EUROPEAN
COMMISSION

Brussels, 23.5.2022
SWD(2022) 616 final

COMMISSION STAFF WORKING DOCUMENT

2022 Country Report - Italy

Accompanying the document

Recommendation for a COUNCIL RECOMMENDATION

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

{COM(2022) 616 final} - {SWD(2022) 640 final}

European Commission

Italy

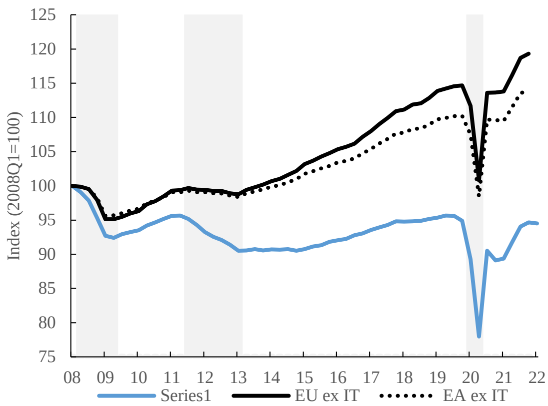
2022 Country Report

ECONOMIC AND EMPLOYMENT SNAPSHOT

Italy's economy is rebounding but long-standing challenges remain

Italy's economy had not yet fully recovered from previous recessions when the pandemic hit. Real GDP was still 3% below the level registered before the global financial crisis when the pandemic plunged the economy into a sharp but short-lived recession (see Graph 1.1). In 2020, real output plummeted by 9%, but the economy's strong industrial base and competitive export sector, together with a swift policy response at both national and EU level, paved the way for a quick and strong rebound.

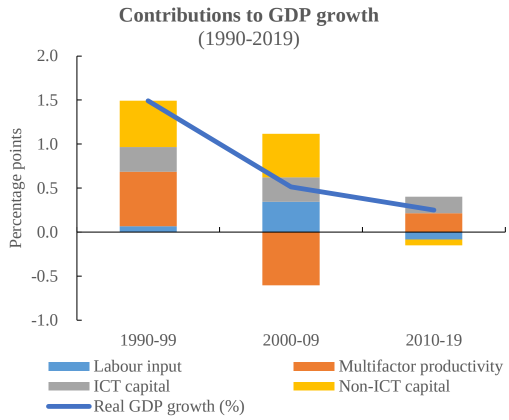
Graph 1.1: **Real GDP (2008Q1 - 2021Q4)**



Source: European Commission

Italy's subpar growth performance since the 1990s has long-standing structural roots. The declining trend in GDP growth since the 1990s is associated with falling labour and capital inputs used in production, as well as waning overall efficiency in how these inputs are used, i.e. multifactor productivity (see graph 1.2). ICT capital is gradually making less of a contribution to GDP growth. On average, the lack of non-ICT capital even reduced growth over the last decade. Italy lags behind the EU-15 average in terms of intangible investment intensity, especially in the manufacturing sector. [1] A shrinking work force coupled with an ageing population, until recently low public and corporate investment rates (partly due to problems in the banking system) and weak productivity growth (see Annex 10) have dragged down GDP growth for the past two decades.

Graph 1.2: **Contributions to GDP growth (1990-2019)**



Source: OECD

Despite sizeable headwinds, Italy's economy closed 2021 on a solid footing. In 2021, real GDP grew by 6.6% and almost reached pre-pandemic levels. The jobs market improved in line with the economic rebound, with unemployment falling from 9.9% in 2019 to 9.5% in 2021. However, both employment and the labour force were still below pre-pandemic levels. The new jobs created largely took the form of non-permanent contracts and labour productivity remained subdued. The rollout of the recovery and resilience plan (RRP) is expected to continue to boost growth, but the negative repercussions of Russia's invasion of Ukraine cloud the economic

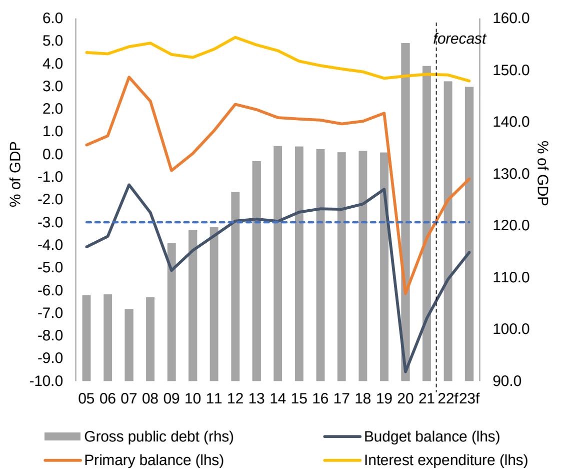
(1) European Commission, JRC Country Factsheet on Productivity – Italy (2022)

outlook. Real GDP growth is set to slow to 2.4% in 2022 and to 1.9% in 2023.

Pandemic-related fiscal support and the impact of measures adopted in previous years weigh on government finances. After reaching a deficit of 1.5% of GDP and a primary surplus in 2019, the budget deficit widened considerably in 2020 and 2021. It is expected to narrow but still exceed 3% of GDP in 2023, due also to the cost of non-temporary measures adopted in recent years, which have not been offset by equivalent financing measures. The public debt-to-GDP ratio, after remaining relatively stable before the pandemic, increased to 155.3% in 2020, but is projected to fall to 146.8% by 2023, thanks also to GDP growth (see Graph 1.3).

Italy has excessive macroeconomic imbalances that are not expected to unwind in the short term. Italy remains characterized by a high public debt-to-GDP ratio, low productivity growth, as well as structural weaknesses in labour and financial markets. The labour market recovered most of the losses incurred by the pandemic crisis, albeit largely due to an increase in temporary employment. The banking sector made significant progress in reducing legacy non-performing loans, although risks remain, linked to the potential delayed impact of the pandemic and geopolitical tensions. The sovereign-bank nexus intensified following the Covid crisis. The reforms and investments of the Recovery and Resilience Plan are expected to mitigate macroeconomic imbalances, provided their full implementation.

Graph 1.3: **Public finances indicators**



Source: European Commission

The repercussions from Russia's invasion of Ukraine are likely to deal a sizeable blow to Italy's economy

Russia's invasion of Ukraine is putting additional pressure on firms and households. Rising energy prices, especially for crude oil and natural gas, but also for other raw materials and food keep hiking up firms' operating costs and eroding households' purchasing power. The surge in energy prices inflated households' utility bills, despite the mitigating measures adopted by the government. This risks increasing inequality and energy poverty, which is already higher than the EU average (see Annex 6). Consumer price inflation is projected to increase to almost 6% in 2022 and to moderate to 2.3% in 2023.

Italy's energy mix is dominated by natural gas, almost half of it imported from Russia. Despite some rise in the share of renewable energy and biofuels in recent years, Italy produces almost half of its electricity from natural gas, of which 43% is imported from Russia, slightly below the EU average (44%) ([2]), while it only produces 4.4%

([2]) Other major suppliers are Algeria (22.8%), Norway (11.1%), Qatar (10.5%) and Libya (6.7%). Major pipelines run from Russia (via Ukraine), Algeria (via of the natural gas it currently uses domestically. According to Gas Storage Europe (GSE), Italy's gas storage level stood at 38% of storage capacity in early May, sizeably lower than at the same time in previous years, covering 18.5% of final natural gas consumption (as of 2019). It is noteworthy that the manufacturing sector faced considerable input shortages already before the Russian invasion of Ukraine due to supply chain disruptions, scarce key raw materials and challenging logistics. This has resulted in producer prices rising sharply and longer delivery times. (3)

Trade exposure to Russia and Ukraine remains limited, except for energy. Goods exports to Russia and Ukraine accounted for 1.9% of Italy's goods exports in 2021, while Russian tourists contributed just 1% to its overall income from international tourism. Overall, the share of imports from Russia and Ukraine is limited, with the notable exception of energy raw materials from Russia, especially natural gas.

Barriers to inclusive and sustainable growth remain

Long-standing structural weaknesses in the public sector remain one of the main barriers to investment and productivity growth. Italy's public administration remains insufficiently business responsive and inefficient, due to ineffective management of public employment, excessive red tape and low administrative capacity, particularly at local level (see Annex 11). The justice system still records among the highest disposition times in the EU and a large backlog of cases, with negative effects on investment decisions and the fight against corruption.

There is ample margin to boost innovation and the digital performance of the economy. Italy is a moderate innovator according to the European Innovation Scoreboard (see Annex 9). It spends less on research and innovation than the EU average, particularly for businesses, while business-science links remain limited. Non-banking financing, such as equity and venture capital, remains underdeveloped, limiting the ability of small firms to scale up. (4) The pandemic provided an opportunity to boost the use of digital tools, but Italy still performs worse than its EU peers on a number of digital dimensions (5) (see Annex 8). Large regional disparities in research and innovation remain.

Low employment rates, particularly for women and in southern regions, and high youth unemployment persist. The pandemic had only a modest effect on employment in persons thanks to various support measures at both national and EU level, while hours worked declined drastically. However, the Social Scoreboard accompanying the European Pillar of Social Rights flags a number of challenges across several areas (see Annex 12). The employment rate in 2021 was still ten points below the EU average. This is largely a result of high inactivity rates and low employment rates among women and young people, particularly in southern regions. The gender employment gap is among the widest in the EU. Relatively more women work part-time, due to insufficient childcare facilities and ineffective family support policies, which widens the gap further and perpetuates the gender pay gap. Youth unemployment stood at 29.7% in 2021, the third highest in the EU. Italy's jobs market is also characterized by substantial regional differences in terms of job prospects and earnings (see Annexes 12 and 15). In 2019, the shadow economy is estimated at 11.3% of GDP, despite significant recent reductions (by 4.3% since 2014), and undeclared work remains widespread.

Tunisia) and Libya. In addition, Italy has three large LNG terminals (in La Spezia, Livorno and Rovigo).

(3) Eurostat (2020), share of Russian imports over total imports of natural gas, crude oil and hard coal. For the EU27 average, the total imports are based on extra-EU27 imports. For Italy, total imports include intra-EU trade. Crude oil does not include refined oil products.

(4) Amaral-Garcia, et al. (2022): HGE Demographics & Finance with a focus on venture capital: Factsheet – Italy, EC, JRC128693

(5) Digital Economy and Society Index

Providing more up-skilling and re-skilling is key to mitigate increasing labour shortages and unemployment and facilitate a fair green and digital transition. The job vacancy rate in the private sector exceeded pre-crisis levels in 2021. 70% of companies reported a lack of skilled staff as an obstacle to investment in 2021 ([6]) and low-skilled individuals record a higher rate of unemployment. Despite this, participation in adult learning remained below the EU average ([7]) (see Annex 12). In 2021 less than half of adults had at least basic digital skills and in 2019 the share of ICT graduates was among the lowest in the EU (see Annex 8). These conditions hamper the effectiveness of investment in digitalisation, and more broadly, productivity growth.

Addressing the causes of Italy's low educational outcomes remains a priority. The primary and secondary education systems are beset by long-standing structural problems, which have been worsened by the pandemic. Social and territorial gaps in achievement have also widened. Despite making continued improvements in recent years, Italy's education system performs below the EU average on most indicators, particularly, in tertiary educational attainment and in scientific fields. The pandemic contributed to a further increase in the share of young people (aged 15-29) neither in employment nor in education or training (NEET), which reached 23.3% in 2020 and stagnated in 2021, and it is the highest in the EU. ([8])

The risk of poverty and social exclusion remains high. Despite a declining trend up to the onset of the pandemic, the rate of people at risk of poverty or social exclusion was still very high (24.9%) in 2020.Income inequality remains above EU average (see Annex 12). The share of households in absolute poverty rose significantly in the course of 2020 (see Annex 12). Social services are fragmented and do not always sufficiently meet the needs, especially in the South. As social spending is concentrated on pensions ([9]), the poverty risk for older people (65+) is much lower than it is for the average population. It is especially high for children, people with disabilities and people with a migrant background. Italy has among the highest share in the EU of temporary workers, especially among younger workers. Access to adequate social protection is a challenge for some of them, as for the self-employed. Thus, the risk of in-work poverty remains much higher than in the EU on average.

Italy's high public debt remains a major source of vulnerability. Following the pandemic crisis, the already high public debt increased even further. This adds to pre-existing pressure due to Italy's ageing population. In the aftermath of the pandemic, Italian banks' holdings of Italian sovereign bonds remained high and the level of public guarantees in banks' portfolio significantly increased. As a result, challenges related to fiscal sustainability are substantial in the medium term, with a banking system that is now more exposed to the Italian sovereign. At the same time, banks continued to reduce the stock of legacy non-performing loans.

The tax system hinders economic efficiency. It is prone to several longstanding weaknesses, including the high burden on labour. There is scope to shift the high tax burden away from labour to other sources of revenue that are less detrimental to growth and which are underused. The complexity of the system is exacerbated by the high number of tax expenditures, while energy taxes are not designed so to support the transition to clean technologies. Finally, despite past efforts, tax evasion remains high.

([6]) European Investment Bank, 2022, Investment Report 2021/2022: Recovery as a springboard for change.

([7]) 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.

([8]) Di Pietro, et al., The likely impact of COVID-19 on education: Reflections based on the existing literature and recent international datasets, 2020, EC, JRC

([9]) https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Government_expenditure_on_social_protection

Achieving the transition to a green economy requires an increase in public and private investment, with a view to reducing regional disparities. While Italy performs well on a number of key environmental sustainability parameters, it lags behind on the energy efficiency of buildings, the quality of infrastructure and mass transport. Large-scale projects in the energy and transport sectors, including on smart grids, renewables and sustainable transport, can reduce the country's environmental footprint and its dependency on energy imports. Wide regional disparities remain in areas such as the circular economy, rail infrastructure, water and public transport.

The south of Italy still lags behind in terms of infrastructure, institutional capacity and social outcomes. Cuts in public spending following the 2008 crisis had contributed to widening the regional divides ([10]) with persistent severe economic and social challenges magnified in the south. There are significant regional disparities in the quality of and access to services, including in healthcare. The demographic trends of emigration and de-population in the south are particularly worrisome. The performance of the public administration is also weaker. According to Svimez, transport infrastructure is underdeveloped, in particular high-speed railways and sustainable and local public transport. Undeclared work and the shadow economy affect particularly the South. Despite targeted and temporary measures such as the cut in social security contributions for new hirings, a more structural and strategic approach is needed in the south to boost territorial cohesion in the country, for example by closing the infrastructure gap. The heterogeneity across regions, including in their institutional set-up remains an important aspect (see Annex 3).

Italy is making progress on most of the UN Sustainable Development Goals (SDGs) but structural challenges remain. Over the period 2010-2020, progress was most visible on environmental sustainability, health and wellbeing. By contrast, inequalities in terms of income, the urban/rural divide and inclusion of people with a migrant background increased. ([11]) Further effort is needed to tackle structural challenges related to poverty, employment, education, gender equality and productivity (see Annex 1). Significant regional differences persist in all dimensions. Civil society (notably Forum on Sustainable Development), ISTAT, the national statistics agency, and the Ministry of Economy and Finance play a key role in Italy in disseminating data and analysis on the SDGs and the well-being indicators.

The RRP includes major reforms and investments addressing Italy's long-standing challenges. The measures aim to overcome structural barriers and to boost investment and productivity growth, including in the public administration, education and skills, justice and competition. In addition, these measures are expected to reduce regional disparities and to accelerate the green and digital transition.

([10]) Country Report for Italy 2020

([11]) For national analysis see ISTAT, 2021, "Rapporto SDGS 2021. Informazioni Statistiche Per L'agenda 2030 In Italia", https://www.istat.it/it/archivio/259898.

THE RECOVERY AND RESILIENCE PLAN IS UNDERWAY

The Recovery and Resilience Facility (RRF) will finance EUR 191.5 billion of investment in Italy until 2026 (10.7% GDP). Italy's plan includes 190 measures, with 132 investments and 58 reforms. Italy is, in absolute terms, the largest beneficiary of the RRF and one of four Member States to have requested loans.

The recovery and resilience plan (RRP) will boost public investment to support Italy's green and digital transition. Italy's RRP envisages significant investments in energy efficiency in residential and public buildings (EUR 15.3 billion), in sustainable mobility (EUR 34 billion) and renewable energy, in the circular economy and in improving waste and water management (EUR 11.2 billion). It also sets out plans to invest of EUR 13.4 billion to digitalise businesses, EUR 6.7 billion for 5G and broadband and EUR 6 billion for the digitalisation of public administration.

Major reforms included in the RRP are underway and Italy has begun making several key investments. The RRP aims to address the structural barriers that hold back investment and productivity growth, notably in the public administration, education and skills, justice and competition. The Italian authorities are also publishing calls for tenders to run several RRP investment projects, launching several calls for grants and simplifying authorisation procedures in a wide range of areas.

The RRP seeks to modernise Italy's public administration. The public-sector workforce is one of the oldest in the EU (35.1% of workers are in the 55-74 age range) (see Annex 11). The planned adoption in mid-2022 of the public employment reform will enable an update of job profiles, increase mobility between departments, reform hiring procedures, step up the commitment to gender balance, streamline appointment procedures of senior officials, and strengthen the link between life-long learning and reward mechanisms. The RRP will also boost the digitalisation of the public administration by developing a national public cloud-based infrastructure. This will be a platform to ensure the interoperability of public data, help build up cybersecurity capabilities and streamline the procurement of ICT services by public authorities.

The RRP can improve the capacity of the public administration and cut red tape. Italy has recently recruited 1 000 experts to support local administrations in rolling out these investment projects. In addition, it is reforming public procurement, notably to speed tendering procedures up, which are one of the longest in the EU (see Annex 10), further increase e-procurement, and professionalise public buyers. These measures are also important to enable the roll-out of the RRP and Cohesion Funds. Under the RRP, Italy aims to reduce the number of days it takes to set up a business under the 2021 Competition Law. It also seeks to simplify interactions with businesses and citizens (using the "once-only" principle in Single Digital Gateway) and to reduce the time for payments by the public administration to 30 days ([12]) by the end of 2023.

Italy has also initiated an overdue reform of its civil justice system. According to the EU Justice Scoreboard, the country has among the longest civil and commercial cases in the EU ([13]) and a large backlog of pending cases. Under the RRP, Italy committed to reducing by

([12]) 60 days for health authorities.

([13]) According to the EU Justice Scoreboard 2022 (CEPEJ (2021) Study on the functioning of the judicial system in the EU Member States), they last on average 674 days in first instance, 1026 days in second instance and 1526 days in third instance. Administrative cases last on average 862 days in first instance and 667 days in third instance.

40% the disposition time at three instances of civil justice by 2026. The civil justice reform aims to increase the use of mediation, alternative dispute resolution and to review the current system of quantification and recoverability of legal fees. It also aims to improve filtering procedures at the appeal level, extending the cases that only need one judge to adjudicate, and to simplify existing procedures. The Italian justice system is hiring additional temporary staff for courts (remodelling the institute of the office of the trial) to substantially reduce the backlog of cases. The insolvency reform was partially postponed to 2022, while in 2021 a number of legislative initiatives introduced a new out-of-court settlement arrangement together with early warning mechanisms and a greater degree of specialisation of courts and pre-court institutions.

Several reforms support efforts to fight fraud and corruption. Italy still ranks 42nd globally and 17th in the EU in the most recent Transparency International Corruption Perception Index. Italy has committed to reducing by 25% the disposition time at three criminal instances by 2026. The 2021 criminal justice reform aims to reduce the excessive disposition time, which has a negative impact on the prosecution and adjudication of corruption cases. However, the effectiveness of the reform will require close monitoring, particularly at the appeals level. To complement the reform, a robust national anti-corruption framework and its effective enforcement will be crucial. Undergoing efforts to protect and safeguard the EU's financial interests are particularly welcome in Italy given the scale of the plan. Italy's RRP commits to defining and updating ethics principles in the public administration, strengthening market surveillance authorities, registering all public contracts in the databases of the National Anti-Corruption Authority and building up a repository system of all final recipients of funds and the names of contractors and sub-contractors. Reforms to reduce illegal landfills and professionalise waste management would help reduce criminal activities in this area. The RRP also proposes measures to fight tax evasion and tackle undeclared work (see below).

The RRP gives a strong push to support entrepreneurship and digitalise, diversify and internationalise small-medium enterprises (SMEs). The Annual Competition Law to be adopted in 2022 will reduce the number of days it takes to open a business. The programme *Transizione 4.0* is set to accelerate the digital transition of firms through tax credits for investments in technologically advanced goods, research and development as well as training for an estimated cost of EUR 13.4 billion under the RRF. In addition, Italy has committed to supporting women-owned start-ups and research projects of national interest. Italy will also help small and medium firms expand internationally. Under the RRP, Italy will also confer additional resources to a fund to support the participation of Italian companies in important projects of common European interest (IPCEIs). To this end, Italy has launched calls for expression of interest to identify national projects to be included in this work, notably in micro-electronics and cloud, that will help better integrate Italian firms in EU value chains and strengthen the country's position in advanced technologies.

The RRP aims to remove barriers to competition and private investment especially in green sectors. The 2021 Annual Competition Law (to be adopted in 2022) will remove barriers to competition for public-service contracts in waste and local public transport, gas distribution, electric charging, ports, hydropower and highway concessions. It will also require public service contracts to be properly compensated. These measures are expected to attract more private investment, reduce fragmentation, ensure proper regulatory oversight and professionalise the management of public services. In addition, the Law will remove several barriers to new entrants in the electricity market, in particular regulated prices.

