portugal's performance on providing digital public services to businesses is in line with the EU average, while exceeding it for digital public services offered to citizens.

([50]) 2030 Digital Compass: the European Way for the Digital Decade Communication, COM (2021) 118 final

([51]) The share of financial allocation contributing to digital objectives has been calculated using Annex VII of the RRF Regulation.

Table A8.1:**Key Digital Economy and Society Index Indicators**

Human capital	Portugal DESI 2020	Portugal DESI 2021	Portugal DESI 2022	EU DESI 2022	EU top-performance DESI 2022
At least basic digital skills	**NA**	**NA**	**55%**	**54%**	**79%**
% individuals			2021	2021	2021
ICT specialists	**3.5%**	**4.0%**	**4.7%**	**4.5%**	**8.0%**
% individuals in employment aged 15-74	2019	2020	2021	2021	2021
Female ICT specialists	**18%**	**21%**	**21%**	**19%**	**28%**
% ICT specialists	2019	2020	2021	2021	2021
Connectivity					
Fixed Very High Capacity Network (VHCN) coverage	**83%**	**87%**	**91%**	**70%**	**100%**
% households	2019	2020	2021	2021	2021
5G coverage (*)	**NA**	**0%**	**0%**	**66%**	**99.7%**
% populated areas		2020	2021	2021	2021
Integration of digital technology					
SMEs with at least a basic level of digital intensity	**NA**	**NA**	**52%**	**55%**	**86%**
% SMEs			2021	2021	2021
Big data	**13%**	**11%**	**11%**	**14%**	**31%**
% enterprises	2018	2020	2020	2020	2020
Cloud	**NA**	**NA**	**29%**	**34%**	**69%**
% enterprises			2021	2021	2021
Artificial Intelligence	**NA**	**NA**	**17%**	**8%**	**24%**
% enterprises			2021	2021	2021
Digital public services					
Digital public services for citizens	**NA**	**NA**	**79**	**75**	**100**
Score (0 to 100)			2021	2021	2021
Digital public services for businesses	**NA**	**NA**	**82**	**82**	**100**
Score (0 to 100)			2021	2021	2021

(*) The 5G coverage indicator does not measure users' experience, which may be affected by a variety of factors such as the type of device used, environmental conditions, number of concurrent users and network capacity. 5G coverage refers to the percentage of populated areas as reported by operators and national regulatory authorities.(1)
Source: Digital Economy and Society Index

This Annex provides a general overview of the performance of Portugal's research and innovation system.

Portugal is a moderate innovator according to the 2021 edition of the European Innovation Scoreboard ([52]). Total R&D intensity remains relatively low, at 1.62% of GDP in 2020, compared to the EU average of 2.32% of GDP.

Portugal benefits from a good public research system, but it struggles to enhance cooperation between academia and business. The country has a good public science base able to attract talent, as demonstrated by its increasing and above EU average performance in the number of new graduates in science and engineering (18.6 in 2019, compared to 13.0 in 2010). However, Portugal scores below the EU average for public-private scientific co-publications as a percentage of total publications (5.5 in 2020). Furthermore, additional public resources could be invested to strengthen the research system. While there has been a slight upswing in recent years, public expenditure on R&D remained stagnant in the last decade and below the EU average (0.66% of GDP in 2020). To tackle this challenge, the country included in its recovery and resilience plan, particularly under Component 5, a set of measures to improve and simplify academia-business partnerships. Moreover, the plan provides for a multiannual framework to increase R&D investment and reach the total target of 3% of GDP by 2030.

The growing support to business innovation over the last decade has not yet translated into a significant improvement in Portugal's innovation performance. Total public support for business enterprise expenditure on R&D more than doubled over the last decade, growing from 0.128% in 2010 to 0.264% in 2019, partly driven by an increasingly generous R&D tax incentive scheme. Business R&D spending also increased, growing from 0.71% of GDP in 2010 to 0.92% of GDP in 2020, but remains well below the EU average. As a result, there is scope for improvement in the innovation capacity of businesses. Despite a steady increase from 2010 to 2018, patenting activity remains limited (1.1 in 2018, well below the EU average of 3.5).

([52]) 2021 European Innovation Scoreboard, Country profile: Portugal https://ec.europa.eu/docsroom/documents/45931/attachments/1/translations/en/renditions/native

Table A9.1:**Key research, development and innovation indicators**

Portugal	2010	2015	2018	2019	2020	Compound annual growth 2010-20	EU average
Key indicators							
R&D Intensity (GERD as % of GDP)	1.54	1.24	1.35	1.40	1.62	0.52	*2.32*
Public expenditure on R&D as % of GDP	0.68	0.65	0.63	0.64	0.66	-1.99	0.78
Business enterprise expenditure on R&D (BERD) as % of GDP	0.71	0.58	0.69	0.73	0.92	2.71	1.53
Quality of the R&I system							
Scientific publications of the country within the top 10% most cited publications worldwide as % of total publications of the country	9.6	8.8	9	:	:	-0.9	9.9
PCT patent applications per billion GDP (in PPS)	0.6	0.8	1.1	:	:	8,3	3.5
Academia-business cooperation							
Public-private scientific co-publications as % of total publications	5	5.3	5.6	5.5	5.5	1	9.05
Human capital and skills availability							
New graduates in science & engineering per thousand pop. aged 25-34	13	16.2	18	18.6	:	2.7	16.3
Public support for business enterprise expenditure on R&D (BERD)							
Total public sector support for BERD as % of GDP	0.128	0.155	0.228	0.264	:	8.4	0.196
R&D tax incentives: foregone revenues as % of GDP	0.09	0.11	0.17	0.201	:	9.3	0.1
Green innovation							
Share of environment-related patents in total patent applications filed under PCT (%)	21,6	14,1	8,1	:	:	-11,5	12,8
Finance for innovation and Economic renewal							
Venture Capital (market statistics) as % of GDP	0.028	0.029	0.014	0.018	0.019	-3.5	0.054
Employment in fast-growing enterprises in 50% most innovative sectors	3.1	5	6.2	6.9	:	9.3	5.5

Source: DG Research and Innovation - Common R&I Strategy and Foresight Service - Chief Economist Unit;
Data: Eurostat, OECD, DG JRC, Science-Metrix (Scopus database and EPO's Patent Statistical database), Invest Europe

Productivity growth is a critical driver of economic prosperity, well-being and convergence over the long run. A major source of productivity for the EU economy is a well-functioning single market, where fair and effective competition and a business friendly environment are ensured, in which small and medium enterprises (SMEs) can operate and innovate without difficulty. Businesses and industry rely heavily on robust supply chains and are facing bottlenecks that bear a negative impact on firms' productivity levels, employment, turnover and entry/exit rates. This may impact the Member States' capacity to deliver on Europe's green and digital transformation.

Productivity ([53]) growth in Portugal has remained sluggish. Productivity growth is held back in particular by low levels of capital per worker, relatively low levels of investment, moderate innovation capacity, overall skills level below the EU average and other factors related to the business environment, in particular the large share of micro and undercapitalised firms, an underdeveloped capital market, inefficiencies in the justice system and regulatory restrictions weighing on competition ([54]).

The business environment shows a mixed picture in Portugal. Portugal is one of the strongest performers in entrepreneurship ([55]). It scores better than the EU average on bankruptcies and at the EU average level on business creation. While access to loans is above EU average, access to finance remains constrained in terms of equity. The recovery and resilience plan (RRP) includes two measures totalling EUR 1 425 million for the support to firms in the form of equity and quasi equity. Late payments are still a critical issue despite improvements, with 38.1% of SMEs stating that they experienced payment delays in the last 6 months. Late payments in Portugal are mainly due to public entities, which is why the RRP reforms of the governance model of public hospitals and to modernise and simplify public financial management can be expected to contribute to improving the situation. Portugal does not perform satisfactorily on public procurement, in particular in the core areas of competition and transparency, but also in the participation of SMEs in public procurement and the quality of data.

The Portuguese economy is well integrated into the single market with the proportion of value added imported for the rest of the EU within the EU average. However, structural barriers limit competition in the provision of business services, in particular restrictions on highly regulated professions. The RRP reform aimed at reducing these is planned to enter into force by the end of 2022. Regarding the burdensome licensing requirements that constitute barriers to investment, the RRP includes a legislative package on the removal of barriers to licensing for 2025.

Portugal has been relatively less affected by recent global supply chain disruptions due to the pandemic, **with the notable exception of the car and components industry**. However, Portugal is now facing the rise in prices and shortages exacerbated by Russia's invasion of Ukraine. Globally, 5% and 7% of Portuguese firms reported shortages in materials and in labour in 2021 against EU averages 26% and 14%. The Portuguese economy is less open to extra-EU trade than the EU average, as shown by the relatively high ratio of intra- versus extra-EU trade. On the other hand, the pandemic has highlighted Portugal's high exposure to tourism in particular in the Algarve, Madeira and the Azores. Globally, Portuguese firms are less confident than the EU average in investment protection.

([53]) Productivity is measured as the ratio of output in real terms per hour worked (see Annex 19).

([54]) Commission Staff Working Document Analysis of the recovery and resilience plan of Portugal, SWD/2021/146.

([55]) SME Country factsheet, 2021.

Table A10.1:**Key single market and industry indicators**

SUB-POLICY AREA	INDICATOR NAME	DESCRIPTION	2021	2020	2019	2018	2017	Growth rates	EU27 average*
HEADLINE INDICATORS									
Economic structure	Value added by source (domestic)	VA that depends on domestic intermediate inputs, % [source: OECD (TiVA), 2018]				68.41			**62.6%**
	Value added by source (EU)	VA imported from the rest of the EU, % [source: OECD (TiVA), 2018]				19.74			**19.7%**
	Value added by source (extra-EU)	% VA imported from the rest of the world, % [source: OECD (TiVA), 2018]				11.9			**17.6%**
Cost competitiveness	Producer energy price (industry)	Index (2015=100) [source: Eurostat, sts_inppd_a]	122.1	92.5	106.1	110.9	103.6	**17.9%**	**127.3**
RESILIENCE									
Shortages/supply chain disruptions	Material Shortage using survey data	Average (across sectors) of firms facing constraints, % [source: ECFIN CBS]	5	2	3	3	3	**67%**	**26%**
	Labour Shortage using survey data	Average (across sectors) of firms facing constraints, % [source: ECFIN CBS]	7	6	9	8	5	**40%**	**14%**
	Sectoral producer prices	Average (across sectors), 2021 compared to 2020 and 2019, index [source:Eurostat]						**4.5%**	**5.4%**
Strategic dependencies	Concentration in selected raw materials	Import concentration a basket of critical raw materials, index [source: COMEXT]	0.18	0.18	0.18	0.17	0.17	**6%**	**17%**
	Installed renewables electricity capacity	Share of renewable electricity to total capacity, % [source:Eurostat, nrg_inf_epc]		67.20	67.20	67.20	67.10	**0%**	
Investment dynamics	Net Private investments	Change in private capital stock, net of depreciation, % GDP [source: Ameco]		0.1	1.2	0.8	0.4	**-75.0%**	**2.6%**
	Net Public investments	Change in public capital stock, net of depreciation, % GDP [source: Ameco]		-0.6	-0.8	-0.8	-0.9	**-33%**	**0.4%**

