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on the economic, social, employment, structural and budgetary policies of Italy

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European Commission

Italy

2024 Country Report

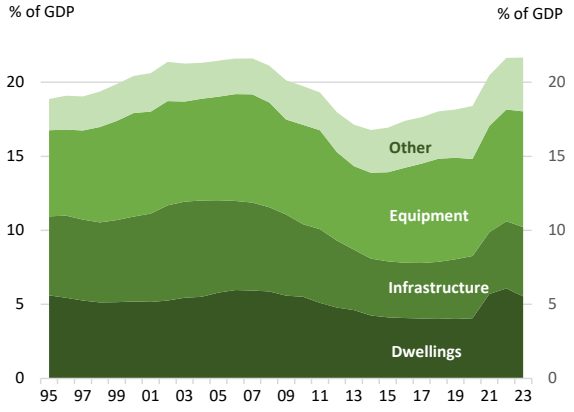
#EURO at 25

ECONOMIC AND EMPLOYMENT SNAPSHOT

Slowdown in growth and inflation

After a vigorous post-pandemic recovery, Italy's outlook for growth has clouded ([1]). Over 2021-2022, real GDP swiftly rebounded from the COVID-19 pandemic, but the economic recovery was hit by the fallout of Russia's war of aggression against Ukraine, affecting both trade flows and prices. Growth slowed from 4.0% in 2022 to 0.9% in 2023, reflecting softer domestic demand and smaller trade flows. GDP is forecast to increase by 0.9% in 2024, due to higher interest rates and tighter financing conditions and then to accelerate to 1.1% in 2025, partly thanks to the fiscal stimulus given by funding allocated under the recovery and resilience plan (RRP).

Graph 1.1: **Investment by component**



Source: AMECO

The phasing out of tax incentives and the tighter financial conditions in Italy are curbing private investment, but public funds backed by the Recovery and Resilience Facility (RRF) provide support. The flow of credit has decreased over the course of 2023, especially for non-financial corporations, and interest rates for both households and non-financial corporations have increased significantly. Italy has phased out the tax credits for housing renovation, bringing investment in construction down in 2024 after the 2021-2023 boom. However, the negative impact on capital formation is going to be more than offset by the steady roll-out of investments in infrastructure and equipment under the RRP in 2024-2025, which will boost GDP growth. At the same time, higher borrowing costs coupled with lower real disposable incomes over the past 3 years are expected to push households to increase their savings and hold back spending.

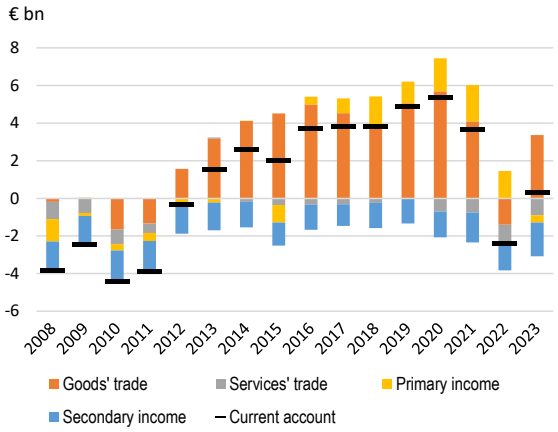
Exports have been hit by lacklustre growth, worldwide and in the EU. Supply chain bottlenecks and war-induced disruptions eased in 2023 but global demand rose only slightly since prices remained high and the monetary policy stance stayed tight to tame inflation. Thanks largely to improving relative prices, the trade balance went back to positive territory, with net exports of goods and tourism-related services recovering better than exports of other services, traditionally in deficit. Negative net income flows from financial portfolio investments were also a drag on the 2023 current account, due to the maturity mismatch of assets and liabilities.

Energy deflation is bringing down consumer price inflation. With the rapid decline in the price of energy and industrial commodities, headline inflation fell rapidly to a low of 0.5% year-on-year in December (well below the 2.9% euro-area average) and remained low in early

([1]) The cut-off date for the data used to prepare the Country Report was 15 May 2024.

2024. Prices of goods, including processed food, benefited from lower costs of energy and material inputs. Prices of labour-intensive services are likely to keep rising, reflecting long-overdue work-contract renewals in a tight labour market and after a protracted loss of workers' purchasing power. Overall, headline inflation is forecast to fall to 1.6% this year and then to pick up slightly to 1.9% in 2025.

Graph 1.2: **Current account balance breakdown**



Source: Eurostat

Italy continues to face vulnerabilities related to public debt, productivity, labour and the financial sector. An in-depth review carried out as part of the Macroeconomic Imbalance Procedure earlier this year found that Italy still faces vulnerabilities relating to the high government debt coupled with sizeable fiscal deficits and weak productivity growth in a context of labour market fragilities and some residual weaknesses in the financial sector ([2]). The public debt ratio is projected to remain high in the medium term; as a result, the sizeable debt servicing costs will limit the government's scope for growth-enhancing fiscal policies. Flat productivity growth reflects structural shortcomings in Italy's economy. Tighter financing conditions also make it harder to raise the level of capital per worker. Although labour market conditions continued to improve, participation rates are still low, especially among young people, women and southern residents. While asset quality and profitability have risen, Italian banks still face risks linked to the sovereign, including via the state-guaranteed loans in their balance sheets. Access to non-bank finance remains limited, affected also by higher market financing costs. Policies to tackle these vulnerabilities, including action under the RRP, are making progress but further efforts are needed.

Fiscal deficit improves with the unwinding of public support measures, but the debt keeps rising

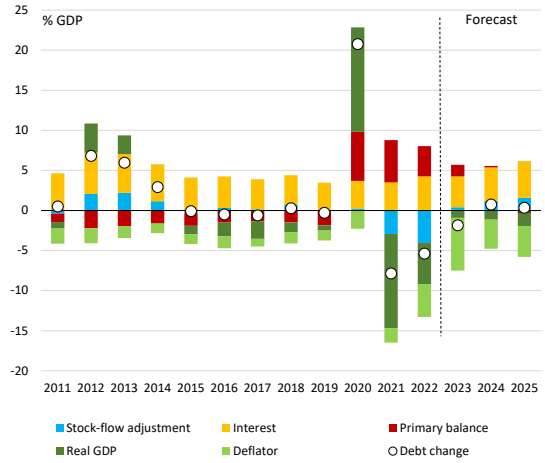
Major fiscal support measures and rising borrowing costs have kept government deficits high in recent years. The pre-pandemic average primary surplus of around 1.6% of GDP turned into a deficit, averaging -4.8% of GDP each year between 2020 and 2023, driven by measures to support the economy. These included measures to cushion the negative impact of the pandemic and energy price increases on the economy, as well as government subsidies for private investment to accelerate the green and digital transition. The recent increase in borrowing costs has also added to the government deficit. Nevertheless, thanks to the rapid recovery in nominal GDP (+25.5% between 2020 and 2023), the public debt ratio fell by nearly 18 pps of GDP compared to its 2020 peak, reaching 137.3% of GDP in 2023.

The government deficit is expected to improve from a very high base, but more fiscal consolidation will be needed to ensure that the debt-to-GDP ratio remains on a downward path. Overall, the general government deficit is expected to improve by 2025 according to the Commission forecast, although starting from a high deficit in 2023. This is strongly driven by the phasing out of the extensive policy support provided, including incentive

([2]) COM(2024) 104 final.

schemes. At the same time, other policy measures adopted in recent years that have a permanent impact (such as early retirement schemes, the revised tax-benefit system and a reduction in social contributions in poorer regions) create additional challenges for the speed of deficit reduction. Given the higher cost of borrowing and the high cash borrowing needs, the debt ratio is expected to increase again over 2024-2025.

Graph 1.3:



Source: European Commission, Spring 2024 forecast

Tax credits, in particular schemes for the energy-efficient renovation of residential buildings, have a major impact on public finances. In recent years, tax credits, especially credits for the energy-efficient renovation of residential buildings (the *Superbonus* scheme) and for the digital transformation of businesses (*Transition 4.0*), have had a significant impact on government finances, leading to high deficits. The uptake of these schemes, which was higher than expected in 2022 and 2023, is anticipated to put significant pressure on cash borrowing needs and public debt as from 2024.

The tax system hinders economic efficiency and growth. There is room to improve the composition of government revenues to support growth and fiscal sustainability. Italy's tax system remains prone to long-standing weaknesses. Special regimes and the wide range of tax expenditures, including on VAT, make the tax system highly complex and erode the tax base, resulting in significant revenue loss. Shifting the current high tax burden on labour to other underused sources of revenue less detrimental to growth would lift the economic potential. Taxes on energy are not designed to encourage the transition to clean technologies. Tax evasion remains high, although the countermeasures taken in recent years are bearing fruit.

Employment increased but wages have not kept pace with inflation

Employment continues to increase, but gaps remain for women and young people, adding to the broader challenges to upward social convergence. The participation rate rose again in 2023 to a record high of 66.7% of the population aged 15 to 64, though this is still well below the EU average of 75.0%. Although the increase was similar for men and women, the rate for Italian women remains below 60%, i.e. more than 10 pps below the EU average. Italy's younger generations are also less involved in the labour market than their EU peers, with over 16% of people aged 15-29 not in employment, education or training, 5 pps above the EU average although declining steadily since 2020. The employment rate (for people aged 20-64) rose to record levels in 2023, reaching 66.3% and narrowing the gap to the EU (75.3%) for both men and women. However, the employment rate remains one of the lowest in the EU and well below Italy's 2030 target of 73%. The unemployment rate decreased further to 7.7% in 2023, with a particularly strong decrease for young people aged 15-24 (-1.1 pp, after -6 pps in 2022). Nonetheless, the youth unemployment rate remains well above the EU average at 22.7% against 14.5%. It will be important for Italy to tackle these long-standing challenges in order to

boost economic growth and implement the European Pillar of Social Rights.

Regional disparities within Italy remain profound. The employment rate in the south of the country is 21 pps lower than in the north, with an even wider gap for women (28 pps). The regional gap in unemployment narrowed in 2022 but widened again in 2023. The unemployment rate in southern regions is still triple the rate in northern regions (double for people aged 15-24, see Annex 14). Italy must increase the effectiveness of its active labour market policies to bridge the regional divide and better match jobs to workers across the country. In this respect, Italy needs to strengthen monitoring activities to effectively track the results of the reforms and investments undertaken with the RRP support (see Annex 14).

Graph 1.4: **Employment by job status**

Source: Italian statistics office (ISTAT)

The educational outcomes of young people have marginally improved but adult training has worsened again. Pandemic-related restrictions to school attendance have taken a toll on student performance in Italy, as elsewhere in the EU. In 2022, one third of 15-year-olds both in Italy and the EU average lacked basic mathematics skills, a significantly higher share than in the previous OECD's PISA survey in 2018. However, the share of Italian 15-year-olds without basic science or reading skills fell slightly to 24% and 21% respectively. Weaknesses in school performance are compounded by a higher than average (though falling) share of young people leaving education and training early. Italy also has one of the lowest tertiary attainment rates in the EU (see Annex 15). The shares of scientific and technical graduates and of ICT specialists rose very gradually (see Annex 10). Participation in adult learning schemes fell from 33.9% in 2016 to 29% in 2022, well below the 2030 national target of 60% ([3]) (see Annex 14).

High inflation and non-standard contracts limit workers' purchasing power. After a protracted stagnation, average real wages ([4]) in Italy fell by 2.6% in both 2022 and 2023. In addition, Italy has one of highest shares in the EU of temporary and self-employed workers, who have less access to adequate social protection. As a result, in-work poverty rates remain high, on a par with Spain but well above France's or Germany's, particularly for employees in the prime age group 25-54. Income inequality is higher in Italy than in France or Germany. The ratio between the income of people in the first and fifth quintiles of the distribution was 5.62 in 2022, down from the previous year but well above the levels in north-western European countries. The Gini coefficient (a measure of inequality) for disposable income remained broadly static at around 32-33% in recent years, 3 points above the EU average.

Recent changes in the social safety net could have adverse effects on upward social convergence in terms of people at risk of poverty and social exclusion. The new minimum income scheme, '*Assegno di inclusione*', replacing the previous '*Reddito di cittadinanza*' as of 2024, aims to strengthen the incentives for people to join the labour market and has more restrictive eligibility conditions. People not eligible for this benefit can receive a smaller transfer

(3) Eurostat, Adult Education Survey, 2022.

(4) Nominal gross wages and salaries per employee, deflated with the household consumption deflator.

Box 1:

Italy's competitiveness in brief

Italy's competitiveness is expected to get a boost from strong public investment and reform momentum under the RRP. Italy is relatively open to non-EU trade, although more in goods than in services. The main drivers of competitiveness include the higher rates of adoption of cloud technologies by Italian businesses than by their peer-country counterparts, though the rate of adoption of big data and AI is lower. The combination of reforms and investments included in the RRP in public administration and procurement, justice, education, labour market, competition, healthcare, energy, digitalisation, research and innovation, sustainable mobility and social inclusion has the potential to improve Italy's competitiveness.

To tackle the long-standing challenges to competitiveness, it is crucial for Italy to sustain the pace of reform to create more growth-friendly conditions, including action under the RRP.

The following competitiveness challenges remain:

- There is room to improve the effectiveness of the **public administration** to make it more responsive to businesses and citizens, to boost **administrative capacity**, particularly at subnational level, and to improve the implementation of investments and reforms.
- The need to improve the **business environment**. Several factors would contribute: shortening the time it takes for court rulings in the **justice** system would incentivise investments, especially from abroad, by increasing legal certainty. Greater **competition** would let more productive firms thrive, and improving **access to finance**, particularly non-bank finance, would support young and innovative businesses.
- The need to boost **research and innovation** capacities and to invest in the workforce, particularly by improving the **education** system and expanding **up- and re-skilling schemes** for adults.

for up to 12 months, subject to attending a training course. Absolute poverty has risen significantly to reach 8.3% of households in 2022, due to the impact of the COVID-19 pandemic and the recent surge in inflation. ([5]) In 2022, the share of people at risk of poverty or social exclusion fell to 24.4%, from 25.2% one year earlier, on the back of rising incomes and employment. Further action is needed however to reach the 2030 poverty reduction target. After social transfers, the share of people at risk of poverty or social exclusion has hovered at around 20%. The poverty risk is higher for children and young people than for older people, given relatively generous pensions. It is also higher for single-adult households, particularly for women or adults with dependent children. Foreign citizens have nearly double the risk of poverty or social exclusion than Italian citizens. The poverty risk is far higher in the south, more than twice the rate as in the centre-north of the country.

([5]) ISTAT, 2023, Le statistiche dell'Istat sulla povertà, Anno 2022.

Box 2:

UN Sustainable Development Goals (SDGs)

Italy is making progress on all the SDGs related to competitiveness and productivity (SDG 4, 8, 9) and on macroeconomic stability (SDGs 8, 16, 17), though it is still below the EU average. Performance in terms of work and economic growth (SDG 8) and global partnerships (SDG 17) is significantly below the EU average, mainly due to low levels of investment and high public debt. Italy's performance on SDG 9 on innovation, industry and resilient infrastructure is also below the EU average, mostly due to few patent applications, the low share of freight transport infrastructure and fewer households with a high-speed internet connection.

Italy is improving its results on the indicator tracking life below water (SDG 14), but the indicators tracking good health and well-being, clean water and sanitation, and life on land are showing worsening results (SDGs 3, 6, 15). Marine eutrophication fell to zero, further outperforming the EU average (SDG 14). By contrast, land degradation has worsened, the impact of droughts on ecosystems has increased and the areas at risk of severe soil erosion by water have also increased (SDG 15). Health indicators are still above the EU average but are deteriorating, with fewer people perceiving themselves as healthy, the obesity rate rising and the use of antibiotics increasing (SDG 3).

IMPLEMENTATION OF KEY REFORMS AND INVESTMENTS USING EU INSTRUMENTS

Funding from the Recovery and Resilience Facility (RRF) and cohesion policy is mutually reinforcing Italy's efforts to boost its competitiveness and foster sustainable growth. In addition to the EUR 194.4 billion of RRF funding described in Annex 3, cohesion policy provides Italy with EUR 42.2 billion for the 2021-2027 period. Combined support from these two instruments is equivalent to around 11.34% of the country's 2023 GDP, well above the EU average of 5.38% (see Annex 4).

Under the recovery and resilience plan (RRP), Italy has launched important policy measures that are expected to improve the country's competitiveness. Italy is implementing comprehensive reforms in several areas including competition, justice, public employment, procurement, tax administration, education, the labour market and healthcare. Italy has also made substantial investments in energy, digitalisation, research and innovation, sustainable mobility and social inclusion.

The implementation of Italy's recovery and resilience plan is underway, however timely completion will require increased efforts. Italy has received an overall disbursement of EUR 102.48 billion and has submitted a 5th payment request on 29 December 2023 (see Annex 3). The size and complexity of the plan, and challenges linked to absorption capacity, call for accelerating investments and addressing emerging delays while strengthening administrative capacities to ensure that reforms and investments can be completed on time. Investments, in particular, are highly concentrated towards the end of the RRP implementation and merit special attention.

Cohesion policy funding helps tackle Italy's growth and competitiveness challenges and reduce the country's territorial and social disparities. The current 2021-2027 programming period focuses on implementing the European Pillar of Social Rights, promoting smart growth, supporting SME competitiveness, research and innovation, contributing to the green objectives and to tackling climate change, regional development and narrowing the gaps between the south and centre/north. The Just Transition Fund focuses its support on areas with carbon-intensive production activities in Apulia and Sardinia.

Boosting the green transition

Cohesion policy funds and the RRP together help Italy progress in the transition to a circular economy by improving strategic planning and waste management. Under the RRP, the strategy for circular economy and the waste management programme provide a strategic framework for the sector, allowing access to the European Regional Development Fund (ERDF). This support is expected to narrow the infrastructure gap between regions in the provision of waste collection services. Investments in waste management infrastructure and circular economy projects under the RRP also complement the investments made with ERDF funds at regional and urban levels under the national programme *Metro+.*

Italy has improved its regulatory and market framework to boost the efficiency and effectiveness of public investment in the water sector. The RRP brought in the incentive to create a single operator responsible for water management in a

designated area, improving resource allocation and streamlining decision-making. The plan also discourages water waste and incentivises the responsible use of funds to improve infrastructure. Italy has a significant risk of hydrogeological instability, exacerbated by the effects of climate change. Therefore, the RRP includes measures to reduce flood and hydrogeological risks and a reform to simplify and accelerate procedures for work to protect assets from hydrogeological instability. The ERDF also allocates EUR 1.2 billion to sustainable water management across 9 regions in Italy, targeting water supply, leakage reduction and capacity building.

Italy is taking steps to reduce administrative barriers in the energy sector and to streamline permitting procedures. Under its RRP, Italy has already adopted reforms to facilitate the permitting of projects in renewable energy sources and sustainable transport. The REPowerEU chapter will help streamline the authorisation process for renewable energy projects into a single legal document (*Testo Unico)*, reducing compliance costs and accelerating project approvals. These reforms have the potential to improve implementation of ERDF programmes. These programmes allocate EUR 1.6 billion to roll out solar, wind, sustainable biomass, geothermal and other renewable sources, with a focus on small-scale energy self-consumption and innovative technologies, especially in less developed regions.