Important investments and reforms in rail, waste and water are envisaged. The RRP commits to introducing incentives to regions to tender their public service contracts for regional rail services and support other investment in sustainable transport, such as, metros, cycling paths and charging infrastructure. It envisages significant investment to link all southern regions to the high-speed rail network and to enhance its performance. Although Italy performs well on circular economy, there are major regional disparities and effective waste management has been a longstanding challenge (see Annex 7). The RRP also includes investments in sustainable irrigation agro-systems to improve the management of water resources.

Italy is removing barriers to the development of renewable energy and it is using the RRP to support investments in energy efficiency. Italy needs to build up its capacity to generate renewable energy (see Annex 5). In 2021, Italy adopted a new law to increase the production of bio-methane (simplification of authorisation procedures, regulation of certificates of guarantee of origin and a feed-in tariff). In parallel, it will adopt a new law with environmental tax incentives to support the production and use of renewable hydrogen, and remove administrative barriers to hydrogen deployment (security provisions and simplification of measures to install small structures and re-charging stations). Under the RRP, EUR 13.95 billion is earmarked for energy efficiency and seismic renovation of 32 million square metres of housing under the flagship measure "Superbonus". The RRP also contains measures to renovate public buildings. Finally, Italian authorities are awarding in 2022 all tenders for smart grids.

The RRP seeks to bridge the gender employment gap, notably by providing support for early childhood education and care, **contributing to implement the European Pillar of Social Rights.** Italy has one of the lowest rate of children under the age of three in formal childcare and one of the highest gender employment gaps in the EU, especially in southern regions (see Annex 12). To support women's labour market participation, the RRP includes investment to create women-owned companies through the fund "impresa-donna" and a new "national gender equality certification system" for businesses. The plan also includes investments in childcare and long-term care, which will also contribute to tackling the high child poverty and social exclusion rate, in line with the European Pillar of Social Rights.

To promote employment, up-skilling and re-skilling, the RRP aims to improve the effectiveness of public employment services, improve young people's employability prospects and step-up the fight against undeclared work. The effectiveness of public employment services and adults' participation in training remain low (see Annex 12). Investments are expected to improve the capacity and infrastructure of the Public Employment Services (PES). In 2021, a reform of active labour market policies introduced a national programme for the guaranteed employability of workers (GOL) and a national plan for new skills, which review and integrate job search and training services and puts a special focus on digital skills. To reduce youth unemployment, the RRP expands the universal civil service programme enabling young people to participate in volunteering schemes to improve their skills and employability prospects. Despite recent improvements, undeclared work is still a significant challenge, notably in agriculture, construction and domestic services. The RRP includes a national plan to tackle undeclared work, combining deterrent action and incentives to take on formal work.

Educational outcomes and the fight against early school leaving are also expected to benefit from the plan. Early school leaving has gone down steadily over the past 10 years, but the gap with the EU average is proving hard to close (see Annex 13). The way teachers are recruited, motivated and retained is not efficient. Full-time schooling remains low and educational infrastructure is not updated to meet current needs, including digital needs. The plan includes comprehensive reforms of primary and secondary education, including the long awaited teaching profession reform due to be adopted in mid-2022. These will be complemented by significant investments in expanding vocational-oriented education and schooling infrastructure, to train teachers and school staff, to mentor young people who have dropped-out or are at risk of droppingout, and to foster skills in science, technology, engineering and maths (STEM). In Italy, although educational qualifications generally improve job prospects, the employment rate of recent university graduates is among the lowest in the EU. At university level, the RRP proposes wide reforms of tertiary and higher education, including PhD programmes, the grouping of university degrees and degrees recognition to access the jobs market in regulated professions. These reforms were adopted in late 2021 and will be complemented by investment in student housing and career guidance.

The RRP aims to strengthen social inclusion and prevent marginalisation. The plan includes measures to strengthen social services and their territorial coverage, via reforms in the field of services for dependent people, expected in 2023, and for people with disabilities. The new Framework Law on Disability, adopted in December 2021, changes the disability assessment to take more multidisciplinary approach and aims to strengthen social services, promoting autonomy and de-institutionalization. In 2022, the first 500 projects are expected to adapt homes to the needs of people with disabilities. Italy also plans to invest to support families and children, fight child poverty, improve access to early childhood education and care, and support older people. The plan also includes complementary investment in infrastructure to redevelop the most vulnerable urban areas and projects to upgrade social and temporary housing.

Italy will also use the RRP to boost the resilience of its health system. Although overall the Italian health system performs well, the pandemic highlighted a number of weaknesses. The RRP aims to reorganise the so-called "territorial healthcare assistance network" and invest in telemedicine, digital equipment, in rolling out an interoperable electronic health record, and in supporting biomedical research by the National Health Service.

The RRP is expected to contribute to improve territorial cohesion. Italy aims to reach an indicative share of 40% of RRP resources (including the national complementary plan) in the south of the country. The planned investments in infrastructure are key. Italian authorities have committed to award contracts to upgrade 680 km of regional railway lines and to extend 5G coverage to 15 000 km2 of the so-called "market failure areas" by 2022. The south will also benefit from general projects to boost administrative capacity and improve public services, including reforms of administrative procedures, waste and water management, and the justice system.

Last, the RRP includes measures to reduce tax evasion and improve the efficiency of public spending. Tax evasion remains very high despite major measures taken in recent years. The RRP includes several additional measures to counter tax evasion, such as the use of integrated databases and pseudonymised big data to better target audits and controls, and the introduction of sanctions for businesses that refuse electronic payments. In addition, it will reduce compliance costs and enhance the fulfilment of obligations via the introduction of pre-populated VAT tax returns. On public spending, in 2022 Italy will set savings targets for yearly spending reviews to be conducted over 2023-2025. The general State budget will be reclassified to better monitor environmental expenditure and expenditure that promotes gender equality.

State of play in the implementation of reforms and investments under the RRP

Italy has fulfilled 51 milestones as part of its first payment request covering investments and reforms in all areas:

Audit and control: As part of its audit and control mechanisms to protect the EU's financial interest, Italy has put in place a repository system to monitor the implementation of the RRP.

Productivity: Italy has put in place the programme *Transizione 4.0.* Investments to enhance the capacity of the public administration are ongoing and Italy has adopted the reforms of the justice system and public procurement framework.

Green transition: Italy has fulfilled the milestone on the entry into force of the *Superbonus* scheme. It has also introduced the legal framework for sustainable bio-methane and for investing in waste recycling plants.

Digital transition: Two key reforms for the digitalisation of the public administration, 'ICT Procurement' and the 'Cloud First and Interoperability' reforms were adopted. Italy also completed two key milestones that underpin the digitalisation of businesses, making the *Transizione 4.0* funding available for the digitalisation of SMEs and refinancing the SIMEST fund to support the internationalisation and digitalisation of over 4 000 SMEs.

Fairness: Italy completed major milestones regarding the framework law on disability, the reform of active labour market policies (including a focus on vulnerable groups) and the reform of university degrees**.**

Macro-economic stability: Italy completed the first milestones related to insolvency framework, the reform of the spending review framework and measures to fight tax evasion.

Box 1: **Key deliverables expected under the RRP in 2022/2023**

- **Justice reform**: recruitment of temporary staff for civil, criminal and administrative courts to substantially reduce the backlog of cases in 2024-2026 and the length of proceedings, entry into force of implementing legislation for the civil and criminal justice reform.

- **Public administration reform**: reform of public employment, rolling out cloud services for the local public administration.

- **Business environment:** adoption of the Annual Competition Laws 2021 and 2022, completion of the public procurement reform, progress on the *Transizione 4.0* plan, reduction of late payments by the public sector.

- **Green transition:** adoption of the national strategy for circular economy, national waste management programme, the new framework for the integration of water services, hydrogen, tenders for key railway infrastructure investments, including high-speed rail services to the South, and simplification of administrative procedures

- **Digital transition:** Cybersecurity, National Digital Data Platform, School 4.0, launch of tenders for smart grids, fast internet connections (5G and ultra-broadband), important projects of common European interest (IPCEI), national 'R&D leaders' on key enabling technologies, and tenders for European Rail Traffic Management System (ERTMS).

- **Government finances and taxation**: better targeting of tax audits and controls, launch of pre-filled VAT tax returns, enhanced spending reviews.

- **Jobs market, skills and social policies:** adoption of regional plans to reform active labour market policies and training; investment to strengthen public employment services (PES), the universal civil service programme and to support women-owned companies; adoption of measures to fight undeclared work; reform of services for non-self-sufficient elderly people; investment in projects to give people with disabilities more autonomy.

- **Education**: adoption of the reform of the teaching profession, investment in student housing, increase in university scholarships;

- **Health**: reform of the organisation of healthcare to strengthen territorial healthcare assistance network.

FURTHER PRIORITIES AHEAD

Beyond the challenges addressed by the recovery and resilience plan (RRP), as outlined above, Italy faces additional challenges not sufficiently covered in the plan. These include pension expenditure, taxation, adverse demographic trends and energy challenges. Addressing these challenges will also help to make further progress in achieving the SDG related to fairness and productivity. Comprehensive policy options could help achieve progress on both sets of goals. Over time, the measures included in the RRP are expected to help improve productivity and social inclusion. However, increasing inequalities remain a key challenge that can also undermine growth potential. At the same time, Italy has limited room for manoeuvre due to the high level of public debt and regional disparities. Policies that aimed to increase productivity can be mutually reinforcing with policies to tackle inequality. Adjusting the tax policies and the composition of public spending can support inclusive growth. For example, investing in skills, reducing regional disparities or reducing the tax burden on labour, in particular for people on lower wages, could benefit low-income earners, thereby partly addressing current inequalities, and contribute to reaching the 2030 EU headline targets on employment, skills and poverty reduction. Policies to tackle demographic challenges in an inclusive manner could help mitigate the negative medium- and longer-term effects on government finances and boost growth potential, while promoting greater participation in the jobs market.

The sustainability of Italian government finances is subject to substantial challenges in the medium and long term (see Annex 20). Government finances deteriorated sharply in 2020, due both to the necessary policies taken in response to the pandemic and to the drop in economic activity. Nevertheless, the government deficit and debt-to-GDP ratios have already started to fall in 2021 and are expected to continue declining as the economy recovers. As a result, fiscal sustainability challenges are deemed to be limited in the short term. However, given the high level of government debt and the projected costs related to its ageing population, Italy's fiscal sustainability challenges are substantial in the medium term and significant in the long term. Additional risks may emerge if the current accommodative monetary policy stance were to be reversed. A prudent and effective management of government finances, both on the expenditure and on the revenue side, as well as an effective implementation of the investments and reforms included in the RRP to foster growth, remains crucial to better allocate public resources and achieve a sustainable fiscal adjustment.

Spending on pension is set to increase due to unfavourable demographic developments. Italy's pension expenditure is among the highest in the EU as a share of GDP, which limits the resources available for more growth-enhancing expenditures. Although the ambitious pension reform adopted in 2011 contributes to reducing projected pension expenditure over the long-term, the latter is still expected to increase substantially in the medium-term due to demographic developments. Recent policy measures further increased pension expenditure over the short to medium term. Those include the early retirement scheme ("Quota 100") for 2019-2021, its prolongation with stricter access criteria ("Quota 102") in 2022 and other temporary early retirement schemes for women and vulnerable workers, which have been extended every year since 2015. Last, Italy has suspended until 2026 the indexation of the relevant parameters to life expectancy for the structural early retirement age.

Italy's tax system could be better geared to growth

Despite recent reforms, the tax burden on labour remains very high. At the end of 2021, Italy introduced a universal family allowance and slightly reduced personal income taxes by reviewing the tax brackets and rates (see Annex 18). Simulations show that, overall, these reforms increase disposable income for all households and contribute to slightly reduce inequality and poverty. Labour supply is expected to increase moderately, especially for women (see Annex 18). However, even after the reforms, the tax wedge on labour remains high compared to other EU Member States.

Other sources of revenue that are less detrimental to growth are underused. Revenue from value-added taxes is comparatively low in Italy, also due to the extended use of reduced rates. First residences are exempted from recurrent property taxes for almost all properties, against the backdrop of a high house ownership rate, and the corresponding tax base is outdated (see also below). Relevant data on real estate was collected in a single digital platform but no updates of cadastral values have been made yet. In addition, the use of public concessions for public goods, such as beaches, has been suboptimal. This implies a significant loss of revenue as these concessions have been automatically renewed for long periods and at rates far below market values. In February 2022, the government introduced major amendments to the draft annual competition law providing for open competitions in beach concessions from 2024.

Revenues from environmental taxes in Italy are above the EU average, but the design of energy taxes in Italy does not promote sufficiently the green transition. Revenue from environmental taxes in Italy is above the EU average, largely driven by taxes on energy. However, the current structure of energy taxes does not encourage sufficiently the transition to cleaner technologies. For instance, electricity is more heavily taxed per unit of energy than other energy carriers such as natural gas and heating oil. Among fossil fuels, diesel is still taxed more lightly than petrol. There is also scope to extend resource and pollution taxation for example by increasing landfill taxation. However, Italy is quite advanced regarding green budgeting, natural capital accounting and in providing catalogues of environmentally harmful subsidies.

Italy has further increased the number of tax expenditures which adds to the complexity and inefficiency of the tax system. Despite the annual review of tax expenditures, no action has been taken to streamline them. Tax expenditures have been an important way to provide relief during the pandemic, with 69 new measures taken. Despite the economic recovery, they are expected to decrease only marginally in 2023, based on current provisions.

If properly implemented, the enabling law currently under discussion could help addressing several longstanding weaknesses of Italy's tax system. The draft enabling law, tabled by the government in October 2021 and still under discussion in the national Parliament, outlines the key principles for a general reform of the tax system. In its current version, it provides for several structural changes, such as: a review of personal and corporate taxes, including the gradual elimination of the tax on productive activities; a reform of cadastral values together with a mechanism for regular adjustments, which however, according to the draft law, will not be used for determining the tax base; a rationalisation of VAT rates and tax bases; and a revision of environmental taxes in line with the principles of the European Green Deal. It also mandates the government to simplify the tax system and to harmonise tax legislation in a single legal code. Following the adoption of the draft law by Parliament, implementing decrees will need to be adopted within 18 months.

Box 2 **Additional policies to address the demographic challenge**

Policies to mitigate the negative demographic trends are needed also to address Italy's macroeconomic imbalances and to boost growth. Migration policies can already help address the unfavourable demographic trends in the short term. These include the swift transposition and implementation of the EU Directive on the Blue Card, taking into account the competences and skills needed by businesses. Past measures to re-attract workers, such as "*rientro dei cervelli*" ([14]) and its extension "*agevolazione impatriati*" ([15]), could be extended to non- Italian citizens and better targeted. For instance, "*agevolazione impatriati*" could target workers based on their skills, rather than simply providing fiscal benefits for workers who move their fiscal residence to Italy. Complementary policies could further help attract and retain high-skilled workers. These could include easier recognition of skills for non-EU country nationals (for which Italy asked for support under the Technical Support Instrument and under the EU Skills Profile Tool), appropriate job market conditions, quality education and social services. To this end, the reform of the career path of researchers would also be important. Other policies can also contribute to mitigating the negative demographic trends, such as ensuring equal access to quality and affordable childcare services, expanding long-term care, work-life balance policies and reducing the tax wedge on second earners. It would also be important to promote flexible working arrangements and easier entrance in the jobs market. The new family allowance may have a positive longer-term effect, but further monitoring is required. Italy could take other legislative or social measures to remove obstacles and make parenthood easier (such as in the areas of healthcare and adoption policies), including as to effectively benefit a larger number of individuals. This could have an impact on demographic developments over the medium term.

Demographic challenges keep worsening

Italy has one of the EU's lowest birth rates, recording a negative natural demographic balance for the tenth consecutive year. The Italian demographic balance and composition is beset by the following challenges: i) low birth rate; ii) an increasing ageing population, iii) migration trends, including the brain drain (low skill immigration and high skill emigration), and iv) regional disparities (see Annexes 12, 13 and 15). The low birth rate is due to several factors, including the lack of access to services, late entry onto the jobs market, unfavourable working and social conditions for young people, and insufficient work-life balance policies, in particular for mothers (e.g. flexible working arrangements, leave policies, child- and long-term care). The recent introduction of a universal child allowance might support increasing natality. With younger generations getting progressively smaller in number and life expectancy increasing in the last decades, the old-age dependency ratio (meaning the ratio of elderly people compared to people of working age) is high and increasing.

High-skilled people are emigrating abroad and from the South to the North, but this is not offset by immigration flows. According to Istat, in 2019, one in four emigrated Italians had at least a degree. The share of emigrants with at least a degree has increased by 23% over the past five years. Around 13% of Italian PhD students (many with a STEM background) find jobs abroad due to the lack of jobs opportunities and low salaries in Italy. The average skills level of migrants attracted by current immigration policies is lower than that of the native-born (among non-EU born 54.7% are low skilled and 13.4% are high skilled (2020)). The immigrant population also face a much higher risk of poverty and social exclusion than the native-born population (38.6% vs 24%), even though their employment rate is slightly higher. Italy's demographic trends are also affected by domestic migration, which leads to a further brain drain from Southern regions with higher unemployment. In 2018, over 1.35 million inhabitants relocated within Italy, which contributed to the overall loss of population in the south (see Annex 15). This domestic

([14]) "Decreto Crescita".

([15]) Support for returning expats - Decree No. 124/2019.

migration is creating a substantial brain drain effect and is driven strongly by regional differences in the jobs market performance and the availability and quality of education and social services. These trends could hinder the short and long-term economic outlook, including by placing a higher burden on government finances and adverse effects on skill levels, labour supply and productivity.

The economic downturn following the COVID-19 pandemic exacerbated Italy's demographic trends. In 2021, Italy reached its all-time lowest birth rate. On the one hand, the crisis had a negative impact on the birth rate and the inflow-outflow ratio of workers (exacerbating the brain drain and reducing high-skilled immigration). Region-specific effects of the pandemic on the jobs market, education, health and social systems magnify regional demographic differences. On the other, the pandemic brought new opportunities, for example more flexible working arrangements. It brought the chance to try out ways to mitigate domestic and international migration and the brain drain, and to re-think working arrangements to better combine family and working life. For instance, the new "South working" phenomenon could be seen as a new opportunity to (re)-attract young and highly skilled people to southern regions.

Energy challenges resulting from Russia's invasion of Ukraine

Italy is highly dependent from imports of gas, with Russia supplying about half of all imports. Gas imports provide 93% of Italy's needs and have been growing since 2014 to meet the higher demand from the power sector. ([16]) Russia is Italy's largest gas supplier, with 43% of all imports in 2020 (indicatively 29 billion cubic metres of natural gas), followed by Algeria (22.8%). The share of gas in the energy mix in Italy (42%) is significantly higher than the EU average (24.4%). Though oil accounts for around one third of the total energy mix, Italy is less dependent on Russia for oil than it is for gas. About 11% of oil imports come from Russia; the main suppliers are Azerbaijan, Iraq and Saudi Arabia. Coal accounts for a much lower share in the energy mix than other sources (below 4%).

Italy does not face significant problems in the supply of natural gas in the short term. Italy has large underground storage, notably due to the strategic stocks and public service obligations. The current storage level in Italy is 38% (7.7 bcm of natural gas), which is significantly higher than the EU average. In addition, Italian liquefied natural gas (LNG) facilities, with a capacity of 46.8 mcm/day, are currently used at 71% of their capacity. Italy also has significant gas pipeline connections with Algeria, Libya and Azerbaijan. Despite facing no short-term concerns with security of supply to cover its own needs, Italy remains an important country in ensuring a secure supply for other EU Member States due to its significant storage, LNG facilities and access to a range of natural gas suppliers. Tapping the full potential of Italy's role in this depends on reverse flow upstream capacity to neighbouring countries and possibly also new interconnections within the country and with neighbouring countries. Future investments should be future-proof, where possible to avoid lock-in effects in the path to climate neutrality.

The diversification of the Italian energy mix needs to accelerate. Over 75% of energy consumption in Italy is generated by gas and oil. Renewable energies and biofuels provide around 20% of total needs. The share of solids fuel is already limited (below 5%) and is expected to fall further in line with decarbonisation targets, to reach 1.3% by 2030. In line with its National Energy Climate Plan, Italy needs to make significant progress on both axes of diversifying its energy supplies and accelerating the roll-out renewable energy in particular in heating and renewables. Italy intends to increase its solar and wind energy

([16]) From 56 bcm to 71 bcm in 2019 (+5%/year). In 2020, gas imports contracted by nearly 7% to 65 bcm, in a context of economic downturn. LNG imports have tripled since 2014, despite a 4.4% drop in 2020, and supplied 20% of total gas imports in 2020 (compared to 8% in 2014).

on top of its hydropower electricity. By 2030, Italy intends to reach 22% of renewable share in heating through the roll out of heat pumps and 34% of renewable share in transport through renewable electricity in cars and trains and through sustainable bio-methane (see also the Italian National Energy Climate Plan). In addition, the national electricity grid will need to be upgraded and adapted to the sites where the new renewable energy capacities will be installed. Italy needs to continue the development of electricity interconnections, which because of geographical constraints, remain below the target of 15% in 2030. Italy is currently planning or building further interconnections with several neighbouring countries and assessing additional ones. Italy has room to continue taking measures to facilitate the authorisation of renewable energy projects (beyond all those that it has already taken in the context of the RRP).