(Continued on the next page)

Table (continued)

SINGLE MARKET									
Single Market integration	Intra-EU trade	Ratio of Intra-EU trade to Extra-EU trade, index [source: Ameco]	2.93	2.73	2.63	2.55	2.44	**20%**	**1.59**
Professional services restrictiveness	Regulatory restrictiveness indicator	Restrictiveness of access to and exercise of regulated professions (professions with above median restrictiveness, out of the 7 professions analysed in SWD (2021)185 [source: SWD (2021)185; SWD(2016)436 final])	5				5	**0%**	**3.37**
Professional qualifications recognition	Recognition decisions w/o compensation	Professionals qualified in another EU MS applying to host MS, % over total decisions taken by host MS [source: Regulated professions database]	87.9						**45%**
Compliance - cooperation EC and MS	Transposition - overall	5 sub-indicators, sum of scores [source: Single Market Scoreboard]		Above average	Above average	Above average	Above average		
	Infringements - overall	4 sub-indicators, sum of scores [source: Single Market Scoreboard]		Below average	Below average	On average	Below average		
Investment protection	Confidence in investment protection	Companies confident that their investment is protected by the law and courts of MS if something goes wrong, % of all firms surveyed [source: Flash Eurobarometer 504]	43						**56%**
BUSINESS ENVIRONMENT - SMEs									
Business demography	Bankruptcies	Index (2015=100) [source: Eurostat, sts_rb_a]		38.8	37.8	49.6	48.4	**-19.8%**	**70.1 (2020)**
	Business registrations	Index (2015=100) [source: Eurostat, sts_rb_a]		104.4	137.2	125.6	110	**-5.1%**	**105.6**
	Late payments	Share of SMEs experiencing late payments in past 6 months, % [source: SAFE]	38.1	41.6	40.3	n.a.	n.a.	**-5%**	**45%**
Access to finance	EIF Access to finance index - Loan	Composite: SME external financing over last 6 months, index from 0 to 1 (the higher the better) [source: EIF SME Access to Finance Index]		0.74	0.62	0.56	0.58	**27.6%**	**0.56 (2020)**
	EIF Access to finance index - Equity	Composite: VC/GDP, IPO/GDP, SMEs using equity, index from 0 to 1 (the higher the better) [source: EIF SME Access to Finance Index]		0.07	0.07	0.07	0.07	**0.9%**	**0.18 (2020)**
	% of rejected or refused loans	SMEs whose bank loans' applications were refused or rejected, % [source: SAFE]	6	5.7	9.6	10	5.7	**4.5%**	**12.4%**
Public procurement	SME contractors	Contractors which are SMEs, % of total [source: Single Market Scoreboard]		42	33	41	34	**23.5%**	**63%**
	SME bids	Bids from SMEs, % of total [source: Single Market Scoreboard]		44	53	79	42	**5%**	**70.8%**

(*) latest available

Source: See above in the table the respective source for each indicator in the column "Description".

Good administrative capacity enables economic prosperity, social progress and fairness. Public administrations at all government levels deliver crisis response, ensure the provision of public services, and contribute to building resilience for the sustainable development of the EU economy.

Portugal's public administration performs around the EU average but its effectiveness can be improved ([56]). In particular, there is significant room to strengthen evidence-based policymaking in Portugal, especially in terms of regulatory impact assessments, stakeholder engagement, and the ex-post evaluation of legislation (Graph A11.1). At the same time, the national parliament has been taking initiatives to improve the transparency of the government's legislative process. The legislative proposals by the government should be accompanied by studies and documents that justify and underpin them, as well as by consultative opinions from interested parties. The Portuguese government guarantees the possibility of public consultation of regulatory or legislative proposals through an online platform (ConsultaLEX), launched in 2019.

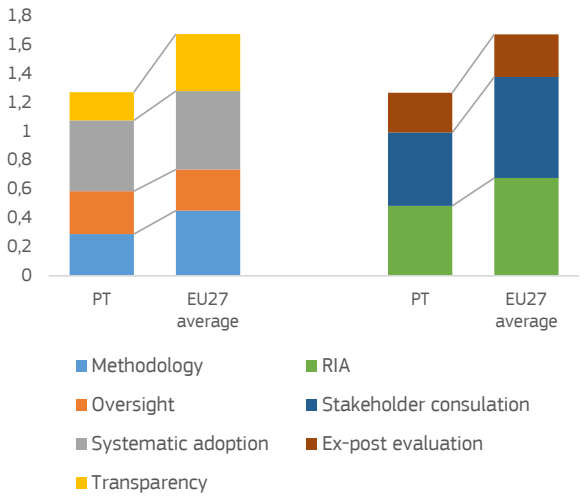
Despite Portugal's above-average quality of digital public services, the share of e-government users is globally low. Against that background, Portugal's recovery and resilience plan (RRP) aims, among others things, to modernise the country's public administration through investing in IT, improving public employees' motivation and qualifications (notably for retention purposes), and decentralising powers to local governments.

Portugal is lagging behind on the provision of open government data compared to the EU average. This situation weakens the potential for citizens' to hold their institutions to account through information checks. Nevertheless, the 'More Transparency' portal launched in April 2021 allows citizens to consult information about State providers.

The justice system faces challenges as regards its efficiency, especially in the administrative and tax courts. In administrative courts, the disposition time (847 days in first instance and 877 days in second instance) and the number of pending administrative cases remain comparatively high. Yet, the quality of the justice system is good overall, and digital tools are used in courts to some extent. As regards judicial independence, no systemic deficiencies have been reported ([57]).

The ageing of the public sector workforce and its insufficient training risk undermining administrative capacity. Portugal has a lower proportion of public sector workers with tertiary education than the EU-27 average. The comparatively low participation in adult learning may hinder upskilling. Risks to sustaining administrative capacity can also originate from the relatively high proportion of public sector workers between 55 and 74 years, especially in strategic sectors. For example, Portugal has one of the highest proportions in the EU of teachers aged 50 years and over. Portugal implements programmes focused on human capital and skills.

Graph A11.1: **Performance on evidence-based policy making indicators**

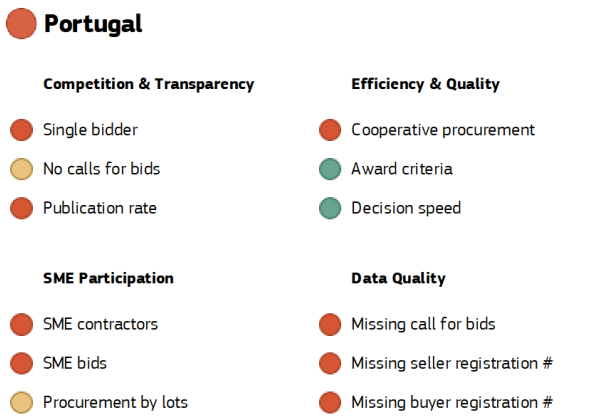


(1) RIA: Regulatory impact assessment
Source: OECD (iREG indicators)

([56]) Worldwide Governance Indicators, 2020

([57]) For more detailed analysis of the performance of the justice system in Portugal, see the 2022 EU Justice Scoreboard (forthcoming) and the country chapter for Portugal in the Commission's 2022 Rule of Law Report (forthcoming).

Graph A11.2: **Performance on the single market public procurement indicator**



(1) The competition and transparency indicators are triple-weighted, whereas the efficiency and quality indicators have unitary weights. All others receive a 1/3 weighting in the SMS composite indicator.
Source: Single market scoreboard 2020 data

Selected elements of Portugal's public financial management warrant attention. Portugal does not perform satisfactorily on public procurement, in particular in the core areas of competition and transparency. In addition, improvements could be made in the participation of small and medium-sized enterprises in public procurement and quality of data (Graph A11.2). Portugal is also ranking at the bottom in terms of the Commission´s national medium-term budgetary framework index, owing to lower coverage of the targets/ceilings included in the national medium-term fiscal plans, the link between the targets/ceilings in those plans and the annual budgets, and a lower level of detail. At the same time, a recent amendment of the Budgetary Framework Law, which has already entered into force and is therefore not reflected in that index, is expected to address some of these concerns ([58]).

([58]) Law No 10-B/2022 of 28 April, amending the Budgetary Framework Law.

Table A11.1:**Public administration indicators**

PT	Indicator (1)	2017	2018	2019	2020	2021	EU27
E-government							
1	Share of individuals who used internet within the last year to interact with public authorities (%)	61.0	55.0	54.0	57.0	59.0	70.8
2	2021 e-government benchmark´s overall score (2)	na	na	na	na	79.1	70.9
Open government and independent fiscal institutions							
3	2021 open data maturity index	na	na	na	na	65.8	81.1
4	Scope Index of Fiscal Institutions	66.4	71.4	71.4	60.0	na	56.8
Educational attainment level, adult learning, gender parity and ageing							
5	Share of public administration employees with tertiary education, levels 5-8 (3)	32.8	32.0	32.8	34.8	37.4	55.3
6	Participation rate of public administration employees in adult learning (3)	13.1	13.6	13.5	13.7	17.5	18.6
7	Gender parity in senior civil service positions (4)	15.6	5.0	7.8	1.0	1.6	21.8
8	Share of public sector workers between 55 and 74 years (3)	24.6	25.0	26.9	26.6	26.5	21.3
Public Financial Management							
9	Medium term budgetary framework index	0.62	0.62	0.62	0.62	na	0.72
10	Strength of fiscal rules index	2.1	2.1	2.1	2.1	na	1.5
11	Public procurement composite indicator	-4.0	-5.3	-3.7	-6.7	na	-0.7
Evidence-based policy making							
12	Index of regulatory policy and governance practices in the areas of stakeholder engagement, Regulatory Impact Assessment (RIA) and ex post evaluation of legislation	1.03	na	na	1.27	na	1.7

(1) High values stand for good performance barring indicators # 7 and 8.
(2) Measures the user centricity (including for cross-border services) and transparency of digital public services as well as the existence of key enablers for the provision of those services.
(3) Break in the series in 2021.
(4) Defined as the absolute value of the difference between the share of men and women in senior civil service positions.
Source: ICT use survey, Eurostat (# 1); E-government benchmark report (# 2); Open data maturity report (# 3); Fiscal Governance Database (# 4, 9, 10); Labour Force Survey, Eurostat (# 5, 6, 8), European Institute for Gender Equality (# 7), Single Market Scoreboard public procurement composite indicator (# 11); OECD Indicators of Regulatory Policy and Governance (# 12).