There is scope to boost the long-term demand for energy efficiency. The REPowerEU chapter significantly increased support for energy efficiency. Nonetheless, a more supportive environment could help boost demand, mobilisation and absorption of energy efficiency investments beyond 2026, including by expanding technical assistance. Italy could also accelerate implementation of the National Energy Efficiency Fund.

Fostering competitiveness

Reforms to justice, public procurement, competition and public administration are improving the business environment, including for SMEs. Under the RRP, Italy has complemented the civil and criminal justice reform initiated in 2021 to reduce the length of proceedings and focus on digitalisation of the justice system. A new Public Procurement Code simplifies and streamlines tendering procedures. Under the 2022 Annual Competition Law, Italy is improving anti-trust enforcement and simplifying authorisation procedures in the retail sector. Implementation of the public administration reform is underway. Late payment by public administrations, in particular at central and local levels, has been a critical challenge for SMEs and a deterrent to bid for public tenders. Under the RRP, Italy plans action in 2024 to reach 30 days for public authorities to process payments.

A tax administration reform that aims to encourage tax compliance and reduce compliance costs for taxpayers also supports competitiveness. The framework for 'compliance letters', a mechanism designed to prevent tax evasion, has been significantly strengthened under the RRP thanks to improved analytical tools and datasets for the tax administration. Italy also launched a pilot project providing pre-filled value-added tax returns for more than 2.3 million taxpayers. This is expected to substantially reduce compliance costs and overall to help digitalise business contacts with the tax administration, expected to have positive spillover effects on accounting practices.

The RRF, cohesion policy funding and Horizon Europe are jointly mobilising substantial resources in R&I but it remains challenging to optimise these investments. The RRP includes a component worth EUR 11 billion for basic and industrial research, and innovative businesses to tackle Italy's structural underinvestment in R&I (see

Annex 11). Cohesion policy, with over EUR 9.5 billion of investments, focuses on supporting SME growth, competitiveness, R&D, promoting innovation and building skills for sustainability.

However, there is still a significant gap between Italy and the EU's top performers in human and financial resources allocated to technological transfer offices ([6]), limiting the potential to capitalise on this knowledge and investment. There is also scope to strengthen the link between research institutions and businesses by improving the strategic governance of universities and public research bodies, achieving economies of scale in knowledge transfer activities and forging closer forms of cooperation among research institutions ([7]). The R&I ecosystem would benefit from a less fragmented and more coordinated approach and from focusing the financial resources on the most effective and strategic investments. Italy could further boost competitiveness by linking research to business incubation, acceleration and venture capital programmes ([8]) and by action to match the national research priorities with Italy's industrial needs. The RRP supports non-bank finance by setting up two public vehicles for venture capital and for attracting private investors. However, further action could be taken to facilitate business funding through capital markets.

Italy is highly exposed to climate change, exacerbated by human activities. The impact of climate change represents a high burden for Italian firms, the government and insurers, for instance due to damaged infrastructure ([9]). According to ISPRA, 21 hectares/day of soil was consumed in 2021, the highest figure in 11 years, with a yearly cost for the soil ecosystem estimated up to EUR 5 billion. On this front, the RRP includes measures such as investment to support start-ups and venture capitals active in the ecological transition, to boost competitiveness of SMEs in the agri-food sector and action to increase the resilience of the power grid. A law on reducing soil use is pending in the national parliament.

Making use of multiple funding sources, Italy is making progress to complete the national ultra-fast and 5G telecommunication network, reducing the digital divide. Under the RRP, it allocates up to EUR 5.3 billion to the large-scale roll-out of ultra-fast broadband and 5G infrastructure throughout the country. Overall, implementation of these measures is progressing, but the scale of the investment requires significant efforts to ensure the connectivity projects are completed within the timeframe set in the RRP. At the same time, cohesion policy plans measures to improve public administration services, connect remote and isolated areas and inner areas. The plan to roll out ultra-fast broadband and 5G also reinforces ERDF action to provide digital solutions for public services, especially the national programmes *Schools and skills* and *Equity in Health.* Under the RRP, Italy also made progress in the digital transition of cybersecurity and its public administration.

([6]) Centro Nazionale Ricerche - Relazione_sulla_ricerca_e_innovazione_in_Italia_2023.pdf (cnr.it)

([7]) ITA.CON – Improving the system of knowledge exchange and collaboration between universities and society in Italy - OECD

([8]) European Investment Fund: "Venture Capital: tra Europa e Mezzogiorno. Una proposta per l'Ecosistema dell'innovazione meridionale"

([9]) Floods in May 2023 are estimated to have cost EUR 8.8 billion in Emilia-Romagna alone – Emilia Romagna Land Security and Civil Protection Agency.

Reinforcing economic and social resilience

Complementary action supported by EU funds aims to reduce skills mismatches, foster youth employment and expand tertiary vocational education. Under the RRP, in 2022 Italy reformed the governance of tertiary vocational training, establishing shared governance between local firms, secondary schools and tertiary education bodies (such as universities). By providing professional training (*formazione professionalizzante*) to students, the measure aims to boost economic development and the competitiveness of the local economy. The reform is coupled with an investment of EUR 1.5 billion to expand the educational offer of vocational training institutes and increase the number of enrolled students by 2025.

Regional programmes and the national programme *School and Skills* financed by the European Social Fund (ESF+) are complementary to RRF initiatives. They fund measures to increase student access to tertiary vocational education and to improve teaching quality, study programmes abroad and to develop green skills.

The RRF and cohesion policy funds support measures that aim to reduce fragmentation in the labour market, also among regions. The reform of the guaranteed employability of workers (GOL) scheme financed by the RRF aims to reshape employment policies. According to ANPAL, the scheme had reached more than 2 million beneficiaries on 31 January 2024 ([10]). The national plan for new skills sets training standards for unemployed people taken on by job centres and promotes a strengthened, integrated system of education, training and job services at local level. Under the REPowerEU plan, an additional reform is designed to better align training courses to job market needs and to boost the skills needed for the green and digital transition. These measures are complemented at regional level by the ESF+ with training to tackle functional illiteracy or basic digital skills and focusing on providing this support to unemployed, inactive or vulnerable individuals.

Italy is taking measures to reduce poverty and give greater autonomy to older people and people with disabilities. Under the RRP, Italy has started delivering on measures to boost economic and social resilience, including a reform of services for non-self-sufficient older people, a reform of the framework law on disability, and full implementation of the measures under the reform to tackle undeclared work. Using cohesion policy funds, the national programmes *Inclusion and Poverty Reduction* and *Youth, Women and Jobs* support vulnerable groups such as migrants, people in undeclared work and people with disabilities by providing pathways to job market inclusion.

([10])https://www.anpal.gov.it/documents/552016/1309678/Nota+GOL+n.+14+Focus+ANPAL+n.+169+-+dati+al+31dicembre2023.pdf/d072616e-936e-d0f9-6193-bb41fb1f5571?t=1706534727814.

Box 3:

Combined action to increase the impact of EU funds

To boost economic growth and maximise the impact of EU funding, Italy's RRP includes reforms that support investment under other EU instruments, creating important synergies and complementarities between the funds. Two key measures to this end are the reform of public employment and simplification of administrative procedures, which are expected to improve spending capacity and ensure a smoother flow of information and collaboration between the different bodies that manage EU funds. The plan also envisages a reform to accelerate implementation of cohesion policy programmes, in complementarity with the RRP.

Governance framework

Recent measures aim to improve the 2021 governance framework; it remains crucial to identify potential implementation issues early on and to take remedial action. In particular, the recent Law 56/2024 includes provisions to step up monitoring of the plan and brings in substitutive powers by a central authority. Greater use of the data included in the RRP repository system (ReGiS) could improve the existing early warning mechanism to track implementation progress at a detailed and frequent level and identify remedial measures. Law 56/2024 provides for specific coordination mechanisms to foster synergies and strengthen monitoring at local level. It is crucial to involve local authorities in identifying and tackling any emerging challenges, to share best practices and pool procurement processes. The recruitment and retention of skilled staff, particularly in the south, remains key. Continuous support to local administrations, which was also underscored in Italy's cohesion policy programme, would help ensure swift implementation.

FURTHER PRIORITIES AHEAD

Italy faces additional challenges related to territorial divide and fiscal framework, competition policy, taxation and demographic trends that have relevant implications also for pension expenditure. Tackling these challenges will help boost Italy's long-term competitiveness and potential growth, ensure the resilience of its economy and underpin financial sustainability. It will also help Italy make further progress in achieving the UN Sustainable Development Goals.

It is important to tackle the challenges both at national and regional level to improve Italy's competitiveness, reduce regional disparities and build up administrative and investment capacity across the country.

Growing demographic challenges

With birth rates at a historical low in 2022, Italy's working-age population continues to shrink and the brain drain is worsening. Italy has one of the lowest birth rates ([11]) in the EU, 6.7 against an EU average of 8.7. The average age of women at birth of the first child is 31.7, against an EU average of 29.4. Italy registered record-low births in 2022 (393 333), and a high level of deaths (715 077) (ISTAT). The migration balance remains positive but it no longer offsets the low birth rate. In 2022, over 410 000 people migrated to Italy, while around 150 200 left the country. Since emigrants have a higher average skill level than immigrants, the brain drain remains a challenge (European Commission, 2023a). This is coupled with an increasingly ageing population and a shrinking workforce (see Annex 14). Italy has one of the oldest populations in the EU, with a median age of 48.4 years in 2023. The projected 0.7% fall in the working-age population in 2030 and 14.1% in 2050 increases the risk of labour shortages ([12]), posing serious challenges on several fronts, including the sustainability of government finances.

Unfavourable demographic developments are set to increase spending on pensions before it starts falling in the longer term thanks to the 2011 pension reform. Italy's pension expenditure as a share of GDP is among the highest in the EU (in 2022, 15.6% of GDP v 11.4% in the EU ([13])), which limits the resources available for growth-enhancing spending, particularly given the high level of government debt. Although the 2011 pension reform will help reduce spending on pensions over the long term, this is still expected to increase substantially in the medium term due to demographic developments.

Policy measures adopted in recent years have increased spending on pensions further over the short to medium term. These include the early retirement scheme introduced in 2019 (*Quota 100*), the recent decision to extend it with stricter access criteria (*Quota 102* and *Quota 103*) and other temporary early retirement schemes for women and vulnerable workers. Together with low participation rates and productivity growth, this contributes to

([11]) Number of live births per 1 000 people in the population.

([12]) Economic and Social Developments in Europe 2023, European Commission, July 2023.

([13]) 2024 Ageing Report. Economic and Budgetary Projections for the EU Member States (2022-2070) (European Commission, Institutional Paper 279, April 2024).

Italy's estimated high fiscal sustainability risks in the medium term and medium risks in the long term (see Annex 21).

The universal child allowance will help tackle child poverty and potentially the low birth rate, if complemented by investment in care services and better job market access. The lack of access to quality and affordable care services, late entry in the job market, low quality jobs and long-term wage stagnation are all factors behind the low birth rate in Italy, while also raising significant risks of in-work poverty. This in turn impairs the sustainability of public finances and reduces the workforce over the long term. Data show a positive correlation between family-related policies and birth rates. However, their impact is lower when there are higher economic uncertainties ([14]), as there are in Italy. A way to mitigate this is to strengthen work-life balance policies and provide accessible and high-quality childcare (UNFPA, 2019). The universal child allowance as well as measures included in the 2024 budget law might help increasing the birth rate in the long term; beyond the RRP investment, additional measures in care services could also boost birth rates by enabling women to work. Similarly, measures to promote equal opportunities and work-life balance, including more generous parental leave for fathers, increasing the share of adult participating in training and supporting the participation of women and young people would be beneficial. Simultaneously, such measures could help to alleviate poverty and social exclusion risks that remain entrenched in Italy and that are particularly high in the South.

Migration policies could be reinforced to mitigate the unfavourable demographic dynamics in the short and medium term. The new 2024 decree on migration flows ([15]) almost doubles the number of foreign citizens from non-EU countries admitted yearly to Italy compared to the previous migration flow decree from 2020 (+99.5%). It extends the work permit duration to 3 years and adds new employment sectors. It also simplifies the process to convert study permits into work visas and activates collaboration with foreign jurisdictions to facilitate the recognition of skills for non-EU nationals. However, to tackle the brain drain in the short term, it is essential to frame a more comprehensive strategy to attract and retain high-skilled workers and students, and to align it with the country's industrial and development needs.

Addressing these challenges will help Italy boost upward social convergence. The second-stage analysis in line with the features of the Social Convergence Framework points to challenges for Italy that may affect social convergence in relation to the labour market, social protection and inclusion, and education and skills ([16]).

Unlocking the potential of southern Italy

The economy of southern Italy contributed to the post-COVID recovery, but it centres on lower value-added sectors than in the centre-north. In 2022, the share of manufacturing out of total value added in the south was 10%, against 24.5% in the centre-north. The service sector made the biggest contribution to the post-COVID recovery, but in the south, this was

([14]) For example, in terms of job stability and suitable housing. Uncertainty has a negative impact on people's decisions to have a first child and contributes to decisions to postpone parenthood.

([15]) '*Decreto Flussi*' sets the maximum number of foreign citizens from non-EU countries who can enter Italy yearly on a work visa. It is adopted every 3 years and updated annually.

([16]) European Commission, SWD(2024)132. The analysis relies on all the available quantitative and qualitative evidence and analysing the policy response undertaken and planned.

skewed to more traditional services, notably tourism (accommodation and restaurants). The real value added of the industrial sector in the south fell by 24.8% between 2000 and 2022, against the national average of -4.4%. In the south, foreign-owned companies account for only 9.4% of value added, against a national average of 17.1%. Almost half the south's exports (from oil refinery to the automotive sector), will be greatly affected by action on decarbonisation.

The south has major potential as a logistics hub in the Mediterranean. In 2022, sea transport carried 74% of the goods traded between the EU and the rest of the world (Eurostat). The Mediterranean Sea covers 1% of the global sea surface but carries 20% of maritime transport. Ports in southern Italy are gaining competitiveness: Gioia Tauro ranked 9th in the EU for container traffic, Augusta ranked 7th for liquid bulk ([17]) seaborne trade and Naples, Palermo and Messina are among the top 20 Mediterranean ports for cruise passengers. Southern Italy ports also cover 51% of national wheeled cargo ships traffic (roll on-roll off) and 48% of national liquid bulk seaborne trade. Short (distance) sea shipping is gaining in prominence in step with the trend of reshoring and nearshoring. In 2021, Italy was the first country in the EU for short-sea shipping, providing 17.6% of all EU traffic. Given its central position in the Mediterranean, Italy could have a greater role in providing connections (and trade) in the region. To this end, a major challenge and an opportunity will be to green its maritime transport services.

The south also generates most of the country's renewable energy. 96.3% of Italy's wind energy and 40.2% of photovoltaic energy are produced in the south, generating 19.7 TWh and 11.3 TWh respectively, with considerable untapped potential. Given its high renewable energy potential, the south also accounted for 80.7% of national electric grid connection requests for solar energy and 88.0% for wind energy in 2022 (GSE).

Several policy measures, notably tax incentives, support economic activities in the south, but they lack a clear focus. The main instrument used is the tax credit for the south. In 2020, this measure mostly benefited manufacturing (35.1%), trade (16.8%) and construction (14.8%). The main beneficiaries are micro or small firms, which absorb 64% of all resources. Approximately 50% of the incentive '*Resto al Sud*' is allocated to tourism, 22% to manufacturing, 20% to personal services and less than 3% to ICT. The advantages granted to firms operating in the eight special economic zones ([18]) (SEZs), including simplified procedures, attracted investments in the energy transition, logistics, agrifood, retail, vehicle repair and metallurgy sectors (among others). Firms operating in the south are also eligible for reduced employee social contributions (excluding only a few sectors like agriculture, domestic work and public entities). Simulations carried out by the Commission's Joint Research Centre show that raising wages at the bottom of the wage distribution would be particularly beneficial to employees in the south (see Annex 14).

Some initiatives taken at national level indicate greater central coordination of policy action, in particular for the south. In 2022 a new ministry was created combining EU affairs and territorial cohesion. In 2023, the '*decreto Mezzogiorno*' created a single SEZ, transferring the responsibility from the extraordinary commissioners in the previous eight SEZs to a single dedicated body under the responsibility of the same ministry.

([17]) Crude oil, petroleum products, chemicals, liquefied gases, food-grade liquids and more.

([18]) In 2024, a single SEZ was created, merging the previous 8 SEZs and covering all of southern Italy.

An industrial and development strategy for the south would promote better targeting of policy measures and enhance the value added of investments. This is the case, in particular, for transport infrastructure financed by both EU and national funds. Framing an industrial strategy, together with updated cost benefit analyses, would be key to select, prioritise and draw maximum benefit from investments in transport infrastructure. The strategic plan for the single SEZ is expected to reflect a clear industrial policy, for instance by focusing on the original idea to develop port areas, while taking into account regional specialisations. The strategic plan needs to take into account and promote local specialisation strategies, the investments already planned and funded by EU and national resources, notably on last-mile connections, and coordinate strategies to attract firms in the south. It would be necessary to ensure consistency between the industrial strategy at national and local level and EU policies (e.g. the Net-Zero Industry Act, Critical Raw Material Act, the Chips Act and the New EU Innovation Agenda).

An ecosystem approach could complement the definition of the industrial strategy for the south, building on existing industrial specialisations and strategic value chains. For instance, Sicily is benefiting from key vertical investments in microelectronics and renewable energy, with the construction of the first Silicon Carbide ('SiC') wafer production line in Europe ([19]). Catania's 3Sun gigafactory is also becoming a key player in the production of solar panels in Europe ([20]), and there are concurring major investments supported by cohesion policy ([21]). Nonetheless, there is scope to further develop the industrial ecosystems around these strategic investments ([22]). Building on the targeted investments in the recovery and resilience plan (see Annex 11), Italy could encourage consolidation among key players and new firms along strategic value chains, strengthen partnerships with academia and technology transfer, and improve the supply of skills by providing targeted professional training (SVIMEZ 2023).

The devolution of additional competences to Italian regions carries risks for cohesion and public finances. In January 2024, the Senate approved the framework law for the implementation of differentiated levels of autonomy of regions with an ordinary statute, which will be able to request up to 23 additional competences and retain the corresponding resources through bilateral negotiations with the central government. The draft law, which is currently under discussion in the Chamber of Deputies, includes some safeguards for public finances, such as periodic assessments of regional fiscal capacities and requirements for regional contributions to reach national fiscal objectives. In addition, regions will be able to request additional competences only once the corresponding 'essential levels of services' (LEPs) have been defined, in the areas concerned. The draft law also sets the requirement to ensure territorial cohesion both in the economic and social domains. However, while the draft law assigns specific prerogatives to the government in the negotiation process, it does not provide any common framework to assess the regional requests for additional competences. In addition, as the LEPs ensure only minimum levels of services and do not concern all policy areas, there are still risks of increasing

([19]) State aid decision: IP_22_5970_EN.pdf (europa.eu).

([20]) Generation capacity will be increased from 200 MW to 3 GW per year also thanks to a grant aid scheme of EUR 89.5 million financed by the RRP. State aid decision: IP_23_3964_EN.pdf (europa.eu).