There is scope to accelerate progress on the 2030 targets on energy efficiency and sustainable transport. Italy's ambition to improve the energy performance of its building stock should be calibrated to extend beyond the time frame of the Superbonus scheme and funding under the RRF. This would also provide certainty to the market to bring forward energy efficiency solutions and building renovations. Possible new funding schemes for energy renovation in buildings will need to be properly targeted to deeper energy renovations, to improving the worst-performing buildings and to helping low-income households. There is also room to include stronger energy efficiency measures in businesses, in particular industry. More ambition in terms of roll out of charging infrastructure is needed to reach the expected number of charging points and power output to meet the need of the electric fleet that is projected to be on the road by 2025. Finalising some major cross-border rail projects such as the Lyon-Turin route would also be an important step towards sustainable mobility, as well as continuing major investments in public transport networks around major cities. Finally, there is room to increase the proportion of revenues from ETS devoted to support the climate and energy transition.

Italy needs to progress in tackling energy poverty and reducing the impact on business given the current high energy prices. Since 2005, the proportion of households in energy poverty has remained steady at approximately 8% of all households in 2020 (around 2.1 million) (see Annex 6). Italy already took measures to reduce in the short term the energy bill for households and firms, including through taxation, as well as other more structural measures such as simplified procedures for installations related to renewable energy. Further energy efficiency investments and buildings renovation need to be prioritised both for households and for business to reduce energy costs and ease the macroeconomic and social impact of high energy prices.

KEY FINDINGS

Italy's recovery and resilience plan includes measures to address a series of its structural challenges through:

- Reforms and investments to boost the effectiveness, efficiency and resilience of the public sector. They include the justice system and the public administration, particularly regarding administrative capacity and the public procurement framework.

- Reforms and investments to promote the green transition, with measures to promote energy efficiency in particular in the building sector, to foster the development of renewable energy, support the shift to cleaner transport, and improve the management of biodiversity and natural resources, including water and waste.

- Support for the digital transition of Italy's economy and society. This includes support to digitalise manufacturing, to upgrade the digital skills of the population and to improve the country's digital infrastructure.

- Measures to improve active labour market policies, fight undeclared work and tackle social challenges. They include investments in social housing and improvements in the resilience of the healthcare system.

- Improvements and modernisation of the education system, from childcare to tertiary education and training, as well as systemic measures to boost research and innovation.

- Reforms and investments to reduce economic, social and infrastructural territorial disparities, including investing in railways in regions that lag behind.

In addition to the reforms and investments in the RRP, Italy would benefit from the following:

- Reforms of the **tax system**, with a focus on reducing the tax wedge on labour, to make the system more supportive of growth.

- Reinforcing the sustainability of the pension system by avoiding temporary measures that ease early retirement and accelerating the phasing in of the Notional Defined Contribution regime.

- Measures aimed at mitigating demographic challenges including to attract and retain high skilled workers as well as a comprehensive strategy to support families and young people.

- Measures to diversify energy imports, tackling energy poverty, and additional investments and measures to speed up the roll out of renewable energies, improve energy efficiency and promote sustainable transport.

ANNEXES

LIST OF ANNEXES

LIST OF TABLES

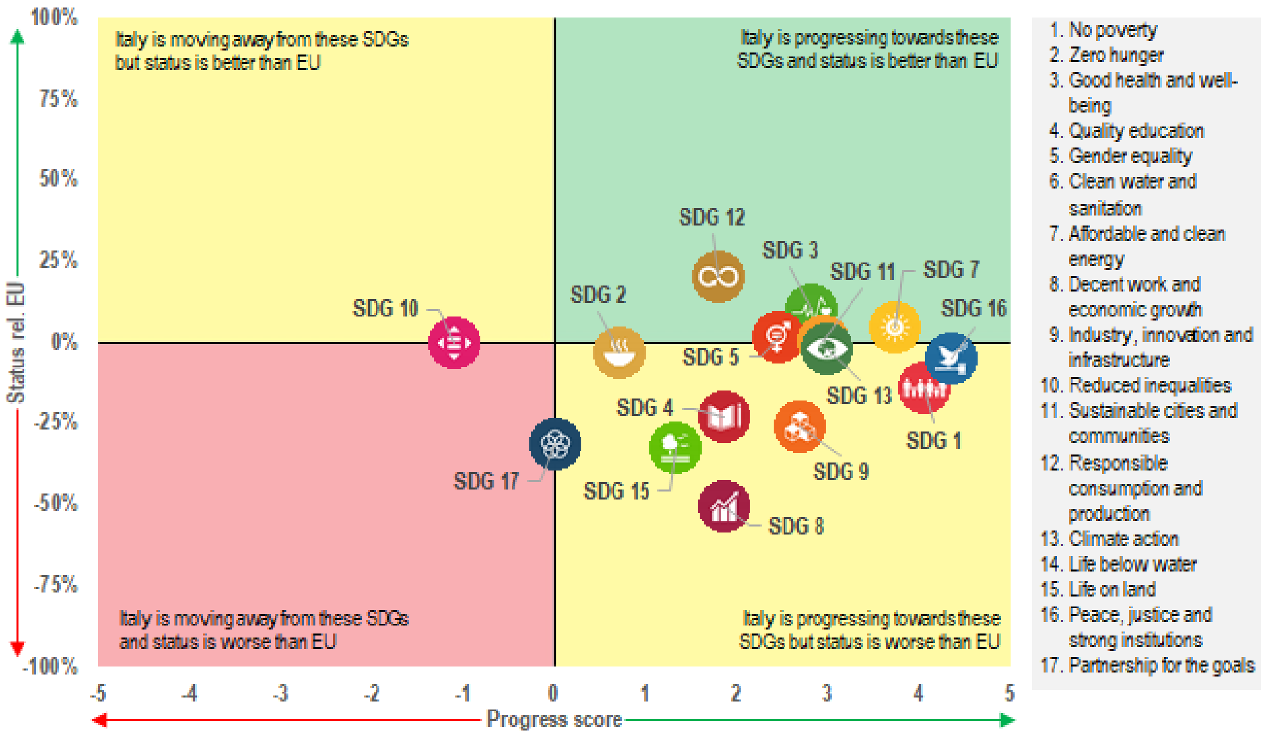
LIST OF GRAPHS

This Annex assesses Italy'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.

Italy is improving on all SDG indicators related to *environmental sustainability* and performs well on most of them (SDG 2, 7, 11, 12, 13), though it underperforms on a few others (SDG 9 and 15). Italy has a moderate level of primary energy consumption (2.2 compared to 2.8 in the EU in terms of tonnes of oil equivalent per head in 2020) and it increased the share of renewable energy in total energy consumption (from 17.5 in 2015 to 20.4 in 2020) (SDG 7). Although the recycling rate at municipal level has increased above the EU average, the share of population connected to secondary wastewater treatment lags behind (SDG 11) and soil erosion levels are above EU average (SDG 2 and 15). Moreover, any average performance in each dimension masks severe regional differences across the country. The RRP includes important measures that are expected to support Italy in further speeding up the green transition, such as in the field of renewable energy, circular economy, natural resource management, hydrogeological risks, and energy efficiency of private and public buildings.

Italy made limited progress on most SDG indicators related to *fairness* (SDG 1, 2, 4, 5, 8), needs to catch up on one indicator (SGD 10) and performs well on another (SDG 3). Italy has seen inequalities (SDG 10) increase due to worsened equality of opportunities for non-EU citizens. In particular, the gap in early leavers from education and training between EU and non-EU citizens increased between 2016 and 2021 and is now much higher than the gap in the rest of the

Graph 1.1: **Progress towards SDGs in Italy 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/web/products-statistical-books/-/KS-03-21-096; 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

EU (24.9 against 17.6 for the EU average in 2021). The share of people in poverty and deprivation has substantially declined but the share of people at risk of poverty and social exclusion remains higher than the EU average (24.9% in 2020 against 21.6 in the EU) (SGD 1). Although Italy recently improved the employment and long-term unemployment rates, it still underperforms compared with the EU average. Italy still has the highest share of young people not in employment nor in education and training. The gender employment gap reduced slightly to 19.2 pps, but it's still among the highest in the EU (SDG 5 and 8). . Despite progress, Italy also underperforms in terms of tertiary educational attainment, in preventing early leaving from education and training and spreading basic digital skills (SDG 4). The RRP measures related to active labour market and training policies, social and territorial cohesion, social services and inclusion are expected to have a significant effect on Italy's performance on the SDGs related to fairness. These measures are complemented by others to improve educational outcomes, boosting skills, support targeting women and improve gender equality.

Italy is improving on SDG indicators related to *productivity* (SDG 4, 8, 9), although at uneven pace. Italy's gross domestic expenditure on R&D (in percentage of GDP, SDG 9) is well below the EU average (respectively 1.53% and 2.32% in 2020) and increased only moderately since 2015. In Italy, the share of households with high-speed internet connection in 2021 (44.2%) is well below the EU average (70.2%), despite significant progress on this indicator since 2016 (18.8% in 2016). Improving digital skills remains a challenge. The RRP is expected to make a major contribution to Italy's progress on the digital transition and productivity: it plans to invest in digitalising the public administration, the justice and education systems, and the tourism and cultural sector. Measures under the heading on the digitalisation and competitiveness of the manufacturing industry and on research and innovation are also expected to boost productivity.

Italy is improving on some SDG indicators related to *macroeconomic stability (8, 16)* and remained stable on others (17). Italy has made substantial progress on peace, justice and the quality of its institutions, achieving a strong reduction in reported crime by the population to below the EU average (from 19.4% in 2015 to 8.4% in 2020, EU: 11% as share of total population) (SDG 16). Despite progress, Italy still underperforms in terms of economic growth and investment levels (SDG 8) while it remained stable on global partnership and financial governance indicators (SDG 17). Several structural cross-sectoral reforms included in the RRP are expected to make significant contribution to Italy's performance on macroeconomic stability. To this end, the reform of the public administration, the justice system, and the measures to fight tax evasion, undeclared work and employment policies reforms are particularly relevant.

The Recovery and Resilience Facility (RRF) is the centrepiece of the EU's efforts to support the its recovery from the COVID-19 pandemic, fast forward the twin transition and strengthen resilience against future shocks. Italy submitted its recovery and resilience plan (RRP) on 30 April 2021. The Commission's positive assessment on 22 June 2021 and the Council's approval on 13 July 2021 paved the way for disbursing EUR 68.9 billion in grants and EUR 122.6 billion in loans under the RRF over2021-2026. The financing and loan agreements were signed on 4 and 5 August 2021 respectively, and the operational arrangements on 22 December 2021. The key elements of the Italian RRP are set out in Table A2.1.

The share of funds contributing to each of the RRF's six policy pillars is outlined in Graph A2.1.

Implementation of Italy's plan is well underway. The Commission disbursed EUR 24.9 billion to Italy in pre-financing in August 2021, equivalent to 13% of the financial allocation, to support crucial investments and reforms. The Commission positively assessed Italy's first payment request, taking on board the opinion of the Economic and Financial Committee, leading to a disbursement of EUR 21 billion in financial support (net of pre-financing) in April 2022.

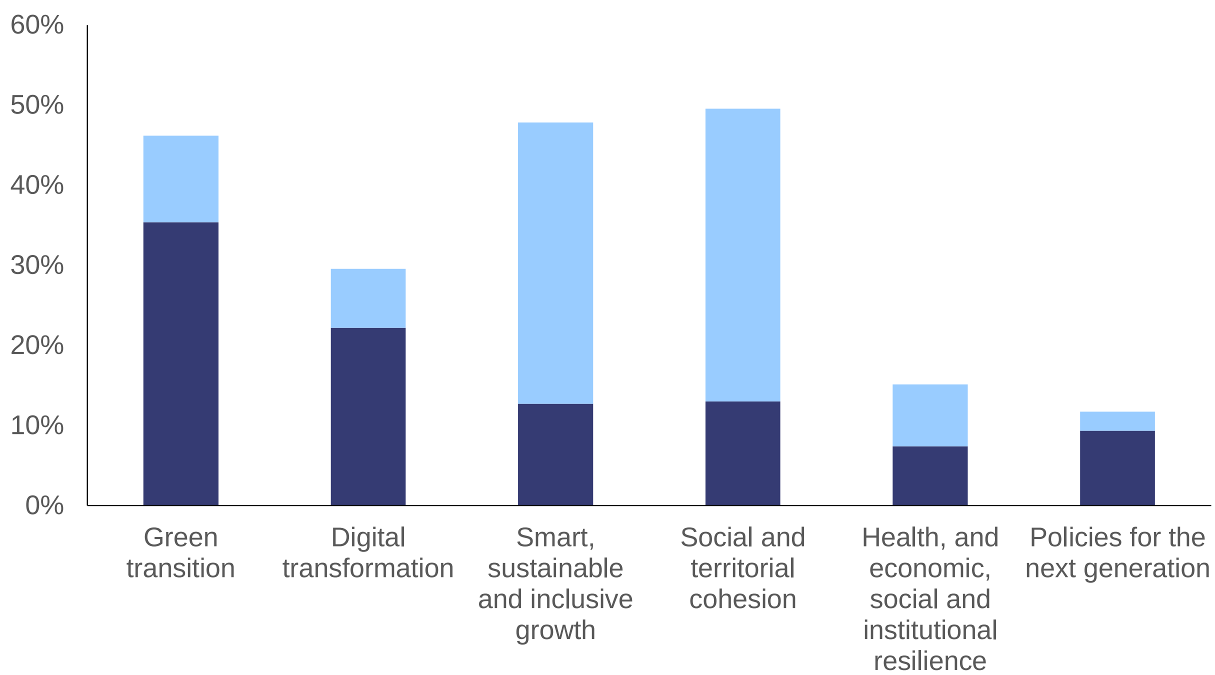
Table A2.1: **Key elements of the Italian RRP**

Total allocation	EUR 68.9 billion in grants (3.9% of 2019 GDP) and EUR 122.6 billion in loans
Investments and Reforms	133 investments and 59 reforms
Total number of Milestones and Targets	527
Estimated macroeconomic impact (1)	Raise GDP by 1.5-2.5% by 2026 (0.3% in spillover effects)
Pre-financing disbursed	EUR 24.9 billion (August 2021)
First instalment	EUR 10 billion in grants and EUR 11 billion in loans (April 2022)

(1) See 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 2022

The related 51 milestones cover reforms in the areas of public administration, public procurement, justice, active labour market policies, tertiary education and the audit and control system. Meeting these milestones will help address the related country-specific recommendations addressed to Italy in 2019 and 2020 (see Annex 4). Overall, Italy reports a prompt implementation of the milestones and targets due by the end of

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

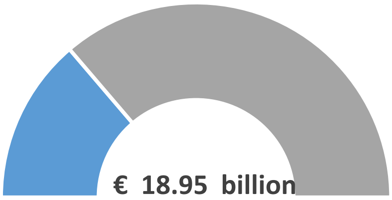


(1) Each measure contributes towards two policy areas of the six pillars, therefore the total contribution to all pillars displayed on this chart amounts to 200% of the estimated cost of the Italian RRP. The bottom part represents the amount of the primary pillar, the top part the amount of the secondary pillar.
Source: RRF Scoreboard https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/country_overview.html

Q1 2022, which however does not prejudge the timing of submission of subsequent payment requests nor the formal assessment of the fulfilment of the relevant milestones and targets.

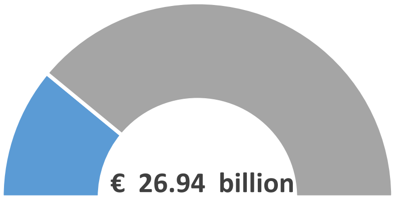
The progress made by Italy in implementing its plan is published in the [Recovery](https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/) **and Resilience Scoreboard.** The Scoreboard also gives a clear overview of the progress made in the implementing the RRF as a whole. The graphs below show the current state of play of the milestones and targets fulfilled, as completed by Italy and as the Commission subsequently assessed as having satisfactorily been fulfilled.

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



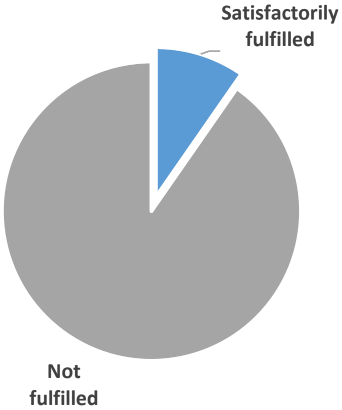
(1) This graph displays the amount of grants disbursed so far under the RRF. Grants are non-repayable financial contributions. The total amount of grants given to each Member State is determined by an allocation key and total estimated cost of the respective recovery and resilience plan.
Source: RRF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

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 loan 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

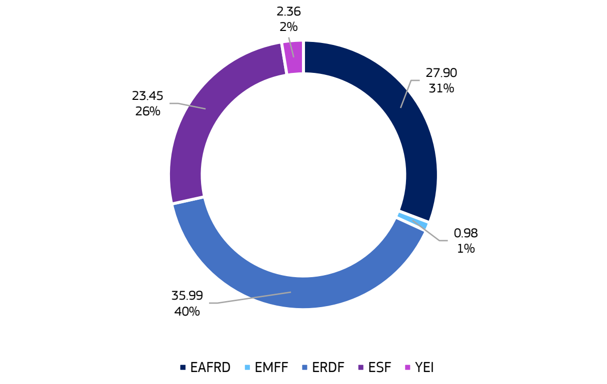
Graph A2.4: **Fulfilment status of milestones and targets**



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

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.

Graph A3.1: **ESIF 2014-2020 Total budget by fund (EUR billion, %)**



(1) The data for the EAFRD and REACT-EU refer to the period 2014-2022
Source: European Commission

In 2021-2027, EU cohesion policy funds ([17]) will support long-term development objectives in Italy by investing EUR 43.13 billion ([18]) including EUR 1 029.6 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 agreement and programmes take into account the 2019-2020 country-specific recommendations and investment guidance provided as part of the European Semester process, ensuring this money fully complements other EU funding. In addition, Italy will benefit from EUR 26.7 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 Italy are set to invest EUR 59.70 billion ([19]) from the EU budget. Total investment including national financing amounts to EUR 90.69 billion (see Graph A3.1), representing around 0.75% of GDP for 2014-2020 and 28.25% of public investment. ([20]) By 31 December 2021, 86% of the total was allocated to specific projects and 49% was reported as spent, leaving EUR 45.95 billion to be spent by the end of 2023. ([21]) Among the 11 objectives the most relevant ones for cohesion policy funding in Italy are competitiveness of SMEs and research and innovation, with EUR 21 and 6.2 billion respectively. This is followed by green investments in the field of environment protection and resource efficiency (EUR 9.15 billion), climate change and risk prevention (EUR 6.2 billion) and the low carbon economy (EUR 5 billion), plus investments for social and employment policies for sustainable and quality employment, EUR 8.56 billion, social inclusion, EUR 7.9 billion, educational and vocational training, EUR 6.6 billion. By the end of 2020, cohesion policy funding had supported 562 073 companies, provided broadband access of at least 30 Mbps to an additional 1 477 854 households, reconstruction of 203 km of railways, 118 of which are part of the TEN-T network, improved wastewater treatment for 823 445 population equivalent, and renovated schools and education infrastructure serving 17 601 699 people. Over 8 million participants have benefitted from an ESF-funded measure. 87.5% of young people not in employment nor in education and training who completed a Youth Guarantee project had at least one work experience.

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

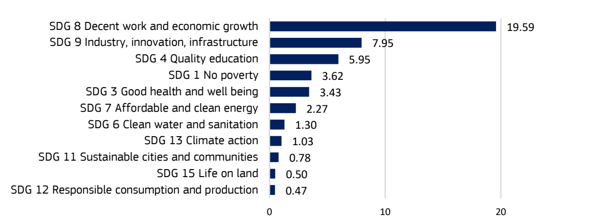
([18]) Current prices, source: Cohesion Open Data

([19]) 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 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

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

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

Graph A3.2: **Cohesion policy contribution to the SDGs (EUR billion)**



Source: European Commission

Cohesion policy funds already substantially contribute to the Sustainable Development Goal (SDGs) objectives (see Graph A3.2). In Italy, cohesion policy funds support 11 of the 17 SDGs with up to 94 % of the expenditure contributing to the attainment of the goals.

The Coronavirus Response Investment Initiative ([22]) provided the first EU emergency support to Italy after the COVID-19 pandemic. It brought in extraordinary flexibility enabling Italy to re-allocate resources to a wide range of measures needed to tackle the immediate effects of the COVID-19 crisis. For instance, Italy has so far implemented schemes to provide SMEs with working capital with grants (EUR 447 136 362), financial support for SMEs for working capital: (EUR 2 251 507 651), personal and medical protective equipment (EUR 837 553 839), and support to digitalise the education system and the public administration. Italy also benefited from the temporary 100 % EU financing of incurred measures in cohesion policy, allocating approximately EUR 3 399 million in 2021 through 100 % co-financing.