ANNEX 12: EMPLOYMENT, SKILLS AND SOCIAL POLICY CHALLENGES IN LIGHT OF THE EUROPEAN PILLAR OF SOCIAL RIGHTS

The European Pillar of Social Rights provides the compass for upward convergence towards better working and living conditions in the EU. The implementation of its 20 principles on equal opportunities and access to the labour market, fair working conditions, social protection and inclusion, supported by the 2030 EU headline targets on employment, skills and poverty reduction, will strengthen the EU's drive towards a digital, green and fair transition. This Annex provides an overview of Portugal's progress in achieving the goals under the European Pillar of Social Rights.

The Portuguese labour market proved to be resilient during the COVID-19 crisis. The employment rate has decreased slightly as a result of the pandemic and the unemployment rate increase was less severe than expected (from 6.7% in 2019 to 7% in 2020); in 2021 it had decreased to 6.6%. Young people were most negatively impacted by the crisis. as reflected by the increase in the youth unemployment rate from 18.3% in 2019 to 23.4% in 2021. The rate of young people (from 15 to 29 years) not in employment, education or training increased in 2020 but improved again to 9.5% in 2021 (EU: 13.2%). Ensuring that young people have access to quality employment and more stable contracts is essential for Portugal to be able to contribute to reaching the 2030 EU headline target on employment.

An increasing number of students chose to remain in education and training, **but educational attainment remains low among the adult population.** The early school leaving rate decreased sharply in recent years and stands at 5.9% in 2021, almost 4 percentage points below the EU average. However, regional disparities range from 6.6% in the Centro region to 23.2% in the Azores. Despite recent improvements, Portugal faces a structural skills deficit with a large proportion of the population having low educational attainment. This calls for investment in adult education and improvements in basic skills, such as numeracy, literacy and digital. The Portuguese recovery and resilience plan (RRP) includes an encompassing skills and qualifications component which aims to modernize the vocational education and training system, to upskill adults and promote permanent and quality employment. In addition to the significant vocational education and training investment under the RRP, the European Social Fund Plus can be mobilised to further improve adult learning (in light of the 2021 participation rate of 12.9% for participation in learning over the past four weeks ([59]), which was above the EU average of 10.8%) and provide basic skills to those with low qualifications. Making use of available EU funding is essential for Portugal to contribute to reaching the 2030 EU headline target on skills.

Although poverty and social exclusion risks show positive trends in recent years, challenges remain. The share of people at risk of poverty or social exclusion continued to fall from 21.1% in 2019 to 20% in 2020, below the EU average (21.6%). This decrease reflected a drop in all sub-components (at-risk-of-poverty rate, severe material and social deprivation and the share of people living in very low work intensity households). In 2020 social transfers (excluding pensions) reduced the at-risk-of-poverty rate by 26% (an increase by 1.8 percentage points from 2019), remaining significantly below the EU average of 32.7%. Gaps remain in social protection coverage for several categories of non-standard workers, in particular as regards unemployment and sickness benefits. These gaps in access are relevant given the high proportion of employees with temporary contracts (close to 18% in 2020) and the proportion of solo self-employed (around 11% of the population in employment). Improving the efficiency and capacity of the social protection system, access to social services, including long-term care, and promoting accessible and affordable housing are essential for Portugal to contribute to reaching the 2030 EU headline target on poverty reduction.

([59]) The indicator on adult learning participation over the previous four weeks is used in the country report, rather than the indicator on learning over the previous 12 months, as Adult Education Survey (AES) data for the 12-month indicator are only available for 2016 at the moment, while the new Labour Force Survey (LFS) indicator agreed for use in the social scoreboard and as 2030 headline target on skills will only be available in 2023.

Table A12.1:**Social Scoreboard for Portugal**

Equal opportunities and access to the labour market	**Early leavers from education and training (% of population aged 18-24) (2021)**	5.9
	Individuals' level of digital skills (% of population 16-74) (2021)	55.0
	Youth NEET (% of total population aged 15-29) (2021)	9.5
	Gender employment gap (percentage points) (2021)	5.9
	Income quintile ratio (S80/S20) (2020)	5.0
Dynamic labour markets and fair working conditions	**Employment rate (% population aged 20-64) (2021)**	75.9
	Unemployment rate (% population aged 15-74) (2021)	6.6
	Long term unemployment (% population aged 15-74) (2021)	2.9
	GDHI per capita growth (2008=100) (2020)	106.0
Social protection and inclusion	**At risk of poverty or social exclusion (in %) (2020)**	20.0
	At risk of poverty or social exclusion for children (in %) (2020)	21.9
	Impact of social transfers (other than pensions) on poverty reduction (% reduction of AROP) (2020)	26.0
	Disability employment gap (ratio) (2020)	18.2
	Housing cost overburden (% of population) (2020)	4.1
	Children aged less than 3 years in formal childcare (% of under 3-years-olds) (2020)	53.0
	Self-reported unmet need for medical care (% of population 16+) (2020)	1.6

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

Update of 29 April 2022. 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 Joint Employment Report 2022. Due to changes in the definition of the individuals' level of digital skills in 2021, exceptionally only levels are used in the assessment of this indicator; NEET: neither in employment nor in education and training; GDHI: gross disposable household income.
Source: For methodological details, please consult the proposal for a Joint Employment Report 2021, COM(2020) 744 final

This Annex outlines the main challenges for Portugal's education and training system in light of the EU-level targets of the European Education Area strategic framework and other contextual indicators, based on the analysis from the 2021 Education and Training Monitor. Portugal's education and training system struggles with quality and equity challenges that risk to worsen due to the pandemic. Portugal lags significantly behind the EU-level targets on participation in early childhood education and tertiary educational attainment. The number of school teachers over 50 and the teachers/student ratio largely exceed EU average.

Despite major progress in most education performance indicators, equity challenges persist. Education policy reforms and implemented measures seem to have had a positive effect in reducing the rate of early leavers from education and training, improving basic skills, and fostering higher education enrolment. However, the level of progress differs between Portuguese regions, and socio-economic background still plays an important role in student performance. The recovery and resilience plan (RRP) includes measures to support quality in and equal access to education, in particular through the digitalisation of schools and a reform of vocational education and training (VET).

Steps forward for the universalisation of early childhood education and care (ECEC) participation. Supported by the RRP, the Portuguese government plans to expand its pre-school network, aimed to provide free access to ECEC to all 3-years-old.

School buildings require renovation. Most of the Portuguese schools were built during the 1970s and 1980s, and about 50% of these have not yet been renovated. The Secondary School Modernisation Programme, launched in 2007, was interrupted during the financial assistance programme's period (2011-2014). Supported by the ERDF, the national programme for the removal of asbestos from school buildings (from ECEC to compulsory education) was announced in June 2020. A total of 599 schools will benefit from the planned investment to remove 950 000 square metres of asbestos. The current curriculum changes, new philosophy of students' profile and school autonomy require different ways of organising school space and modernising school premises.

The COVID-19 pandemic may have increased educational inequalities among students. Equity measures for education taken by the government were important to mitigate the adverse effects of the pandemic. The 21|23 Escola+ Plan ([60]) aims at recovering students' learning losses during confinement. The National Council of Education (CNE) reports ([61]) that 23% of students may not have participated regularly in school activities during the distance learning period, mainly children and youngster from socioeconomically disadvantaged backgrounds being insufficiently involved. Anxiety levels in children intensified, reflected in behavioural and sleep disorders. Those between 16 and 24 years of age reported anxiety, signs of depression, irritability and a feeling of loneliness. One quarter of teachers surveyed acknowledged a lack of competence, knowledge or experience for using distance learning methodologies. Half of them considered that learning was not disrupted, although 70% noted an increased number of students with learning difficulties, especially in primary schools (76%).

An ageing teacher population and shortages in certain fields is becoming a major educational challenge. The CNE highlights ([62]) the gradual increase in the number of teachers retiring each year. In the coming years, this situation will be exacerbated, since there is a simultaneous gradual decline in the number of Master degree graduates in education. Currently there is already a lack of qualified teachers for various subjects. As stated by trade unions ([63]),this is particularly acute in the metropolitan area of Lisbon and in the Algarve region. According to a study ([64]) carried out by Portuguese education authorities, around 34 500 extra teachers would

([60]) https://escolamais.dge.mec.pt/

([61]) https://www.cnedu.pt/content/noticias/estudos/Estudo_AssembleiaRepublica-Efeitos_da_pandemia_COVID-19.pdf

([62]) https://www.cnedu.pt/content/edicoes/estudos_e_relatorios/Estudo_Selecao_e_Recrutamento_de_Docentes_julho2019.pdf

([63]) https://www.spliu.pt/spliu488.pdf

([64]) 'Study for the Diagnostic of Teaching Needs from 2021 to 2030', Portuguese Directorate General for Statistics on Education and Science, November 2021.

be necessary to avoid shortages by 2030/2031. According to the same study, 20% of today's teachers will retire within the next five years and 58% within 10 years. Teacher shortages are particularly acute in Azores where a specific support programme for teachers will be unveiled in 2022.

The attractiveness of higher education is growing. The 2021/2022 academic year had the second highest number of students competing to enter in tertiary studies since 1989. There were more applications from students, including those coming from VET and specialised artistic courses who have to sit for special entry exams since 2020. Higher education teachers need to modernise their teaching methods and being offered enough training on technological skills and digital resources. To promote STEAM fields (science, technology, engineering, the arts and mathematics), the RRP includes the Adult Impulse and the Impulse Youth STEAM programmes, which help universities organise, plan and design STEAM courses/programmes, in association with employers and municipalities. Another initiative supported by the RRP, is to create 650 additional *Ciência Viva* (Living Science) school clubs across the country, in partnerships with Higher Educations Institutions, research centres, museums, innovation-based companies, associations and NGO's.