([21]) The Sicilian authorities have applied for EUR 68 million in cohesion policy support for a major project in the area of semiconductors and advanced chip technologies under the Important Projects of Common European Interest (IPCEI) of 'STM'.

([22]) Examples of industrial ecosystems in the south can also be found in Campania and Apulia for the aerospace sector, and in Basilicata and Molise for the automotive sector.

regional inequalities. The devolution of additional powers to regions on a differentiated basis would also increase the institutional complexity, carrying the risk of higher costs both for the public and the private sector.

Unleashing competition to boost sustainable growth

Several Italian sectors are still over-regulated and sheltered from competition. While the Italian RRP includes clear commitments on future competition laws, the relevant policy areas remain to be determined. Italian legislation envisages the adoption of an annual competition law to further liberalise the economy. This would be particularly needed for retail trade, regulated professions, and railways. In addition, according to the Italian competition authority, other sectors could also be covered, such as postal services, pharmaceuticals, chambers of commerce, beach concessions and private-hire vehicle services. Greater competition in these sectors would benefit consumers, boost productivity and improve government finances ([23]).

Restrictions to competition remain particularly high in the retail sector. The European Commission's 2022 retail restrictiveness indicator ranks Italy among the most restrictive Member States, particularly for the establishment of shops and running sales promotions. Although past measures ([24]) removed significant restrictions, regional and local regulations still impose strict conditions in the authorisation process ([25]). Firms are still not free to run their sales promotions and restrictions remain on the distribution of some products, including non-prescription drugs. Reducing these restrictions would enable firms to adjust their business model to consumer preferences and face online competition. It would also boost overall productivity in a sector with a high share of less productive firms (IMF 2020).

Entry barriers remain particularly high for regulated professions. According to the European Commission, the level of restrictiveness in Italy is higher than the EU average for engineers, architects, accountants, real estate agents, and to some extent patent lawyers. In particular, it is important to strike a balance between the need to protect small professional businesses in contractual relationships with clients with strong bargaining power, such as banks and insurance companies, and let more productive firms thrive. Removing the '*fair compensation*' rules would open the market to more productive businesses that could set lower rates to increase their market share (OECD Economic Survey 2024).

The green transition would benefit from a more dynamic and competitive railway sector. Despite the successful market liberalisation in high-speed rail services, there are significant barriers to regional transport and intercity (long-distance) services, where public service contracts continue to be awarded directly to the incumbent. This removes the incentivises to increase efficiency and improve service quality. Better regulatory oversight by the infrastructure manager (RFI) could strengthen investment decisions and removing several technical barriers could improve access to rail infrastructure. For example, some areas lack the standardised technology needed to access maintenance facilities.

([23]) For example, increasing competition in the procurement of biosimilar pharmaceuticals could generate cost savings estimated in the range of 20-30% (IQUVIA 2020, AGCM 2023). Concerning beach concessions, concession fees are not proportionate to the average turnover of the sector, leading to lost government revenue (Report from National Court of Auditors 2021).

([24]) Decree Law 201/2011.

([25]) Requirements include the provision of economic data, a number of different impact assessments and specific requirements linked to the location.

Public finances and taxation

A credible, effective and sustainable strategy for public finances is key to put the public debt ratio on a persistent downward path. To this end, Italy will need to support growth and better allocate public resources. A thorough implementation of the RRP is expected to improve fiscal sustainability, by supporting economic growth and fostering measures to make public spending and the tax administration more efficient. Going forward, the reduction of the public debt-to-GDP ratio will need to be underpinned by a credible medium-term strategy, combining action to consolidate public finances with measures to boost potential growth and competitiveness, such as ambitious fiscal-structural reforms and strategic investments. Reforms should aim to both enhance the efficiency of public spending, for example by conducting regular spending reviews, and to ensure the tax system is fair, efficient and progressive, by restructuring the composition of revenues and improving tax compliance.

Despite the significant progress made in fighting tax evasion, recent measures risk producing adverse effects on tax compliance. Thanks to ambitious measures, including under the RRP, Italy has constantly reduced revenue loss from tax evasion in recent years (see Annex 19). Conversely, latest amendments to the tax settlement and collection system risk discouraging tax compliance. These include the 5-year expiry date of unpaid taxes and lower penalties for evading taxes and social security contributions. Similarly, the government has recently renewed and regularly extends measures equivalent to tax amnesties, allowing taxpayers to pay their liabilities using an interest-free instalment plan without penalties. This indirectly rewards non-compliant behaviour with the risk of structural revenue losses in the long term. The system of prior agreement between the administration and small businesses on their tax liabilities also warrants close monitoring as to its impact on tax compliance.

Despite relatively high revenues from environmental taxes, Italy's tax system could be better geared to the green transition. Italy applies a broad range of taxes on pollution and resources (see Annex 19), but taxes on energy sources do not reflect the level of CO_2 emissions. For instance, taxes on electricity are higher per unit of energy compared to natural gas and heating oil, and, among fossil fuels, diesel is taxed more lightly than petrol. In addition, registration and recurrent taxes on vehicles, as well as the tax treatment of company cars, do not reflect vehicle CO_2 emission levels.

Public finances would also benefit from further rationalising publicly-owned enterprises, also to make them more efficient and effective. Publicly-owned enterprises (POEs) play a significant role across Italy's economy. In 2016 Italy adopted a legal framework with clear parameters on the scope of activities and operational efficiency of POEs. The framework is aimed to avoid future proliferation of non-essential POEs and to rationalise existing ones via mergers, privatisations and wind ups. After a promising start of the implementation, central and subnational authorities have been less rigorous in recent years in applying the framework. For example, in 2019 the central government extended to 2021 the deadline to divest. Overall, while the number of POEs declined substantially up to 2021, there is still significant room for further rationalisation. For example, the number of non-active POEs and active POEs with zero employees remain large ([26]). Revamping the efforts to

([26]) According to Istat, the total number of POEs decreased from 11 024 in 2012 to 7 808 in 2021. In 2021, the absolute number of non-active POEs and of POEs with zero employees remains high, 2 111 and 1 525 respectively.

rationalise POEs would benefit both public finances and the quality of services provided to citizens, especially when coupled with the proper implementation of the RRP reform of local public services and further improvement in POEs corporate governance ([27]).

([27]) Bank of Italy, Board composition and performance of state-owned enterprises: quasi experimental evidence.

Box 4:

The mid-term review of cohesion policy funds for Italy

The mid-term review of the cohesion policy funds is an opportunity to assess cohesion policy programmes and tackle emerging needs and challenges in EU Member States and their regions. Member States are reviewing each programme taking into account, among other things, the challenges identified in the European Semester, including in the 2024 country-specific recommendations. This review forms the basis for a proposal by the Member State for the definitive allocation of 15% of the EU funding included in each programme.

Italy has made progress in the implementation of cohesion policy programmes and the European Pillar of Social Rights, but challenges remain (see Annexes 14 and 17). In particular, Italy registers persistent disparities between the Centre-North and the South, with the latter recording lower public spending, lower quality of infrastructure and public services, and weaker administrative capacity. Against this background, it remains important to continue the implementation of planned priorities, with particular attention to:

(i) strengthening administrative capacity, particularly at subnational level;

(ii) targeting investment in research, innovation and competitiveness, notably in the less developed regions, in synergy with infrastructure development plans and regional smart specialisation strategies;

(iii) raising the quality of essential public services in the south, notably water and waste services, including by promoting single authorities at regional level;

(iv) promoting up-skilling and re-skilling, including skills for the green transition, by increasing tertiary education attainment and the share of adults enrolled in training;

(v) reducing the number of young people neither in employment nor in education or training (NEET) through a more effective educational system and more targeted active labour market policies, particularly in the south;

(vi) supporting women in finding employment by increasing the supply of affordable and quality early childcare, where most needed.

Italy could benefit from the opportunities provided by the Strategic Technologies for Europe Platform (STEP) initiative ([28]) to support the transformation of industrial ecosystems, notably in the south, in synergy with existing cohesion policy programmes. Effective intervention would entail integrated industrial policies to support the development and application of strategic technologies, especially in the areas of digital innovation, clean energy and resource-efficiency. This is particularly important in the sectors that already have a strong presence in the south such as the automotive and aeronautics industries.

The strategic plan for the recently created single special economic zone (SEZ) for the south could provide a coherent framework to foster business innovation and productivity by focusing on critical projects and strengthening integration across related value chains.

([28]) Regulation (EU) 2024/795.

KEY FINDINGS

With its wide policy scope and substantial financial envelope, Italy's recovery and resilience plan (RRP) includes measures to address a series of structural challenges in synergy with other EU funds, including cohesion policy funds, by:

- **Boosting the green transition** through measures to facilitate the shift to a circular economy, including water and waste management planning, streamlining permitting procedures for renewable energy installations and strengthening the electricity grid to enable greater renewable integration. The RRP also includes energy efficiency measures to renovate public and social housing and to optimise energy consumption in SMEs and larger firms.

- **Advancing the digital transition**, in particular in the areas of cybersecurity and public administration, and rolling out a nation-wide telecommunications network.

- **Improving the business environment** through reforms and investments in the justice system, public procurement, competition and public administration, including late payments.

- **Increasing research and innovation** (R&I) by mobilising major investments, mostly focusing on industrial research, technology transfer and support to SMEs.

- **Boosting economic and social resilience** by carrying out reforms and investments to strengthen basic skills, expand tertiary education and reduce skills mismatches with specific training programmes, as well as measures to reduce poverty and give greater autonomy to older people and people with disabilities.

- **Enhancing tax compliance** by increasing the data sources available for audits and checks, encouraging the use of electronic payments and reducing compliance costs for taxpayers.

The implementation of Italy's RRP is facing increasing challenges. Renewed efforts are key for a successful implementation of all the measures of Italy's RRP by August 2026.

Beyond the reforms and investments in the RRP and cohesion programmes, Italy would benefit from:

- **Tackling demographic challenges** to mitigate the effects on long-term growth, achieve sustainable government finances. This would include expanding care services, improving employment rates and bringing in migration policies that focus on attracting and retaining high-skilled workers.

- **Framing a clear and comprehensive industrial and development strategy for the south** to provide a sharper focus on investment projects, such as infrastructure projects, and to harmonise policy measures to support economic activities.

- **Increasing competition and improving regulations** in a number of sectors, including retail, regulated professions and railways, to boost sustainable growth.

- **Reforming the tax system** to provide more incentives for growth, with a

focus on reducing the tax wedge on labour.

- **To support upward social convergence, improving employment rates of women and young people,** also by expanding care services and improving job quality, and providing greater incentives for labour market participation, while addressing in-work poverty.

ANNEXES

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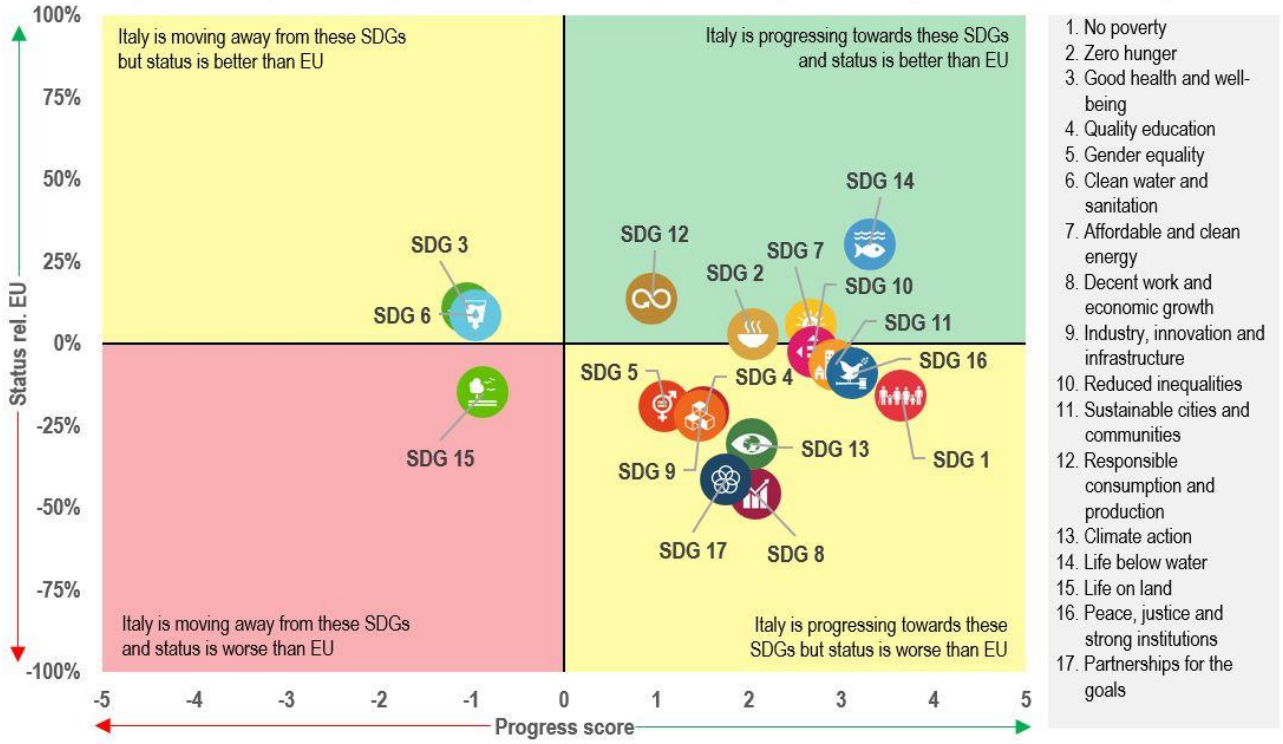
This Annex assesses Italy's progress on the Sustainable Development Goals (SDGs) along the four dimensions of competitive sustainability. The 17 SDGs and their related indicators provide a policy framework under the UN's 2030 Agenda for Sustainable Development. The aim is to end all forms of poverty, fight inequalities and tackle climate change and the environmental crisis, 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 the SDGs in an EU context.

Italy is improving on most of the SDG indicators related to *environmental sustainability* (SDGs 2, 7, 9, 11, 12, 13, 14) and performs well on some of them (SDGs 2, 6, 7, 12, 14). However, it is moving away from the indicators on clean water and sanitation and on life on land (SDGs 6, 15). For the latter, Italy also needs to catch up with the EU average, together with indicators on industry, innovation and infrastructure, sustainable cities and communities, as well as climate action (SDGs 9, 11, 13, 15). In Italy, the usage of circular material is higher than in the rest of the EU (18.7% of material input for domestic use vs 11.5% in the EU in 2022; SDG 12). While the percentage of marine protected areas is below the EU level (9.7% vs 12.1% in the EU in 2021), marine eutrophication is non-existent, further surpassing the EU average (0% of the exclusive economic zone, vs 0.3 in the EU in 2023; SDG 14). Italy performs well on energy efficiency and consumption (SDG 7), but the share of renewable energy remains lower than the EU (19.1% of gross final energy consumption, vs 23% in the EU in 2022; SDG 13). Italy also faces some of the highest and increasing climate-related economic

Graph A1.1: **Progress towards the SDGs in Italy**



For detailed datasets on the various SDGs, see the annual Eurostat report 'Sustainable development in the European Union'; for details on extensive country-specific data on the short-term progress of Member States: Key findings – Sustainable development indicators - Eurostat (europa.eu). A high status does not mean that a country is close to reaching a specific SDG, but signals that it is doing better than the EU on average. The progress score is an absolute measure based on the indicator trends over the past 5 years. The calculation does not take into account any target values as most EU policy targets are only valid for the aggregate EU level. Depending on data availability for each goal, not all 17 SDGs are shown for each country.
Source: Eurostat, latest update of 25 April 2024. Data refer mainly to the period 2017-2022 or 2018-2023. Data on SDGs may vary across the report and its annexes due to different cut-off dates.

losses (EUR 51.9/inhabitant, vs EUR 39.5 in the EU in 2022; SDG 13). However, net greenhouse gas emissions from land use and forestry are well below the EU level (-70.2 tonnes CO_2 eq. per km² vs -56 in the EU in 2022, SDG 13). The use of railways and waterways for freight transport is far from the EU average (9.8 pp. difference in % of inland freight tonne/km in 2022; SDG 9) and the share of households with a high-speed internet connection is well below the EU average (53.7% of households vs 73.4% in the EU in 2022; SDG 9). The recycling rate at municipal level is above the EU average (51.9% in 2021 vs 48.6% in the EU in 2022; SDG 11) but access to sanitation worsened: despite remaining low, the share of households not having sanitary facilities increased between 2015 and 2020 (SDG 6). Soil sealing increased and the area at risk of soil erosion levels by water is well above the EU average (24.9% of non-artificial erodible area vs 5.3% in the EU in 2016; SDGs 2 and 15). Moreover, the impact of drought on ecosystems increased from 2017 to 2022 and is above EU levels (17.6% of the country area, vs 15.7% in the EU in 2022; SDG 15). The average performance in each dimension of environmental sustainability masks large regional differences across the country. The recovery and resilience plan (RRP) includes important measures expected to support the green transition in renewable energy, the circular economy, natural resource management, hydrogeological risks, sustainable transport and the energy efficiency of buildings.

Italy is improving in almost all SDG indicators related to *fairness* (SDGs 1, 4, 5, 7, 8, 10), except for good health and well-being (SDG 3). However, it performs well on this latter indicator compared with the rest of the EU, with the same applying to affordable and clean energy (SDGs 3, 7). On the other hand, Italy needs to catch up with the EU average on most indicators (SDGs 1, 4, 5, 8, 10). Labour market participation improved but wide gaps compared with the EU remain. The share of young people not in education, employment or training is declining but is still well above the EU average (16.1% of the population aged 15-29, vs 11.2% in the EU in 2023; SDG 8). Despite a relatively high share of women in senior management positions (43% in 2023, vs 33.8% in the EU; SDG 5), the participation gender gap due to caring responsibilities remains higher than the EU (1.3 pps, vs 0.8 in the EU in 2023 in the population aged 20-64; SDG 8). This is similar to the gender employment gap (19.5 pps, vs 10.2 pps in the EU in the population aged 20-64 in 2023; SDGs 5). The share of the working poor slightly decreased (12.2% of population over 18 in 2017, vs 11.5% in 2022; SDG 8), while fatal accidents at work increased, against a decline in the EU (2.7/100 000 workers vs 1.8 in the EU in 2021; SDG 8). Italy progressed on almost all indicators on education, but the share of tertiary education graduates remains low (30.6% of the population aged 25-34 in 2022, vs 43.1% in the EU; SDG 4). Preventing early leaving from education remains a challenge, especially for students with a migrant background (20.5 difference in percentage points between EU and non-EU population aged 18-24, vs 17.1 pp. difference in the EU in 2023; SDG 10). Numerical skills worsened, in line with the negative EU trend (over 2018-2022, the percentage of low achievers in mathematics among 15-year-olds increased by almost a quarter, reaching about 30% in Italy and the EU; SDG 4). Access to housing in terms of excessive costs (SDG 1) and affordable energy (SDG 7) improved, while the share of people at risk of poverty or social exclusion declined slightly, but remains higher than in the EU (24.4% of the total population in 2022, vs 21.6% in the EU; SDG 1). Good health and well-being deteriorated but remain above the EU average, with fewer people perceiving themselves as healthy (77% of people aged over 16 in 2017, vs than 72.9% in 2022), an increasing obesity rate (5.9% of population over 18 in 2017, vs 7.1% in 2022) and an increase in the consumption of antibiotics (SDG 3). RRP measures on education and training, active labour market policies, social and territorial cohesion, social services and inclusion and gender equality are expected to improve Italy's performance on the SDGs related to fairness.