The REACT-EU instrument (Recovery Assistance for Cohesion and the Territories of Europe) under Next generation supplemented the CRII/CRII+ initiatives with additional EU resources for Italy (EUR 11.3 billion for 2021 and EUR 3.1 billion for 2022) under 2014-20 cohesion policy allocation. REACT-EU provides support to extend the crisis response and crisis repair measures, while preparing a green, digital and resilient recovery of the economy. This covered investment in health, business support, the digital and green economy, basic services, job maintenance measures as well as support for education, training and skills development**.**

Italy 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 Italy financial assistance under SURE in September 2020 for a maximum of EUR 27.438 billion, which was disbursed by 25 May 2021. SURE is estimated to have supported approximately 40% of workers and 50% of firms for at least one month in 2020, primarily in manufacturing, accommodation and food services, and wholesale and retail trade. Italy is estimated to have saved a total of EUR 3.76 billion on interest payments as a result of the lower interest rates under the SURE.

The Commission currently provide tailor-made expertise via the Technical Support Instrument to help Italy design and implement growth-enhancing reforms, including for implementing its RRP. Since 2017, Italy has received assistance via 60 technical support projects. Projects completed in 2021 aimed for example to boost consumer protection and active labour market policies, promote electronic payments, and support Sardinia and Apulia in preparing their just transition plans. The Commission also assisted Italy in implementing specific reforms and investments in the RRP, for instance by taking data-driven approaches for risk analysis of tax evasion or for developing green principles in transport infrastructure. In 2022, new projects will start to support work on gender mainstreaming and on building IT skills for the health workforce, amongst other projects.

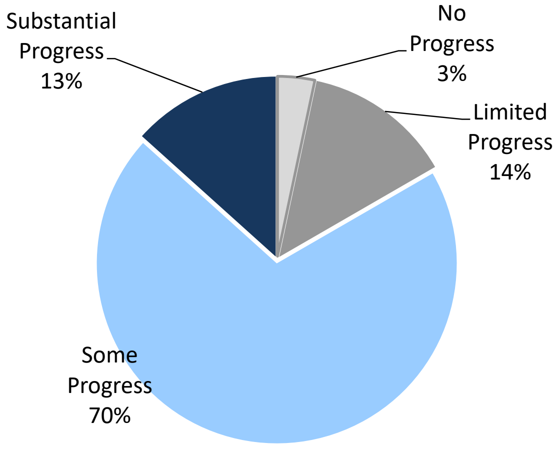
Italy benefits also from **other EU programmes**, such as the **Connecting Europe Facility**, which allocated EU funding of EUR 1.7 billion for specific projects on strategic transport networks, and **Horizon 2020**, which allocated EU funding of EUR 5.62 billion.

([22]) Re-allocating ESIF resources under 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.

ANNEX 4: PROGRESS IN THE IMPLEMENTATION OF COUNTRY SPECIFIC RECOMMENDATIONS

The Commission assessed the 2019-2021 country-specific recommendations (CSRs) ([23]) addressed to Italy in the context of the European Semester. The assessment takes into account the policy action taken by Italy to date ([24]), as well as the commitments in the Recovery and Resilience Plan (RRP) ([25]). At this early stage of the RRP implementation, overall 83% of the CSRs focusing on structural issues in 2019 and 2020 have recorded at least "some progress", while 17% recorded "limited" or "no 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: **Italy's progress on the 2019-2020 CSRs (2022 European Semester cycle)**



Source: European Commission

([23]) 2021 CSRs: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32021H0729%2812%29&qid=1627675454457 ;
2020 CSRs: EUR-Lex - 32020H0826(12) - EN - EUR-Lex (europa.eu)
2019 CSRs: EUR-Lex - 32019H0905(12) - EN - EUR-Lex (europa.eu)

([24]) 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).

([25]) 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 on 2019, 2020 and 2021 CSRs**

Italy	Assessment in May 2022*	RRP coverage of CSRs until 2026**
2019 CSR1	**Limited progress**	
Ensure a nominal reduction of net primary government expenditure of 0.1% in 2020, corresponding to an annual structural adjustment of 0.6% of GDP. Use windfall gains to accelerate the reduction of the general government debt ratio.	Not relevant anymore	Not applicable
Shift taxation away from labour, including by reducing tax expenditure and reforming the outdated cadastral values.	Some progress	
Fight tax evasion, especially in the form of omitted invoicing, including by strengthening the compulsory use of e-payments including through lower legal thresholds for cash payments.	Substantial progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022 and 2023
Implement fully past pension reforms to reduce the share of old-age pensions in public spending and create space for other social and growth-enhancing spending.	No progress	
2019 CSR 2	**Some progress**	
Step up efforts to tackle undeclared work.	Limited progress	Relevant RRP measures planned as of 2022
Ensure that active labour market and social policies are effectively integrated and reach out notably to young people and vulnerable groups.	Some progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022
Support women's participation in the labour market through a comprehensive strategy, including through access to quality childcare and long-term care.	Some progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022 and 2023
Improve educational outcomes, also through adequate and targeted investment, and foster upskilling, including by strengthening digital skills.	Some progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022 and 2023
2019 CSR 3	**Some progress**	
Focus investment-related economic policy on research and innovation, and the quality of infrastructure, taking into account regional disparities.	Some progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022 and 2023
Improve the effectiveness of public administration, including by investing in the skills of public employees, by accelerating digitalisation, and by increasing the efficiency and quality of local public services.	Some progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022 and 2023
Address restrictions to competition, particularly in the retail sector and in business services, also through a new annual competition law.	Limited progress	Relevant RRP measures planned as of 2022
2019 CSR4	**Substantial progress**	
Reduce the length of civil trials at all instances by enforcing and streamlining procedural rules, including those under consideration by the legislator and with a special focus on insolvency regimes.	Substantial progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022 and 2023
Improve the effectiveness of the fight against corruption by reforming procedural rules to reduce the length of criminal trials.	Some progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022 and 2023
2019 CSR5	**Some progress**	
Foster bank balance sheet restructuring, in particular for small and medium-sized banks, by improving efficiency and asset quality, continuing the reduction of non-performing loans, and diversifying funding.	Some progress	
Improve non-bank financing for smaller and innovative firms.	Some progress	Relevant RRP measures being implemented as of 2021 and planned as of 2024
2020 CSR1	**Some 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 and capacity of the health system, in the areas of health workers, critical medical products and infrastructure.	Some progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022
Enhance coordination between national and regional authorities.	Some progress	Relevant RRP measures planned as of 2022

(Continued on the next page)

Table (continued)

2020 CSR2	**Some progress**	
Provide adequate income replacement and access to social protection, notably for atypical workers.	Some progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022
Mitigate the employment impact of the crisis, including through flexible working arrangements and	Some progress	
active support to employment.	Some progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022
Strengthen distance learning and skills, including digital ones.	Limited progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022 and 2023
2020 CSR 3	**Some progress**	
Ensure effective implementation of measures to provide liquidity to the real economy, including to small and medium-sized enterprises, innovative firms and the self-employed, and avoid late payments.	Substantial progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022 and 2023
Front-load mature public investment projects	Some progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022, 2023, 2025 and 2026
and promote private investment to foster the economic recovery.	Some progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022
Focus investment on the green and digital transition, in particular on clean and efficient production and use of energy,	Some progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022, 2023 and 2024
research and innovation,	Some progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022 and 2023
sustainable public transport,	Some progress	Relevant RRP measures being implemented as of 2021 and planned as of 2023 and 2024
waste and water management	Limited progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022, 2023 and 2025
as well as reinforced digital infrastructure to ensure the provision of essential services.	Some progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022
2020 CSR 4	**Some progress**	
Improve the efficiency of the judicial system and	Substantial progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022 and 2023
the effectiveness of public administration.	Some progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022
2021 CSR1	**Some 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.	Limited progress	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.	Some progress	Not applicable
At the same time, enhance investment to boost growth potential. Pay particular attention to the composition of public finances, on both the revenue and expenditure sides of the budget, and to the quality of budgetary measures in order to ensure a sustainable and inclusive recovery. Prioritise sustainable and growth-enhancing investment, in particular investment supporting the green and digital transition.	Some progress	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, where relevant, by strengthening the coverage, adequacy and sustainability of health and social protection systems for all.	Some progress	Not applicable

* See footnote 25

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

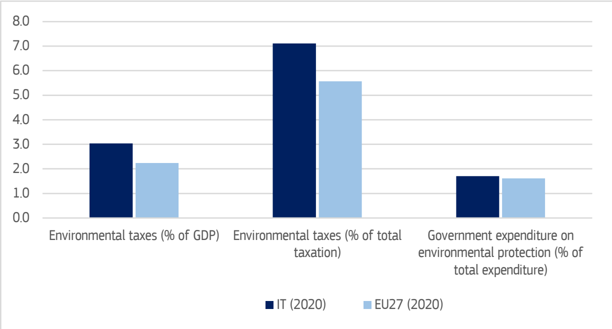
Source: European Commission

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 Italy in the respective building blocks of the European Green Deal. It is complemented by Annex 6 on the fair transition and Annex 7 for circular economy aspects of the Green Deal.

Italy has so far met its EU and domestic greenhouse gas reduction targets, but further efforts will be needed to match the increased ambition of the European Green Deal. In line with its long-term strategy, Italy is committed to reaching climate neutrality by 2050. By 2020, the country's overall greenhouse gas emissions had fallen by 25 % compared to 1990, also due to the COVID-19 pandemic. Italy is by and large on track to meet its current 2030 emission reduction target under the EU Effort Sharing Regulation (covering sectors such as transport, buildings, agriculture, small industry and waste), but will need to redouble efforts to achieve the more ambitious Effort Sharing Regulation target proposed by the European Commission as part of its Fit for 55 package. The transport sector is one area of concern (+25% GHG emission since 2005, with a high share of road transport and a low share of electric vehicles). The sectors covered by the EU Emissions Trading System are expected to improve their performance as coal is phased out by 2025 and the support for renewable energy planned in the RRP is rolled out. Italy is yet to adopt a climate adaptation plan. In its recovery and resilience plan (RRP), Italy allocates 37.5 % of available funds to climate and energy objectives and outlines crucial reforms and investments to further the transition to a more sustainable, low-carbon and climate-resilient economy.

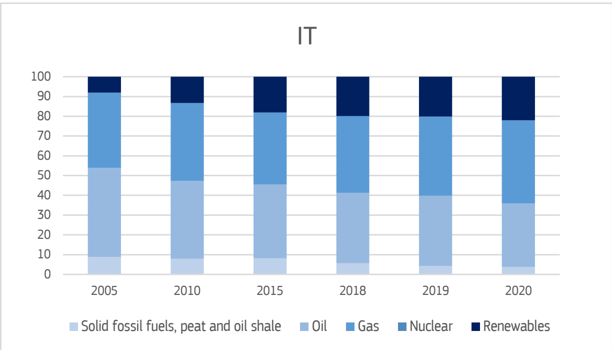
Italy records high levels of revenue from environmental taxation, both as a share of total taxation and compared to GDP. Out of the categories comprising environmental taxation, only tax collections on resources and pollution are smaller than the EU average. ([26]) Likewise, government expenditure on environmental protection covers a higher share of total government expenditure in Italy than the EU average (see Graph A5.1).

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



Source: Eurostat

Graph A5.2: **Energy: share in energy mix (solid, 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

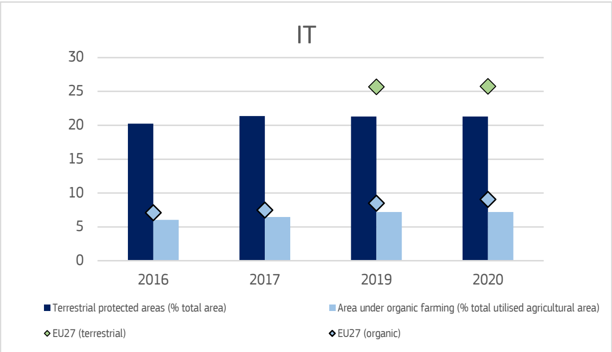
In terms of energy, Italy needs to reduce its energy dependency on fossil fuel imports that accounted for 78 % of gross inland energy consumption in 2020 (see Graph A5.2)**. It needs to** step up its capacity to generate renewable energy (22 % in 2020) and to improve energy efficiency, also given the plan to phase out the residual share of coal (3.7% in 2020) in power generation, scheduled for 2025. Italy has no nuclear power but imports 11% of its electricity, mostly from French nuclear power plants. In order to install new renewable energy production plants, it will be key to fully implement the measures on renewable energy permitting included in the plan. These measures have the potential to resolve the

([26]) For more information on taxation see Annex 18.

administrative and procedural issues that risk jeopardising the achievement of Italy's climate and energy objectives. Though the transport sector consumes the largest share of energy, the highest energy savings potential is in the building stock. If Italy is to meet its 2030 objectives under the European Green Deal and fulfil the long-term strategy, it is essential that the country improves transport energy efficiency and energy renovations in buildings through modal transfer, modernises and decarbonises heating and cooling systems, renovate the worst-performing buildings and achieve cross-sector electrification.

In terms of biodiversity and ecosystem health, Italy's performance is mixed (see Graph A5.3)**.** Including both Natura 2000 and other nationally designated protected areas, Italy gives legal protection to 21.3 % of its land (EU average 26 %) and about 2 % of marine areas (EU average 8 %) in 2019. However, the share of habitats in bad or poor conservation status has increased to 86 % and the share of assessments for species in bad or poor conservation status has remained stable at around 50 %.Agriculture remains the main source of threat to natural habitats. Nevertheless, organic farming is estimated to account for 16 %, well above the EU average of 9.7 % (2020), increasing from 11.8 % in 2015.

Graph A5.3: **Biodiversity: terrestrial protected areas and organic farming**



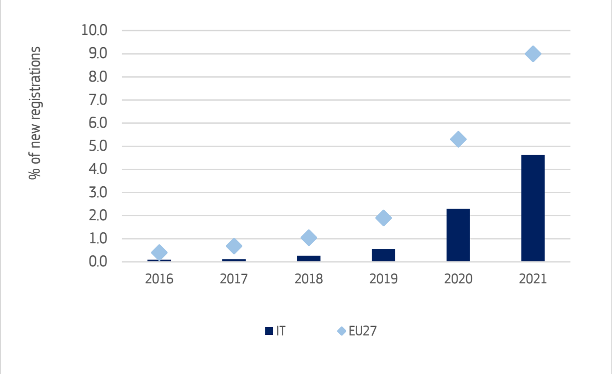
(1) For terrestrial protected areas data for 2018 and data for the EU average (2016, 2017) is lacking
Source: EEA (terrestrial protected areas) and Eurostat (organic farming)

In terms of pollution, air quality in Italy remains a source of serious concern. In 2020, 10 air quality zones exceeded the EU limit for nitrogen dioxide (NO2) and 33 zones exceeded the limit for particulate matter (PM10). In several air quality zones, the target values for ozone concentration have not been met. Emissions from road transport and biomass burning are significant sources of pollution. The European Commission is following up on persistent breaches of air quality requirements, which have severe negative effects on public health and the environment through infringement procedures (mainly over PM10 and NO2 levels, but with new concerns over PM2.5 too). A specific plant, Ilva Taranto steel and iron plant, raises serious concerns about its impact on air quality in the province and needs careful follow-up.

On water management, Italy has made only limited progress in reducing the number of non-compliant agglomerations under the Urban Wastewater Treatment Directive. This has led to fines being levied by the Court of Justice of the EU. Nitrates hotspots need to be cleaned-up in northern Italy [27], and for drinking water in Lazio. Italy continues to be subject to hydrological risks (flooding and landslides) from the land and sea and from seismic events. Italy is also one of the EU countries with the highest use of irrigation for agricultural purposes.

[27] No data from ESTAT on nitrates for Italy, but according to the last report on the implementation of the Nitrates Directive (SWD/2021/1001 final, 11.10.2021) referring to the change between the periods 2008-11 and 2016-19, groundwater quality has slightly improved as compared to the previous reporting period, with the percentage of stations reaching or exceeding 40 or 50 mg nitrate per L that decreased from 5.8% to 5.6% and from 12.7% to 12.6%, respectively.

Graph A5.4: **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. Zero emission vehicles include battery and fuel cell electric vehicles (BEV, FCEV)

In terms of transport, Italy is showing some positive developments. Although it is increasing, Italy's share of zero-emission passenger cars is still below the EU average (see Graph A5.4). In order to encourage citizens' shift to sustainable mobility, while at the same time sustaining industry, Italy could make the existing financial incentives to purchase clean vehicles more stable and predictable for both vehicle producers and customers. Italy's share of electrified railroads is one of the highest in the EU.

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

						Target	Distance		'Fit for 55' Target	'Fit for 55' 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)	343.1	-18%	-24%	-33%	-5	6	-44%	-15	-5
			2005	2016	2017	2018	2019	2020	National contribution to 2030 EU target		
	Share of energy from renewable sources in gross final consumption of energy (1)	%	8%	17%	18%	18%	18%	20%	30%		
	Energy efficiency: primary energy consumption (1)	Mtoe	180.8	148.0	148.9	147.2	145.9	132.3	125.1		
	Energy efficiency: final energy consumption (1)	Mtoe	137.2	115.9	115.2	116.3	115.4	102.7	103.8		
			ITALY						EU		
			2015	2016	2017	2018	2019	2020	2018	2019	2020
Fiscal and financial indicators	Environmental taxes (% of GDP)	% of GDP	3.4	3.5	3.3	3.3	3.3	3.0	2.4	2.4	2.2
	Environmental taxes (% of total taxation)	% of taxation (3)	7.9	8.3	8.0	7.9	7.7	7.1	6.0	5.9	5.6
	Government expenditure on environmental protection	% of total exp.	1.79	1.84	1.79	1.78	1.83	1.70	1.66	1.70	1.61
	Investment in environmental protection	% of GDP (4)	0.33	0.32	0.31	0.30	-	-	0.42	0.38	0.41
	Fossil fuel subsidies	EUR2020bn	5.79	5.66	5.38	5.25	5.55	-	56.87	55.70	-
	Climate protection gap (5)	score 1-4	2.4 out of 4 (slight increase from historical level of 2). This is a low/medium risk category (4 being a high risk).								
Climate	Net GHG emissions	1990 = 100	83	83	85	84	82	74	79	76	69
	GHG emissions intensity of the economy	kg/EUR'10	0.29	0.29	0.28	0.27	0.27	0.27	0.32	0.31	0.30
	Energy intensity of the economy	kgoe/EUR'10	0.10	0.10	0.10	0.10	0.09	0.09	0.12	0.11	0.11
Energy	Final energy consumption (FEC)	2015=100	100.0	99.7	99.1	100.1	99.3	88.4	103.5	102.9	94.6
	FEC in residential building sector	2015=100	100.0	99.0	101.2	98.2	95.8	94.3	101.9	101.3	101.3
	FEC in services building sector	2015=100	100.0	100.3	118.5	123.5	118.2	107.6	102.4	100.1	94.4
Pollution	Smog-precursor emission intensity (to GDP) (4)	tonne/EUR'10 (6)	0.71	0.70	0.74	0.69	0.71	-	0.99	0.93	-
	Years of life lost caused due to air pollution by PM2.5	per 100.000 inh.	977	908	982	920	843	-	863	762	-
	Years of life lost due to air pollution by NO2	per 100.000 inh.	330	227	258	183	180	-	120	99	-
	Nitrate in ground water	mg NO3/litre	-	-	-	-	-	-	21.7	20.7	-
Biodiversity	Terrestrial protected areas	% of total	-	20.2	21.4	-	21.3	21.3	-	25.7	25.7
	Marine protected areas	% of total	-	5.2	-	-	5.4	-	-	10.7	-
	Organic farming	% of total utilised agricultural area	11.8	14.0	14.7	15.2	15.2	16.0	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	16.0		11.2		3.3		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	0.55	0.53	0.57	0.57	0.59	0.59	0.89	0.87	0.83
	Share of zero emission vehicles (8)	% in new registrations	0.1	0.1	0.1	0.3	0.6	2.4	1.0	1.9	5.4
	Number of plug-in electric vehicles per charging point		5	6	6	8	5	8	8	8	12
	Share of electrified railways	%	71.2	71.5	71.4	71.6	71.6	-	55.6	56.0	-
	Congestion (average number of hours spent in road congestion per year by a representative commuting driver)		35.4	37.5	37.4	37.3	37.2	-	28.9	28.8	-
			Year	IT	EU						
Digital	Share of smart meters in total metering points (9) - electricity	% of total	2018	98.5	35.8						
	Share of smart meters in total metering points (9) - gas	% of total	2018	34.7	13.1						
	ICT used for environmental sustainability (10)	%	2021	60.3	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.

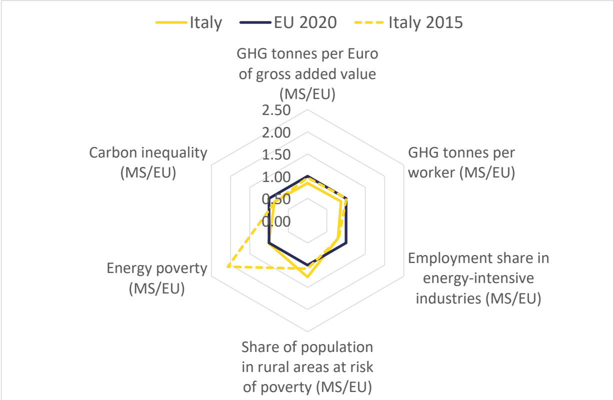
Source: Eurostat, JRC, European Commission, EEA, EAFO

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. Italy's green economy is still limited and its development, supported by investments and reforms included in the RRP, can foster sustainable growth and quality job creation; at the same time, the green transition is expected to affect low to middle-income groups to a larger extent.