Table A13.1:**EU-level targets and other contextual indicators under the European Education Area strategic framework**

				2015		2021	
Indicator			**Target**	**Portugal**	**EU27**	**Portugal**	**EU27**
Participation in early childhood education (age 3+)			**96%**	**88.7%** [d]	**91.9%**	**92.2%** [2019, d]	**92.8%** [2019]
Low achieving 15-year-olds in:		**Reading**	**< 15%**	**17.2%**	**20.4%**	**20.2%** [2018]	**22.5%** [2018]
		Mathematics	**< 15%**	**23.8%**	**22.2%**	**23.3%** [2018]	**22.9%** [2018]
		Science	**< 15%**	**17.4%**	**21.1%**	**19.6%** [2018]	**22.3%** [2018]
Early leavers from education and training (age 18-24)	**Total**		**< 9 %**	**13.7%**	**11.0%**	**5.9%**	**9.7%**
	By gender	*Men*		16.4%	12.5%	7.7%	11.4%
		Women		11.0%	9.4%	4.1%	7.9%
	By degree of urbanisation	*Cities*		11.8%	9.6%	5.0%	8.7%
		Rural areas		17.3%	12.2%	7.3%	10.0%
	By country of birth	*Native*		13.5%	10.0%	5.9%	8.5%
		EU-born		: [u]	20.7%	: [u]	21.4%
		Non EU-born		16.1%	23.4%	: [u]	21.6%
Tertiary educational attainment (age 25-34)	**Total**		**45%**	**33.1%**	**36.5%**	**47.5%**	**41.2%**
	By gender	*Men*		25.4%	31.2%	38.3%	35.7%
		Women		40.6%	41.8%	56.5%	46.8%
	By degree of urbanisation	*Cities*		40.5%	46.2%	53.5%	51.4%
		Rural areas		24.1%	26.9%	35.7%	29.6%
	By country of birth	*Native*		33.4%	37.7%	47.6%	42.1%
		EU-born		40.1%	32.7%	56.3%	40.7%
		Non EU-born		26.3%	27.0%	41.1%	34.7%
Share of school teachers (ISCED 1-3) who are 50 years or over				36.0%	38.3%	45.8% [2019]	38.9% [2019]

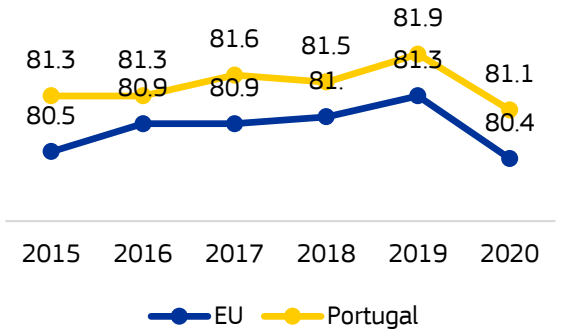
(1) The 2018 EU average on PISA reading performance does not include ES; d = definition differs, u = low reliability, : = not available; Data is not yet available for the remaining EU-level targets under the European Education Area strategic framework, covering underachievement in digital skills, exposure of vocational educational training graduates to work based learning and participation of adults in learning.

Source: Eurostat (UOE, LFS); OECD (PISA).

Especially relevant in light of the ongoing COVID-19 pandemic, resilient health care is a prerequisite for a sustainable economy and society. This Annex provides a snapshot of the healthcare sector in Portugal.

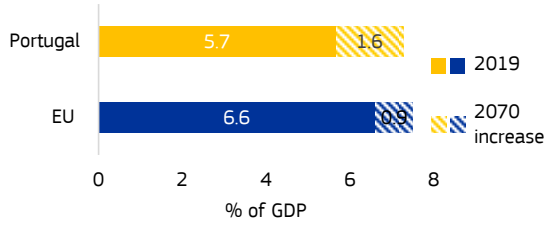
Life expectancy in Portugal is slightly higher than the EU-27 average, but it fell by almost 10 months in 2020 due to COVID-19. As of 17 April 2022, Portugal reported 2.14 cumulative COVID-19 deaths per 1 000 inhabitants and 364 confirmed cumulative COVID-19 cases per 1 000 inhabitants. Portugal fares well in avoiding deaths in general, including those from treatable causes. That notwithstanding, obesity is a growing public health issue among adults and adolescents. Furthermore, the COVID-19 pandemic disrupted cancer detection programmes, resulting in a temporary reduction in screening rates in 2020.

Graph A14.1: **Life expectancy at birth, years**



Source: Eurostat database

Graph A14.2: **Projected increase in public expenditure on healthcare over 2019-2070 (AWG reference scenario)**



Source: European Commission/EPC (2021)

In Portugal, health spending relative to GDP has been continuously below the EU-27 average. In 2019, health spending per capita was about 33% lower than the EU-27 average. The public share of health expenditure is comparatively low (61%) in Portugal. This translates into one of the highest proportions of out-of-pocket payments for health care in the EU, which in Portugal is almost twice the EU-27 average. Based on the age profile of the Portuguese population, public expenditure on health is projected to increase by 1.6 percentage points of GDP by 2070 (compared to 0.9 percentage points for the EU), thereby accentuating possible fiscal sustainability challenges in the long term.

The COVID-19 pandemic has highlighted the structural challenges underlying Portugal's health system. The country's National Health Service has faced a challenging situation for years due to rising spending on wages, medicines, and medical services, alongside inner weaknesses in budgetary planning and cost-efficiency, with knock-on effects on hospital arrears and, possibly, also supply-chain relationships. These pressures have coexisted with shortages of health staff and shortcomings in workforce planning across geographies and medical specialties. In particular, and despite the number of health professionals being on the rise for the past decade, the nursing workforce per 1 000 inhabitants was still below the EU average in 2019.

Portugal's recovery and resilience plan (RRP) is rich in health reforms and investments. It includes a set of mutually reinforcing initiatives to strengthen the response capacity of the National Health Service in the fields of primary, mental and long-term health care, combined with efficiency-oriented measures to enhance the governance, cost-efficiency, access and quality of public hospital services. Investments are also geared towards digitalising the National Health Service as a whole, with specific measures also targeting the outermost regions of Madeira and the Azores. Primary, mental and long-term health care services are planned to become strongly anchored on local services and community-based care. The plan also contains ancillary measures to promote a greater uptake of centralised purchasing and the dissemination of best governance practices, including the enhanced monitoring of public hospitals' performance and stronger accountability of hospital managers with respect to cost-efficiency and quality of service.

Table A14.1:**Key indicators, health**

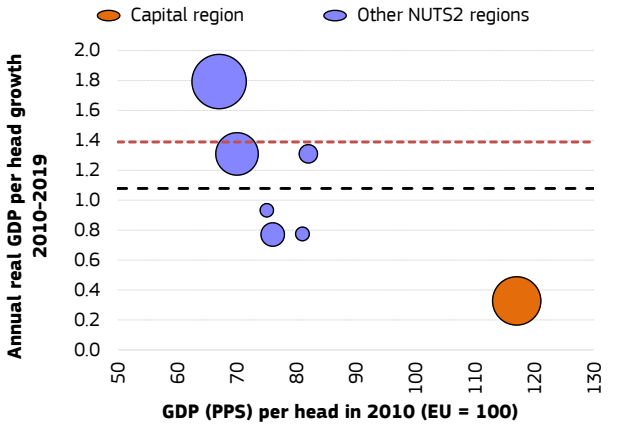
	2016	2017	2018	2019	2020	EU average (latest year)
Treatable mortality per 100 000 population (mortality avoidable through optimal quality healthcare)	88.9	84.0	82.9	79.0		92.1 (2017)
Cancer mortality per 100 000 population	245.8	243.5	243.3	244.8		252.5 (2017)
Current expenditure on health, % GDP	9.4	9.3	9.4	9.5		9.9 (2019)
Public share of health expenditure, % of current health expenditure	61.7	61.2	61.2	61.0		79.5 (2018)
Spending on prevention, % of current health expenditure	1.8	1.8	1.8	1.8		2.8 (2018)
Acute care beds per 100 000 population	325.0	324.7	329.3	332.7		387.4 (2019)
Doctors per 1 000 population *	4.8	5.0	5.2	5.3		3.8 (2018)
Nurses per 1 000 population *	6.5	6.7	6.9	7.1		8.2 (2018)
Consumption of antibacterials for systemic use in the community, daily defined dose per 1 000 inhabitants per day **	17.5	16.9	17.7	17.9	13.7	14.5 (2020)

(1) Doctors' density data refer to practising doctors in all countries except FI, EL, PT (licensed to practice) and SK (professionally active).
(2) Nurses' density data refer to practising nurses in all countries (imputation from year 2014 for FI) except IE, FR, PT, SK (professionally active) and EL (nurses working in hospitals only). More information: https://ec.europa.eu/health/state-health-eu/country-health-profiles_en
Source: Eurostat Database; except: * Eurostat Database and OECD, ** ECDC.

The regional dimension is an important factor when assessing economic and social developments in Member States. Taking into account this dimension enables a well-calibrated and targeted policy response that fosters cohesion and ensures sustainable and resilient economic development across all regions. Regional disparities remain significant in Portugal. In 2020, Lisbon was the only region in Portugal, which accounted for GDP per capita close to the EU average. In five out of seven regions, GDP per capita was less than 75% of the EU average. During the last decade, Portugal GDP per capita grew slower than the EU average, despite most regions showing a sustained growth since the 2011-2012, and having showed converged with the EU average until the onset of the COVID-19 pandemic. Lisbon is the exception, although its growth in in the last decade did not prevent GDP per capita from dropping to just below the EU average in 2020.

During 2010-2019, Portuguese regions' GDP per capita grew at a slower pace than the EU average. In 2019, Portugal's GDP per inhabitant represented 79% of the EU average. Lisbon recorded the highest GDP per capita among the Portuguese regions and was the only region in Portugal with a higher level of GDP than the EU average. The Algarve and Madeira were the two regions with GDP per capita closest to the EU average (i.e. 88% and 76%).

Graph A15.1: **Portugal, selected indicators at regional level**



(1) Bubble sizes correspond to population size
Source: European Commission

Portugal continues to face the challenge of achieving a greater level of inter-, and intra-regional cohesion. The most dynamic average growth during 2010-2019 was recorded in the Norte, followed by the Algarve, and the Centro. There is also an upward trend in the remaining regions. Strong disparities persist between mainland Portugal and its outermost regions. The proportion of people at risk of poverty or social exclusion in the Azores (32.4%) and Madeira (32.9%) is particularly high (Portuguese average 19.8%). These regions are facing rapid population ageing linked to youth migration. Disparities in GDP per capita are also caused by the important labour productivity disparities between coastal and remote areas as well as between metropolitan areas and small cities and towns.