Italy needs to catch up with the EU average on all SDGs related to *productivity* (SDGs 4, 8, 9), but it is improving. Patent applications are increasing but remain well below the EU average (86 per million inhabitants, vs 153 per million in the EU in 2023). Gross domestic expenditure on R&D remains stable but is also

below the EU average (1.3% of GDP, against 2.3% in the EU in 2021) (SDG 9). On the other hand, real GDP per capita is almost on a par with the EU (EUR 28 520, vs EUR 28 940 in the EU in 2023) and investments represent almost 22% of GDP (SDG 8). The share of households with a high-speed internet connection in 2022 (53.7%) was well below the EU average (73.4%), despite significant progress since 2017 (21.7%) (SDG 9). However, the percentage of adults aged 16 to 74 with at least basic digital skills remained below the EU average (45.8%, vs 55.6% in the EU in 2023; SDG 4). The RRP is expected to contribute significantly to the digital transition and productivity by investing in the digitalisation of public administration, justice, education and research, and the tourism and cultural sector. Measures supporting the digitalisation and competitiveness of manufacturing and research and innovation are also expected to boost productivity.

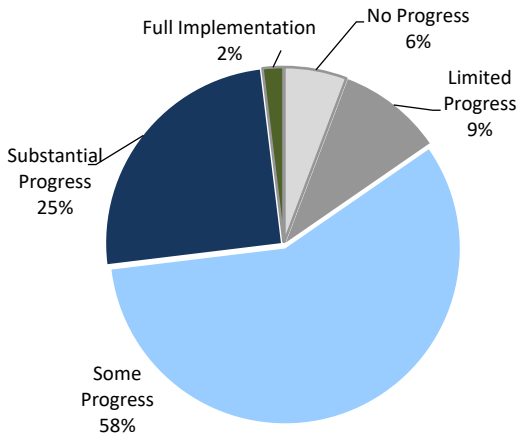
While the country is improving on SDG indicators related to *macroeconomic stability*, it still needs to catch up with the EU average on all of them (SDGs 8, 16, 17). Italy has made progress on peace, justice and the quality of its institutions, with a significant reduction in reported crime, falling below the EU average (from 19.4% in 2015 to 8.4% in 2020, EU: 10.7% of the total population in 2020). Access to justice remains a challenge, with only 40% of the population perceiving the justice system as independent and with the government spending almost EUR 112 per capita on law courts (SDG 16). Despite progress, economic growth and investment levels remain low (SDG 8). There is little uptake on global partnerships, and challenges remain on public debt and taxation, including environmental taxation (SDG 17). Several structural reforms included in the RRP are expected to improve Italy's macroeconomic stability, particularly the public administration and justice system reforms and the measures to fight tax evasion.

As the SDGs form an overarching framework, any links to relevant SDGs are either explained or depicted with icons in the other annexes.

ANNEX 2: PROGRESS IN THE IMPLEMENTATION OF COUNTRY-SPECIFIC RECOMMENDATIONS

The Commission has assessed the 2019-2023 country-specific recommendations (CSRs) ([29]) addressed to Italy as part of the European Semester. These recommendations concern a wide range of policy areas that are related to 13 of the 17 Sustainable Development Goals (SDGs) (see Annexes 1 and 3). The assessment considers the policy action taken by Italy to date ([30]) and the commitments in its recovery and resilience plan (RRP) ([31]). At this stage of RRP implementation, 85% of the CSRs focusing on structural issues from 2019-2023 have recorded at least 'some progress', while 9% recorded 'limited progress' (see Graph A2.1). As the RRP is implemented further, considerable progress in addressing structural CSRs is expected in the coming years.

Graph A2.1: **Italy's progress on the 2019-2023 CSRs (2024 European Semester)**



Source: European Commission.

([29]) 2023 CSRs: EUR-Lex - 32023H0901(12) - EN - EUR-Lex (europa.eu)

2022 CSRs: EUR-Lex - 32022H0901(12) - EN - EUR-Lex (europa.eu)

2021 CSRs: EUR-Lex - 32021H0729(12) - EN - EUR-Lex (europa.eu)
2020 CSRs: EUR-Lex - 32020H0826(12) - EN - EUR-Lex (europa.eu)
2019 CSRs: EUR-Lex - 32019H0905(12) - EN - EUR-Lex (europa.eu)

([30]) Including policy action reported in the national reform programme and in Recovery and Resilience Facility (RRF) reporting (twice a year reporting on progress in implementing milestones and targets and resulting from the payment requests assessment).

([31]) Member States were asked to effectively address in their RRPs all or a significant subset of the relevant country-specific recommendations issued by the Council. The CSR assessment presented here considers the degree of implementation of the measures included in the RRP and of those carried out outside of the RRP at the time of assessment. Measures laid down in the Annex of the adopted Council Implementing Decision on approving the assessment of the RRP, which have not yet been adopted or implemented but considered 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 A2.1: Summary table on 2019-2023 CSRs

Italy	Assessment in May 2024*	RRP coverage of CSRs until 2026**	Relevant SDGs
2019 CSR 1	**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	SDG 8, 16
Shift taxation away from labour, including by reducing tax expenditure and reforming the outdated cadastral values.	Limited progress		SDG 8, 10, 12
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 2022 and planned as of 2022 and 2023	SDG 8, 16
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		SDG 8
2019 CSR 2	**Some progress**		
Step up efforts to tackle undeclared work.	Some progress	Relevant RRP measures planned as of 2022	SDG 8
Ensure that active labour market and social policies are effectively integrated and reach out notably to young people and vulnerable groups.	Substantial progress	Relevant RRP measures being implemented as of 2021 and 2022 and planned as of 2023	SDG 1, 2, 8, 10
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	SDG 8, 10
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 as of 2022 and planned as of 2022 and 2023	SDG 4
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 2022 and planned as of 2022 and 2023	SDG 7, 9, 10, 11, 13
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.	Substantial progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022 and 2023	SDG 4, 9, 16
Address restrictions to competition, particularly in the retail sector and in business services, also through a new annual competition law.	Some progress	Relevant RRP measures planned as of 2022	SDG 9
2019 CSR 4	**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 2022 and planned as of 2022 and 2023	SDG 16
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 as of 2022 and planned as of 2022 and 2023	SDG 16
2019 CSR 5	**Substantial 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.	Substantial progress		SDG 8
Improve non-bank financing for smaller and innovative firms.	Some progress	Relevant RRP measures being implemented as of 2021 and planned as of 2024	SDG 8, 9
2020 CSR 1	**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	SDG 8, 16
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 2022 and planned as of 2022	SDG 3
Enhance coordination between national and regional authorities.	Some progress	Relevant RRP measures being implemented as of 2022	SDG 3, 16
2020 CSR 2	**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 2022 and planned as of 2022	SDG 1, 2, 8, 10
Mitigate the employment impact of the crisis, including through flexible working arrangements and	Subtantial progress	Not applicable	SDG 8
active support to employment.	Substantial progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022	SDG 8
Strengthen distance learning and skills, including digital ones.	Some progress	Relevant RRP measures being implemented as of 2021 and planned as of 2022 and 2023	SDG 4
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 2022 and planned as of 2022 and 2023	SDG 8, 9
Front-load mature public investment projects	Some progress	Relevant RRP measures being implemented as of 2021 and 2022 planned as of 2022, 2023, 2025 and 2026	SDG 8, 16

(Continued on the next page)

Table (continued)

and promote private investment to foster the economic recovery.	Some progress	Relevant RRP measures being implemented as of 2021 and 2022	SDG 8, 9
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 2022 and planned as of 2022, 2023 and 2024	SDG 7, 9, 13
research and innovation,	Some progress	Relevant RRP measures being implemented as of 2021 and 2022 and planned as of 2022 and 2023	SDG 9
sustainable public transport,	Some progress	Relevant RRP measures being implemented as of 2021 and 2022 and planned as of 2022, 2023 and 2024	SDG 11
waste and water management	Some progress	Relevant RRP measures being implemented as of 2021 and 2022 and planned as of 2022, 2023, 2024 and 2025	SDG 6, 12, 15
as well as reinforced digital infrastructure to ensure the provision of essential services.	Some progress	Relevant RRP measures being implemented as of 2021 and 2022 and planned as of 2022	SDG 9
2020 CSR 4	**Substantial progress**		
Improve the efficiency of the judicial system and	Substantial progress	Relevant RRP measures being implemented as of 2021 and 2022 and planned as of 2022 and 2023	SDG 16
the effectiveness of public administration.	Substantial progress	Relevant RRP measures being implemented as of 2021 and 2022 and planned as of 2022	SDG 16
2021 CSR 1	**Not relevant anymore**		
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.	Not relevant anymore	Not applicable	SDG 8, 16
When economic conditions allow, pursue a fiscal policy aimed at achieving prudent medium-term fiscal positions and ensuring fiscal sustainability in the medium term.	Not relevant anymore	Not applicable	SDG 8, 16
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.	Not relevant anymore	Not applicable	SDG 8, 16
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.	Not relevant anymore	Not applicable	SDG 8, 16
2022 CSR 1	**Some progress**		
In 2023, ensure prudent fiscal policy, in particular by limiting the growth of nationally financed primary current expenditure below medium-term potential output growth, taking into account continued temporary and targeted support to households and firms most vulnerable to energy price hikes and to people fleeing Ukraine. Stand ready to adjust current spending to the evolving situation.	Substantial progress	Not applicable	SDG 8, 16
Expand public investment for the green and digital transitions, and for energy security taking into account the REPowerEU initiative, including by making use of the Recovery and Resilience Facility and other Union funds.	Substantial progress	Not applicable	SDG 8, 16
For the period beyond 2023, pursue a fiscal policy aimed at achieving prudent medium-term fiscal positions and ensuring credible and gradual debt reduction and fiscal sustainability in the medium term through gradual consolidation, investment and reforms.	No progress	Not applicable	SDG 8, 16
In order to further reduce taxes on labour and increase the efficiency of the system, adopt and appropriately implement the enabling law on the tax reform, particularly by reviewing effective marginal tax rates, aligning the cadastral values to current market values, streamlining and reducing tax expenditures, also for VAT, and environmentally harmful subsidies while ensuring fairness, and by reducing the complexity of the tax code.	Limited progress		SDG 8, 10, 12
2022 CSR 2			
Proceed with the implementation of its recovery and resilience plan, in line with the milestones and targets included in the Council Implementing Decision of 13 July 2021.	RRP implementation is monitored by assessing RRP payment requests and analysing reports published twice a year on the achievement of the milestones and targets. These are to be reflected in the country reports.		
Swiftly finalise the negotiations with the Commission of the 2021-2027 cohesion policy programming documents with a view to starting their implementation.	Progress on the cohesion policy programming documents is monitored under the EU cohesion policy.		
2022 CSR 3	**Some progress**		
Reduce the reliance on fossil fuels and diversify energy import.	Some progress	Relevant RRP measures being implemented as of 2021 and 2022 and planned as of 2022, 2023 and 2024	SDG 7, 9, 13
Overcome bottlenecks to increase the capacity of internal gas transmission,	Some progress		SDG 7, 9, 13
develop electricity interconnections,	Some progress		SDG 7, 9, 13
accelerate the deployment of additional renewable energy capacities	Some progress	Relevant RRP measures being implemented as of 2021 and 2022 and planned as of 2022, 2023 and 2024	SDG 7, 9, 13
and adopt measures to increase energy efficiency	Some progress	Relevant RRP measures being implemented as of 2021 and 2022 and planned as of 2022, 2023 and 2024	SDG 7
and to promote sustainable mobility.	Some progress	Relevant RRP measures being implemented as of 2021 and 2022 and planned as of 2022, 2023 and 2024	SDG 11

(Continued on the next page)

Table (continued)

2023 CSR 1	**Some progress**		
Wind down the emergency energy support measures in force, using the related savings to reduce the government deficit, as soon as possible in 2023 and 2024. Should renewed energy price increases necessitate new or continued support measures, ensure that such support measures are targeted at protecting vulnerable households and firms, are fiscally affordable and preserve incentives for energy savings.	Substantial progress	Not applicable	SDG 8, 16
Ensure prudent fiscal policy, in particular by limiting the nominal increase in nationally financed net primary expenditure in 2024 to not more than 1,3%.	Some progress	Not applicable	SDG 8, 16
Preserve nationally financed public investment and ensure the effective absorption of grants under the Facility and of other Union funds, in particular to foster the green and digital transitions.	Full implementation	Not applicable	SDG 8, 16
For the period beyond 2024, continue to pursue a medium-term fiscal strategy of gradual and sustainable consolidation, combined with investments and reforms conducive to improved productivity and higher sustainable growth, in order to achieve a prudent medium-term fiscal position.	No progress	Not applicable	SDG 8, 16
Further reduce taxes on labour and make the tax system more efficient by adopting and duly implementing the enabling law on tax reform while preserving the progressivity of the tax system and improving fairness, in particular by streamlining and reducing tax expenditures, including VAT and environmentally harmful subsidies, and by reducing the complexity of the tax code. Align the cadastral values with current market values.	Limited progress		SDG 8, 10, 12
2023 CSR2			
Ensure effective governance and strengthen administrative capacity, in particular at subnational level, in order to allow for the continued swift and steady implementation of the recovery and resilience plan. Swiftly finalise the REPowerEU chapter with a view to rapidly starting the implementation thereof. Proceed with the speedy implementation of cohesion policy programmes, in close complementarity and synergy with the recovery and resilience plan.	RRP implementation is monitored through the assessment of RRP payment requests and analysis of the bi-annual reporting on the achievement of the milestones and targets, to be reflected in the country reports. Progress with the cohesion policy programming is monitored in the context of the Cohesion Policy of the European Union.		
2023 CSR 3	**Some progress**		
Reduce the reliance on fossil fuels.	Some progress		SDG 7, 9, 13
Streamline permitting procedures in order to accelerate the production of additional renewable energy, and	Some progress		SDG 7, 8, 9, 13
develop electricity interconnections to absorb it.	Some progress		SDG 7, 9, 13
Increase the capacity for internal gas transmission in order to diversify energy imports and strengthen security of supply.	Some progress		SDG 7, 9, 13
Increase energy efficiency in the residential and corporate sectors, including through better targeted incentive schemes, addressing in particular the most vulnerable households and the worst-performing buildings.	Some progress		SDG 1, 2, 7, 10
Promote sustainable mobility, including by removing environmentally harmful subsidies and speeding up the roll-out of charging stations.	Limited progress		SDG 8, 10, 11, 12
Step up policy efforts aimed at the provision and acquisition of skills and competences needed for the green transition.	Limited progress		SDG 4

Note:

* See footnote ([30]).

** RRP measures included in this table contribute to the implementation of CSRs. Nevertheless, additional measures outside the RRP are necessary to fully implement CSRs and address their underlying challenges. Measures indicated as 'being implemented' are only those included in the RRF payment requests submitted and positively assessed by the European Commission.

Source: European Commission

This Annex provides a snapshot of Italy's implementation of its recovery and resilience plan (RRP), past the mid-way point of the Recovery and Resilience Facility's (RRF) lifetime. The RRF has proven central to the EU's recovery from the COVID-19 pandemic, helping speed up the twin green and digital transition, while adapting to geopolitical and economic developments, and strengthening resilience against future shocks. The RRF is also helping implement the UN Sustainable Development Goals and address the country-specific recommendations (see Annex 2).

The RRP paves the way for disbursing up to EUR 71.8 billion in grants and EUR 122.6 billion in loans under the RRF over the 2021-2026 period, representing 9.3% of Italy's GDP ([32]). As of mid-May 2024, EUR 102.48 billion have been disbursed to Italy under the RRF, comprising EUR 41.54 billion in grants and EUR 60.94 billion in loans.

Italy still has EUR 91.9 billion available in grants and loans from the RRF. This will be disbursed after the assessment of the future fulfilment of the remaining 439 milestones and targets ([33]) included in the Council Implementing Decision ([34]) (CID), ahead of the 2026 deadline established for the RRF.

Italy's progress in implementing its plan is recorded in the Recovery and Resilience Scoreboard ([35]). The scoreboard gives an overview of the progress made in implementing the RRF as a whole. Graphs A3.1 and A3.2 show the current state of play as reflected in the scoreboard.

Italy's RRP includes a REPowerEU chapter to phase out its dependency on Russian fossil fuels, diversify its energy supplies and increase the production of clean energy in the coming years. To kick-start the REPowerEU chapter's implementation, EUR 551.2 million was disbursed as pre-financing on 25 January 2024. This helped launch of relevant reforms, including to streamline permitting for renewable energy deployment, reduce environmentally harmful subsidies, facilitate the production of bio-methane, and step up the provision and uptake of the skills needed for the green transition.

Table A3.1: **Key facts of the Italian RRP**

Initial plan CID adoption date	13 July 2021
Scope	Revised plan with REPowerEU chapter
Last major revision	8 December 2023
Total allocation	EUR 71.8 billion in grants and EUR 122.6 billion in loans (9.3% of 2023 GDP)
Investments and reforms	150 investments and 66 reforms
Total number of milestones and targets	617
Fulfilled milestones and targets	178 (28.9% of total)

Source: RRF Scoreboard

The plan has a strong focus on the green transition, dedicating 39.04% of the available funds to measures that support climate objectives and 25.60% of its total allocation to support the digital transition. It also retains a strong social dimension with social protection measures, especially related to promoting the transformation of vulnerable territories into smart and sustainable areas by investing in social housing, strengthening local social services to support children and families, improving the quality of life of persons with disabilities, and investing in infrastructure for the Special Economic Zones in the South.

With four payment requests completed, Italy's implementation of its RRP is underway. However, timely completion requires increased efforts. The Commission gave a positive assessment of Italy's first, second and third payment requests, taking into account

([32]) GDP information is based on 2023 data. Source: https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/index.html?lang=en

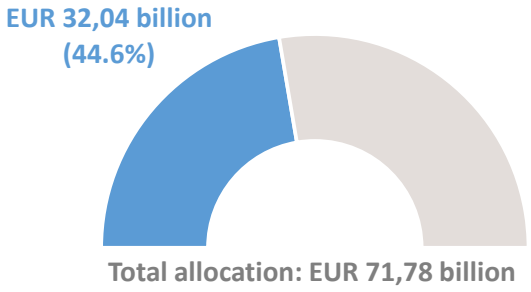
([33]) A milestone or target is satisfactorily fulfilled once a Member State has provided evidence to the Commission that it has reached the milestone or target and the Commission has assessed it positively in an implementing decision.