Italy's recovery and resilience plan (RRP) outlines crucial reforms and investments for a fair green transition. Investments in renewable energy in municipalities with fewer than 5 000 inhabitants are expected to support their local communities and the green economy, strengthen social cohesion and reduce the risk of depopulation in rural areas. Italy's plan include also investment in sustainable local transport such as cycle paths, fast public transport, electric charging infrastructure, the renewal of the bus fleet, and electric trains, which will all make local transport more sustainable. The RRP will also improve social and economic cohesion at national level. Extending high-speed trains will improve connections between northern and southern regions, urban and rural areas while contributing to the green transition. In synergy with the RRF, the European Social Fund Plus (ESF+) will help unlock the potential for green jobs and foster adaptation of workers in Italy. The Just Transition Fund (EUR 1.03 billion; current prices) will help mitigate the social impact of the transition in the provinces of Taranto and Carbonia-Iglesias. Italy's national energy and climate plan of December 2019 analyses the expected socio-economic impact of the just transition, including on employment and skills, though it only partially takes on board the Commission's recommendations. [28] Specifically on energy poverty, though it reports on the number of households affected and projects reduction by 2030, the energy and climate plan does not set a specific target.

The Italian economy has reduced its carbon footprint, which remains below the EU average. The size of the green economy is in line with the EU average, and it holds great potential to create quality jobs. The greenhouse gas (GHG) emissions intensity (by gross value added) of the Italian economy fell by more than 12 % between 2015 and 2020 and stands at 87 % of the EU average, with an average carbon footprint per worker at 11.81 tonnes of GHG emissions (against 13.61 in the EU) (see Graph A6.1). Fossil fuel-based energy production, coal and lignite have been identified as sectors in decline, while the metal sector (mostly iron and steel) is transforming. These sectors pose major challenges, especially for the Taranto and Carbonia-Iglesias provinces, for which Italy plans schemes to invest in rolling out technology and infrastructure to provide affordable clean energy and to upskill and reskill the workforce. Energy-intensive industries provide jobs for less than 2.4 % of the employed workforce, which is below the EU average. There will be a strong need to upskill and reskill workers in these industries (see Annex 15). The environmental goods and services sector provides 1.7% of jobs, in line with the EU average, while wind and solar energy as well as energy efficiency improvements hold potential to create green jobs.

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



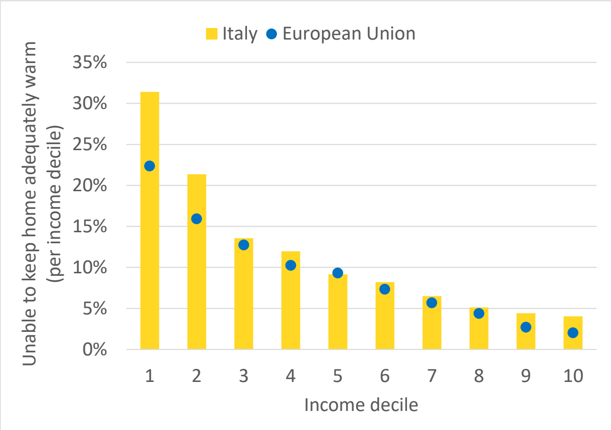
(1) Numbers are the normalised indicator performance, signifying factors relative to the EU27 average.
Carbon inequality: average emissions per capita top 10% vs bottom 50% (2019)
Source: Eurostat, World Inequality Database

As for the social dimension of the green transition, ensuring access to essential transport and energy services is a significant challenge for Italy, especially given the situation of energy poverty in low-income households. A slightly higher and increasing share of the population in rural areas who lives at risk of poverty in Italy than the EU average

[28] SWD(2020) 911 final

(23.7 % vs 18.7 %, compared to about 20 % for both in 2015). The share of the population unable to keep their homes adequately warm has fallen significantly, from 17 % in 2015 to 8.3 % in 2020, but it remains above the EU average (8.2 %). Recent price increases have worsened the situation (as the price of electricity and gas increased by 119 % and 94 % respectively year-on-year to Q1-2022), despite the government cancelling of general charges and reducing VAT. Lower-income groups are affected the most, and Italy has among the worst results in the EU for the lowest decile (see Graph A6.2). Consumption patterns vary across the population but remain lower than the EU average. The average carbon footprint of the top 10% of emitters is about 4.6 times higher than that of the bottom 50% of the population (against the EU average of 5.3 times).

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



HH050: Ability to keep home adequately warm;
HY020: Total disposable household income
Source: Eurostat EU-SILC survey (2020; 2019 for IT and DE)

The tax system is key to ensuring a fair transition to climate neutrality ([29])**.** Italy's revenues from all environmental taxes fell from 3.4 % of GDP in 2015 to 3.25 % 2019, and again to 3.04 % in 2020 (against 2.24 % in the EU). The tax wedge on labour for low-income earners ([30]) increased only marginally from 36.3% to 36.4% from 2015 to 2019 (36.6% in 2021), compared to the EU average of 31.9% in 2021 – (see Annex 18). Redistributive measures accompanying environmental taxation have the potential to foster progressivity and to improve disposable income of households earning the lowest income. ([31])

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

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

([31]) 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.

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

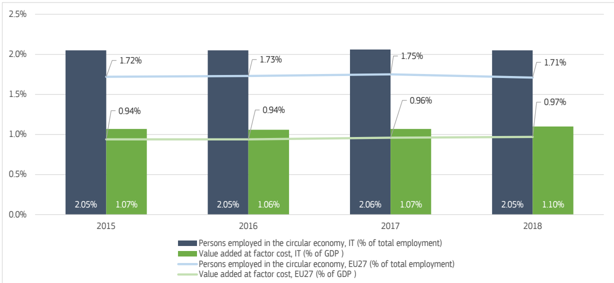
On the circular economy, Italy is making good progress at national and regional level. The rate of circular (secondary) use of material in Italy was 18.4 % in 2017 and 21.6 % in 2020, way above the EU average of 12.8 %. Italy has also seen a steady increase in secondary material use in recent years. Italy's RRP envisages a circular economy strategy to further boost progress.

Resource productivity in Italy is well above the EU average of EUR 2.23 purchasing power standards (PPS)/kg. This positive performance is underpinned by continuous gains in resource productivity that Italy has made over the past decade. Resource productivity expresses how efficiently the economy uses material resources to produce wealth. Improving resource productivity can help minimise negative impacts on the environment and reduce dependency on volatile raw material markets.

Effective waste management has been a challenge for Italy for many decades. At national level, after falling for a while, municipal waste generation in Italy has started to increase in recent years. Landfilling is also declining. The centre and south of the country perform less well in waste management than the North. Campania is continuing to pay fines for poor waste management, after the European Court of Justice ruling on its previous waste-management policies, though there are improvements. Italy is also paying fines for irregular landfills, 75 % of which are located in southern Italy. The RRP includes a national waste management programme and the Council Implementing Decision sets milestones on irregular landfills, recycling and separate waste collection at both national and regional level.

Though not a leader in environmental technology, as shown by the low level of patents deposited, Italy performs above average on employment in the circular economy. Attention to environmental sustainability increases with firm's size in Italy, with, for instance 91 % of firms with 50 or more employees separating their waste collection and 71 % monitoring energy use and 56 % water use. [32] The *"Transition 4.0"* initiative included in Italy's RRP offers incentives, including risk capital, to support company investments in the circular economy.

Graph A7.1: **Economic importance and expansion of the circular economy**



(1) Employment and value added in the Circular Economy sectors
Source: Eurostat

(32) ISTAT, 2020, Statistica sperimentale. Comportamenti d'impresa e sviluppo sostenibile

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

Key indicators - Italy

SUB-POLICY AREA	2015	2016	2017	2018	2019	2020	EU27	Latest year EU 27
Circularity								
Resource Productivity (Purchasing power standard (PPS) per kilogram)	3.3	3.5	3.6	3.6	3.6	3.6	2.2	2020
Material Intensity (kg/EUR)	0.3	0.3	0.3	0.3	0.3	0.3	0.4	2020
Circular Material Use Rate (%)	17.2	17.8	18.4	18.8	19.5	21.6	12.8	2020
Material footprint (Tones/capita)	9.4	9.4	9.3	9.3	9.3	-	14.6	2019
Waste								
Waste generation (kg/capita, total waste)	-	2702	-	2855	-	-	5234	2018
Landfilling (% of total waste treated)	-	14.2	-	12.4	-	-	38.5	2018
Recycling rate (% of municipal waste)	44.3	45.9	47.8	49.8	51.4	-	47.8	2020
Hazardous waste (% of municipal waste)	-	5.9	-	5.9	-	-	4.3	2018
Competitiveness								
Gross value added in environmental goods and services sector (% of GDP)	1.9	1.9	1.8	1.9	1.9	-	2.3	2019
Private investment in circular economy (% of GDP)	0.1	0.1	0.1	0.1	-	-	0.1	2018

Source: Eurostat

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 ([33]). This Annex describes Italy's DESI performance. 25.1% of the Italian Recovery and Resilience Plan is devoted to the digital transition and covers measures relevant to all DESI dimensions.

Stepping up the efforts to improve digital skills remains a key priority for the country, as condition to boost an inclusive and robust digital transformation. Italy records very low levels of basic digital skills and has the lowest share of ICT graduates in the EU (1.3% of all Italian graduates in 2019 studies ICT, against an EU average of 3.9%). The share of ICT specialists is also below the EU average.

On internet connections, although Italy recorded progress on 5G, it needs to increase coverage of very high capacity networks (VHCN), including in remote/rural areas. In 2021, the percentage of households covered by VHCN, including fibre to the premises, was considerably below the EU average (44 % vs 70 %). Conversely there was an increase in 5G coverage, reaching in principle 99.7 % of populated areas.

Most Italian companies have a basic level of digital intensity, but performance on the uptake of advanced digital technologies is mixed. Most Italian SMEs have at least a basic level of digital intensity and the share of enterprises using cloud services is particularly high. However, Italy's performance remains weak in other areas, namely the use of big data and of technologies based on artificial intelligence.

Italy is making progress in implementing major e-government projects, but results are still not fully reflected in the indicators. The provision of digital public services to citizens and businesses is still below EU average. The use of digital public services remained low in 2021 (40 % of internet users vs the EU average of 65 %), although it achieved a notable increase (by 10 percentage points) between 2019 and 2021.

([33]) 2030 Digital Compass: the European Way for the Digital Decade Communication, COM (2021) 118 final

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

Human capital	Italy DESI 2020	Italy DESI 2021	Italy DESI 2022	EU DESI 2022	EU top-performance DESI 2022
At least basic digital skills	**NA**	**NA**	**46%**	**54%**	**79%**
% individuals			2021	2021	2021
ICT specialists	**3.5%**	**3.6%**	**3.8%**	**4.5%**	**8.0%**
% individuals in employment aged 15-74	2019	2020	2021	2021	2021
Female ICT specialists	**15%**	**16%**	**16%**	**19%**	**28%**
% ICT specialists	2019	2020	2021	2021	2021
Connectivity					
Fixed Very High Capacity Network (VHCN) coverage	**30%**	**34%**	**44%**	**70%**	**100%**
% households	2019	2020	2021	2021	2021
5G coverage (*)	**NA**	**8%**	**99.7%**	**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**	**60%**	**55%**	**86%**
% SMEs			2021	2021	2021
Big data	**7%**	**9%**	**9%**	**14%**	**31%**
% enterprises	2018	2020	2020	2020	2020
Cloud	**NA**	**NA**	**52%**	**34%**	**69%**
% enterprises			2021	2021	2021
Artificial Intelligence	**NA**	**NA**	**6%**	**8%**	**24%**
% enterprises			2021	2021	2021
Digital public services					
Digital public services for citizens	**NA**	**NA**	**67**	**75**	**100**
Score (0 to 100)			2021	2021	2021
Digital public services for businesses	**NA**	**NA**	**79**	**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

Source: Digital Economy and Society Index

This Annex provides a general overview on the performance of Italy's research and innovation system. Italy is a moderate innovator according to the 2021 edition of the European Innovation Scoreboard ([34]), although its performance, relative to the EU, has slightly improved over time. R&D intensity reached 1.53% of GDP in 2020, improving but still lagging behind the EU average of 2.32% of GDP in 2020. Young and innovative firms still face bottlenecks in investing. In 2020, venture capital investment as a share of GDP stood at 0.015%, ranking below the EU average. Large regional disparities remain in the research and innovation performance.

Low levels of public and private R&D investment hampers Italy's overall performance on innovation, despite some improvements on scientific excellence. Scarce job opportunities for researchers in the business and public sector is one of the effects of low overall R&D investment. Around 13% of Italian PhD students (many with a STEM background) find jobs abroad due to the lack of jobs and low salaries in Italy. ([35]) Consequently, the number of new graduates in science, engineering and computing remains below the EU average, compounding an increasing problem of skills shortages for innovation. To tackle this challenge and improve Italy's overall performance, the recovery and resilience plan includes a large budget for research, for skills development and for extending the number and PhDs' career opportunities, targeting also young researchers. Furthermore, the reform of researchers' career path is expected to increase the attractiveness of research careers, while the plan to simplify research funding is likely reduce red tape.

The low level of collaboration between the public science base and the business sector is a major bottleneck in Italy's R&I system. Despite above-average public support for business R&D, private R&D intensity remains low. The quality of the R&I system (estimated by the number of patents) has also remained well below the EU average. This altogether suggests weak business-science links, as evidenced by the below-EU-average share of public-private scientific co-publications. The discontinuity of policies to support science-business collaboration over the past decade has constrained efforts to address this challenge. The investment planned under the recovery and resilience plan in collaborative research projects together with the competence centres for knowledge exchanges and the reform to increase researcher mobility, are expected to enhance collaboration and knowledge flows in Italy's research and innovation system.

([34]) 2021 European Innovation Scoreboard, Country profile: Italy

https://ec.europa.eu/docsroom/documents/45921

([35]) CNR - RELAZIONE SULLA RICERCA E L'INNOVAZIONE Terza edizione - 15 febbraio 2022

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

ITALY	**2010**	**2015**	**2018**	**2019**	**2020**	**Compound annual growth 2010-20**	**EU average**
Key indicators							
R&D Intensity (GERD as % of GDP)	1.22	1.34	1.42	1.46	*1.53*	2.4	*2.32*
Public expenditure on R&D as % of GDP	0.52	0.52	0.50	0.51	*0.57*	0.9	*0.78*
Business enterprise expenditure on R&D (BERD) as % of GDP	0.66	0.78	0.90	0.92	*0.93*	3.2	*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	10	10.8	11.1	:	:	1.3	9.9
PCT patent applications per billion GDP (in PPS)	1.9	2.2	2.0	:	:	0.7	3.5
Academia-business cooperation							
Public-private scientific co-publications as % of total publications	7.08	8.21	8.40	8.26	7.73	0.88	9.05
Human capital and skills availability							
New graduates in science & engineering per thousand pop. aged 25-34	6.5	:	13.8	14.8	:	3.5	16.3
Graduates in the field of computing per thousand population aged 25-34	0.4	:	0.8	0.9	:	8.9	2.9
Public support for business enterprise expenditure on R&D (BERD)							
Total public sector support for BERD as % of GDP	0.051	0.105	0.246	:	:	21.6	0.196
R&D tax incentives: foregone revenues as % of GDP	0.004	0.051	0.200	0.162	:	49.7	0.100
Green innovation							
Share of environment-related patents in total patent applications filed under PCT (%)	11.8	10.1	9.5	:	:	-2.7	12.8
Finance for innovation and Economic renewal							
Venture Capital (market statistics) as % of GDP	0.007	0.004	0.007	0.010	0.015	7.0	0.054
Employment in fast-growing enterprises in 50% most innovative sectors	2.9	3.1	4.3	3.7	:	2.7	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

Rising productivity growth is a critical driver of economic prosperity, well-being and economic convergence over the long run. A major source of productivity for the EU economy is a well-functioning single market that enables fair and effective competition and a business-friendly environment, 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 affect Italy's capacity to deliver on EU's green and digital transformation.

Italy's productivity performance has stagnated in the past two decades. However, the poor performance of Italian productivity masks wide sectoral, firm-level and regional differences, with the manufacturing sector overall performing better than services, and less-developed regions, particularly in the south, lagging behind. Italy's RRP includes a number of measures that have the potential to spur increases in productivity growth, including incentives for investment in capital goods, R&D and innovation.

Poor productivity growth also reflects challenges related to the business environment, which persist despite improvements over the past decade. The level of restrictiveness in the regulation of professions, for instance, is comparatively high, with six professions featuring above-median restrictiveness levels in 2021 (against the. EU average of 3.37) [36]. Firms' access to finance remains constrained by an over-reliance on bank-finance and by the underdevelopment of alternative sources of finance (e.g. venture capital, business angels). Late payments in both *government*-to-business and *business*-to-business transactions still impair firms' liquidity management – despite improvements in recent years. Regarding business demographics, although the number of new companies registered has fallen in recent years, and particularly during the pandemic, bankruptcies in 2020 remained significantly below the EU average, reflecting the set of safeguards introduced by the government. On public procurement, Italy's overall performance remains low, performing particularly badly in decision speed (217 days vs EU average of 120, Single Market Scoreboard). The Italian RRP includes a number of actions that aimed to improve the business environment and make it more business-friendly, e.g.: a set of targets to reduce of late payments by public administrations, support firms and SMEs, simplify procedures and cut red tape, as well as a comprehensive reform of the public procurement framework.

In 2020 and 2021, the Italian economy has also been affect by a number of global trends ensuing the pandemic, such as supply chain disruptions and the steep rise in energy prices. Despite higher-than-average reliance on domestic intermediate inputs, constraints in retrieving key materials and skills shortages increased for Italian firms in 2021. Similarly, increases in industrial energy prices were among the highest in the EU which put an additional drag on the competitiveness of the Italian economy.

[36] SWD(2021) 185 final "Commission Staff Working Document, accompanying the document Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, on taking stock of and updating the reform recommendations for regulation in professional services of 2017", p. 118

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]				76.91			**62.6%**
	Value added by source (EU)	VA imported from the rest of the EU, % [source: OECD (TiVA), 2018]				11.33			**19.7%**
	Value added by source (extra-EU)	% VA imported from the rest of the world, % [source: OECD (TiVA), 2018]				11.8			**17.6%**
Cost competitiveness	Producer energy price (industry)	Index (2015=100) [source: Eurostat, sts_inppd_a]	122	91.4	106.1	107.6	98.3	**24.1%**	**127.3**
		RESILIENCE							
Shortages/supply chain disruptions	Material Shortage using survey data	Average (across sectors) of firms facing constraints, % [source: ECFIN CBS]	8	1	1	2	2	**300%**	**26%**
	Labour Shortage using survey data	Average (across sectors) of firms facing constraints, % [source: ECFIN CBS]	2	1	2	1	1	**100%**	**14%**
	Sectoral producer prices	Average (across sectors), 2021 compared to 2020 and 2019, index [source:Eurostat]						**5.1%**	**5.4%**
Strategic dependencies	Concentration in selected raw materials	Import concentration a basket of critical raw materials, index [source: COMEXT]	0.16	0.14	0.16	0.18	0.21	**-24%**	**17%**
	Installed renewables electricity capacity	Share of renewable electricity to total capacity, % [source:Eurostat, nrg_inf_epc]		50.30	49.30	48.80	48.10	**5%**	
Investment dynamics	Net Private investments	Change in private capital stock, net of depreciation, % GDP [source: Ameco]		-1.1	0.7	0.9	0.5	**-320.0%**	**2.6%**
	Net Public investments	Change in public capital stock, net of depreciation, % GDP [source: Ameco]		-0.4	-0.4	-0.6	-0.6	**-33%**	**0.4%**

(Continued on the next page)

Table (continued)

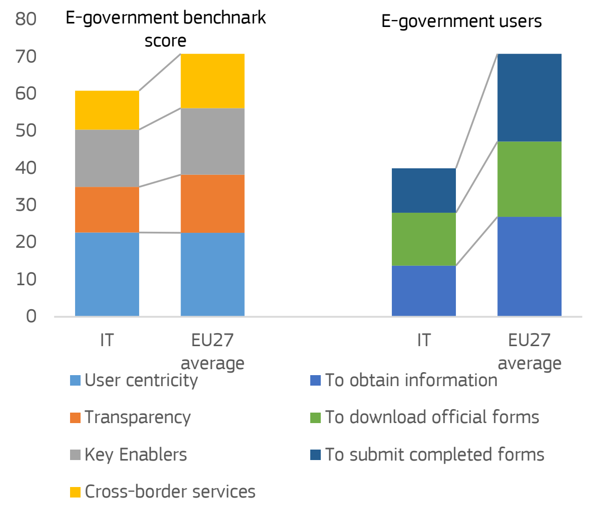
SINGLE MARKET									
Single Market integration	Intra-EU trade	Ratio of Intra-EU trade to Extra-EU trade, index [source: Ameco]	1.20	1.19	1.17	1.16	1.16	**3%**	**1.59**
Professional services restrictiveness	Regulatory restrictiveness indicator	Restrictiveness of access to and exercise of regulated professions (professions with above median restrictiveness, out of the 7 professions analysed in SWD (2021)185 [source: SWD (2021)185; SWD(2016)436 final])	6				6	**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]	9.6						**45%**
Compliance - cooperation EC and MS	Transposition - overall	5 sub-indicators, sum of scores [source: Single Market Scoreboard]		On average	Above	Below average	On average		
	Infringements - overall	4 sub-indicators, sum of scores [source: Single Market Scoreboard]		Below average	Below average	Below average	On 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]	57						**56%**
BUSINESS ENVIRONMENT - SMEs									
Business demography	Bankruptcies	Index (2015=100) [source: Eurostat, sts_rb_a]		51.5	75.5	75.8	81	**-36.4%**	**70.1 (2020)**
	Business registrations	Index (2015=100) [source: Eurostat, sts_rb_a]		77.7	94.7	90.8	91.7	**-15.3%**	**105.6**
Access to finance	Late payments	Share of SMEs experiencing late payments in past 6 months, % [source: SAFE]	46.6	58.2	56.9	n.a.	n.a.	**-18%**	**4500%**
	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]		0.92	0.85	0.8	0.74	**24.0%**	**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]		0.09	0.12	0.1	0.12	**-21.2%**	**0.18 (2020)**
	% of rejected or refused loans	SMEs whose bank loans' applications were refused or rejected, % [source: SAFE]	3.2	4.6	6.6	5.2	3.3	**-3.8%**	**12.4%**
Public procurement	SME contractors	Contractors which are SMEs, % of total [source: Single Market Scoreboard]		73	64	72	64	**14.1%**	**63%**
	SME bids	Bids from SMEs, % of total [source: Single Market Scoreboard]		62	66	63	67	**-7%**	**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.