Table A15.1:**Portugal, selected indicators at regional level**

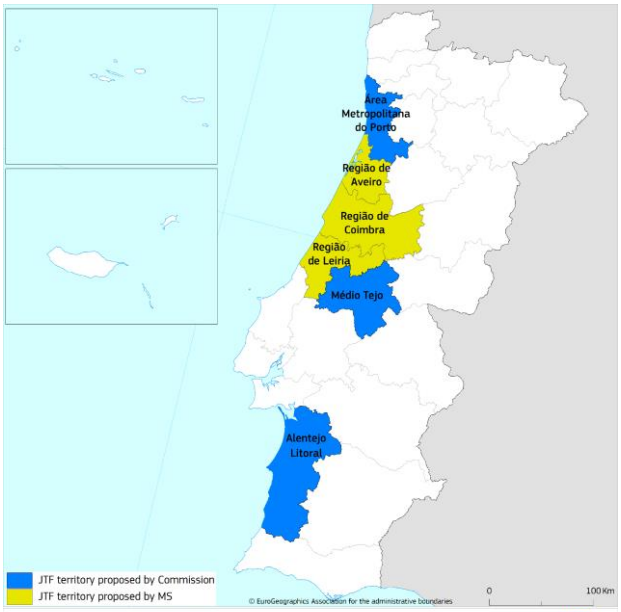
NUTS 2 Region	GDP per head (PPS)	Productivity (GVA (PPS) per person employed)	GDP per head growth	Population growth	Unemployment rate	R&D expenditure	R&D expenditure in the business enterprise sector	CO_2 emissions from fossil fuels per head	Innovation performance
	EU27=100, 2019	EU27=100, 2018	Avg % change on preceding year, 2010-2019	Total % change, 2011-2019	% of active population, 2020	% of GDP, 2018	% of GDP, 2018	tCO_2 equivalent, 2018	RIS regional performance group
European Union	100	100	1,39	1,8	7,1	2,19	1,5	7,2	
Portugal	79	74	1,08	-2,6	6,8	1,36	0,7		
Norte	68	64	1,79	-3,2	6,8	1,53	0,8	3,3	Moderate innovator
Algarve	88	75	1,31	-2,9	8,3	0,34	0,1	5,3	Emerging innovator +
Centro (PT)	69	68	1,31	-4,9	5,6	1,31	0,7	6,7	Moderate innovator -
Área Metropolitana de Lisboa	103	90	0,33	1,4	7,7	1,63	0,8	2,7	Moderate innovator
Alentejo	73	72	0,77	-7,2	5,9	0,67	0,4	23,9	Emerging innovator +
Região Autónoma dos Açores	70	66	0,93	-1,6	6,1	0,32	0,0	3,6	Emerging innovator
Região Autónoma da Madeira	76	71	0,78	-5,1	7,9	0,39	0,1	3,3	Emerging innovator +

Source: Eurostat

Labour productivity (as measured by the real gross value added per worker) is 74% of the EU average. All regions continued to grow steadily in the years following the financial crisis except the region of Lisbon, which registered a small decrease and continued to be the region in Portugal with the highest labour productivity per capita (90% of the EU average in 2018).

Several Portuguese territories face challenges in the transition to climate neutrality including Alentejo Litoral and Médio Tejo, where the two respective coal-fired power plants in the municipality of Sines and in Pego, in the municipality of Abrantes were closed in 2021. These plants were the largest greenhouse gas emitters in Portugal, all sectors included.

Graph A15.2: **Territories most affected by the climate transition in Portugal**

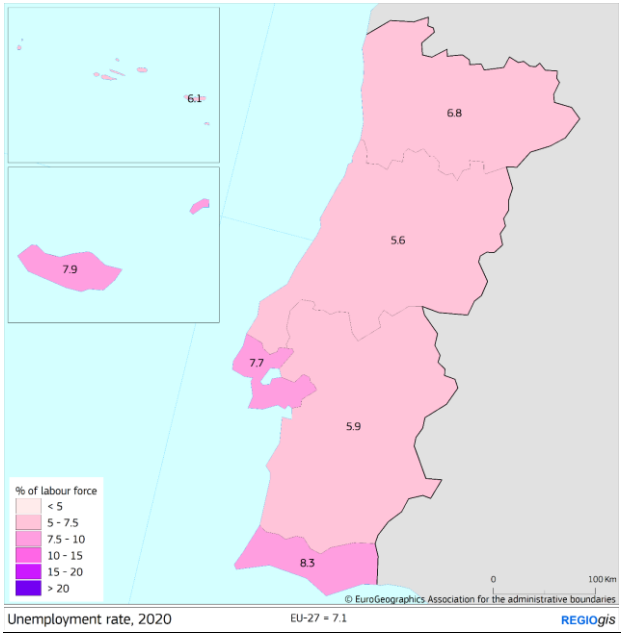


Source: European Commission

Highly polluting manufacturing of refined petroleum products and plastics are also located in Sines and Matosinhos (in the Metropolitan Area of Porto). Portugal has proposed three additional territories to be supported under the Just Transition Mechanism, namely **Aveiro, Coimbra, and Leiria (Centro Litoral region)**, which are being assessed by the Commission. Portugal argues that these four territories are the most negatively affected by the climate transition, in particular with regard to expected job losses and the transformation of production processes.

Portugal is a moderate innovating country characterised by differences in terms of R&I potential at regional level. The regions of Lisbon, the Centro and Norte concentrate 92% of the R&D Units, almost 95% of researchers, and 94% of business R&D expenditure. In 2019, total expenditure on R&D in Portugal accounted for 1.4% of GDP (rising from 0.72% in 2000), being particularly significant in the business sector, which in 2019 represented more than 50% of total expenditure on R&D (it was less than 30% in 2000). Nevertheless, Portugal continues to record below the EU average percentages of in-house business process innovators, non-R&D innovation expenditures, innovative SMEs collaborating with others, and medium and high tech goods exports.

Graph A15.3: **Unemployment in Portugal**



Source: European Commission

In 2020, the level of unemployment (age 15-74) in Portugal reached 6.8%, which is slightly below the EU average (7.1%). Unemployment is highest in the Algarve (8.3%) and Madeira (7.9%), and the region of Lisbon (7.7%), followed by the Norte (6.8%), the Azores (6.1%) and lowest in Centro (5.6%) and Alentejo (5.9%). The latest population projections for 2080 indicate that the population could fall from 10.3 million to 8.2 million. As a result of demographic trends, the ageing ratio in Portugal will almost double, from 159 to 300 elderly people for every 100 young people in 2080. If this trend occurs as projected, it will produce systemic and structural effects on the country's ability to develop, both economically and socially. The main challenges are

related to tackling youth unemployment, modernisation of institutions and employment services, sustainability of the social security model, precariousness of the labour market, improvement of qualifications, promoting social inclusion, and eradication of poverty.

The COVID-19 crisis has hit particularly hard the sectors and the regions with economies depending on transport and tourism, in particular in Madeira, where tourism represents approximately 25% of GDP. The Azores and Madeira have recorded a slower uptake in economic activity, compared to the Portuguese average: in December 2020, the economic activity index variation compared to the same month of 2019 was -2.5 in the Azores and -3.5 in Madeira while the national average was -1.2. Given the outermost regions' special characteristics and location, diversifying the economy and ensuring cooperation with other regions will be important for their economic development and resilience.

ANNEX 16: KEY FINANCIAL SECTOR DEVELOPMENTS

This Annex provides an overview of key developments in Portugal's financial sector. The banking sector remained stable through the economic downturn caused by the pandemic. The pandemic brought interrupted the gradual post-financial crisis recovery of the Portuguese economy and its banking system. Given that pandemic-sensitive industries (tourism, hospitality and transportation) play a substantial role in the economy and represent between 5% and 15% of banks' loan portfolios, the authorities put in place an effective array of support measures - such as moratoria and guarantees – to assist firms and, indirectly, also to preserve financial stability. Most support measures stopped in early 2021 with credit moratoria ending definitely in Q4 2021. Portuguese banks maintained a strong financial position throughout 2020-2021. The sector cautiously made provisions to face expected future loan losses. The non-performing loans (NPL) coverage ratio rose to 55% in Q3 2021 from a pre-pandemic level of 51.5%. In parallel, NPLs continued to decline throughout 2020-2021, mainly through sales and write offs, dropping to 4% in September 2021, down from 6.1% in end-2019, just before the onset of the pandemic. The sector's capital metrics remained stable throughout 2021 at an average of 17.8% (Capital Adequacy Ratio), however capital ratios remain disparate among lenders and generally lower compared to most EU Member States (EU average 19.3% in September 2021). More recently, the strong post-COVID economic recovery is helping most banks to generate positive profit margins. The return on equity reached 4.7% in the first three quarters of 2021, allowing lenders more flexibility going forward. Overall, banks display healthy balance sheets that seem to be able to accommodate a possible delayed increase in NPLs.

Portugal's banks have a substantial exposure to real estate. Loans for house purchase account for 45% of banks' credit to the private sector (Q3 2021), slightly above the euro area average of at 44%. Altogether, close to a third of the sector's aggregate balance sheet is exposed to commercial and residential real estate assets. Although households' indebtedness-to-GDP remains well off its peak level reached back in 2009 (92%), it has risen from 65% (end of-2019) to 68.7% (Q3 2021) and currently exceeds the euro area average by approximately 8 percentage points. To a large extent, the rise in Portuguese household indebtedness has been driven by quite dynamic household credit growth (3.8%), and particularly by the amount of new mortgages, which grew by 4.4% in 2021 and showed an accelerating trend throughout the year. This expanding credit growth also feeds back into rapidly rising real estate prices. However, more recently, there are some signals of a deceleration in mortgages growth. Portuguese real estate, alongside travel and tourism has been a major driver of the post-financial crisis recovery. As a result, Portuguese

Table A16.1:**Financial soundness indicators**

	2017	2018	2019	2020	2021
Total assets of the banking sector (% of GDP)	200.8	190.8	181.2	206.7	207.5
Share (total assets) of the five largest bank (%)	73.1	73.0	73.3	73.6	-
Share (total assets) of domestic credit institutions (%)[1]	69.7	68.3	68.4	68.5	69.5
Financial soundness indicators:[1]					
- non-performing loans (% of total loans)	13.3	9.4	6.1	4.9	4.0
- capital adequacy ratio (%)	15.2	15.2	16.7	18.1	17.8
- return on equity (%)	-0.8	2.7	4.3	0.0	4.7
NFC credit growth (year-on-year % change)	-0.3	1.8	0.9	9.5	4.5
HH credit growth (year-on-year % change)	-0.2	0.9	1.2	1.6	3.8
Cost-to-income ratio (%)[1]	52.9	60.2	59.2	56.0	51.1
Loan-to-deposit ratio (%)[1]	78.9	76.2	76.4	72.1	69.5
Central bank liquidity as % of liabilities	6.9	5.8	5.4	9.2	10.8
Private sector debt (% of GDP)	163.0	155.1	149.5	163.7	-
Long-term interest rate spread versus Bund (basis points)	273.4	144.3	101.0	92.6	66.8
Market funding ratio (%)	42.8	43.7	45.2	45.8	-
Green bond issuance (bn EUR)	-	-	1.1	1.5	2.1

(1) Last data: Q3 2021

Source: ECB, Eurostat, Refinitiv

house prices have experienced one of the fastest growth rates in the EU in 2015–2021. A fast accumulation of household debt, in particular at variable rates, may lead to defaults on loans payments when debt levels prove unsustainable, following, for instance, a surge in interest rates. High property valuations would thus be difficult to sustain in the event of higher interest rates, which in turn could trigger a correction in some overvalued real estate segments, affecting the economy and the financial system alike through various channels. Against this backdrop, Banco de Portugal's recent macroprudential recommendation, aimed at lowering to 30 years the average maturity for mortgage-backed loans, may improve borrowers' risk profiles and help reduce the pace of mortgage lending growth. The set of macroprudential measures already in place has been successful in bringing down the loan to value ratio for housing loans to below 80% threshold. This contributed to limit the role of domestic bank's credit in the growth of house price, increasing also banks' resilience to a potential decline in retail real estate prices.