([34]) https://data.consilium.europa.eu/doc/document/ST-10160-2021-ADD-1-REV-2/en/pdf

([35]) https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/country_overview.html

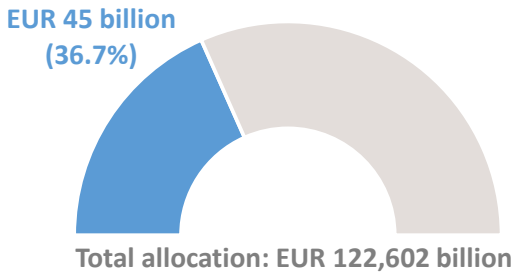
the opinion of the Economic and Financial Committee. This led to EUR 21 billion being disbursed in financial support on 13 April 2022; EUR 21 billion on 8 November 2022 and EUR 19 billion on 9 October 2023 ([36]). The related 150 milestones and targets covered reforms and investments in the areas of justice, public administration, tax administration, education, active labour market policies, social policies, digital and tourist sectors as well as urban regeneration, simplification of legislation in sectors like waste, water and rail transport.

Graph A3.1: **Total grants disbursed under the RRF**



Note: This graph displays the amount of grants, including pre-financing, 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 the total estimated cost of the respective RRP.
Source: RRF Scoreboard

Graph A3.2: **Total loans disbursed under the RRF**



Source: RRF Scoreboard

The most recent payment request, which the Commission assessed positively on 28 November 2023, led to the disbursement of EUR 16.5 billion on 28 December 2023. The disbursement reflected the positive assessment of 28 milestones and targets covering reforms in the areas of social inclusion, public procurement, justice and public employment reforms; as well as investments related to digitalisation, particularly concerning the transition of local public administrations' data to the cloud, the development of the space industry, green hydrogen, transport, research, education and social policies, among others.

As of 15 May 2024, the Commission is working in collaboration with Italy to assess its fifth payment request. Table A3.2 highlights some relevant measures achieved so far, and some that will be implemented before 2026 to keep making Italy's economy greener, more digital, inclusive, and resilient.

Table A3.2: **Measures in Italy's RRP**

Reforms and investments implemented
• Digitalization of Business and Construction procedures • Reform of the public administration • Reform of the teacher recruitment system
Upcoming reforms and investments
• Construction of flood protective structures • Establishment of a national archive information system • Geothermal Potential Development Plan

Source: FENIX

([36]) When requested payments are disbursed, the pre-financing is cleared proportionally. The net amounts are quoted here.

EU funding instruments provide considerable resources for recovery and growth to the EU Member States. In addition to the EUR 194.4 billion of Recovery and Resilience Facility (RRF) funding described in Annex 3, EU cohesion policy funds ([37]) provide EUR 42.2 billion to Italy for the 2021-2027 period ([38]). Support from these two instruments combined represents around 11.34% of the country's 2023 GDP, well above the EU average of 5.38% of GDP ([39]). Cohesion policy supports regional development, economic, social and territorial convergence and competitiveness through long-term investment in line with EU priorities and with national and regional strategies.

During the 2014-2020 programming period, cohesion policy funds boosted Italy's competitiveness, with tangible achievements notably to support companies, build technical administrative capacity, improve the water supply and boost employment. Over the whole period, which financed investments until December 2023, cohesion policy funds ([40]) had made EUR 47.9 billion available to Italy ([41]), of which EUR 27.8 billion has been disbursed since March 2020, when the COVID-19 pandemic began ([42]). The achievements of cohesion policy funds over the programming period included a contribution of over EUR 1 billion to boost the capacity of the public administration, support to some 700 000 businesses, of which 490 000 under the targeted response initiatives to tackle the pandemic (CRII and REACT-EU), and already improved the provision of water supply to 0.5 million people by 2022 with a view to achieving improvement for 2.3 million people. During the same period, over 13 million people participated in initiatives funded by the European Social Fund (ESF), of which over 7 million participants were below 25 years of age and 1.3 million were long-term unemployed. The *Incentivo occupazione sviluppo sud* initiative supported over 61 000 jobs by granting incentives to private employers hiring unemployed people in 'less developed' and 'transition' regions.

In the current programming period, cohesion policy will provide a further boost to Italy's competitiveness, to the green transition and to social cohesion, improving the living and working conditions of the Italy's people. In 2021-2027, the European Regional Development Fund (ERDF) will allocate over EUR 1.3 billion to boost the administrative capacity to implement cohesion policy, support 70 000 companies by promoting innovation and competitiveness, and to build 6 300 km of new public water supply pipelines. The European Social Fund Plus (ESF+) will contribute to tackling youth unemployment with a budget of around EUR 2.7 billion. The main areas of ESF+ support in this field will include action to help young people make the transition to work, develop new skills needed to tackle the challenges of the green and digital transition, and modernise services for employment and job market policies. With this work, cohesion policy substantially contributes to achieving the UN Sustainable Development Goals (SDGs) in Italy, in particular SDG 8 (Decent work and economic growth), SDG 9 (Industry, innovation, infrastructure) and SDG 1 (No poverty).

Through combined action, cohesion policy and the recovery and resilience plan (RRP) have a mutually reinforcing impact in Italy. For instance, the adopted national strategy for the circular economy and the national programme for waste management, both promoted under Italy's RRP, envisage several measures to improve waste management and incentivise reuse and recycle. They are complemented by ERDF investments in the circular economy in 17 Italian regions and 14 metropolitan cities. In

([37]) In 2021-2027, cohesion policy funds include the European Regional Development Fund, the European Social Fund Plus and the Just Transition Fund.

([38]) European territorial cooperation (ETC) programmes are excluded from the figure. In 2021-2027, the total investment, including national financing, amounts to EUR 74.1 billion.

([39]) RRF funding includes both grants and loans, where applicable. The EU average is calculated for cohesion policy funds excluding ETC programmes. GDP figures are based on Eurostat data for 2022.

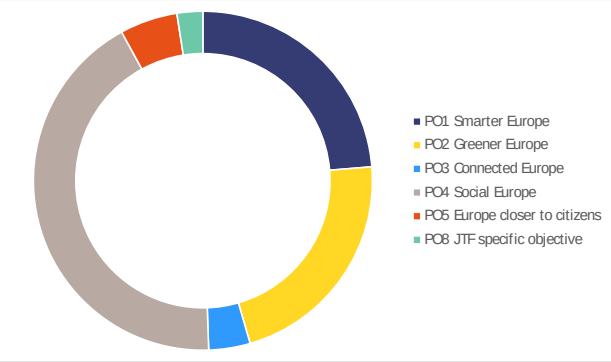
([40]) In 2014-2020, cohesion policy funds included the European Regional Development Fund, the European Social Fund and the Youth Employment Initiative. REACT-EU allocations are included but ETC programmes are excluded.

([41]) In 2014-2020, the total investment, including national financing, amounted to EUR 64.4 billion.

([42]) Cut-off date: 14 May 2024.

addition, the RRP reforms need to be reflected at regional level in the regional waste management plans required to meet the cohesion policy enabling conditions.

Graph A4.1: **Distribution of cohesion policy funding across policy objectives in Italy**

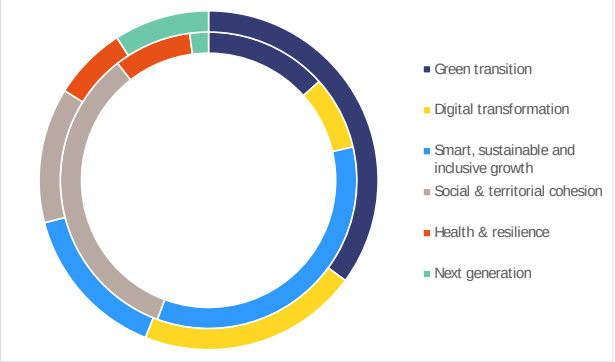


Source: European Commission

RRP and ERDF investments in fast internet connections are also fully complementary and mutually reinforcing. Italy's RRP focuses on rolling out ultra-broadband and 5G infrastructures in grey areas and the ERDF focuses on remote and isolated areas, and on measures to boost public administration digital services, which depend greatly on effective connectivity infrastructure. Finally, implementing Italy's plan for new skills to better link vocational training to the needs of the labour market included in the RRP will be supported by investment in smart specialisation, industrial transition and entrepreneurship under ERDF programmes. The contribution of cohesion policy and RRP funding by policy objective is illustrated by Graphs A4.1 and A4.2.

The Technical Support Instrument (TSI) helps Italy to invest in its public administration and create a better enabling environment for EU and national investment. The TSI has funded projects in Italy to design and implement growth-enhancing reforms since 2017. The support provided to Italy in 2023 included action to bring in a new organisational model for the regional health and care assistance network, to develop a strategy to finance climate adaptation infrastructure investments, and to draft national guidelines for implementing the 'do no significant harm' principle in public expenditure. The TSI also helped Italy boost its overall capacity to implement specific reforms and investments included in its RRP, and to implement the REPowerEU chapter in the RRP.

Graph A4.2: **Distribution of RRF funding by pillar in Italy**



(1) Each RRP measure helps achieve the aims of two of the six policy pillars of the RRF. The primary contribution is shown in the outer circle while the secondary contribution is shown in the inner circle. Each contribution represents 100% of the RRF funds. Therefore, the total contribution to all pillars displayed on this chart amounts to 200% of the RRF funds allocated to Italy.

Source: European Commission

Italy also receives funding from several other EU instruments, including those listed in Table A4.1.

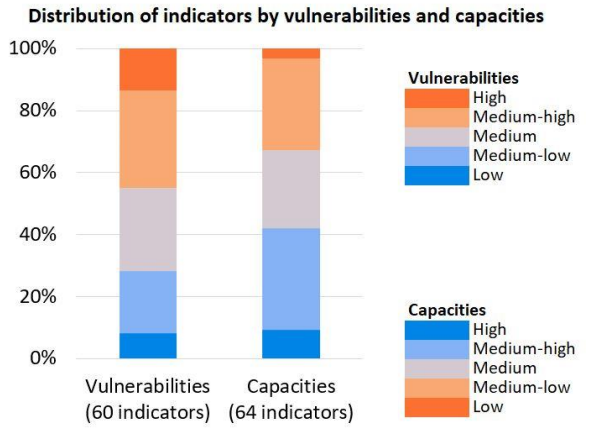
Table A4.1: **Support from EU instruments in Italy**

EU grants			
	Amount 2014-2020 (EUR million)		Amount 2021-2027 (EUR million)
Cohesion policy	47 876.6		42 179.5
RRF grants (1)	-		71 779.6
Public sector loan facility (grant component) (2)	-		78.1
Common agricultural policy (3)	50 500.0		28 067.0
EMFF/EMFAF (4)	537.3		518.2
Connecting Europe Facility (5)	1 674.6		1 346.5
Horizon 2020 / Horizon Europe (6)	5 710.0		2 779.5
LIFE programme (7)	354.7		263.2
EU guarantees			
	EU Guarantee (EUR million)		Volume of operations (EUR million)
European Fund for Strategic Investment 2015-2020 (8)	4 186.9		11 679.1
InvestEU 2021-2027 (9)	820.9		2 527.1
EU loans			
	Period	Total amount available (EUR million)	Disbursed amount (EUR million)
SURE (10)	2020-2022	27 438.5	27 438.5
RRF	2021-2026	122 602	60.9

(1) RRF implementation period is 2021-2026.
(2) The public sector loan facility's programming period is 2021-2025 and the amount reflects the national share in its grant component reserved until the end of the period.
(3) Common agricultural policy programming periods are 2014-2022 and 2023-2027.
(4) EMFF – European Maritime and Fisheries Fund, EMFAF – European Maritime, Fisheries and Aquaculture Fund.
(5) Data on the Connecting Europe Facility covers transport and energy and has a cut-off date of 15 May 2024.
(6) Data on Horizon Europe (2021-2027) has a cut-off date of 13 May 2024.
(7) 2021-2027 data on the LIFE programme has a cut-off date of 15 May 2024.
(8) The amount of the EU guarantee signed under the EFSI Infrastructure and Innovation Window was derived based on the signed amount of the operations and the average internal multiplier, as reported by the EIB (cut-off date is 31 December 2023).
(9) The amount of the EU guarantee and of the volume of operations signed under InvestEU includes the EU compartment as well as the Member State compartments (cut-off date is 31 December 2023).
(10) SURE - European instrument for temporary support to mitigate unemployment risks in an emergency.
Source: European Commission

Table A5.1: **Resilience indices across dimensions for Italy and the EU-27**

Dimension		IT 2023 RDB	IT 2024 RDB	EU-27 2024 RDB
Overall resilience	Vulnerabilities			
	Capacities			
Social and economic	Vulnerabilities			
	Capacities			
Green	Vulnerabilities			
	Capacities			
Digital	Vulnerabilities			
	Capacities			
Geopolitical	Vulnerabilities			
	Capacities			



The synthetic indices aggregate the relative resilience situation of countries across all considered indicators. For an indicator, each country's relative situation in the latest available year is compared with the collection of values of that indicator for all Member States and all years in the reference period.
Source: Resilience Dashboards - version spring 2024, data up to 2022

This Annex uses the Commission's resilience dashboards (RDB) ([43]) to show Italy's relative resilience capacities and vulnerabilities ([44]) that may be of relevance for societal, economic, digital and green transformations, and for dealing with future shocks and geopolitical challenges ([45]).

According to the RDB's set of resilience indicators, Italy has medium overall vulnerabilities and medium overall capacities, consistent with 2023 RDB. This is evident from the distribution of indicators across various resilience categories. Over 60% of vulnerability indicators are low, medium-low, or medium, while around 40% of capacity indicators are medium-high or high. Italian regions' resilience varies a lot, as Annex 17's analysis of several regional trends shows.

Italy's social and economic dimension remained stable, with medium-high vulnerabilities and medium-high capabilities. These vulnerabilities are high: the gender employment gap, government debt and the projected old-age dependency ratio. A significant macroeconomic skills mismatch and high long term unemployment rates also put Italy in a risky position, especially in the context of the ongoing twin transitions. On a positive note, Italy performs well in terms of healthy life years in absolute value at birth, and standardised preventable and treatable mortality.

Italy has medium-high vulnerabilities and medium-high capacities in the green dimension. Three areas have significant vulnerabilities: Fossil fuel subsidies, the farmland bird index, and soil erosion by water. In terms of capacities, Italy resource productivity is high, it has a lot of organic farming, and both its circular material use rate and energy productivity are high.

Italy has medium vulnerabilities and has strengthened its capacities in readiness for the digital transition. In particular, matters have improved in e-healthcare, the collaborative economy, and the value of e-commerce sales indicators. However, the country has low levels of digital proficiency,

([43]) Https://ec.europa.eu/info/strategy/strategic-planning/strategic-foresight/2020-strategic-foresight-report/resilience-dashboards_en. Resilience is defined as the ability not only to withstand and cope with challenges but also to undergo transitions, in a sustainable, fair, and democratic manner. 2020 Strategic Foresight Report: *Charting the course towards a more resilient Europe* (COM(2020) 493).

([44]) Vulnerabilities describe features that can exacerbate the negative impact of crises and transitions, or obstacles that may hinder the achievement of long-term strategic goals, while capacities refer to enablers or abilities to cope with crises and structural changes and to manage transitions.

([45]) This Annex is linked to Annex 1 on SDGs, Annex 6 on the green deal, Annex 8 on the fair transition to climate neutrality, Annex 9 on resource productivity, efficiency and circularity, Annex 10 on the digital transition and Annex 14 on the European pillar of social rights.

with a medium-low percentage of Master's information and communication technology (ICT) graduates and relatively few businesses actively seeking ICT specialists.

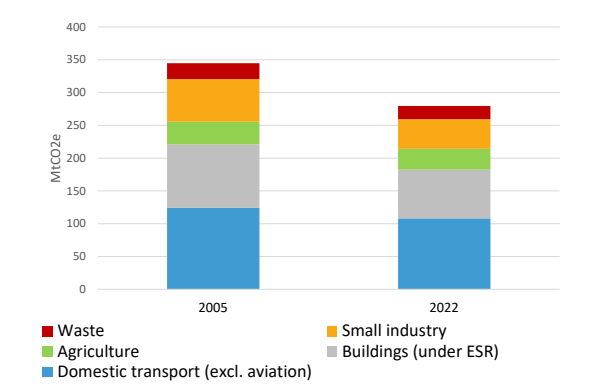
Vulnerabilities have remained stable while capacities have improved in the geopolitical dimension. Italy's strengthened capacities are mainly the result of improvements in the backward and forward participation in GVC. However, Italy is characterized by medium-low capacities in its trade openness performance (both intra- and extra-EU trade) and intra-EU trade in energy and recyclable raw materials. In terms of vulnerabilities, Italy has the best supplier concentration in base metals in the EU and is doing well in terms of extra-EU import partner concentration. However, it has a very low total fertility rate.

Italy's green transition requires more action in several areas, such as on managing potential losses from climate risks, on the institutional framework on climate adaptation, and on sustainable water and soil management. This Annex provides a snapshot of climate, energy, and environmental aspects of the transition ([46]).

Italy's draft updated national energy and climate plan (NECP) includes some quantified information on the investment needs to achieve its 2030 climate and energy targets. It focuses mainly on the energy system, renewable energy, distribution networks, the national transmission network and energy storage, but does not always quantify the investment needs for energy efficiency. The plan provides estimates of the additional investment needs with existing measures (WEM scenario), but it does not include transport infrastructure, nor policies in sectors other than energy. It does not give estimates with additional measures (WAM scenario). The plan mentions innovative funding schemes and recognises the potential of green bonds and guaranteed schemes for sustainable investment. It outlines some of the main funding sources for the key policies and measures, but coverage is inconsistent, which means it is not possible to identify potential funding gaps ([47]).

Even including the planned measures that are yet to be adopted, Italy still has a gap to close to reach its 2030 effort sharing target ([48]). In 2022, Italy's greenhouse gas emissions from its effort sharing sectors are expected to have been 18.5% below 2005 levels. Current policies are projected to reduce Italy's effort sharing emissions by 28.3% from 2005 levels by 2030. Additional policies planned in Italy's draft NECP are projected to reduce emissions by 35%-37% from 2005 levels, undershooting the effort sharing target to reduce by 43.7% by at least 6.7 percentage points ([49]). The draft plan reiterates Italy's commitment to achieve climate neutrality by 2050.

Graph A6.1: **Greenhouse gas emissions from the effort sharing sectors in Mt CO2eq, 2005-2022**



Source: European Environment Agency

Italy will have to continue to scale-up its energy efficiency policy and financing measures in order to achieve its planned contribution to the EU 2030 target. Its energy efficiency contribution of 115 Mtoe in primary energy consumption and 94.4 Mtoe in final energy consumption for 2030 set in the draft updated NECP match the contribution required under the Energy Efficiency Directive, including the +2.5% flexibility provision. However, the draft updated NECP indicates that Italy's planned contribution to the 2030 energy efficiency targets is higher than the contribution projected under the current

([46]) This Annex is complemented by Annex 7 on energy transition and competitiveness, Annex 8 on the fair transition to climate neutrality, Annex 9 on resource efficiency, circularity, and productivity, and relevant topics in other annexes.

([47]) See the Commission's (2023) assessment of the draft national energy and climate plan of Italy.

([48]) The national greenhouse gas emission reduction target is laid down in Regulation (EU) 2023/857 (the Effort Sharing Regulation). The aim is to align action in the sectors concerned with the objective to reach the EU-level economy-wide target of greenhouse gas reductions of at least 55% compared to 1990 levels. The target also applies to sectors outside the current EU Emissions Trading System, notably buildings (heating and cooling), road transport, agriculture, waste, and small industry (known as the effort sharing sectors).