Graph A11.1: **E-government benchmark scores (lhs) and e-government users (rhs)**



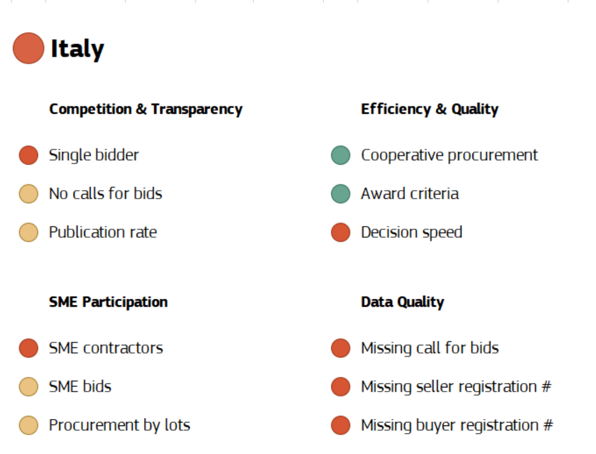
Source: Eurostat (ICT use survey) and E-government benchmark report

Italy ranks below the EU average in terms of effectiveness of the public administration. ([37]) Italy ranks in the bottom third for the provision of digital public services (60.9 score in the e-government benchmark vs 70.9 EU average, Graph A11.1). Factors that slow down the effectiveness of e-government include complex governance of the digitalisation process, low digital skills, low quality of ICT equipment and limited usage. Consequently, Italy's recovery and resilience plan provides for significant reforms and investments to boost the digitalisation of public administrations and simplify administrative procedures.

Italy's administrative capacity remains a challenge especially at local level. Italy has a lower share of civil servants with tertiary education than the EU average. The limited investment in training hinders upskilling. With about half of the staff set to retire in the next 15 years, the Italian public sector workforce is one of the oldest (34.1 % of workers are in the 55-74 age range). The recovery and resilience plan aims to boost the skills of civil service and its capacity by revising the selection procedures and career paths as part of a comprehensive reform of public employment, and through upskilling and reskilling measures.

Despite some improvement in recent years, Italy keeps ranking at the bottom on the Single Market Scoreboard's public procurement indicator. This is due to broad underperformance across multiple measures tracking the transparency, competition and quality of information in procurement (see Graph A11.2). The recovery and resilience plan contains reforms of public procurement and late payments by public administrations.

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

Italy scores highly on selected indicators measuring government transparency and oversight institutions. Italy ranks mid-third of the EU-27 for open data. Public information is freely available at no charge under the Freedom of Information Act.

However, there are challenges concerning the efficiency and quality of the justice system. The time needed to resolve civil and commercial legal cases showed an increase at all instances in 2020 and is well above the EU-27 average. The temporary slowdown of judicial activity due to severe restrictive measures to address the COVID-19 pandemic in 2020 impacted on both incoming and resolved cases with a strong influence on

([37]) Worldwide Governance Indicators, 2020.

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

IT	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 (%)	33.0	32.0	30.0	36.0	36.0	70.7
2	2021 e-government benchmark´s overall score (2)	na	na	na	na	60.9	70.9
	Open government and independent fiscal institutions						
3	2021 open data maturity index	na	na	na	na	92.0	81.1
4	Scope Index of Fiscal Institutions	74.3	74.3	74.3	74.3	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)	26.8	28.4	29.3	30.2	32.1	55.3
6	Participation rate of public administration employees in adult learning (3)	9.8	10.2	9.8	8.8	14.8	18.6
7	Gender parity in senior civil service positions (4)	0.6	0.4	0.4	0.4	0.5	0.3
8	Share of public sector workers between 55 and 74 years (3)	31.6	33.1	34.9	35.1	34.1	21.3
	Public Financial Management						
9	Medium term budgetary framework index	0.78	0.78	0.78	0.82	na	0.72
10	Strength of fiscal rules index	2.5	2.5	2.5	2.5	na	1.5
11	Public procurement composite indicator	-6.3	-3.3	-3.3	-3.3	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	2.45	na	na	2.55	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).

disposition time. However, the upcoming reforms aim to reduce substantially the length of proceedings and the backlog of cases. Although overall the quality of the justice system is good, the use of digital tools in courts remains an area for improvement. Projects are planned to boost digitalisation under the recovery and resilience plan. No systemic deficiencies on judicial independence have been reported. ([38])

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

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

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

Social Scoreboard for ITALY		
Equal opportunities and access to the labour market	Early leavers from education and training (% of population aged 18-24) (2021)	12.7
	Individuals' level of digital skills (% of population 16-74) (2021)	46.0
	Youth NEET (% of total population aged 15-29) (2021)	23.1
	Gender employment gap (percentage points) (2021)	19.2
	Income quintile ratio (S80/S20) (2020)	5.8
Dynamic labour markets and fair working conditions	Employment rate (% population aged 20-64) (2021)	62.7
	Unemployment rate (% population aged 15-74) (2021)	9.5
	Long term unemployment (% population aged 15-74) (2021)	5.4
	GDHI per capita growth (2008=100) (2020)	92.2
Social protection and inclusion	At risk of poverty or social exclusion (in %) (2020)	24.9
	At risk of poverty or social exclusion for children (in %) (2020)	28.9
	Impact of social transfers (other than pensions) on poverty reduction (% reduction of AROP) (2020)	21.0
	Disability employment gap (ratio) (2020)	14.9
	Housing cost overburden (% of population) (2020)	7.2
	Children aged less than 3 years in formal childcare (% of under 3-years-olds) (2020)	
	Self-reported unmet need for medical care (2020)	

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

(1) 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: Eurostat

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 Italy's progress in achieving the goals under the European Pillar of Social Rights.

The labour market in Italy has been recovering strongly, while the labour market participation of women, youth and vulnerable groups remains a challenge. At 62.7% in 2021, Italy's employment rate of people aged 20-64 is below the EU average (73.1%). The employment rate of women in the same age group is low (53.2% in 2021), creating a gender employment gap that is among the highest in the EU (19.2 pps against the average of 10.8 pps), though with wide regional differences. The provision of formal childcare for children under the age of three is significantly below the EU average (26.3% vs 35.3% in the EU in 2019), which undermines equal opportunities and work-life balance. The share of young people not in employment, education or training (NEET) aged 15-29 (23.1%) was the highest in the EU in 2021 (EU average is 13.7%). The labour market conditions worsened for people with a non-EU migrant background: between 2019 and 2021, the employment rate of non-EU citizens aged 20-64 fell from 63.7% to 60.3% (against a more limited decrease from 63.4% to 62.9% for nationals). Italy's job market also differs substantially by region, with employment rates varying between 72.3% in the north-east, 48.9% in the south and 47.7% in the islands. The recovery and resilience plan (RRP) includes measures to help women, young people and other under-represented groups find jobs. Based on the Commission's analysis, the 2022 personal income tax reform is expected to increase labour supply, with women estimated to experience the highest increase in working hours. The effectiveness of public employment services remains a concern. Italy had one of the lowest shares in the EU of unemployed people using the public employment services to find a job (18.7% compared to 42.5%), as well as one of the lowest rates of coverage of the NEET population by the Youth Guarantee (11.2%). Undeclared work remains a significant challenge, despite some recent improvements.

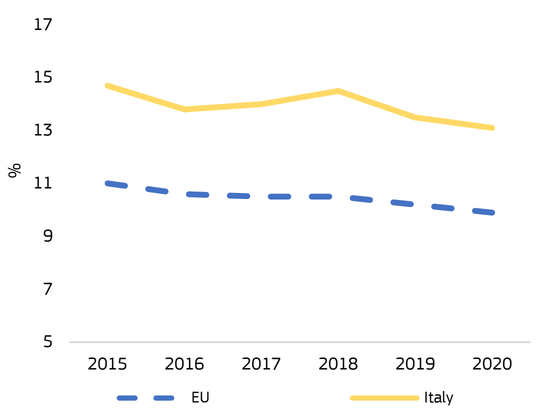
The high school drop-out rate and the low level of digital skills and of adults enrolled in learning pose major challenges to Italy. The proportion of early leavers from education and training remains well above the EU average (12.7% vs 9.7% in the EU in 2021, see Annex 13). Challenges remain as regards inclusiveness of and access to education for persons with disabilities. The employment rate of recent vocational education and training graduates (53.9%) remains below the pre-crisis levels and is among the lowest in the EU in 2021 (EU average is 76.4%). With support from the recovery and resilience facility, the government is expanding the offer of tertiary vocational education and is simplifying access for graduates to a range of professions. In 2021, 46% of Italy's population had at least basic digital skills (54% in the EU, see Annex 8) and only 23% had more advanced digital skills (26% in the EU). To increase the level digital skills the RRP supports 'digital civic service projects' and tax breaks for digital skills for companies, while the RRP-supported Guaranteed Employability of Workers and the National Plan for New Skills consider digital skills as a cross-cutting priority. Participation in adult learning over the past four weeks increased strongly (from 8.1% in 2019 to 9.9% in 2021), but remained below the EU average of 10.8%. It is essential for Italy to improve the quality, inclusiveness and labour market relevance of education and training at all levels for it to reach the EU's headline targets for 2030 on skills and employment.

Though the poverty rate had started to fall, the pandemic may hinder the gains made. Despite improvements, in 2020 the rate of people at risk of poverty or social exclusion was still above the EU average (24.9% vs 21.6% in the EU). It is among the highest in the EU for children and also relatively high for people with disabilities. According to national data, poverty measured in absolute terms rose in 2020. [39] The introduction of a universal child allowance that substitutes previous measures is expected to improve the functioning of the social safety net while supporting parenting and, possibly, increasing the birth rate. The minimum income scheme introduced in 2019 (Reddito di Cittadinanza) increased the adequacy of minimum income from 21.9% of the poverty threshold in 2018 to 90.7% in 2019. However, regional differences in purchasing power and the lack of outreach to vulnerable groups, including non-Italian residents and larger households, could reduce the scheme's impact on poverty reduction. The poverty-reduction impact of social benefits (excluding pensions), is one of the lowest in the EU (21% versus EU average of 33.2%). There are gaps in access to social protection for the self-employed and some non-standard workers. To foster equal opportunities and social inclusion, measures in the RRP will be complemented by other measures under the European Social Fund Plus (ESF+). Strengthening social safety nets and access to social services across all regions is key for Italy to reach the EU's headline target for 2030 on poverty reduction.

[39] Source: ISTAT, 2020, https://www.istat.it/it/files/2021/06/REPORT_POVERTA_2020.pdf.

This Annex outlines the main challenges for Italy'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. The Italian education system struggles to overcome a number of structural challenges and marked regional differences. Italy lags well behind the EU average and the EU-level targets in terms of early leavers from education and training, and tertiary educational attainment, resulting in low levels of human capital.

Graph A13.1: **Early leavers from education and training, 2015-2020 (%)**



Source: Eurostat, edat_lfse_14

Despite continued improvements over the past 10 years, the proportion of early leavers from education and training remains well above the EU average. In 2020 the rate among 18-24 year-olds was 13.1%, down 0.4 pp since the previous year but still well above both the EU average of 10.1% and the new EU-level target of 9% or less by 2030 (Graph A13.1).

Making up for learning losses incurred during the COVID-19 pandemic could pose a significant challenge. The 2021 round of standardised national student testing (INVALSI) showed an average drop in performance among thirteenth-grade students of 10 pps in Italian and maths. In addition, the proportion of thirteenth-graders who completed upper secondary education with below-grade-ten skills (*dispersione implicita*, or 'implicit' school drop-out) rose from 7.5% in 2019 to 9.5% in 2021, with peaks of between 15% and 22.4% in southern regions. ([40])

The gaps in student achievement between regions and between socio-economic groups have widened. Disadvantaged students lost twice as much learning as their more advantaged peers. In many regions, over half the students fail to reach the minimum competence level in Italian and maths.

Italy reports both teacher shortages and oversupply, depending on the subject and geographical area, suggesting inefficiencies in the selection and recruitment mechanisms. Bottlenecks in recruitment result in an ageing teacher workforce, with a particularly low share of teachers under 35 and a high share of teachers on temporary, short-term contracts. The government plans to adapt teacher selection and recruitment systems by redesigning competition procedures and strengthening the initial one-year on-the job training.

Though it has risen steadily, Italy's tertiary educational attainment rate continues to lag significantly behind the rest of the EU. In 2021 the share of 25-34 year-olds with tertiary educational attainment was the second-lowest in the EU, at 28.3%, well below both the EU average of 41.2% and the new EU-level target of at least 45% by 2030. Tertiary attainment is particularly low among the foreign-born population, at 12.6% against the EU average of 34.7%. Women are more likely to hold a tertiary qualification than men with a larger-than-average gender gap in their favour (12.1 pps vs EU 11.1 pps). Women also made up 38.9% of total STEM graduates, well above the 32.3% EU average. Disadvantaged and vocational education students are increasingly under-represented in higher education, as family background exerts a growing influence on tertiary educational attainment.

Effective implementation of Italy's national recovery and resilience plan could help

([40]) For a discussion of the broad impacts of Covid-19 on education see Di Pietro, G., Biagi, F., Dinis Mota Da Costa, P., Karpinski, Z. and Mazza, J., The likely impact of COVID-19 on education: Reflections based on the existing literature and recent international datasets, EUR 30275 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-19937-3, doi:10.2760/126686, JRC121071. https://publications.jrc.ec.europa.eu/repository/handle/JRC121071

address several of these longstanding structural challenges. Italy's plan envisages a series of substantial reforms and investments to strengthen the education and training offer and improve quality at all levels, from early childhood education and care to higher education, and to reduce regional disparities.

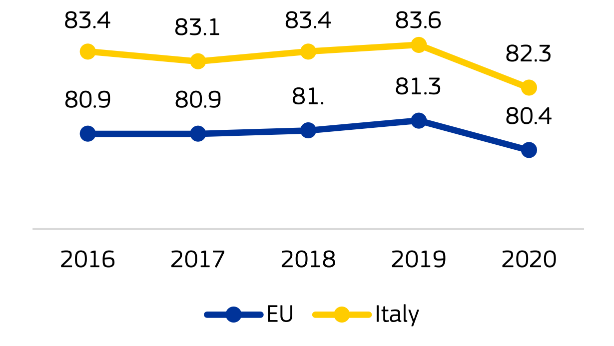
Table A13.1:**EU-level targets and other contextual indicators under the European Education Area strategic framework**

				2015		2021	
Indicator			**Target**	**Italy**	**EU27**	**Italy**	**EU27**
Participation in early childhood education (age 3+)			**96%**	**94.9%**	**91.9%**	**93.6%** [2019]	**92.8%** [2019]
Low achieving 15-year-olds in:		**Reading**	**< 15%**	**21.0%**	**20.4%**	**23.3%** [2018]	**22.5%** [2018]
		Mathematics	**< 15%**	**23.3%**	**22.2%**	**23.8%** [2018]	**22.9%** [2018]
		Science	**< 15%**	**23.2%**	**21.1%**	**25.9%** [2018]	**22.3%** [2018]
Early leavers from education and training (age 18-24)	**Total**		**< 9 %**	**14.7%**	**11.0%**	**12.7%**	**9.7%**
	By gender	*Men*		17.5%	12.5%	14.8%	11.4%
		Women		11.8%	9.4%	10.5%	7.9%
	By degree of urbanisation	*Cities*		14.8%	9.6%	13.8%	8.7%
		Rural areas		15.2%	12.2%	11.0%	10.0%
	By country of birth	*Native*		12.7%	10.0%	10.7%	8.5%
		EU-born		26.4%	20.7%	21.5%	21.4%
		Non EU-born		33.0%	23.4%	34.7%	21.6%
Tertiary educational attainment (age 25-34)	**Total**		**45%**	**25.2%**	**36.5%**	**28.3%**	**41.2%**
	By gender	*Men*		19.4%	31.2%	22.3%	35.7%
		Women		31.0%	41.8%	34.4%	46.8%
	By degree of urbanisation	*Cities*		30.0%	46.2%	34.1%	51.4%
		Rural areas		21.3%	26.9%	23.2%	29.6%
	By country of birth	*Native*		28.0%	37.7%	31.5%	42.1%
		EU-born		13.0%	32.7%	13.2%	40.7%
		Non EU-born		12.7%	27.0%	12.6%	34.7%
Share of school teachers (ISCED 1-3) who are 50 years or over				57.2%	38.3%	53.3% [2019]	38.9% [2019]

(1) The 2018 EU average on PISA reading performance does not include ES; Data are not yet available for the remaining EU-level targets under the European Education Area strategic framework, covering underachievement in digital skills, exposure of vocational education and training graduates to work based learning and participation of adults in learning
Source: Eurostat (UOE, LFS)

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

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



Source: Eurostat database

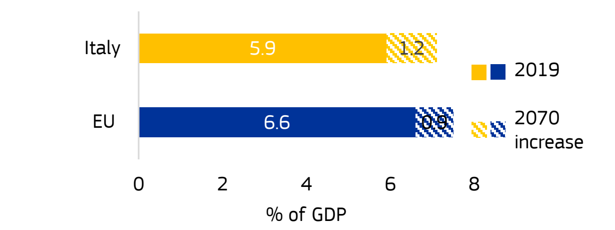
Life expectancy at birth in Italy is higher than in the EU as a whole, but fell in 2020 by almost 16 months due to COVID-19 (Graph A14.1). As of 17 April 2022, Italy has reported 2.71 cumulative COVID-19 deaths per 1 000 inhabitants and confirmed 263 cumulative COVID-19 cases per 1 000 inhabitants. Italy fares comparatively very well in avoiding deaths from treatable causes, which is also reflected in its low cancer mortality.

Health spending relative to GDP in Italy was below the EU average in 2019. Despite being lower than the EU average, the share of public spending on health ensures good universal public primary care. Italy spends more than the EU average on prevention measures, but is also a relatively high spender on pharmaceuticals and inpatients (unweighted average). With an ageing population, the public spending on health is projected to increase by 1.2 percentage points (pps) of GDP by 2070 (compared to 0.9 pps for the EU) ([41]), raising concerns about the long-term fiscal sustainability of its healthcare system (Graph A14.2).

Italy has significant regional inequalities in life expectancy with a gap between northern and southern regions of almost three years (before the pandemic). This can be closely related to disparities in access to and in the quality of care across regions. Residents in poorer regions in the south are more than twice as likely to report unmet medical care needs as those living in wealthier regions in the north of the country.

As set out in its recovery and resilience plan, Italy plans to invest EUR 16 293 million (8.51% of the total RRP) to upgrade the national healthcare service, address geographical health coverage and bolster the research sector, notably to promote digitalisation. A significant share of investments is also planned for upskilling health staff.

Graph A14.2: **Projected increase in public spending on health care over 2019-2070 (reference scenario)**



Source: European Commission (Directorate-General for Economic and Financial Affairs) and Ageing Working Group (Economic Policy Committee), The 2021 Ageing Report: Economic & Budgetary Projections for the EU Member States (2019-2070)

([41]) "The 2021 Ageing Report: Economic and Budgetary Projections for the EU Member States (2019-2070)", European Commission (ECFIN) and Ageing Working Group (EPC).