The Macroeconomic Imbalance Procedure matrix presents the main elements of the in-depth review undertaken for Portugal in accordance with Article 5 of Regulation (EU) No 1176/2011 on the prevention and correction of macroeconomic imbalances, as summarized in the Staff Working Document (SWD (2022)637 final) ([65]). For Member States selected in the 2022 Alert Mechanism Report it presents, separately for each source of imbalance and adjustment issue, the main findings regarding the gravity and the evolution of the identified challenges, as well as policy response and gaps.

The Portuguese economy continues to face a large stock of external, government and private debt, in a context of low productivity growth. High levels of non-performing loans have fallen considerably and now pose more limited risks. Government and external debt-to-GDP ratios resumed a downward trend as of 2021 but remain sizeable. In 2021 the NIIP-to-GDP ratio improved substantially, moving beyond its pre-pandemic level but standing significantly beyond the estimated prudential threshold. The current account balance turned negative in 2020-2021, mainly due to the pandemic-driven shock in the tourism sector. In addition, productivity growth is low, hampering the deleveraging process. The ratios of private and government debt to GDP resumed their downward trajectory in 2021 but remained above their pre-pandemic levels.

Debt ratios have resumed a downward trajectory in 2021, helped by the economic recovery following the outbreak of COVID-19. The government and external debt-to-GDP ratios are forecast to continue decreasing in 2022 and 2023. The current account balance is forecast to remain negative, facing a one-off deterioration in 2022 in light of high prices of energy imports, and to start narrowing in 2023. The external position (NIIP) is set to further benefit from the expected RRP grants and GDP growth.

Policy progress has been made to address imbalances, also through the RRP, but policy challenges remain. Authorities have taken steps in support of the country's exports and investment potential and to mitigate structural weaknesses in the corporate sector, notably through the set-up of a EUR 1.3 billion capitalisation fund (0.6% of GDP). In the area of education, incremental steps are being taken in order to increase digital education and training for all. At the same time, policy action has been taken to improve the financial sustainability of state-owned enterprises, through a new management contract containing a system of incentives to support managers' performance. Moreover, a number of measures are foreseen in Portugal's RRP ([66]) that can help to enhance the quality and composition of public finances, strengthen the financial sustainability of the National Health Service, and further mitigate vulnerabilities in some state-owned enterprises. Weaknesses in the business environment persist, in particular related to sector-specific regulatory and administrative burden, including regulatory restrictions in regulated professions. Reforms in these areas are also embedded in Portugal's RRP. The tax and social protection systems remain complex and the ensuing administrative burden could be reduced, in particular by simplifying both frameworks and enhancing administrative efficiency.

For those reasons, and more generally on the basis of the elements of the in-depth review undertaken for Portugal under Regulation (EU) No 1176/2011 on the prevention and correction of macroeconomic imbalances as summarised in the Staff Working Document (SWD (2022)637 final), **the Commission has considered in its Communication "European Semester – 2022 Spring Package" (COM(2022)600 final) that Portugal continues to experience macroeconomic imbalances**.

([65]) European Commission (2022), COMMISSION STAFF WORKING DOCUMENT In-Depth Review for Portugal in accordance with Article 5 of Regulation (EU) No 1176/2011 on the prevention and correction of macroeconomic imbalances.

([66]) https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/index.html#:~:text=What%20is%20it%3F,of%20the%20Covid%2D19%20pandemic.

Table A17.1: Assessment of Macroeconomic Imbalances matrix

	Gravity of the challenge	Evolution and prospects	Policy response
	Imbalances (unsustainable trends, vulnerabilities and associated risks)		
External balance	The net international investment position (NIIP) is estimated at -96% of GDP at the end of 2021, standing beyond the estimated prudential threshold of -52%. Non-defaultable instruments account for about 60% of the NIIP. The current account was below the country-specific norm and the value required to reach the country specific prudential NIIP benchmark over a 10-year period. This points out to further adjustment needs.	Following a steady improvement during 2015-2019, the outbreak of COVID-19 worsened the NIIP position in 2020. In 2021, the NIIP started to improve again, ending the year at -96% of GDP relative to -105% a year earlier. It is projected to improve further in 2022-2023, benefiting from the gradual recovery in tourism, RRP grants, and nominal GDP growth. The current account posted a deficit of 1.1% of GDP in both 2020 and 2021, following several years of a positive balance. It is forecast to worsen in 2022, due to exceptionally high prices of energy imports, but to start narrowing afterwards. Unit labour costs are projected to move broadly in line with Portugal's main trading partners. Export market shares are set to gradually increase in the medium term.	Authorities updated the Strategy for Technological and Enterprise Innovation 2018-2030 in efforts to raise the country's export potential. Ongoing investments in energy savings and renewables are also expected to support the external balance by reducing imports of energy. Further measures to boost competitiveness remain essential to achieve a more significant improvement in the external balance.
Private debt	The high stock of private debt is mainly a legacy of the past in Portugal but related risks have been reinforced with the outbreak of the COVID-19 pandemic. Private debt is estimated at 164% of GDP at the end of 2020 and 160% at the end of 2021, which is still significantly above the estimated country-specific fundamentals and prudential benchmarks, for both households and non-financial corporations. The stock of non-performing loans is estimated at 3.6% at the end of 2021 and pose a considerably lower risk in comparison to previous periods.	The ratio of consolidated private debt to GDP increased by around 15 percentage points in 2020 but remained well below the historical peak of 211% at end-2012. The ratio moved back on a downward path, reaching 160% at the end of 2021. The outlook remains favourable amid a broadly stable stock of credit. Both the corporate and household sectors are expected to contribute to the deleveraging process. NPLs continued to decline in 2021 even after the expiration of the credit moratoria in September 2021 thus reducing the risks related to the debt structure.	In response to the economic shock brought by the COVID-19 pandemic, Portugal has enforced debt moratoria from March 2020 until September 2021. To mitigate risks arising from the phasing-out of the moratoria, authorities set up a EUR 1.3 billion capitalisation fund to provide equity and quasi-equity support to vulnerable but viable firms. To address banking risks related to the increased overvaluation in house prices, the central bank adopted a macroprudential recommendation aimed at lowering the average maturity for mortgage-backed loans to 30 years.
Public debt	The public debt-to-GDP ratio reached a peak of 135% at the end of 2020, and started to decrease again in 2021, when it reached 127% at the end of the year. The high public debt-to-GDP ratio makes Portugal sensitive to shocks, which translate into fiscal sustainability risks in the medium term.	The public debt-to-GDP ratio is projected to remain on a steady downward path over the projection horizon, reaching 115% at the end of 2023, below its pre-pandemic level. The projected decline of the public debt-to-GDP ratio is underpinned by an improving budget balance and favourable interest-growth differentials.	A crucial step has been taken towards strengthening the governance and efficiency of state-owned enterprises with the entry into force of a new management contract template in December 2021. Its implementation is expected to increase the performance, responsibility and accountability of public managers appointed to the respective Boards of Directors. However, policy gaps persist, notably related to the long-delayed implementation of the 2015 Budgetary Framework Law and to the financial sustainability of the National Health Service. Reforms in these areas are embedded in Portugal's RRP.
Productivity	Low productivity growth hinders competitiveness and potential growth. This limits the prospects for resuming private and public deleveraging from the debt levels, a more sustainable and inclusive growth, and progress in income convergence.	Labour productivity temporarily dropped in 2020, as GDP contracted much faster than employment. However, it recovered partially in 2021. Current projections point to a further recovery in productivity in 2022-2023 as GDP is forecast to grow much faster than employment. In addition, Portugal's tax and social protection systems remain complex and the associated administrative burden is still significant.	Productivity remains impaired by low investment levels, skill gaps, rigidities in product and labour markets, and weaknesses in the business environment and the judiciary. A large part of reforms and investments envisaged in Portugal's RRP are expected to support productivity, notably by investments in education. In 2021, a new legal framework entered into force to support links between higher education and businesses. In addition, contracts were signed for digitalisation of schools. Furthermore, there is scope to simplify the tax and social protections systems, in particular by simplifying both frameworks and enhancing the efficiency of the respective administrations.

Source: European Commission

This Annex provides an indicator-based overview of Portugal's tax system. It includes information on the tax structure, i.e. the types of tax that Portugal derives most revenue from, the tax burden for workers, and the progressivity and redistributive effect of the tax system. It also provides information on tax collection and compliance, and on the risks of aggressive tax planning activity.

Portugal's tax revenue is relatively low in relation to the country's GDP. Labour taxes are the tax type contributing the most in terms of tax revenue, although labour tax revenue as a percentage of GDP (and also as a percentage of total taxation) was below the EU-27 average in 2020. At the same time, revenue from consumption taxes as a percentage of GDP was relatively high and environmental tax revenue was slightly above the EU-27 average, while capital tax revenue was low. Although revenue from property taxes was in line with the EU-27 average, revenue from recurrent property taxes – which are in general considered to be less detrimental to growth – was lower than the EU-27 average.

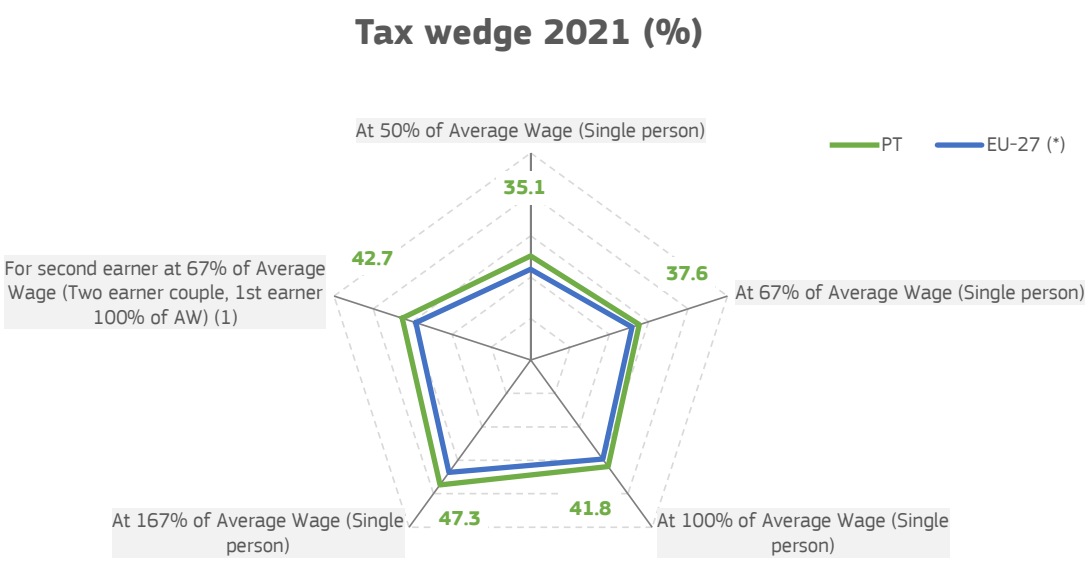
Portugal's tax burden on labour income is relatively low for various wage levels. The labour tax wedge in Portugal was considerably lower than the EU-27 average in 2021 at various income levels (i.e. for single people at the average wage, as well as at 50%, 67% and 167% of the average wage). At the same time, second-earners at a wage level of 67% of the average wage, whose spouse earns the average wage, faced a slightly higher tax wedge than the EU-27 average, and the difference between their tax wedge and that of single people at the same wage level was also higher than the EU-27 average. Portugal's system of tax benefits under personal income tax contributed to reducing inequality as measured by the GINI coefficient by slightly more than the EU-27 average in 2020. Nevertheless, the country's overall tax benefit system is complex. On corporate income tax, the average forward-looking effective tax rate was considerably above the EU-27 average in 2020, compounded by State and municipal surcharges that add to statutory rates and lead to increased complexity for taxpayers