([49]) The effort sharing emissions for 2022 are based on approximated inventory data. The final data will be established in 2027 after a comprehensive review. Projections on the impact of current policies ('with existing measures', WEM) and additional policies ('with additional measures', WAM) as per Italy's draft updated NECP.

energy efficiency policy and financing measures. Italy's renewable energy contribution set in its NECP to reach 40.5% by 2030 is above the required share of 39% ([50]).

Sustainable transport has yet to take off in Italy ([51]). At 0.4% in 2022, the share of battery electric cars is comparatively low (EU average: 1.2%), as is the uptake of electric vehicles, which is decreasing. The supply of publicly accessible charging points in 2023 is satisfactory (39 000 points, or one for every 9 electric vehicles, against the EU average of 1:10). With a 13% share of passenger transport, the use of buses and coaches is higher in Italy than the EU average (7%). For freight, the dominant mode is road transport, which transports 84% of all freight (EU average: 75%). As a result, traffic congestion and pollution are issues ([52]). Rail is used for only 4% of freight and 12% of passenger transport (EU average: 6% and 16%), and almost no use of waterways (EU average of 5.6%). Italy's share of electrified railways is among the highest in the EU but there is scope for more investment in the rail network, especially in southern Italy.

Italy's actions to increase carbon removals through land use, land-use change and forestry (LULUCF) are projected to fall short of its 2030 target. Net carbon removals through land use have been falling (with a temporary rise in 2018). To meet the 2030 target, Italy needs additional carbon removals of 1 358 kt CO_2eq ([53]). According to projections, the volume of removals may fall short ([54]).

Italy's challenges in climate adaptation include a high climate protection gap ([55]), institutional weaknesses and risks to soil and water management. Italy is vulnerable to climate change-related extreme events such as floods, droughts and heatwaves. It also has a high climate protection gap. It is estimated that between 1980 and 2022, extreme events and natural disasters cost Italy EUR 210 billion, a third of all costs in the EU, putting one SME in four at risk ([56]). Only 6% of climate-related losses were insured ([57]) and the level of coverage for water-related risks was particularly low. The annual costs of climate change for infrastructure are estimated to be around EUR 2 billion ([58]).

Italy has a high risk of floods and wildfires, and a medium level of vulnerability to coastal flooding. Water scarcity has expanded into northern Italy, with moisture levels falling and soil sealing and degradation rising. In its 2023 national multi-sector climate risk assessment, Italy improved the accuracy of these assessments. Italy highlights specific challenges in its adaptation strategy, including insufficient coordination, disparities in sub-national adaptation planning, and delays in the planning process, despite good practices of involving stakeholders and adopting nature-based solutions. It is crucial to overcome these challenges in climate adaptation action ([59]).

Despite progress in improving the status of surface water bodies, more effective action

([50]) The EU target set out in the revised Renewable Energy Directive is to have 42.5% of gross final energy consumption coming from renewable energy sources by 2030, with the aspiration to reach 45%. The formula in Annex I to Directive (EU) 2023/1791 sets the indicative national contribution for Italy at 115 Mtoe for primary energy consumption. The Commission communicated a corrected national contribution of 93.05 Mtoe in final energy consumption for 2030 in accordance with Article 4(5) of the Energy Efficiency Directive to increase the contribution towards the Union's binding energy efficiency target. See the Commission Recommendation of 18.12.2023 to Italy.

([51]) Unless otherwise indicated, data in this section refer to 2021. See European Commission, 2023, EU transport in figures, transport.ec.europa.eu.

([52]) In 2020, road vehicle drivers experienced peak-hour delays of 37 hours on average (EU average: 29 hours).

([53]) National LULUCF targets of the Member States in line with Regulation (EU) 2023/839.

([54]) Projections submitted in Italy's draft updated national energy and climate plan, 2023.

([55]) For more on the climate protection gap, see Table A6.1.

([56]) Disastri e climate change, conto salato per l'Italia, Censis Confcooperative.

([57]) EIOPA, 2022.

([58]) MIMS 2022.

([59]) See the Commission's 2023 assessment and recommendation on Italy's progress on climate adaptation.

would help reduce hydromorphological and agricultural pressure and boost Italy's resilience to extreme events. The water exploitation index plus (WEI+) reached 57% in Q3 of 2019 ([60]). On average over the period 2000-2020, 3.3% of Italy was affected by droughts, rising to 17.6% in 2022 with croplands the most damaged ecosystem. Italy appears particularly vulnerable to floods ([61]). In May 2023, significant flooding occurred. In the region of Emilia Romagna alone, damages were estimated at EUR 8.8 billion ([62]), the third most expensive natural disaster in the first 6 months of 2023 worldwide ([63]). An estimated 6.8 million inhabitants are exposed to a medium risk of flooding. In terms of public spending, Italy spends EUR 1.25 billion on the consequences of flooding and only EUR 0.19 billion on prevention ([64]). The coordinating role of river basin authorities in managing flooding could be enhanced.

Italian agriculture is becoming more intensive, exerts pressure on nature and water and generates pollution. While most EU countries reduced livestock density between 2016 and 2020, Italy's livestock density index increased from 0.74% to 0.81%. At the same time, the share of extensive livestock farming ([65]) of the area under agriculture fell from 38.3% in 2013 to 26.8 in 2016, still above the EU average of 23.8%, albeit with strong regional differences. Intensive poultry and pig farming were the sectors that put the highest burden of ammonia emissions into the air. The agricultural sector was responsible for generating 91.3% of all ammonia emissions against the EU average of 90.7% in 2021. Italy's gross nitrogen balance on agricultural land indicated an average surplus of 68 kg of nitrogen per hectare per year in 2017 ([66]). The nitrate content in groundwater is below the EU average at 17.8 against 20.5 mg nitrates/l. 12.6% of groundwater monitoring stations indicate levels above the maximum 50 mg nitrates/l (2016-2019). Waterbodies in Italy are also highly subject to pesticide contamination. In 2021, 24% of monitoring sites were reported to have pesticide levels exceeding the thresholds set by the Water Framework Directive, above the EU average. Italy has one of the highest shares of irrigated areas, 20.2% of its land under agriculture. Water abstracted for agricultural purposes accounts for 49.4% of the volume abstracted in 2019 ([67]). Drought has become a particular concern in Italy over the past decade ([68]), with snow accumulation in the 2022-23 winter season recorded as one of the worst for the last 30 years, leading to less runoff and less water available for irrigation ([69]) as well as saltwater intrusion in the Po Delta 40km inland in 2022 ([70]). In 2023 there was a reduction of available water by 18% with respect to the 1951–2023 average ([71]).

Intensive agriculture also degrades soils and undermines climate resilience. Based on the impact assessment for the Soil Monitoring Law ([72]) 47% of Italian soil is unhealthy. Soil erosion affects 80% of cropland area and 68% of cropland and grassland is subject to the loss of organic carbon. The average estimated organic carbon content was 20%, below the EU

([60]) Values above 20% are generally an index of water scarcity; values above 40% indicate that stress is severe and freshwater use unsuitable.

([61]) Disaster Risk Financing: Limiting the Fiscal Cost of Climate-Related Disasters (Radu, 2022).

([62]) Emilia Romagna Land Security and Civil Protection Agency; another severe incident hit Italy 28-29 February 2024.

([63]) MunichRe Natural disasters in the first half of 2023.

([64]) Legambiente and Unipol, Rapporto Citta Clima 2023 Speciale Alluvioni, p. 3, p. 11.

([65]) Share of utilised agricultural area with livestock density below 1 livestock unit per hectare.

([66]) EEA, Agricultural land: nitrogen balance.

([67]) EC/ENV calculations based on Annual freshwater abstraction by source and sector [env_wat_abs] – EEA, 2024.

([68]) OECD, Building agricultural resilience to natural hazard-induced disasters, 2021.

([69]) JRC, Drought in Europe June 2023.

([70]) Faranda, D., *et al.*, 2023, 'Persistent anticyclonic conditions and climate change exacerbated the exceptional 2022 European-Mediterranean drought', *Environmental Research Letters*

([71]) ISPRA, Press Release, 21.03.2024

([72]) SWD 417 final of 5.7.2023 - impact assessment for the Directive of the European Parliament and of the Council on Soil Monitoring and Resilience (Soil Monitoring Law), (see p. 10, pp. 189-190, pp. 835-845).

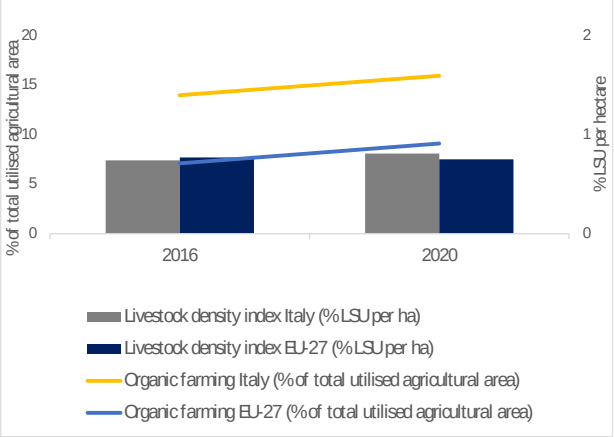
average of 24%. In 2022, soil artificialisation increased by 76.8 km^2, 10.2% more than in 2021. This corresponds to 21 hectares/day, the highest figure for 11 years ([73]). The loss of the soil ecosystem is estimated to cost a cumulative EUR 80.2-98.7 billion between 2012 and 2030 ([74]). The estimated crop productivity loss due to soil erosion in Italy was over EUR 0.6 billion (a high share of the EU total of over 1.25 billion EUR in 2010) ([75]). The cost of sediment removal due to soil erosion in Italy is just over EUR 1 billion a year ([76]). A law on reducing soil use is pending in parliament.

Italy has scope to improve biodiversity, nature protection, restoration and air quality. By the end of 2021, Italy had protected 21.4% of its land but only 6.9% of marine areas. Less than 10% of habitats and 44% of species were in a good conservation status ([77]). Air quality in Italy continues to give cause for serious concern. The Court of Justice of the EU has twice ruled against Italy for exceeding PM10 and NO_2 levels, with another case pending for PM2.5 (see Annex 8 for more details).

The uptake of organic products is increasing but food consumption is not yet sustainable. Italy has one of the highest shares of land under organic farming in the EU, 16.8% of total utilised agricultural area in 2021, against the EU average of 9.1% ([78]) and the EU goal of at least 25% by 2030. Conservation agriculture practices, which increase soil organic carbon, were used in less than 5% of tillage areas in 2016 ([79]). In 2023, organic food sales exceeded EUR 5.4 billion, indicating a growing market share. The country produced 140 kg of food waste per person in 2021, above the EU average (131). Between 2010 and 2020, while the livestock density decreased in most of the EU countries, Italy's livestock density index increased from 0.74% to 0.81%.

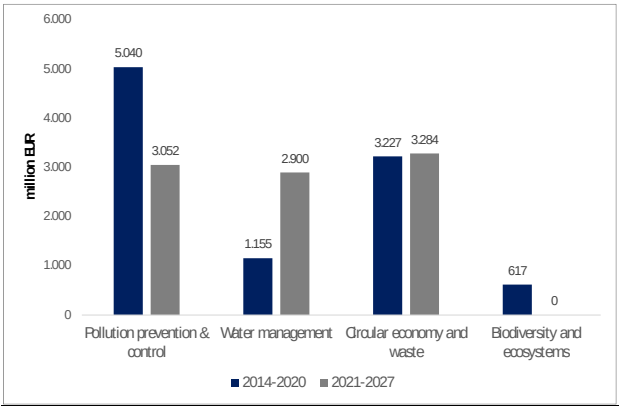
Italy would benefit from investing more in water and waste management. According to the latest Commission estimates, the overall environmental investment needs for 2021-2027 are at least EUR 37 billion a year, against the financing baseline of EUR 28 billion, leaving a gap of EUR 9 billion.

Graph A6.2: **Changes in livestock density and organic farming**



Livestock unit (LSU)/ha of UAA: it measures the stock of animals (cattle, sheep, goats, equidae, pigs, poultry and rabbits) converted in LSUs per hectare of UAA.
Source: Eurostat

Graph A6.3: **Environmental investment gap, annual average**



The numbers are computed by the European Commission based on the latest internal reports, Eurostat, EIB and national data sources.
Source: European Commission

([73]) ISPRA, Consumo di suolo, dinamiche territoriali e servizi ecosistemici edizione 2023, p. 15.

([74]) ISPRA, Consumo di suolo, dinamiche territoriali e servizi ecosistemici edizione 2023, p. 31.

([75]) Cost of agricultural productivity loss due to soil erosion in the EU: From direct cost evaluation approaches to the use of macroeconomic models, 2016, Land Degrad Dev. 2018;29:471-484, Table 6, Panagos *et al.*

([76]) Understanding the cost of soil erosion: An assessment of the sediment removal costs from the reservoirs of the EU, Journal of Cleaner Production 434 (2024), Panagos *et al.*

([77]) Versus 15% and 28% in the EU respectively.

([78]) In 2020. 2021 data is not available.

([79]) Eurostat Share of tillage practices in arable area EU27.

Italy has defined the initial steps to phase out environmentally harmful subsidies. Italy estimates that these subsidies reached EUR 22.4 billion in 2021 (1.3% of GDP). Its recovery and resilience plan includes the plan to reform these subsidies. It involves reporting subsidies by 2024 and adopting legal provisions by 2025 to reduce environmentally harmful subsidies by EUR 2 billion in 2026 and then by EUR 3.5 billion by 2030.

Table A6.1: **Indicators tracking progress on the European Green Deal from a macroeconomic perspective**

							Target	Distance	
		2005	2019	2020	2021	2022	2030	WEM	WAM
Progress to climate and energy policy targets									
Greenhouse gas emission reductions in effort sharing sectors [1]	Mt CO_{2eq} % pp	343.101,7	-18%	-24%	-17%	-18%	-44%	-15	-8
Net greenhouse gas removals from LULUCF [2]	Kt CO2eq	-33 685	-37 702	-27 499	-24 787	-21 199	-35.758	n/a	n/a
Share of energy from renewable sources (1) [3]	%	8%	18%	20%	19%	19%	39%	-	-
Energy efficiency: primary energy consumption [3]	Mtoe	180,8	145,9	132,3	145,6	139,3	112,2		
Energy efficiency: final energy consumption [3]	Mtoe	137,2	115,4	102,7	114,4	112,0	93,1		

							EU-27		Projected
		2018	2019	2020	2021	2022	2021	2022	2030
Green transition: mobility									
Greenhouse gas emissions: road transport	Mt CO2e	-	-	-	100,9	108,1	769,0	786,6	89,2
Share of zero-emission vehicles in new registrations [4]	%	0,3	0,6	2,4	4,6	3,8	9	12,1	n/a
Number of publicly accessible AC/DC charging points		-	-	12315	21272	30733	299178	446956	n/a
Share of electrified railways	%	71,6%	71,6%	71,9%	72,2%	-	56,1%	-	n/a
Green transition: buildings									
Greenhouse gas emissions: buildings	Mt CO2e	-	-	-	83,0	74,2	537,0	486,7	70,1
Final energy consumption in buildings	2015=100	106,3%	103,0%	98,6%	99,4%	97,0%	104,0%	97,2%	
Climate adaptation									
Climate protection gap [5]	score 1-4	-	-	2,4	2,4	2,0	1,5	1,5	n/a

		2018	2019	2020	2021	2022	2020	2021	2022
State of the environment									
Water | Water exploitation index (WEI+) (1) [6]	% of renewable freshwater	7,3	7,3	-	-	-	3,6	-	-
Circular economy | Material footprint [7]	tonnes per person	11,8	11,1	10,2	11,8	12,6	14,2	14,8	14,9
Pollution | Years of life lost due to air pollution by PM2.5 [8]	per 100.000 inhabitants	782	711	779	701	-	545	584	-
Biodiversity | Habitats in good conservation status [9]	%	9,9					14,7		
Common farmland bird index [10]	2000=100	72	74	72	-	-	78	-	-
Green transition: agri-food sector									
Organic farming	% of total utilised agricultural area	15,17	15,16	15,96	16,83	-	9,1	-	-
Nitrates in groundwater	mg NO_3/litre	-	-	-	-	-	20,42	-	-
Food waste per capita	Kg per capita			136	140	-	130	131	-
Share of soil in poor health [11]	%					47			41
Soil organic matter in agricultural land [12]	Mt per ha	507	-	-	-	-	7.904	-	-

Sources: (1) Member States' emission data for 2019 and 2020 are in global warming potential (GWP) values from the 4th Assessment Report (AR4) of the Intergovernmental Panel on Climate Change (IPCC). Member States' 2005 base year emissions under Regulation (EU) 2018/842, emissions data for 2021 and 2022, and 2030 projections are in GWP values from the 5th Assessment Report (AR5) of the IPCC. 2021 data are based on the final inventory reports, 2022 data are based on approximated inventory reports and European Environmental Agency's calculation of effort sharing emissions. The final data for 2021 and 2022 will be established after a comprehensive review in 2027. The 2030 target is in percentage change of the 2005 base year emissions. Distance to target is the gap between the 2030 target and projected effort sharing emissions with existing measures (WEM) and with additional measures (WAM), in percentage change from the 2005 base year emissions. The measures included for the 2030 emission projections reflect the state of play as reported in Member States' draft updated national energy and climate plans or, if unavailable, as reported by 15 March 2023 as per Regulation 2018/1999. (2) Net removals are expressed in negative figures, net emissions in positive figures. Reported data are from the 2024 greenhouse gas inventory submission. 2030 value of net greenhouse gas removals as in Regulation (EU) 2023/839 – Annex IIa. (3) The 2030 national objectives for renewable energy and energy efficiency are indicative national contributions, in line with Regulation (EU) 2018/1999 (the Governance Regulation), the EU-level 2030 renewable energy target set out in Directive EU/2018/2001 amended by Directive EU/2023/2413 (the revised Renewable Energy Directive) – 42.5% of gross final energy consumption with the aspiration to reach 45% –, and the formula in Annex I to Directive (EU) 2023/1791 (the Energy Efficiency Directive). (4) Passenger battery electric vehicles (BEV) and fuel cell electric vehicles (FCEV). (5) The climate protection gap refers to the share of non-insured economic losses caused by climate-related disasters, based on modelling of the risk from floods, wildfires, windstorms, and the insurance penetration rate. Scale: 0 (no protection gap) –4 (very high gap) (European Insurance and Occupational Pensions Authority, 2022). (6) Total water consumption in renewable freshwater resources available for a territory and period. (7) Material extractions for consumption and investment. (8) Years of potential life lost through premature death due to exposure to particulate matter with a diameter of less than 2.5 micrometres. (9) Share of habitats in good conservation status according to the records submitted under Art. 17 of the Habitats Directive (Directive 92/43/EEC) for 2013-2018. (10) Multi-species index measuring changes in population abundances of farmland bird species. (11) Source: Annex 12 of the Commission's proposal for a soil monitoring law, SWD (2023) 417 final. (12) Estimates of organic carbon content in arable land.