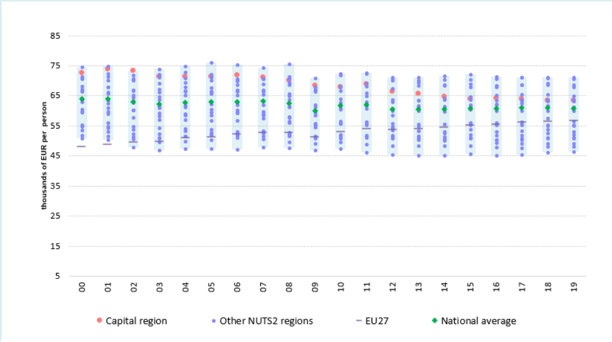
Table A14.1:**Key health indicators**

	2016	2017	2018	2019	2020	EU average (latest year)
Treatable mortality per 100 000 population (mortality avoidable through optimal quality healthcare)	66.7	66.5	64.9	63.7		92.1 (2017)
Cancer mortality per 100 000 population	241.0	237.9	234.7	230.9		252.5 (2017)
Current expenditure on health, % GDP	8.7	8.7	8.7	8.7		9.9 (2019)
Public share of health expenditure, % of current health expenditure	74.4	73.7	73.8	73.9		79.5 (2018)
Spending on prevention, % of current health expenditure	4.2	4.4	4.6	4.7		2.8 (2018)
Acute care beds per 100 000 population	262.1	262.5	258.5	259.8		387.4 (2019)
Doctors per 1 000 population *	4.0	4.0	4.0	4.1		3.8 (2018)
Nurses per 1 000 population *	5.6	5.8	5.7	6.2		8.2 (2018)
Consumption of antibacterials for systemic use in the community, daily defined dose per 1 000 inhabitants per day **	21.8	19.0	19.5	19.8	16.5	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). Nurses' density data refer to practising nurses in all countries (data from 2014 for FI) except IE, FR, PT, SK (professionally active) and EL (nurses working in hospitals only).
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 Italy with a noticeable difference between northern and southern regions.

Graph A15.1: **Labour productivity, EU-27, Italy NUTS 2 regions, 2000-2019**



Unit: real GVA in MM EUR (2015 prices) by employment in thousands of persons
Source: European Commission

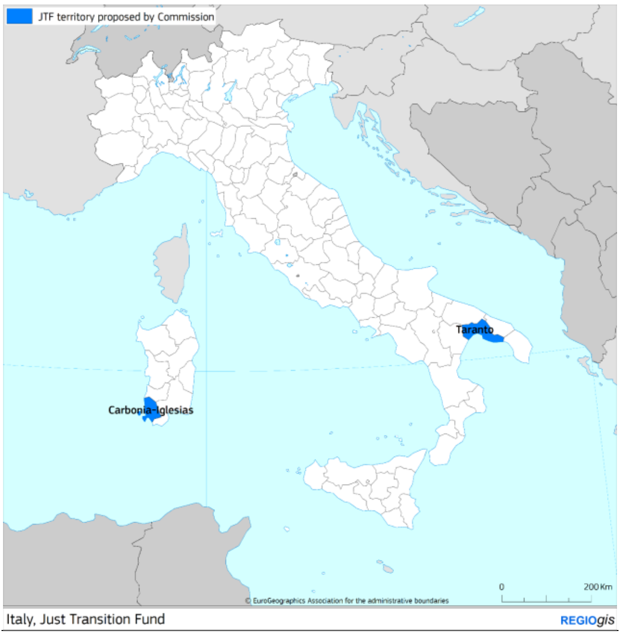
In Italy, the process of convergence is stalling and strong regional disparities persist. Over the last two decades, GDP per capita compared to the EU average decreased and productivity stagnated in all Italian regions, except the autonomous province of Bolzano, and the Italian GDP per head (PPS) by now is lower than the EU average. The gaps between southern regions and average EU levels in terms of GDP per capita and productivity are widening. Within the country, regional disparities continue to be significant and there is a clear downward drift of more developed regions becoming transition regions (Umbria, Marche) and transition regions becoming less developed regions (Sardinia, Molise). Stagnation in the southern regions is driven by loss of human capital, poor performance of the business system, limited quality of public services and, in some cases, low infrastructure endowments (water, waste, and regional railways).

The country as a whole is losing ground compared to the EU average in terms of development, and regional disparities spanning the North-South divide are deep and growing. Between 2010 and 2019, Italy has steadily lost ground in terms of GDP per head (in PPS) compared to the EU27 average, decreasing from 106% to 95%, continuing the trend observed during the previous decade. In 2019, a third of Italian regions (seven out of 21) had GDP per head lower than 75% of EU average. They are all located in the southern and island areas of the country. Calabria and Sicily are the poorest regions, with GDP per head below 60% of the EU average, closely followed by Campania and Apulia just slightly above 60%. In 2010, those four poorest regions were below 75% of EU average, while in 2000 only Calabria was. This reveals a long-standing, progressive deterioration of development in the southern regions in particular, but also extending to central regions in transition.

In 2021, the economic recovery was stronger in northern regions than in the rest of the country ([42]), confirming a phenomenon visible also after the 2008/09 financial crisis. Each cycle of downturn and recovery leaves the south lagging further behind. The economy in the industrial sector, localised largely in northern Italy, surged back in 2021, while many small businesses, especially in the south, saw a fall in value added. The layoff rate rose only slightly in 2021, especially in the south, but had returned to normal levels by August 2021.

([42]) Bank of Italy, quarterly indicator of the regional economy (ITER)

Graph A15.2: **Areas most affected by the climate transition in Italy**



Source: European Commission

Some Italian areas stand out in terms of their greenhouse gas (GHG) intensity in their industry, or their dependence on fossil fuels, even though at country level Italy performs well in relative terms on GHG emissions intensity (222g per euro, compared to the EU average of 282g per euro). The climate transition challenges in the Taranto area and in the mining area of Sulcis, in Sardinia, and especially their employment dimension are particularly acute (Graph A15.1). During the pandemic, many businesses in Italy slowed down or even suspended green investment. Postponed investment was mainly in the south, while in the north it was more a question of scaling back the planned green investment.

There are several factors explaining the trends of widening regional disparities. In recent years, at national level, the share of the population aged 30-34 with a tertiary degree is 12 percentage points lower than the EU-27 average (at 27.4% against 39.4%). The regional gap within the country is also marked, with less developed regions at 22.6%, and more developed regions in the north at around 30%. Employment in high technology sectors, as well as spending on R&D in the business sector are both significantly lower than the EU27 average nationwide. In southern regions, they are between 50% and 40% of the levels reached in the north. All those factors point consistently to the country's limited capacity, particularly in its less developed regions, to intercept growth trends in dynamic and advanced sectors. All Italian areas lag behind the EU average in terms of digitisation, especially on digital skills, with lower shares of information and communication technology specialists and a lower use of digital technologies in production processes, especially in the south.

The administrative and technical capacity of the public administration remains a challenge, especially in the south. This is shown by the poor performance of public investments in sectors under regional competence such as the environment, energy and local public transport.

Labour market conditions differ greatly between the more and less developed areas of the country with a persistent North-South divide. The unemployment rate in 2020 was on average two and half times higher in southern and island regions than in the north, with double-digit figures in Calabria, Campania, Sicily, Apulia and Sardinia. Less developed regions face depopulation, due to lower birth rates and the migration of young and skilled people to northern Italy and the rest of Europe, creating structural growth bottlenecks. The employment rate (ages 20-64) is aligned with the EU average at around 72% in the north of the country but over 20 percentage points lower in the south, with Campania, Calabria and Sicily below 50%.

The COVID-19 pandemic affected all regions in socio-economic terms, but to a different degree. Although the unemployment rate fell in most regions as well as nationwide in 2020 compared to 2019, mostly linked to the rise in the number of inactive people, the employment rate (ages 20-64) decreased on average by 2.5 percentage points compared to what would be expected based on the 2015-2019 trend in the four regions with the highest rate of excess mortality (Piedmont, the Autonomous Provinces of Trento and Bolzano and Lombardy). In the four regions with the lowest rate of excess mortality, the employment rate fell by only around one percentage point.

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

NUTS 2 Region	GDP per head (PPS)	GDP (mln of PPS)	Productivity (GVA (PPS) per person employed)	Population growth	Net migration	Population with high educational attainment	R&D expenditure	Gross Fixed Capital Formation	Regional Competitiveness Index
	EU27=100, 2019	2019	EU27=100, 2018	Total % change, 2011-2019	Total % change, 2011-2019	% of population aged 30-34, 2017-2019	% of GDP, 2018	% of GDP, 2018	Range 0-100, 2019
European Union	100	13 963 897.26	100	1.8	2.2	39.4	2.19	22.02	57.3
Italia	96	1 798 039.56	107	1.4	3.4	27.4	1.43	17.83	42.1
Piemonte	102	138 420.26	111	-0.6	3.3	28.1	2.18	20.99	50.7
Valle d'Aosta/Vallée d'Aoste	125	4 890.60	120	-1.4	1.1	26.8	0.48	17.95	39.4
Liguria	104	49 971.19	113	-2.0	4.6	27.7	1.35	17.46	48.6
Lombardia	127	400 626.78	124	4.3	5.3	33.2	1.34	17.31	57.0
Abruzzo	82	33 284.46	97	-0.2	3.0	25.5	0.91	18.65	34.2
Molise	69	6 519.64	91	-3.8	0.5	26.3	1.26	19.86	33.8
Campania	61	110 138.63	89	0.1	0.5	20.9	1.30	16.32	25.9
Puglia	62	77 834.29	85	-1.2	0.2	21.3	0.78	16.05	22.7
Basilicata	75	13 150.50	98	-3.8	-0.5	27.3	0.63	20.37	26.0
Calabria	56	33 775.19	83	-1.7	-0.2	20.3	0.54	14.45	18.4
Sicilia	58	89 779.10	90	-0.8	0.7	20.1	0.82	14.88	19.1
Sardegna	69	35 419.03	88	-0.8	2.0	22.2	0.80	15.69	23.8
Provincia Autonoma di Bolzano/Bozen	155	25 634.13	126	6.3	4.3	27.9	0.84	25.35	46.7
Provincia Autonoma di Trento	125	21 064.41	120	3.9	4.1	34.1	1.57	20.60	54.6
Veneto	108	165 624.01	109	1.0	2.5	29.6	1.39	19.77	50.1
Friuli-Venezia Giulia	103	38 951.23	108	-0.8	3.3	32.0	1.67	19.21	49.2
Emilia-Romagna	118	164 509.81	114	3.0	5.9	32.8	2.03	19.48	53.2
Toscana	103	119 277.41	106	1.4	5.2	28.9	1.55	16.51	47.8
Umbria	85	23 374.89	95	-0.6	3.1	28.8	1.03	18.48	43.5
Marche	90	42 588.26	96	-1.6	1.7	29.8	1.06	15.79	41.7
Lazio	110	201 770.11	112	6.8	8.2	31.5	1.75	16.68	53.1

Source: Eurostat, EDGAR database

ANNEX 16: KEY FINANCIAL SECTOR DEVELOPMENTS

This Annex provides an overview of key developments in Italy's financial sector. Despite efforts to improve non-bank intermediation, Italy's financial sector remains predominantly bank-based. Banking sector assets stood at 224% of GDP at the end of Q3-2021, with the five largest banks holding a share of 49% of total banking sector assets at the end of 2020, slightly higher than in 2019. Foreign ownership is low, the banking sector being mainly domestically owned (92% of total assets in Q3-2021). Due to the increase in deposits and sluggish lending activity, the loan-to-deposit ratio has fallen since 2015. The market-funding ratio has remained rather low at 35.4% in 2020, as bank loans remain the main form of external financing for most companies. Nevertheless, bond funding (including through mini-bonds issued by small companies) has been resilient since the onset of the pandemic and has played a complementary role to bank lending.

The public support measures granted since the onset of the pandemic have supported resilience in the banking sector. The solvency ratio stood at 18.7% in Q3-2021, slightly lower than in 2020, due to the gradual phasing in of IFRS9 and to a lesser extent due to the resumption of dividend payments. Benefitting from the support of state guarantees and loan moratoria, asset quality has improved further, with the non-performing loans ratio declining to 4% in Q3-2021. The reduction of non-performing loans, including unlikely-to-pay-loans, has also continued. Nevertheless, the full impact of the pandemic on asset quality may come with a lag, after the full phasing out of support measures. Meanwhile, unlikely-to-pay loans, which account for the half of the stock of non-performing loans, warrant close monitoring and appropriate management. Despite pressures on the net interest income, profitability recovered, in particular due to the decline in loan-loss provisions, with the return on equity reaching 7.7% in Q3-2021. The cost-to-income-ratio declined to 59.4% in Q3-2021, on the back of the action taken by banks to increase efficiency. All banks have maintained comfortable liquidity coverage ratios and benefited from abundant central bank liquidity, which stood at roughly 13.4% of total liabilities in Q3-2021.

Credit activity expanded in 2020, but lost momentum in 2021 on the back of the lower lending to non-financial corporations. In 2021, lending to non-financial corporations has slowed down across all sectors, due to lower demand, in particular from larger companies. Lending to households has remained robust, fuelled mainly by lending for house purchases, which has gained momentum since 2020. However, real estate prices have risen more slowly than in other EU Member States. Housing market developments do not raise concerns from a financial stability perspective. However, after

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

	2017	2018	2019	2020	2021
Total assets of the banking sector (% of GDP)	214.0	207.1	207.4	232.7	224.3
Share (total assets) of the five largest bank (%)	43.4	45.6	47.9	49.3	-
Share (total assets) of domestic credit institutions (%)[1]	92.0	91.8	93.1	92.5	91.7
Financial soundness indicators:[1]					
- non-performing loans (% of total loans)	11.2	8.4	6.7	4.5	4.0
- capital adequacy ratio (%)	16.8	16.1	17.2	19.3	18.7
- return on equity (%)	7.1	5.8	4.9	1.0	7.7
NFC credit growth (year-on-year % change)	0.4	1.5	-1.8	8.3	1.8
HH credit growth (year-on-year % change)	2.8	2.8	2.6	2.4	3.6
Cost-to-income ratio (%)[1]	65.1	65.9	65.5	68.3	59.4
Loan-to-deposit ratio (%)[1]	102.1	97.1	94.4	77.0	72.9
Central bank liquidity as % of liabilities	8.4	8.1	7.2	11.7	13.4
Private sector debt (% of GDP)	109.4	107.8	106.1	118.9	-
Long-term interest rate spread versus Bund (basis points)	179.4	221.3	220.3	167.8	118.5
Market funding ratio (%)	31.7	34.1	34.8	35.4	-
Green bond issuance (bn EUR)	1.7	2.0	5.9	5.8	22.2

(1) Last data: Q3-2021
Source: ECB, Eurostat, Refinitiv

several years of gradual decrease, private sector debt increased markedly in 2020, reaching 119% of GDP, the highest level since 2015.

The Macroeconomic Imbalance Procedure Assessment matrix presents the main elements of the in-depth review undertaken for Italy in accordance with Article 5 of Regulation (EU) No 1176/2011 on the prevention and correction of macroeconomic imbalances, as summarized in the SWD (2022)635 final. ([43]) 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.

Italy's economy is facing vulnerabilities relating to high government debt and weak productivity growth, as well as fragilities in the labour market and some weaknesses in the financial market. Low productivity growth was the main factor behind of Italy's weak GDP growth performance in the decade prior to the COVID-19 pandemic. Italy's public debt ratio remains high, in part due to persistently weak GDP growth, and remains a risk for fiscal sustainability and the financial sector. Despite some improvements in the labour market, low participation rates, particularly of women, and high youth unemployment persist. Significant improvements have been made in the reduction of NPLs, although the sovereign-bank nexus remains a challenge.

Going forward, Italy's long-standing vulnerabilities are not expected to unwind in the near term. Productivity is expected to slowly increase in the next years, as reforms and investment included in Italy's RRP are implemented. The public debt-to-GDP ratio started to decline in 2021 on the back of a strong economic rebound, albeit from a high level, and is forecast to further decline the next two years. The labour market recovered most of the losses incurred by the pandemic crisis, albeit largely due to an increase in temporary employment and further reductions in joblessness are expected to be limited. The banking sector made significant progress in reducing legacy non-performing loans, although risks remain, linked to the uncertainty due to geopolitical tensions, a possible deterioration of the economic outlook and of the gradual phasing-out of support measures. The sovereign-bank nexus increased following the COVID crisis.

The reforms and investments of the Recovery and Resilience Plan are expected to contribute to reducing macroeconomic imbalances, contingent on full implementation. The implementation of reforms and investments is set to gradually boost productivity and growth. Major steps were already taken in 2021, including the adoption of reforms in the judicial and education system, as well as major investments, such as to support the digitalisation of firms. The government strengthened the spending review framework and is taking additional measures with a view to addressing tax evasion. It also enhanced and extended active labour market policies. However, public employment services continue to face challenges and implementation of the measures included in the plan will be key. The entry into force of the new insolvency framework in 2022 is expected to reduce further accumulation.

For those reasons, and more generally on the basis of the elements of the in-depth review undertaken for Italy under Regulation (EU) No 1176/2011 on the prevention and correction of macroeconomic imbalances as summarised in the Staff Working Document (SWD (2022)635 final), **the Commission has considered in its Communication "European Semester – 2022 Spring Package" (COM(2022)600 final) that Italy continues to experience excessive macroeconomic imbalances**..

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

Table A17.1:**Assessment of Macroeconomic Imbalances matrix**

Productivity and competitiveness	Weak productivity growth is a long-standing challenge. Growth in real labour productivity (per hour worked) averaged 0.6% during 2010-2020 (EU: 1.2%). Weak productivity growth is largely due to low investment and innovation, barriers to competition, weaknesses in the public administration paired with a non-supportive business environment and skill gaps in the labour force. Productivity growth is necessary to sustain real GDP growth, which in turn will be crucial to substantially reduce the public debt ratio.	Labour productivity in 2020 grew sizeably (2.3%), as the drop in hours worked largely exceeded the fall in economic output. With the rise in hours worked productivity dropped by 1.3% in 2021, compared to a small increase (0.2%) in the EU on average. Reforms improving the business environment and investments, in particular in digitalisation, are expected to lift productivity in the medium term.	In 2021, as part of the RRP, public schemes supportin innovative investment (notably Transizione 4.0) have been increased and a major step in the reform of justice has been implemented to improve the productivity of courts. The measures on public procurement reform adopted in 2021 and those envisaged by 2022, as well as the competition law se to be adopted by the end of 2022, are expected to simplify and fasten bureaucratic procedures, includin for awarding public contracts, and contribute to the improvement of the business environment. The first steps of the public administration reform envisaged f 2022 is expected to improve administrative capacity and the efficiency of public employment.
Public debt	Italy's public debt ratio of 150.8% of GDP in 2021 is high in a euro area comparison. The high public debt is a major source of vulnerability for the economy. High debt servicing costs crowd out productive public expenditure. High rollover needs entail refinancing risks. Prolonged increases in sovereign yields may have adverse economic effects also through the exposure of domestic financial institutions to public debt and their lending activity.	Following the increase of the public debt ratio from 134.1% of GDP in 2019 to 155.3% in 2020, due to the policy response to the Covid crisis and the drop in economic activity, it declined to 150.8% in 2021 thanks to the economic recovery. It is projected to further decline to 146.8% by 2023. After a marked decline in 2020, sovereign yields increased gradually in 2021 and accelerated in early 2022. Still, they remain low in a historical perspective. Debt sustainability analysis suggests that fiscal sustainability risks are low in the short term, but high in the medium term. Sustained real GDP growth along with gradual fiscal consolidation will be crucial to substantially reduce the public debt ratio.	New measures of almost 2% of GDP are expected to weigh on the 2022 deficit, including the permanent reduction of personal income taxes and temporary measures for energy prices. The temporary provisions effective until end-2021 fo early retirement, will imply slightly higher pension expenditure in the medium term and were extended some extent in 2022. Previous policies taken against tax evasion are startir to bear fruit. The measures in the RRP, to be implemented in 2022, are expected to further impro these results. The reinforced role of the Finance Ministry following the RRP measures is expected to improve the effectiveness of spending reviews.
		Adjustment issues	
Labour market participation and unemployment	The labour market continues to face low participation rates, particularly for women and high youth unemployment The youth unemployment rate and the share of young people not in employment, education or training are among the highest in the EU.	The unemployment rate averaged 9.5 % in 2021, slightly up by 0.2pp. from 2020 but down from 9.9% in 2019. Activity rates have been recovering only gradually. With the continuing economic expansion, joblessness is expected to decline in 2022. Long-term and youth unemployment register similar levels as before the crisis. The female participation rate has not fully recovered to the pre-crisis level.	The reform of active labour market policies adopted 2021 and the strengthening of work-based learning and skill formation under the RRP are set to help job matching and will allow for an easier transition between jobs. The coverage of the social safety net (Ammortizzatori sociali) has been extended, but shor time work schemes are still closely tied to employme with a specific firm. The extension of care facilities benefits female labour market participation.
Financial Sector	The sovereign exposure of the Italian banking sector remains high, and increased since the pandemic. The gross NPL ratio declined from 8.1% in Q2 2019 to 4% by Q3 2021. Despite a slight decline in 2021 due to the phasing out of the transitional prudential arrangements, Italian banks are highly capitalized with a CET1 ratio of 15.1% in Q3-2021. Profitability of Italian banks rose considerably to 5.8% in Q3 2021, although it is mainly due to the drop in loan-loss provisions.	Despite considerable improvements in NPLs, the full impact of the pandemic has not yet materialised, and risks remain in view of a possible deterioration of the economic outlook and of the gradual phasing-out of support measures. A slight decline in CET1 ratio can be expected also in 2022 due to the exposure of the largest banking groups to Russia. Finally, a weaker than expected recovery weighs on borrowers' ability to repay loans, which may negatively affect the asset quality and profitability of Italian banks.	The prolongation of COVID-19 support measures allows banks to convert deferred tax assets into tax credits against NPL sales and by the state-backed NPI securitisation scheme. Banks have benefitted from government measures to support the provision of liquidity to companies, the regulatory relief of Capita Requirement Regulation II amendments and the flexibility allowed for the classification of loans. The insolvency reform is expected to enter into force July 2022. A new out-of-court settlement was adopte in 2021 to facilitate an earlier restructuring of companies under distress.