Table A18.1:**Indicators on taxation**

		Portugal					EU-27				
		2010	2018	2019	2020	2021	2010	2018	2019	2020	2021
Tax structure	Total taxes (including compulsory actual social contributions) (% of GDP)	30.4	34.7	34.5	35.3	35.8	37.9	40.1	39.9	40.1	
	Labour taxes (as % of GDP)	12.6	14.6	14.8	16.2		20.0	20.7	20.7	21.5	
	Consumption taxes (as % of GDP)	11.4	12.8	12.8	12.2		10.8	11.1	11.1	10.8	
	Capital taxes (as % of GDP)	6.4	7.2	7.0	6.9		7.1	8.2	8.1	7.9	
	Total property taxes (as % of GDP)	1.7	2.2	2.2	2.3		1.9	2.2	2.2	2.3	
	Recurrent taxes on immovable property (as % of GDP)	0.6	0.8	0.8	0.8		1.1	1.2	1.2	1.2	
	Environmental taxes as % of GDP	2.4	2.6	2.5	2.4		2.4	2.4	2.4	2.2	
Progressivity & fairness	Tax wedge at 50% of Average Wage (Single person) (*)	28.1	28.1	28.1	28.1	35.1	33.9	32.4	32.0	31.5	31.9
	Tax wedge at 100% of Average Wage (Single person) (*)	37.1	40.9	41.4	41.5	41.8	41.0	40.2	40.1	39.9	39.7
	Corporate Income Tax - Effective Average Tax rates (1) (*)		25.0	25.0	25.0			19.8	19.5	19.3	
	Difference in GINI coefficient before and after taxes and cash social transfers (pensions excluded from social	8.3	8.8	8.3	8.5		8.4	7.9	7.4	8.3	
Tax administration & compliance	Outstanding tax arrears: Total year-end tax debt (including debt considered not collectable) / total revenue		36.8	37.1				31.9	31.8		
	VAT Gap (% of VTTL)		9.0	7.9				11.2	10.5		
Financial Activity Risk	Dividends, Interests and Royalties (paid and received) as a share of GDP (%)		4.6	4.3	3.3			10.7	10.5		
	FDI flows through SPEs (Special Purpose Entities), % of total FDI flows (in and out)		6.0	5.4	4.1			47.8	46.2	36.7	

(1) Forward-looking Effective Tax Rate (OECD).
(*) EU-27 simple average as there is no aggregated EU-27 value.
(2) For more data on tax revenues as well as the methodology applied see European Commission, Directorate-General for Taxation and Customs Union, 'Taxation trends in the European Union: data for the EU Member States, Iceland, Norway and United Kingdom: 2021 edition', Publications Office, 2021 (https://data.europa.eu/doi/10.2778/843047) and the 'Data on Taxation' webpage (data https://ec.europa.eu/taxation_customs/taxation-1/economic-analysis-taxation/data-taxation_en). For more details on the VAT gap see European Commission, Directorate-General for Taxation and Customs Union, 'VAT gap in the EU : report 2021', Publications Office, 2021 (https://data.europa.eu/doi/10.2778/30877).
Source: European Commission and OECD

Graph A18.1: **Indicators on tax wedge**



(1) The second earner average tax wedge measures how much extra personal income tax (PIT) plus employee and employer social security contributions (SSCs) the family will have to pay as a result of the second earner entering employment, as a proportion of the second earner's gross earnings plus the employer SSCs due on the second earner's income. For a more detailed discussion see OECD (2016), 'Taxing Wages 2016', OECD Publishing, Paris (http://dx.doi.org/10.1787/tax_wages-2016-en).
(*) EU-27 simple average as there is no aggregated EU-27 value.
(2) The tax wedge is defined as the sum of personal income taxes and employee and employer social security contributions net of family allowances, expressed as a percentage of total labour costs (the sum of the gross wage and social security contributions paid by the employer). It is calculated for specific types of tax payers in terms of household composition and income level expressed as % of average wage. Data on tax wedges can be consulted in the 'Tax and benefit database' (https://europa.eu/economy_finance/db_indicators/tab/).
Source: European Commission

and an additional burden for the tax administration ([67]). Moreover, direct tax withholdings are often too high, resulting in sizeable refund claims in the subsequent year (structurally above 2% of GDP in the recent past), which entails additional costs for both taxpayers and the tax administration.

There is scope to improve the performance of Portugal's tax administration. Outstanding tax arrears have increased by 0.3 percentage points to 37.1% of total net tax revenue in 2019, significantly above the EU-27 average of 31.8%. On the one hand, the recurrent cost of tax collection incurred by the tax administration increased to 1.1% of total net tax revenue in 2019, thus being about 20% higher than the EU-27 average. On the other hand, the tax administration's investment in ICT was just 5.7% of its operating expenditure in 2019, corresponding to almost half the EU-27 average. Therefore, there is scope available to make Portugal's tax administration even more efficient. At the same time, there is no indication of significant challenges with VAT enforcement and compliance in Portugal, with the VAT gap (i.e. the indicator used to assess them) having declined by 1.1 percentage points to 7.9%, below the EU-27 average gap of 10.5% in 2019. Equally positive is the fact that the e-filing of personal income tax returns has shown a marked improvement in recent years, reaching 100% in 2017 ([68]).

([67]) The forward-looking effective tax rate reflects the average tax contribution a firm makes on a prospective, hypothetical investment project earning above-zero economic profits.

([68]) European Commission, Directorate-General for Taxation and Customs Union, 'Annual Report on Taxation 2021: review of taxation policies in the EU Member States', Publications Office, 2021 (https://data.europa.eu/doi/10.2778/294944). For further details see section 2.1.4, 'Improving tax administration'.

Table A19.1:**Key economic and financial indicators**

	2004-07	2008-12	2013-18	2019	2020	2021	forecast 2022	forecast 2023
Real GDP (y-o-y)	1.7	-1.4	1.7	2.7	-8.4	4.9	5.8	2.7
Potential growth (y-o-y)	0.9	-0.4	0.6	1.6	1.1	1.6	2.0	2.0
Private consumption (y-o-y)	2.0	-1.6	1.8	3.3	-7.1	4.5	4.6	2.3
Public consumption (y-o-y)	1.4	-1.1	0.0	2.1	0.4	4.1	1.2	1.3
Gross fixed capital formation (y-o-y)	0.6	-7.7	3.8	5.4	-2.7	6.4	6.5	5.2
Exports of goods and services (y-o-y)	5.6	1.5	5.8	4.1	-18.6	13.1	12.3	4.1
Imports of goods and services (y-o-y)	5.7	-2.6	6.4	4.9	-12.1	12.9	8.6	4.1
Contribution to GDP growth:								
Domestic demand (y-o-y)	1.8	-2.8	1.7	3.4	-5.0	4.9	4.5	2.8
Inventories (y-o-y)	0.3	-0.1	0.1	-0.3	-0.6	0.2	0.0	0.0
Net exports (y-o-y)	-0.4	1.5	-0.2	-0.4	-2.9	-0.2	1.3	-0.1
Contribution to potential GDP growth:								
Total Labour (hours) (y-o-y)	-0.3	-1.1	0.3	0.5	0.4	0.6	0.8	0.7
Capital accumulation (y-o-y)	0.8	0.3	-0.2	0.1	-0.1	0.0	0.2	0.3
Total factor productivity (y-o-y)	0.4	0.5	0.5	1.0	0.8	1.0	1.0	1.0
Output gap	-0.3	-1.1	-1.0	3.5	-6.3	-3.3	0.3	0.9
Unemployment rate	8.9	12.6	12.1	6.7	7.0	6.6	5.7	5.5
GDP deflator (y-o-y)	3.0	0.6	1.7	1.7	1.9	0.7	2.9	3.1
Harmonised index of consumer prices (HICP, y-o-y)	2.5	1.9	0.7	0.3	-0.1	0.9	4.4	1.9
Nominal compensation per employee (y-o-y)	3.3	0.4	1.5	4.8	2.0	3.8	4.2	2.6
Labour productivity (real, hours worked, y-o-y)	1.7	1.1	0.2	1.5	1.0	0.4	1.0	0.5
Unit labour costs (ULC, whole economy, y-o-y)	1.4	-0.2	1.1	2.8	9.3	1.0	-0.6	0.8
Real unit labour costs (y-o-y)	-1.5	-0.8	-0.6	1.1	7.2	0.3	-3.3	-2.2
Real effective exchange rate (ULC, y-o-y)	0.0	-2.0	0.4	-0.3	.	.	.	.
Real effective exchange rate (HICP, y-o-y)	0.4	-0.8	0.0	-1.8	0.8	-1.7	.	.
Net savings rate of households (net saving as percentage of net disposable income)	1.8	1.5	-1.2	-2.2	3.3	1.3	.	.
Private credit flow, consolidated (% of GDP)	13.8	4.4	-1.4	2.6	4.4	4.9	.	.
Private sector debt, consolidated (% of GDP)	173.6	203.4	176.4	149.5	164.1	160.0	.	.
of which household debt, consolidated (% of GDP)	81.5	90.6	75.5	63.5	69.5	68.1	.	.
of which non-financial corporate debt, consolidated (% of GDP)	92.1	112.8	100.9	86.0	94.6	91.9	.	.
Gross non-performing debt (% of total debt instruments and total loans and advances) (2)	1.2	4.1	11.5	4.9	3.9	.	.	.
Corporations, net lending (+) or net borrowing (-) (% of GDP)	-4.5	-1.7	2.8	-0.9	-0.5	-0.9	-0.1	0.0
Corporations, gross operating surplus (% of GDP)	19.8	20.9	22.0	21.1	18.9	19.2	19.6	20.5
Households, net lending (+) or net borrowing (-) (% of GDP)	1.3	3.0	2.5	1.8	6.2	4.4	2.3	2.6
Deflated house price index (y-o-y)	-1.6	-2.9	4.2	9.0	8.0	.	.	.
Residential investment (% of GDP)	5.7	3.7	2.7	3.2	3.4	3.7	.	.
Current account balance (% of GDP), balance of payments	-9.4	-8.0	0.8	0.4	-1.1	-1.1	-1.7	-0.6
Trade balance (% of GDP), balance of payments	-7.8	-5.4	1.3	0.8	-1.9	-2.6	.	.
Terms of trade of goods and services (y-o-y)	-0.1	0.0	1.0	0.8	1.1	-1.5	-2.5	2.1
Capital account balance (% of GDP)	1.4	1.5	1.2	0.9	1.1	1.8	.	.
Net international investment position (% of GDP)	-77.1	-107.8	-115.0	-100.0	-104.8	-95.9	.	.
NENDI - NIIP excluding non-defaultable instruments (% of GDP) (1)	-44.3	-71.3	-67.7	-46.7	-46.9	-36.6	.	.
IIP liabilities excluding non-defaultable instruments (% of GDP) (1)	175.7	213.4	192.6	170.2	183.7	172.6	.	.
Export performance vs. advanced countries (% change over 5 years)	6.6	-3.5	2.8	6.6	-0.4	.	.	.
Export market share, goods and services (y-o-y)	-2.4	-3.7	2.5	0.9	-9.8	2.8	7.3	-0.2
Net FDI flows (% of GDP)	0.6	-2.4	-2.9	-3.6	-2.4	-3.8	.	.
General government balance (% of GDP)	-4.8	-7.8	-3.7	0.1	-5.8	-2.8	-1.9	-1.0
Structural budget balance (% of GDP)	.	.	-2.0	-1.2	-1.8	-1.3	-1.9	-1.5
General government gross debt (% of GDP)	71.4	101.4	129.1	116.6	135.2	127.4	119.9	115.3