This Annex ([80]) sets out Italy's progress and challenges in accelerating the net-zero energy transition while bolstering the EU's competitiveness in the clean energy sector ([81]). It considers measures and targets put forward in the draft updated National Energy and Climate Plans (NECP) for 2030 ([82]).

Aligning with the prevailing trends witnessed across the EU, energy prices in Italy have fallen, although they remain at historically high levels, as a result of the international geopolitical situation. In the second semester 2022, average household gas prices reached a peak at EUR 0.13/KWh, while household electricity prices peaked at EUR 0.38/KWh before starting a gradual drop. Throughout the first semester of 2023, average household gas prices in Italy experienced a 25% decrease compared to the second half of 2022. However, average prices went up again in the second semester, surpassing the EU average by 20%. On the other hand, average household electricity prices in the first half of 2023 witnessed a slight increase of 4% only to decrease by 12% the following semester coming down below levels recorded late 2022. For the industrial and services sector, average gas prices peaked in the first half of 2022 at EUR 0.11/KWh, 12% higher than the EU average of EUR 0.08/KWh. Since then, average gas prices have dropped below early 2022 levels and were 10% below the EU average in the second semester of 2023. Conversely, average electricity prices for non-household consumers remained above the EU average throughout the year though exhibiting a considerable decline in the first half of the year of 28% followed by a persistent downward trend in the second semester reaching an average of EUR 0.23/KWh.

Most of the energy support measures in 2023 were targeted at the most vulnerable households or firms, although most of these measures do not fully preserve the price signal, needed to reduce energy demand and increase energy efficiency. The government has continued to provide support to the economy through selective measures, prioritising the extension of initiatives aimed at vulnerable families and businesses. The range of support measures extended in the third quarter of 2023 includes containment of gas bill costs, social bonuses for household electricity and gas and corporate welfare. In 2023 measures related to bill instalment plans and facilitated public guarantee schemes for businesses were still in place. However, tax credits for businesses related to spending on electricity and gas were not extended. The energy package for 2023 is estimated at around EUR 25.7 billion (1.3% of GDP), 46% less than in 2022. Italy is expected to fully phase out its temporary emergency measures by the end of 2024.

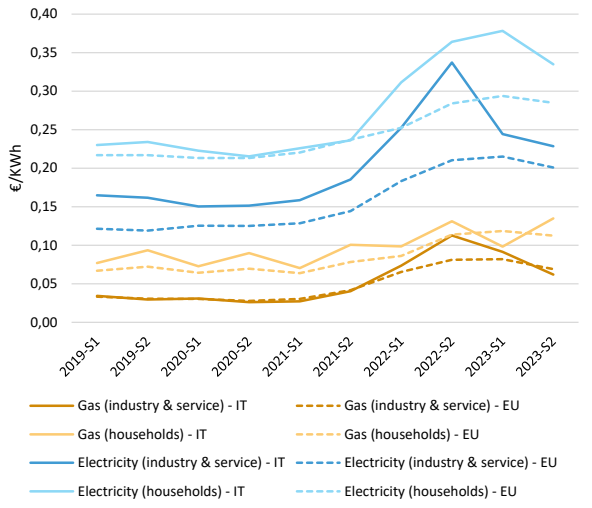
In relative terms, electricity prices for non-household consumers have increased significantly compared to the US, Japan, and to a lesser extent, the UK. Although there has been a notable decline since the second half of 2022, Italy's electricity prices have persisted above those of the US and Japan throughout the second semester of 2023. This could potentially affect the international competitiveness of energy-intensive industries in the country.

([80]) It is complemented by Annex 6, as the European Green Deal focuses on the clean energy transition, and by Annex 8 on the action taken to protect the most vulnerable groups, complementing ongoing efforts under the European Green Deal, REPowerEU and the European Green Deal Industrial Plan.

([81]) In line with the Green Deal Industrial Plan and the Net-Zero Industry Act

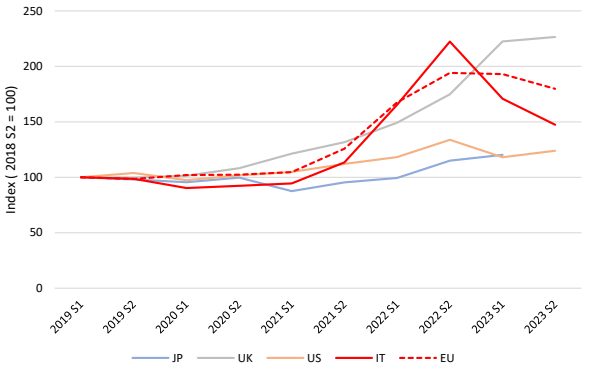
([82]) Italy submitted its draft updated NECP in July 2023. The Commission issued an assessment and country-specific recommendations on 18 December 2023. Commission Recommendation, Assessment (SWD) and Factsheet of the draft updated National Energy and Climate Plan of Italy - European Commission (europa.eu)

Graph A7.1: **Italy's energy retail prices for households and industry & service**



(1) For industry, consumption bands are I3 for gas and IC for electricity, which refer to medium-sized consumers and provide an insight into affordability
(2) For households, the consumption bands are D2 for gas and DC for electricity
(3) Industry prices are shown without VAT and other recoverable taxes/levies/fees as non-household consumers are usually able to recover VAT and some other taxes
Source: Eurostat

Graph A7.2:**Trends in electricity prices for non-household consumers (EU and foreign partners)**



(1) For Eurostat data (EU and IT), the band consumption is ID referring to large-sized consumers with an annual consumption of between 2 000 MWh and 20 000 MWh, such as in electricity intensive manufacturing sectors, and gives an insight into international competitiveness
(2) JP = Japan
Source: Eurostat, IEA

Energy security is an important aspect in Italian energy policy, with imported fossil fuels representing the bulk of Italy's energy mix. Italy is still very dependent on fossil fuels, as they made up 79% of the gross available energy in the country in 2022. Historically, Russia was Italy's largest supplier, accounting for 40% of the gas imported in 2021 (followed by Algeria and Qatar).

In 2022, Italy had already managed to substantially reduce this dependency to 19% and aims to phase out Russian gas by 2025. To support energy diversification, Italy has commissioned a new floating storage regasification Unit (FSRU) in Piombino with a capacity of 5bcm/y and an additional unit is expected to start operating in Ravenna by the end of 2024 with a 5bcm/y capacity. ([83]) The total natural gas storage in Italy in 2022 stood at 19.04 bcm. Italy operates 15 gas storage sites, of which 13 are active underground storage sites (with a combined working capacity of 195.3 TWh). Italy fulfilled its gas storage obligations last winter, reaching 99% by 1 November 2023, and ended the winter season with a storage filled at 57.8% by 1 April 2024.. Further investment is planned in the Italian REPowerEU chapter to phase out Russian gas imports and support diversification, namely the construction of the Adriatica Line and two other projects for increasing Italy's export potential to Austria. With the same purpose but outside REPowerEU are the TAP expansion and the Matagiola-Massafra pipeline. Italy also managed to reduce its gas demand between August 2022 and December 2023 by 17% in comparison with the average of the previous five years. The annual consumption amounted to 68.5 bcm in 2022 (against 76.3 in 2021).

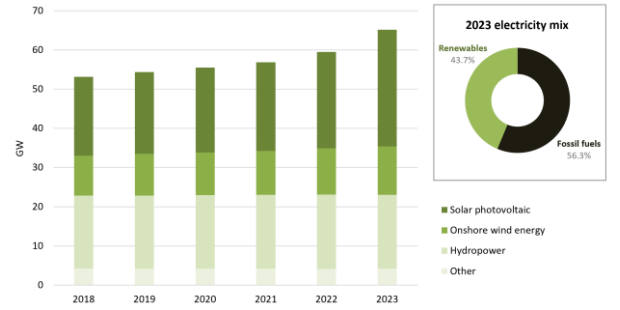
In its draft updated NECP, Italy postpones the closure of one coal power plant, not keeping its commitment from the region's territorial just transition plan. Despite the recent temporary increase in coal use, the draft updated NECP confirms Italy's commitment to phase out coal by 2025 for the mainland. However, Italy reports difficulties in meeting the objectives in its current NECP (from 2020) and the commitments in the territorial just transition plan for Sulcis (Sardinia): there, the

([83]) The draft updated NECP also mentions the upgrade of 3 LNG terminals (Panigaglia by 2 bcm, Livorno by 1 bcm and Rovigo by 2 bcm), as well as a potential 5.7 bcm/year of biomethane production by 2030.

closure of a coal power plant will be postponed from 2025 to 2028. ([84])

Installed renewable capacity surged by 5.3% in 2022, driven by a significant increase in solar, in particular photovoltaics. In 2022, the total renewable energy capacity in Italy stood at 59 891 MW ([85]). Despite this increase, Italy still falls behind Member States of comparable size in terms of total new installed capacity, especially due to the slow deployment of wind. The total wind capacity was 11780 MW, of which 11 750 from onshore and 30 MW from offshore (an increase of 4.6% compared to 2021) ([86]). The total solar capacity amounted to 25 083 MW, an increase of 11% compared to 2021. The acceleration in the installation of renewable energy in 2022 was mostly due to solar PV. Despite its big potential, Italy lacks behind in the development of offshore wind. ([87]) Italy's share of renewables in heating and cooling is below the EU average (20.2% in 2022) and 36% of it comes from heat pumps. ([88])

Graph A7.3: **Italy's installed renewable capacity (left) and electricity generation mix (right)**



(1) "Other" includes solar thermal energy, marine energy, solid biofuels, renewable municipal waste, liquid biofuels, biogas, geothermal energy
Source: IRENA, Ember

Italy made significant steps in implementing reforms to accelerate the deployment of renewables. On permitting, Italy simplified the permitting for rooftop solar, established a single digital platform for the submission of single authorisation applications, using a standard authorisation model for all regions, and decreased the minimum distance of renewable energy installations from protected locations. The Italian REPowerEU chapter includes a reform on the Testo Unico (Single Text), aiming to create one single text superseding all previously existing legislation, to provide more clarity on the legislation on permitting for renewables.

With the need to prioritize further infrastructure investments, Italy is upgrading its electricity network to accommodate a higher share of renewable energy. In this sense, Italy will carry out substantial investment thanks to its recovery and resilience plan (RRP), to facilitate the optimal integration of internal networks and the absorption of renewable energy sources into the grid. In terms of cross-border electricity networks, the deployment of interconnections with Austria and Slovenia will help to increase the nominal capacity of the existing electricity interconnection with these countries. At the western border, the electricity interconnector between France and Italy, the Piemonte-Savoia S.r.l, became fully operational in August 2023 and increased the exchange capacity with France by 40% ([89]). Finally, the electricity link between Sicily and Tunisia will facilitate increased energy production from renewable sources in the Mediterranean region.

Consumer empowerment in the electricity and gas market is significant. The installation of smart meters has been mandatory since 2011, with wide coverage, and consumers are interested in being part of energy communities. Italy was the second country in Europe to achieve 80% coverage for smart meters, already in 2011. By 2025, at least 90% of delivery points is expected to be equipped with 2G meters and 96% by 2026. A decree to promote energy communities was published by the authorities on 23 January 2024. The Italian RRP notably contains an investment to

([84]) See the Commission's assessment of the draft updated NECP.

([85]) IRENA Report 2023

([86]) IRENA Report 2023

([87]) The Italian NECP envisages 2.1 GW of offshore wind in 2030, but no support mechanisms have been announced so far.

([88]) In the draft NECP this share is projected to increase to 36.7% by 2030.

([89]) An increase by 1200 MWA, considering that Italy started from a capacity of 3150 MWA.

support the installation of 1 600 MW of new power generation capacity for collective self-consumption configurations and renewable energy communities, focusing on towns.

Italy demonstrated progress but there is still untapped potential on energy efficiency. In 2022, Italy had a primary energy consumption of 139.3 Mtoe, a 4.3% decrease compared to 2021 and an 11.1% decrease compared to 2012. It had a final energy consumption of 112.0 Mtoe, a 2.1% decrease compared to 2021 and an 8.0% decrease compared to 2012. In 2023, the best results came from the industry sector, which decreased its final energy consumption by 13.8%, and the worst from the transport sector, which increased its final energy consumption by 7.8%.

Italy has implemented a series of energy efficiency measures with the support of several EU funds. However, most schemes are traditionally addressed to buildings and schemes for industry are still rather limited. RRP support for energy efficiency has been scaled up to EUR 7.7 billion, notably by upscaling investment in renovation of public and social housing, and optimising energy consumption and advancing the energy transition in SMEs and larger firms. The new '*Transizione 5.0' measure* will support energy efficiency, on-site renewables and energy transition in businesses, with an available budget of EUR 6.3 billion. The key enabling measures and success factors in Italy for increasing energy efficiency in businesses are the white certificate scheme, the energy audit obligation and the well-developed market for energy service companies (ESCOs).

Most of the financing schemes for energy efficiency are still grant-based and the use of financial instruments is still very limited. In terms of existing funding schemes addressing mobilisation of investment in energy efficiency, Italy relies mainly on grant-based funding schemes, mainly implemented via tax discounts. Some grant-based schemes are implemented via calls for interest, mainly to support public building renovations. The use of financial instruments for energy efficiency improvements is extremely limited and needs to be scaled up. While a *National Energy Efficiency Fund* exists, its implementation is significantly backloaded.

With regard to energy consumption in buildings, Italy reduced the final energy consumption of its residential sector by 1.3% ([90]) between 2020 and 2022. This is in line with the national Long Term Renovation Strategy, which envisages a 12% reduction of energy consumption by buildings by 2030, compared to 2020. Heating and cooling represent almost 79% of the country's residential final energy consumption, whereof 20% comes from renewables. Approximately 510 000 heat pumps were sold in 2022, an increase of 35% compared to the previous year. Electricity in Italy is 3.86 times more expensive than gas, which means that end users save energy but pay more if they chose a heat pump for heating. Italy's RRP provides support for energy efficiency in residential and public buildings, investing EUR 16.9 billion. Italy is not reporting any checks on products covered by *ecodesign and energy labelling*.

Italy does not have an official definition or indicator of energy poverty. According to national estimates, energy poverty increased from 7.3% in 2014 to 8.5% in 2022 (about 2.2 million households). However, in 2022, the share of households unable to heat their homes sufficiently was in line with the EU, amounting to 2.7%, while the share of arrears was 5%, below the EU average (6.9%). Targeted support schemes would be more efficient in addressing energy poverty, as families living in older multi-apartment buildings or in southern regions are more at risk.

Hydrogen infrastructure is a key asset in Italy. The Italy – Austria – Germany hydrogen corridor included in the first EU List of Projects of Common and Mutual Interest, and in particular the Italian H2 Backbone, will be a key asset for the import of large quantities of renewable hydrogen produced in North Africa and Southern Italy (Sicily) to the export points with Austria and Switzerland.

([90]) Final energy consumption in households from Eurostat (data tables from December 2023), climate-corrected by the Joint Research Centre with reference period 2005-2022 (FEC climate-corrected = FEC/ (HDD/HDD reference period)

Italy remains one of the leading clean technology markets ([91]), hosting a substantial number of solar PV and wind energy manufacturing facilities. Regarding manufacturing capacity for solar PV components, more than 22% of building integrated photovoltaics come from Italy. Italy is between the top two biggest producers within the EU and has companies listed among the leading EU producers of backsheets and foils ([92]). Italian companies are also leading modules manufacturers, with one actor in the Italian electricity market and a gigafactory in Sicily, whose expansion is set to result in a 15-fold increase in its production capacity to 3 GW per year from the current 200 MW. And two other hubs of the PV industry are located in the Veneto region, which can each achieve a production capacity of 1 GW/year. The Italian RRP allocates nearly EUR 90 million to the PV gigafactory in Sicily, which is now underway, highlighting how this project fundamentally contributes to the European strategy to build an increasingly autonomous renewable supply chain. In Northern Italy, one company comes in fourth position at EU level (after Spain, Germany and Austria) but is leader in the national market with production of inverters reaching 7 GW. For wind, Italy has manufacturing facilities for onshore towers and blades, operating in Lombardy and Apulia. Component production facilities are located between Lombardy and the Veneto region ([93]). At the end of 2017, the ex-Whirlpool industrial site in Taverola was converted with the aim of creating the first Mediterranean cluster to produce lithium batteries. In 2019, the European Commission approved the construction of a 8GWh/year gigafactory with an integrated pilot line for end-of-life battery recycling, as an Important Project of Common European Interest (IPCEI). In 2022, a second plant in Taverola received funding from the Ministry of Economic Development and the IPCEI fund amounting to EUR 417m to launch a start-up to produce lithium-ion batteries. Other lithium-ion manufacturing facilities for the automotive sector have been announced in 2022 in Termoli, with a forecast production of 40 GWh, and in Ivrea with a gigafactory planned to open in 2025 with 3 000 jobs and a productive capacity up to 45 GWh/year. Important actors in the electrolyser sector have launched manufacturing units for AEM (Anion Exchange Membrane) and alkaline electrolysers. The facility in San Miniato has a production capacity of 300 MW/year. With additional investment, it aims to reach a total annual production capacity equivalent to 1.3 GW.

According to the European Innovation Scoreboard 2023, Italy is a moderate innovator (See also Annex 11). Public investment in research and innovation (R&I) in the energy field decreased from 0.036% in 2014 to 0.027% in 201 (as a share of GDP), while no absolute change was recorded over the same period for private investment in R&I. Italy is among the top five EU countries in terms of public investment in solar energy technologies. There was an upward trend in venture capital invested (see also Annex 12) in clean energy technology start-ups and scale-ups, which are at the forefront of innovation (107.3 million EUR in 2023 compared to 6.4 million EUR in 2019) ([94]). Under Horizon 2020, Italy received EUR 385 million from 2014 to 2020 for energy research, overall receiving 9% of all EU funds targeting energy research ([95]). Italy is heading international efforts to ramp up progress in power system modernisation, including through Mission Innovation Green Powered Future Mission and the International Smart Grids Action Network.

([91]) Ranking third in the EU after Germany and Spain

([92]) ETIP-PV, 2023

([93]) Local impact global leadership | WindEurope

([94]) JRC figures, based on PitchBook data (extracted in June 2023).