Source: European Commission

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

Based on the latest data, Italy's tax revenues are high in relation to GDP and more than half of total tax revenue comes from labour taxation. Italy's tax-to-GDP ratio was above the EU aggregate in 2020, with labour tax revenue as a percentage of GDP among the highest in the EU. The labour tax wedge for Italy in 2021 was higher than the EU average at several income levels, i.e. for single people at the average wage (100%) as well as at 50%, 67% and 167% of the average wage. Second earners at a wage level of 67% of the average wage, whose spouse earned the average wage, also faced a higher tax wedge than the EU average (Graph A18.1). In addition, the profile of marginal effective personal income tax rates presents sharp discontinuities. The tax-benefit system helped reduce inequality as measured by the GINI coefficient in 2019, but by less than the EU aggregate reduction. At the same time, consumption tax revenues as a percentage of GDP were slightly below the EU aggregate, also due to the wide use of reduced VAT rates. Environmental tax revenues as a percentage of GDP were among the highest in the EU, although pollution and resource taxes were below the EU aggregate. Revenues from recurrent taxes on property as a percentage of GDP were above the EU aggregate, but first residences are exempt for almost all properties and the land and the property values used for property taxation are largely outdated. The cadastral reform drafted following the enabling law of 2014, was never adopted. A new enabling law, currently under discussion in the Parliament, provides for a reform of cadastral values, which however will not be used for taxation purposes.

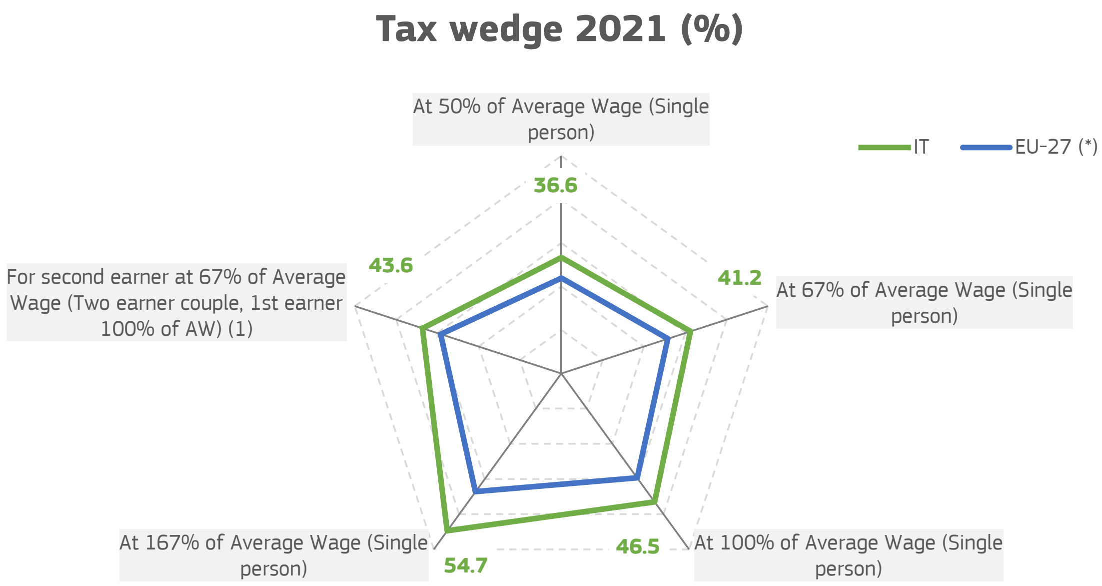
Recent reforms of the tax-benefit system are positive steps, but challenges remain. To reduce the high tax burden on labour, in December 2021 Italy reformed personal income taxes by reducing the tax rates for the second and third bracket (from 27% and 38% respectively to 25% and 35%) and reducing the lower bound for the top tax bracket from EUR 75 000 to EUR 50 000. The previously existing tax credit (so-called '100-euro bonus'), which increased the complexity of the tax system and caused high effective marginal tax rates at medium-high income levels, was merged in the already existing general tax deduction for employees. The regional tax on productive activities (IRAP) was also abolished for self-employed workers. In addition, since March 2022 a streamlined family allowance replaced previous child-support schemes as well as tax deductions for dependent children. This measure helped simplify the tax system and increase fairness, as it benefits both employees and the self-employed and takes into account both household income and wealth. Based on simulations performed by the European Commission Joint Research Centre through Euromod (44), overall these reforms have increased households' annual mean equivalised disposable income by 2.3%, with the main increase for poorer households (+11.0% and +4.1% in the first and second income deciles respectively, and 1.0% in the top decile). Inequality as measured by the GINI coefficient fell slightly, by around 2%. Similarly, a mild decline in the at-risk-of-poverty rate was recorded (-1.4 pps, with reference to 50% of median income). Labour supply is estimated to increase (45), with participation rates and hours worked rising by 0.34% and 0.25% respectively for women and by 0.13% and 0.07% for men. The tax wedge is expected to decline by 1.6 pps for earners at 50% of the average wage and by 0.7 pps at the average wage, while still remaining above the EU average.

Despite major measures taken, tax evasion in Italy remains very high. In 2019, electronic invoicing became compulsory for all transactions with the exception of self-employed workers in simplified regimes. As a result, the estimated revenue-loss caused by evasion of tax and social security contributions declined overall by EUR 3.1 billion, following a EUR 5 billion reduction in 2018 (estimates from yearly government reports on the shadow economy). However, at 5.5% of GDP in 2019 (EUR 99.3 billion), foregone revenue remains very high. Similarly, the VAT gap (an indicator of

(44) Euromod is the tax-benefit microsimulation model for the EU. For more details on Euromod, see Sutherland, H. and Figari, F., "EUROMOD: the European Union tax-benefit microsimulation model", International Journal of Microsimulation, 2013, vol. 1, issue 6, 4-26.

(45) Labour supply reactions are estimated through Eurolab (for details, see Narazani, E., Colombino, U. and Bianey P., "EUROLAB: A Multidimensional Labour Supply-Demand Model for EU Countries", European Commission, 2021.

Graph A18.1: **Tax wedge indicators**



The tax wedge is defined as the sum of personal income taxes and employee and employer social contributions net of family allowances, expressed as a percentage of total labour costs (the sum of the gross wage and social contributions paid by the employer). It is calculated for specific types of tax payers in terms of household composition and income level expressed as a % of the average wage. Data on tax wedges can be consulted in the 'Tax and benefit database' by ECFIN https://europa.eu/economy_finance/db_indicators/tab/

(1) The second earner average tax wedge measures how much extra personal income tax plus employee and employer social 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.

Source: European Commission

the effectiveness of VAT enforcement and compliance), has followed a downward sloping trend, reaching 21.3% of the VAT total tax liability in 2019 in Italy, but it remains more than double the EU-wide gap of 10.5%. In 2020, the higher use of electronic payments, also encouraged by government incentives, has likely further supported tax compliance. At the same time, the 2021 cancellation of past tax liabilities for the period 2000-2010, which concerned liabilities up to EUR 5 000 for taxpayers earning less than EUR 30 000, risked rewarding non-compliant behaviours. Several measures included in the RRP, including the launch of pre-filled VAT tax returns, are expected to continue improving the digitalisation of the tax administration, which can help reduce tax arrears as well as cut compliance costs. Recent studies highlight the scope to improve the efficiency of VAT collection ([46]). Lastly, average forward-looking effective corporate income tax rates were above the EU average in 2020. However, EATR computed for technologically advanced investments are extremely low in Italy, thanks to "Transition 4.0" tax credits, with possible positive spillover effects on the economy.

([46]) The collection efficiency increased to 39.28 per cent in Italy. European Commission, Directorate-General for Taxation and Customs Union, Poniatowski, G., Bonch-Osmolovskiy, M., Śmietanka, A., VAT gap in the EU : report 2021, Publications Office, 2021, https://data.europa.eu/doi/10.2778/447556

Table A18.1:**Taxation indicators**

		Belgium					EU-27				
		2010	**2018**	**2019**	**2020**	**2021**	**2010**	**2018**	**2019**	**2020**	**2021**
Tax structure	Total taxes (including compulsory actual social contributions) (% of GDP)	43.6	44.8	43.5	43.6		37.9	40.1	39.9	40.1	
	Labour taxes (as % of GDP)	23.7	22.2	21.7	22.7		20.0	20.7	20.7	21.5	
	Consumption taxes (as % of GDP)	10.9	11.0	10.8	10.5		10.8	11.1	11.1	10.8	
	Capital taxes (as % of GDP)	8.8	11.5	10.8	10.3		7.1	8.2	8.1	7.9	
	Total property taxes (as % of GDP)	3.1	3.5	3.5	3.5		1.9	2.2	2.2	2.3	
	Recurrent taxes on immovable property (as % of GDP)	1.3	1.2	1.3	1.3		1.1	1.2	1.2	1.2	
	Environmental taxes as % of GDP	2.4	2.7	2.6	2.5		2.4	2.4	2.4	2.2	
Progressivity & fairness	Tax wedge at 50% of Average Wage (Single person) (*)	41.8	34.1	33.1	32.8	34.6	33.9	32.4	32.0	31.5	31.9
	Tax wedge at 100% of Average Wage (Single person) (*)	55.9	52.7	52.3	52.2	52.6	41.0	40.2	40.1	39.9	39.7
	Corporate Income Tax - Effective Average Tax rates (1) (*)		23.8	23.8	20.3			19.8	19.5	19.3	
	Difference in GINI coefficient before and after taxes and cash social transfers (pensions excluded from social transfers)	11.0	10.3	12.9	12.4		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 (in %) (*)		15.2	15.5				31.9	31.8		
	VAT Gap (% of VTTL)		11.4	12.3				11.2	10.5		
Financial Activity Risk	Dividends, Interests and Royalties (paid and received) as a share of GDP (%)		9.6	15.0	9.8			10.7	10.5		
	FDI flows through SPEs (Special Purpose Entities), % of total FDI flows (in and out)		1.9	6.7	13.6			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.
Source: European Commission and OECD

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)	1.4	-1.4	0.5	0.5	-9.0	6.6	2.4	1.9
Potential growth (y-o-y)	0.8	-0.2	-0.1	0.0	-0.1	0.2	0.5	1.0
Private consumption (y-o-y)	1.2	-1.1	0.5	0.2	-10.6	5.2	2.2	1.4
Public consumption (y-o-y)	0.3	-0.4	-0.3	-0.5	0.5	0.6	0.9	0.9
Gross fixed capital formation (y-o-y)	1.8	-4.9	0.5	1.2	-9.1	17.0	6.2	4.1
Exports of goods and services (y-o-y)	5.9	-0.9	2.8	1.6	-13.4	13.3	4.9	4.3
Imports of goods and services (y-o-y)	5.3	-2.9	3.4	-0.7	-12.1	14.2	6.1	4.2
Contribution to GDP growth:								
Domestic demand (y-o-y)	1.2	-1.7	0.3	0.2	-7.9	6.2	2.7	1.8
Inventories (y-o-y)	0.1	-0.2	0.2	-0.4	-0.3	0.2	0.0	0.0
Net exports (y-o-y)	0.1	0.6	-0.1	0.7	-0.8	0.2	-0.2	0.0
Contribution to potential GDP growth:								
Total Labour (hours) (y-o-y)	0.3	-0.3	0.0	-0.4	-0.3	-0.2	-0.1	0.4
Capital accumulation (y-o-y)	0.6	0.3	-0.1	0.0	-0.1	0.1	0.3	0.3
Total factor productivity (y-o-y)	-0.2	-0.1	0.0	0.3	0.3	0.3	0.3	0.3
Output gap	2.0	-1.3	-2.6	0.7	-8.3	-2.4	-0.5	0.3
Unemployment rate	7.3	8.5	11.8	9.9	9.3	9.5	9.5	8.9
GDP deflator (y-o-y)	2.3	1.5	1.0	0.9	1.4	0.5	3.1	2.4
Harmonised index of consumer prices (HICP, y-o-y)	2.2	2.4	0.7	0.6	-0.1	1.9	5.9	2.3
Nominal compensation per employee (y-o-y)	2.6	1.1	0.8	1.3	-5.1	6.0	3.6	1.7
Labour productivity (real, hours worked, y-o-y)	0.2	0.0	0.2	0.5	2.3	-1.3	0.6	0.0
Unit labour costs (ULC, whole economy, y-o-y)	2.3	2.1	0.7	1.3	2.1	-0.1	1.8	0.9
Real unit labour costs (y-o-y)	0.0	0.5	-0.3	0.4	0.8	-0.5	-1.2	-1.4
Real effective exchange rate (ULC, y-o-y)	1.4	-0.1	-0.1	-2.3	.	.	.	.
Real effective exchange rate (HICP, y-o-y)	0.1	-0.8	0.2	-2.2	0.9	-0.3	.	.
Net savings rate of households (net saving as percentage of net disposable income)	8.6	4.6	3.0	2.4	10.2	7.5	.	.
Private credit flow, consolidated (% of GDP)	9.9	2.9	-0.2	0.3	4.1	.	.	.
Private sector debt, consolidated (% of GDP)	99.7	121.3	114.5	106.0	118.7	.	.	.
of which household debt, consolidated (% of GDP)	34.1	42.4	41.7	41.1	45.0	.	.	.
of which non-financial corporate debt, consolidated (% of GDP)	65.5	78.9	72.8	64.9	73.7	.	.	.
Gross non-performing debt (% of total debt instruments and total loans and advances) (2)	4.4	8.3	11.5	5.4	3.5	.	.	.
Corporations, net lending (+) or net borrowing (-) (% of GDP)	-0.2	0.6	2.9	3.3	6.1	5.2	4.8	5.1
Corporations, gross operating surplus (% of GDP)	23.0	21.3	21.3	21.9	21.9	21.5	21.5	21.3
Households, net lending (+) or net borrowing (-) (% of GDP)	2.4	0.9	1.8	1.4	7.2	4.4	1.8	0.7
Deflated house price index (y-o-y)	3.7	-1.6	-3.4	-0.7	2.1	.	.	.
Residential investment (% of GDP)	5.5	5.4	4.2	4.0	4.0	4.9	.	.
Current account balance (% of GDP), balance of payments	-1.1	-2.2	2.0	3.2	3.7	2.5	1.2	1.6
Trade balance (% of GDP), balance of payments	-0.2	-0.7	2.8	3.4	3.7	2.4	.	.
Terms of trade of goods and services (y-o-y)	-1.4	-1.0	1.3	0.9	3.7	-4.6	-5.5	1.4
Capital account balance (% of GDP)	0.1	0.1	0.1	-0.1	0.0	-0.1	.	.
Net international investment position (% of GDP)	-17.9	-21.0	-14.7	-1.1	2.0	7.4	.	.
NENDI - NIIP excluding non-defaultable instruments (% of GDP) (1)	-9.4	-22.4	-14.3	-0.1	1.1	6.7	.	.
IIP liabilities excluding non-defaultable instruments (% of GDP) (1)	94.5	113.9	122.3	122.4	139.2	135.5	.	.
Export performance vs. advanced countries (% change over 5 years)	0.5	-12.5	-7.7	-3.9	-2.4	.	.	.
Export market share, goods and services (y-o-y)	-2.6	-5.8	0.0	-1.3	-2.9	3.0	0.2	0.0
Net FDI flows (% of GDP)	0.8	1.0	-0.1	0.1	1.2	0.2	.	.
General government balance (% of GDP)	-3.1	-3.7	-2.6	-1.5	-9.6	-7.2	-5.5	-4.3
Structural budget balance (% of GDP)	-4.6	-3.3	-1.2	-2.0	-5.2	-6.3	-5.8	-4.8
General government gross debt (% of GDP)	105.6	117.6	134.4	134.1	155.3	150.8	147.9	146.8

(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 2022-05-02, where available; European Commission for forecast figures (2022 Spring Forecast)

This annex assesses fiscal sustainability risks for Italy 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.

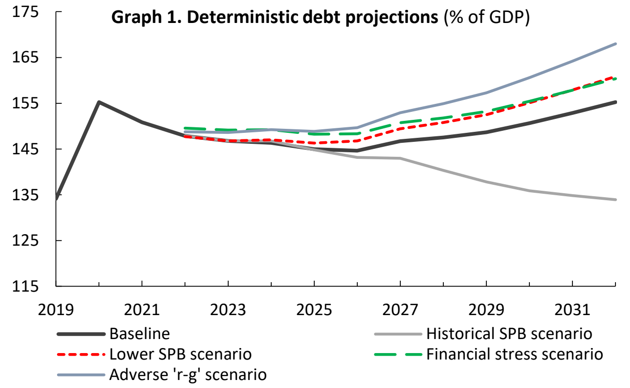
Graph 1 shows four alternative scenarios around the baseline, to illustrate the impact of changes in assumptions. The 'historical SPB' scenario assumes that the structural primary balance (SPB) gradually returns to its past average level. In the 'lower SPB' scenario, the SPB is permanently weaker than 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

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

Table 1. Baseline debt projections	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Gross debt ratio (% of GDP)	**134.1**	**155.3**	**150.8**	**147.9**	**146.8**	**146.4**	**145.0**	**144.7**	**146.7**	**147.5**	**148.7**	**150.7**	**152.9**	**155.2**
Change in debt	-0.3	21.1	-4.4	-3.0	-1.1	-0.4	-1.4	-0.3	2.0	0.8	1.1	2.0	2.2	2.4
of which														
Primary deficit	*-1.8*	*6.1*	*3.7*	*2.0*	*1.1*	*1.3*	*1.0*	*1.2*	*2.0*	*2.2*	*2.4*	*2.7*	*2.9*	*3.1*
Snowball effect	*1.5*	*14.8*	*-6.8*	*-4.5*	*-2.9*	*-1.7*	*-2.5*	*-1.5*	*0.1*	*-1.4*	*-1.3*	*-0.7*	*-0.6*	*-0.7*
Stock-flow adjustment	*0.0*	*0.2*	*-1.3*	*-0.5*	*0.7*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Gross financing needs (% of GDP)	19.8	30.1	26.2	25.0	24.8	24.3	23.9	24.0	25.0	25.4	25.8	26.4	27.0	27.6



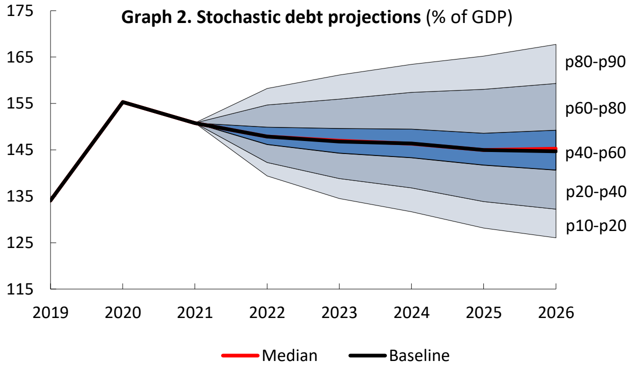


Table 2. Breakdown of the S1 and S2 sustainability gap indicators

			S1	**S2**
Overall index (pps. of GDP)			**9.6**	**1.6**
of which				
	Initial budgetary position		2.3	2.1
	Debt requirement		6.1	
	Ageing costs		1.1	-0.5
	of which	*Pensions*	*0.9*	*-1.8*
		Health care	*0.3*	*0.8*
		Long-term care	*0.2*	*0.9*
		Others	*-0.2*	*-0.3*

Source: European Commission

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

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	HIGH	LOW	MEDIUM
				Debt level (2032), % GDP	155	134	161	168	160			
				Debt peak year	2032	2021	2032	2032	2032			
				Fiscal consolidation space	73%	44%	74%	73%	73%			
				Probability of debt ratio exceeding in 2026 its 2021 level						36%		
				Difference between 90th and 10th percentiles (pps. GDP)						42		

(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).

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 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 rise from around 148% of GDP in 2022 to about 155% 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, all pointing to high risks (Tables A20.1 and A20.2). Moreover, the sustainability gap indicator S1 signals that an adjustment of the structural primary balance of 9.6 pps. of GDP would be needed to reduce debt to 60% of GDP in 15 years' time (Table 2). Overall, the high risk reflects the current large deficit and high debt, the high sensitivity to adverse shocks, as well as the projected increase in public pension expenditure.

Long-term risks to fiscal sustainability are medium. Over the long term, while the sustainability gap indicator S2 (at 1.6 pps. of GDP) points to low risks, the DSA points to substantial vulnerabilities, leading to the medium risk overall assessment. The S2 indicator is driven by the initial budgetary position and health care expenditure, but slightly mitigated by the projected decline in ageing costs (Table 2).