(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.
Source: Eurostat and ECB as of 2 May 2022, where available; European Commission for forecast figures (Spring forecast 2022)

This annex assesses fiscal sustainability risks for Portugal over the short, medium and long term. It follows the same multi-dimensional approach as the 2021 Fiscal Sustainability Report, updated on the basis of the Commission 2022 spring forecast.

Table 1 presents the baseline debt projections. It shows the projected government debt and its breakdown into the primary balance, the snowball effect (the combined impact of interest payments and nominal GDP growth on the debt dynamics) and the stock-flow adjustment. These projections assume that no new fiscal policy measures are taken after 2023, and include the expected positive impact of investments under Next Generation EU.

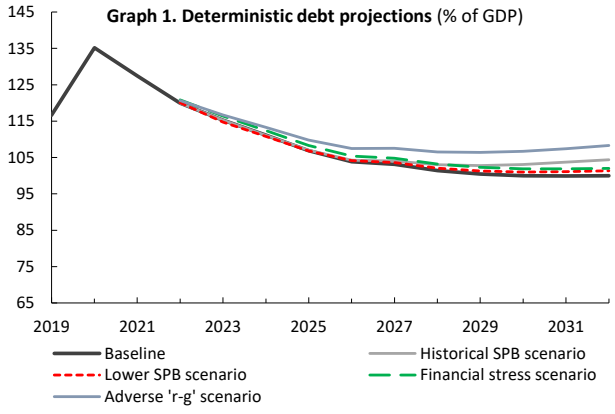
Graph 1 shows four alternative scenarios around the baseline, to illustrate the impact of changes in assumptions. The 'historical SPB' scenario assumes that the structural primary balance (SPB) gradually returns to its past average level. In the 'lower SPB' scenario, the SPB is permanently weaker than in the baseline. The 'adverse interest-growth rate' scenario assumes a less favourable snowball effect than in the baseline. In the 'financial stress' scenario, the country temporarily faces higher market interest rates in 2022.

Graph 2 shows the outcome of the stochastic projections. These projections show the impact on debt of 2 000 different shocks affecting the government's budgetary position, economic growth, interest rates and exchange rates. The cone covers 80% of all the simulated debt paths, therefore excluding tail events.

Table 2 shows the S1 and S2 fiscal sustainability indicators and their main drivers. S1 measures the consolidation effort needed to bring debt to 60% of GDP in 15 years. S2 measures the consolidation effort required to stabilise debt over an infinite horizon. The *initial budgetary position* measures the effort required to cover future interest payments, the *ageing costs* component accounts for the need to absorb the

Table A20.1:**Debt sustainability analysis for Portugal**

Table 1. Baseline debt projections	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Gross debt ratio (% of GDP)	**116.6**	**135.2**	**127.4**	**119.9**	**115.3**	**111.1**	**106.9**	**103.9**	**103.2**	**101.4**	**100.5**	**100.0**	**99.9**	**100.0**
Change in debt	-4.9	18.6	-7.8	-7.5	-4.7	-4.1	-4.2	-3.0	-0.7	-1.7	-0.9	-0.5	-0.1	0.0
of which														
Primary deficit	*-3.1*	*2.9*	*0.4*	*-0.3*	*-1.2*	*-1.2*	*-1.3*	*-1.0*	*0.0*	*0.2*	*0.4*	*0.6*	*0.8*	*1.0*
Snowball effect	*-2.3*	*11.2*	*-4.7*	*-8.1*	*-4.4*	*-2.9*	*-2.9*	*-2.0*	*-0.7*	*-1.9*	*-1.3*	*-1.1*	*-0.9*	*-1.0*
Stock-flow adjustment	*0.4*	*4.4*	*-3.4*	*0.9*	*0.9*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Gross financing needs (% of GDP)	10.9	20.8	14.6	16.4	15.3	13.1	12.9	13.1	13.7	13.3	12.5	12.4	14.9	14.7



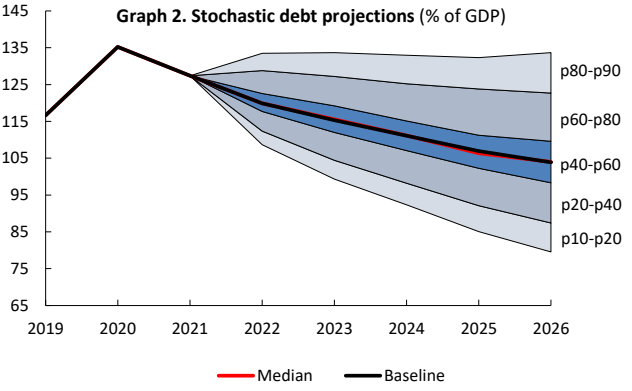


Table 2. Breakdown of the S1 and S2 sustainability gap indicators

		S1	S2
Overall index (pps. of GDP)		**3.7**	**-1.4**
of which			
Initial budgetary position		-1.7	-0.4
Debt requirement		4.0	
Ageing costs		1.4	-1.1
of which	*Pensions*	*0.9*	*-3.0*
	Health care	*0.5*	*1.4*
	Long-term care	*0.1*	*0.4*
	Others	*-0.1*	*0.1*

Source: European Commission

Table A20.2:**Heat map of fiscal sustainability risks for Portugal**

Short term	Medium term									Long term	
				Debt sustainability analysis (DSA)							
					Deterministic scenarios						
Overall (S0)	Overall (S1+DSA)	S1	Overall		Baseline	Historical SPB	Lower SPB	Adverse 'r-g'	Financial stress	Stochastic projections	S2	Overall (S2+DSA)
LOW	HIGH	HIGH	HIGH	Overall	HIGH	HIGH	HIGH	HIGH	HIGH	MEDIUM	LOW	MEDIUM
				Debt level (2032), % GDP	100	104	101	108	102			
				Debt peak year	2021	2021	2021	2021	2021			
				Fiscal consolidation space	41%	50%	44%	41%	41%			
				Probability of debt ratio exceeding in 2026 its 2021 level						16%		
				Difference between 90th and 10th percentiles (pps. GDP)						54		

(1) *Debt level* in 2032: green: below 60% of GDP, yellow: between 60% and 90%, red: above 90%. (2) The *debt peak year* indicates whether debt is projected to increase overall over the next decade. Green: debt peaks early; yellow: peak towards the middle of the projection period; red: late peak. (3) *Fiscal consolidation space* measures the share of past fiscal positions in the country that were more stringent than the one assumed in the baseline. Green: high value, i.e. the assumed fiscal position is plausible by historical standards and leaves room for corrective measures if needed; yellow: intermediate; red: low. (4) *Probability of the debt ratio exceeding in 2026 its 2021 level*: green: low probability, yellow: intermediate, red: high (also reflecting the initial debt level). (5) The *difference between the 90th and 10th percentiles* measures uncertainty, based on the debt distribution under 2000 different shocks. Green, yellow and red cells indicate increasing uncertainty.
Source: European Commission (for further details on the Commission's multi-dimensional approach, see the 2021 Fiscal Sustainability Report).

projected change in ageing-related public expenditure such as pensions, health care and long-term care, and the *debt requirement* measures the additional adjustment needed to reach the 60% of GDP debt target.

Finally, the heat map presents the overall fiscal sustainability risk classification (Table A20.2)**.** The *short-term risk category* is based on the S0 indicator, an early-detection indicator of fiscal stress in the upcoming year. The *medium-term risk category* is derived from the debt sustainability analysis (DSA) and the S1 indicator. The DSA assesses risks to sustainability based on several criteria: the projected debt level in 10 years' time, the debt trajectory ('peak year'), the plausibility of fiscal assumptions and room for tighter positions if needed ('fiscal consolidation space'), the probability of debt not stabilising in the next 5 years and the size of uncertainty. The *long-term risk category* is based on the S2 indicator and the DSA.

Overall, short-term risks to fiscal sustainability are low. The Commission's early-detection indicator (S0) does not signal major short-term fiscal risks (Table A20.2).

Medium-term risks to fiscal sustainability are high. The two elements of the Commission's medium-term analysis lead to this conclusion. First, the debt sustainability analysis (DSA) shows that government debt is projected to decline from about 120% of GDP in 2022 to about 100% of GDP in 2032 in the baseline (Table 1). This debt path is also sensitive to possible shocks to fiscal, macroeconomic and financial variables, as illustrated by alternative scenarios and stochastic simulations (Graphs 1 and 2). Moreover, the sustainability gap indicator S1 signals that a significant consolidation effort of 3.7 pps. of GDP would be needed to reduce debt to 60% of GDP in 15 years' time (Table 2). Overall, the medium risk reflects the high debt, the projected increase in public pension and health care expenditure, and vulnerability to adverse shocks.

Long-term risks to fiscal sustainability are medium. The sustainability gap indicator S2 (at -1.4) points to low risks, but the DSA points to substantial vulnerabilities, leading to the overall medium risk assessment. The S2 indicator suggests that no consolidation effort would be needed to stabilise debt over the long term, especially given the projected decrease in public pension expenditure despite the budgetary pressure coming from health care (Table 2).