([95]) The impact of Horizon 2020 funding on Italian firms: a focus on the energy sector, APRE, 2021

Table A7.1: Key Energy Indicators

		Italy				EU			
		2019	2020	2021	2022	2019	2020	2021	2022
ENERGY DEPENDNCE	**Import Dependency [%]**	**77,5%**	**73,5%**	**73,4%**	**79,4%**	**60,5%**	**57,5%**	**55,5%**	**62,5%**
	of Solid fossil fuels	98,6%	93,0%	97,0%	102,4%	43,3%	35,8%	37,3%	45,8%
	of Oil and petroleum products	92,5%	88,7%	84,3%	92,9%	96,7%	96,8%	91,7%	97,7%
	of Natural Gas	95,1%	92,8%	93,7%	99,2%	89,7%	83,6%	83,6%	97,6%
	Dependency from Russian Fossil Fuels [%]								
	of Natural Gas	47,1%	43,3%	40,0%	19,3%	39,7%	41,3%	41,1%	21,0%
	of Crude Oil	16,8%	13,5%	12,2%	20,9%	28,8%	26,7%	26,4%	19,5%
	of Hard Coal	42,9%	55,8%	62,1%	33,2%	43,5%	49,1%	47,4%	21,5%

		2016	2017	2018	2019	2020	2021	2022
DIVERSIFICATION OF GAS SUPPLIES	**Gas Consumption (in bcm)**	**70,9**	**75,2**	**72,7**	**74,5**	**71,3**	**77,5**	**68,7**
	Gas Consumption year-on-year change [%]	5,0%	6,0%	-3,3%	2,4%	-4,3%	8,7%	-11,3%
	Gas Imports - by type (in bcm)	**65,3**	**69,7**	**67,9**	**71,1**	**66,4**	**73,0**	**72,6**
	Gas imports - pipeline	59,1	61,8	59,1	57,3	54,0	63,1	58,2
	Gas imports - LNG	6,2	7,9	8,7	13,8	12,3	9,9	14,4
	Gas Imports - by main source supplier (in bcm) (1)							
	Algeria	19,3	19,5	18,0	13,4	15,1	22,5	26,0
	Russia	26,8	33,1	32,8	33,4	28,7	29,2	14,0
	Qatar	5,5	6,7	6,5	6,6	6,9	6,9	7,3
	Azerbaijan	-	-	-	-	0,0	7,2	10,3

		2019	2020	2021	2022	2023
	LNG Terminals - storage capacity m3 LNG					
	Number of LNG Terminals	3	3	3	3	4
	LNG Storage capacity (m3 LNG)	487.500	487.500	487.500	487.500	487.500
	Underground Storage					
	Number of storage facilities	14	14	14	14	14
	Technical Capacity (bcm)	17,4	17,5	17,6	17,7	17,4

		2016	2017	2018	2019	2020	2021	2022	2023
ELECTRICITY/ENERGY	**Gross Electricity Production (GWh) (2)**	**289.768**	**295.830**	**289.708**	**293.853**	**280.531**	**289.070**	**283.953**	-
	Combustible Fuels	198.693	208.824	192.129	195.084	180.805	189.132	198.515	-
	Nuclear	0	0	0	0	0	0	0	-
	Hydro	44.257	38.025	50.503	48.154	49.495	47.478	30.291	-
	Wind	17.689	17.742	17.716	20.202	18.762	20.927	20.494	-
	Solar	22.104	24.378	22.654	23.689	24.942	25.039	28.121	-
	Geothermal	6.289	6.201	6.105	6.075	6.026	5.914	5.837	-
	Other Sources	736	661	601	650	501	579	695	-
	Gross Electricity Production [%]								
	Combustible Fuels	68,6%	70,6%	66,3%	66,4%	64,5%	65,4%	69,9%	-
	Nuclear	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	-
	Hydro	15,3%	12,9%	17,4%	16,4%	17,6%	16,4%	10,7%	-
	Wind	6,1%	6,0%	6,1%	6,9%	6,7%	7,2%	7,2%	-
	Solar	7,6%	8,2%	7,8%	8,1%	8,9%	8,7%	9,9%	-
	Geothermal	2,2%	2,1%	2,1%	2,1%	2,1%	2,0%	2,1%	-
	Other Sources	0,3%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%	-
	Net Imports of Electricity (GWh)	**37.027**	**37.761**	**43.899**	**38.141**	**32.200**	**42.790**	**42.987**	-
	As a % of electricity available for final consumption	12,5%	12,5%	14,5%	12,6%	11,3%	14,2%	14,5%	-
	Electricity Interconnection [%]	**-**	**8,2%**	**-**	**8,7%**	**8,8%**	**3,8%**	**4,0%**	**4,6%**
	Share of renewable energy consumption - by sector [%]								
	Electricity	34,0%	34,1%	33,9%	35,0%	38,1%	36,0%	37,1%	-
	Heating/cooling	18,9%	20,1%	19,3%	19,7%	19,9%	19,3%	20,6%	-
	Transport	7,4%	6,5%	7,7%	9,0%	10,7%	9,9%	10,1%	-
	Overall	17,4%	18,3%	17,8%	18,2%	20,4%	18,9%	19,1%	-

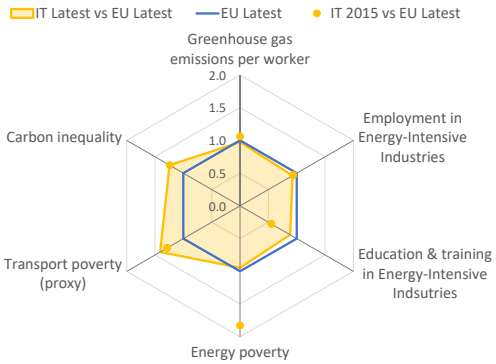
		2019	2020	2021	2022	2023
CLEAN ENERGY	**VC investments in climate tech start-ups and scale-ups (EUR Mln)**	**6,37**	**6,09**	**158,28**	**354,95**	**107,29**
	as a % of total VC investment (3) in Italy start-ups and scale-ups	0,8%	0,9%	9,6%	12,4%	8,1%
	Research & Innovation spending in Energy Union R&i priorites					
	Public R&I (EUR mln)	409,6	445,1	-	-	-
	Public R&I (% GDP)	0,02%	0,03%	-	-	-
	Private R&I (EUR mln)	713,6	561,9	-	-	-
	Private R&I (% GDP)	0,04%	0,03%	-	-	-

(1) The ranking of the main suppliers is based on the latest available figures (for 2022)
(2) Venture Capital investment includes Venture Capital deals (all stages), Small M&A deals and Private Equity (PE) growth deals (for companies that have previously been part of the portfolio of a VC investment firm or have received Angel or Seed funding)
Source: Eurostat, Gas Infrastructure Europe, JRC elaboration based on PitchBook data (03/2024), JRC SETIS (2024)

This Annex monitors Italy's progress in ensuring a fair transition towards climate neutrality and environmental sustainability, particularly for workers and households in vulnerable situations. In Italy, the number of jobs in the green economy has quickly risen in recent years. Between 2016 and 2021, total jobs in the environmental goods and services sector grew by 52.8% (to around 921 000 jobs jobs) (EU: 16.4%), reaching 4.1% of total employment (EU: 2.7%). Also between 2015-2020, the greenhouse gas emission intensity of Italy's workforce (see Graph A8.1 and Table A8.1) decreased from 15.2 to 13.9 tonnes per worker. This is below the EU average (14.3 tonnes per worker in 2022) ([96]), indicating a positive trend in the green transition. Upskilling and reskilling of workers in energy-intensive industries ([97]) has increased to some extent, contributing to a fair green transition in line with the Council Recommendation of 2022 on ensuring a fair transition towards climate neutrality ([98]). However, further developing green skills remains key, also for the implementation of REPowerEU. Italy's recovery and resilience plan (RRP) outlines crucial reforms and investments for a fair green transition, complementing the territorial just transition plans of Taranto (Apulia), and Sulcis-Iglesiente (Sardinia), as well as actions supported by the European Social Fund Plus (ESF+).

Workers in transforming sectors need active support as labour shortages are increasing. In 20223, employment in Italy's energy-intensive industries represented 3.3% of total employment (3.5% in the EU). Employment in mining and quarrying has fallen by 11.7% since 2015 (to around 30 100 workers in 2023). The job vacancy rate in construction (see Graph A8.2), a key sector for the green transition, is below the EU average (3.2% vs 3.6% in EU in 2023), although this contrasts with the perception of small and medium-sized enterprises (SMEs) in the sector, where 71% reported that skills shortages are holding them back in general business activities ([99]). According to the European Labour Authority (ELA) ([100]), labour shortages were reported in 2023 for a number of occupations that required specific skills or knowledge for the green transition ([101]), including building and related electricians, electrical mechanics and fitters, and house builders.

Graph A8.1: **Fair transition challenges in Italy**



Source: Eurostat, EU Labour Force Survey, EMPL-JRC GD-AMEDI/AMEDI+ and DISCO(H) projects (see Table A8.1).

Upskilling and reskilling in energy-intensive industries slightly increased, but shortages remain, causing bottlenecks. Skills are key for smooth labour market transitions and preserving jobs in transforming sectors. In energy-intensive industries, workers' participation in education and training increased from 6.0% in 2015 to 9.6% in 2023, but it is still below the EU average (10.9%). In Italy, 43% of SMEs think that the skills required for greening business activities are

([96]) Workforce-related calculations are based on the EU Labour Force Survey. Note, in the 2023 country report for Italy, such indicators were calculated based on employment statistics in the national accounts. This may result in limited comparability across the two reports.

([97]) Mining and quarrying (NACE B), chemicals (C20), minerals (C23), metals (C24) and automotive (C29).

([98]) The Council Recommendation of 16 June 2022 on ensuring a fair transition towards climate neutrality (2022/C 243/04) covers employment, skills, tax-benefit and social protection systems, essential services and housing.

([99]) Eurobarometer on skills shortages, recruitment, and retention strategies in small and medium-sized enterprises.

([100]) Based on the European Labour Authority 2024 EURES Report on labour shortages and surpluses 2023, i.e., data submitted by the EURES National Coordination Offices.

([101]) Skills and knowledge requirements are based on the European Skills Competences and Occupations (ESCO) taxonomy on skills for the green transition.

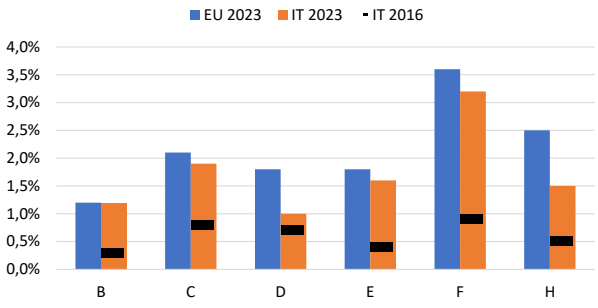
Table A8.1: **Key indicators for a fair transition in Italy**

Indicator	Description	IT 2015	IT	EU
GHG per worker	Greenhouse gas emissions per worker – CO_2 equivalent tonnes	15.2	13.9 (2022)	14.3 (2022)
Employment EII	Employment share in energy-intensive industries, including mining and quarrying (NACE B), chemicals (C20), minerals (C23), metals (C24) and automotive (C29)	3.3%	3.3% (2023)	3.5% (2023)
Education & training EII	Adult participation in education and training (last 4 weeks) in energy-intensive industries	6.0%	9.6% (2023)	10.9% (2023)
Energy poverty	Share of the total population living in a household unable to keep its home adequately warm	17.0%	8.8% (2022)	9.3% (2022)
Transport poverty (proxy)	Estimated share of the AROP population that spends over 6% of expenditure on fuels for personal transport	47.8%	52.3% (2023)	37.1% (2023)
Carbon inequality	Ratio between the consumption footprint of the top 20% vs bottom 20% of the income distribution	3.4	3.4 (2021)	2.7 (2021)

Source: Eurostat (env_ac_ainah_r2, lfsa_egan2d, ilc_mdes01), EU Labour Force Survey (break in time series in 2021), EMPL-JRC GD-AMEDI/AMEDI+ and DISCO(H) projects.

becoming more important (EU: 42%) ([99]). If Italy matches its projected contribution to the EU's 2030 renewable energy target between 25 800 and 33 800 additional skilled workers will be needed for deployment of wind and solar energy, which may require an investment in skills of EUR 199.2-249.0 million ([102]). The Just Transition Fund provides training for workers in regions affected by the transition, particularly in Taranto, home to a large steel plant, and in Sulcis-Iglesiente, which hosts a coal mine. Approximately 14% of ESF+ funding in Italy contributes to green skills, jobs and the green economy. For instance, the 'New Skills Fund' provides support to companies to cover the hours their workers spend on training, including firms with structural reskilling needs linked to the twin transition. Italy's new REPowerEU chapter of the revised RRP includes one reform and one investment related to green skills. The pilot investment 'Crescere Green' will offer short training courses on green skills aimed at unemployed workers. The revised Plan for New Skills ensures that the national training offer is linked with labour market needs, by involving the private sector in dedicated pacts for skills and improves the recognition and certification of skills.

Graph A8.2: **Job vacancy rate in transforming sectors and mining and quarrying**



B - Mining and quarrying
C - Manufacturing
D - Electricity, gas, steam and air conditioning supply
E - Water supply; sewerage, waste management and remediation activities
F - Construction
H - Transportation and storage
Source: Eurostat jvs_a_rate_r2.

([102]) EMPL-JRC AMEDI+ project.

Energy poverty indicators have improved significantly in Italy, but the spike in energy prices has worsened the situation. The share of the population unable to keep their homes adequately warm decreased from 17.0% in 2015 to 8.8% in 2022, below the EU average (9.3%) ([103]). However, the indicator increased by 0.7 percentages points between 2021 and 2022 on the back of energy price increases due to supply constraints caused by the COVID-19 pandemic and the war in Ukraine, despite the emergency measures implemented in Italy. In particular, 17.6% of the population at risk of poverty (AROP) (EU: 20.1%) and 9.7% of lower middle-income households (in deciles 4-5) in 2022 (EU: 11.6%) were unable to keep their home adequately warm. On the other hand, in January 2023, 52.3% of the population at risk of poverty spent a considerable proportion of their budget (more than 6%) on private transport fuels (EU: 37.1%) ([104]). The RRP includes measures to promote the renovation of residential dwellings. These are expected to achieve energy savings, generate employment and support low-income households.

Environmental inequalities remain a critical issue in Italy and are above EU average. In 2021, the average emissions per capita for 20% of the population with the highest income were 3.4 times higher than those of the poorest 20% ([105]) (EU: 2.7). For richest 20% of households, the consumption footprint is highest for food and mobility, while for poorest households it is food and housing., The average levels of air pollution in 2021 stood above the EU average (13.9 vs 11.4 µg/m^3 PM2.5), with 94% of the population living in regions exposed to critical levels of air pollution ([106]), leading to around 46 800 premature deaths annually ([107]). The health benefits of implementing the National Air Pollution Control Programme for Italy are estimated at EUR 29.7 billion by 2030 (using a 2010 baseline) or 1.84% of 2010 GDP, reaching 3.4% of regional GDP in Lombardy in the polluted Po river basin ([108]).

Italy is starting to take steps towards a fair transition, although greater focus on the specific challenges posed by the transition is still needed. Italy is aware of the need to increase the employability of its labour force, address the mismatch between labour supply and demand and increase upskilling and reskilling policies with a focus on green skills. The GOL programme and the reforms of Italy's National Agency for Labour Policies (ANPAL) are important steps, although a stronger focus on green upskilling and reskilling policies is still needed. The research network of Italy's National Institute for Insurance against Accidents at Work (INAIL), which aims to assess emerging risks from the digital and green transitions is another organisation that can provide assistance in this area. Further efforts are needed to improve data collection on green jobs and skills and provide efficient tax incentives to green businesses ([109]).

([103]) Energy poverty is a multi-dimensional concept. The indicator used focuses on an outcome of energy poverty. Further indicators are available at the Energy Poverty Advisory Hub.

([104]) Affordability of private transport fuels is one key dimension of transport poverty. The indicator has been developed in the context of the EMPL-JRC GD-AMEDI/AMEDI+ projects. Methodology explained in Economic and distributional effects of higher energy prices on households in the EU.

([105]) Developed in the context of the EMPL-JRC DISCO(H) project. Methodology explained in Joint Research Centre, 2024. Carbon and environmental footprint inequality of household consumption in the EU. JRC137520. Household income data is not available for IT in the HBS, therefore the data presented here is based on household expenditure for IT as well as the EU average.

([106]) Two times higher than the recommendations in the WHO Air Quality Guidelines (annual exposure of 5µg/m^3).

([107]) EEA- Air Quality Health Risk Assessment

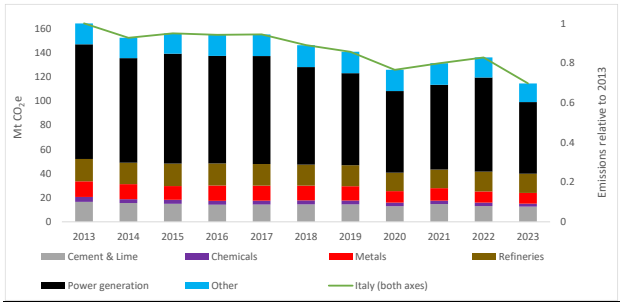
([108]) The Italian NAPCP: Air Quality, Health Impact and Cost Assessment, Atmosphere 2021, 12, p. 96, Piersanti A. *et al.*

([109]) Based on the monitoring review of the Council Recommendation on ensuring a fair transition towards climate neutrality, which took place in October 2023.

The green transition of industry and the built environment, in particular decarbonisation, resource efficiency and circularity, is essential to boost Italy's competitiveness ([110]). The priority for Italy is to increase the use of circular materials in industry and construction.

Italy is on track to achieve the EU Circular Economy Action Plan goals, thanks to high recycling and material reuse rates. Italy's material footprint dropped to 10.2 tonnes per capita in 2020 and started increasing again in 2021. It reached 12.78 tonnes per capita in 2022, remaining below the EU average of 14.83 tonnes per capita. Total waste production per capita has increased as well and measured 2.9 tonnes per capita in 2020, still below the EU average. Since 2022, Italy has a circular economy strategy and a national waste programme in place, both supported by its recovery and resilience plan (RRP). However, the RENTRI registration system introduced in 2023 to improve waste traceability is currently not operational ([111]).

Graph A9.1: **ETS emissions by sector since 2013**



Source: European Commission

In 2023, the sectors covered by the EU emissions trading system (ETS) ([112]) emitted 19% less greenhouse gases (GHG) than in 2019. 52% of GHG emitted by Italian ETS installations came from power generation, a bit below the EU average (57%). Of the total emissions from all industrial sectors, 29% came from refineries, 23% from cement and lime production, 16% from the metals industry, 5% from the chemical industry, and 28% from other industries. Since 2019, the power sector has reduced its emissions by 22%; the industry sectors have seen an 14% decrease. The metals industry saw the largest decrease (25%). Since 2013, greenhouse gas emissions from the chemical sector have dropped by 40%, while emissions from the remaining industries ([113]) have decreased by a modest 11%.

There is room for boosting Italy's efficiency in using resources in the industrial sector. Italy is among the countries with the highest secondary material use rate. This rate decreased between 2019 and 2022, reaching 18.7%, but is still above the EU average. Resource productivity steadily increased during the last few years, above the EU average. In 2022, it stood at 3.71 pps/kg. Improving resource productivity can help minimise negative impacts on the environment and reduce dependence on volatile raw material markets. In 2022, Italy was dependent on imports for 46.8% of materials used, making it rank 5th of all EU countries in terms of vulnerability ([114]).

Strong eco-innovation performance has helped to develop a highly competitive environmental goods industry. Italy was listed among the eco-innovation leaders on the 2022 Eco-Innovation Scoreboard, where the country scored 129.4. Furthermore, as of September 2023, Italy totalled 464 awarded EU Ecolabel licences and 14 138 products with the EU Ecolabel. These figures have steadily increased in the last few years. Italy is the first country in the EU for both licences and product uptake.

There is room for improvements to meet all EU recycling targets for 2025. The municipal waste recycling rate stood at 51.9% in 2021, and

([110]) See also Annexes 6, 7 and 12.

([111]) MASE, 3.6.2023.

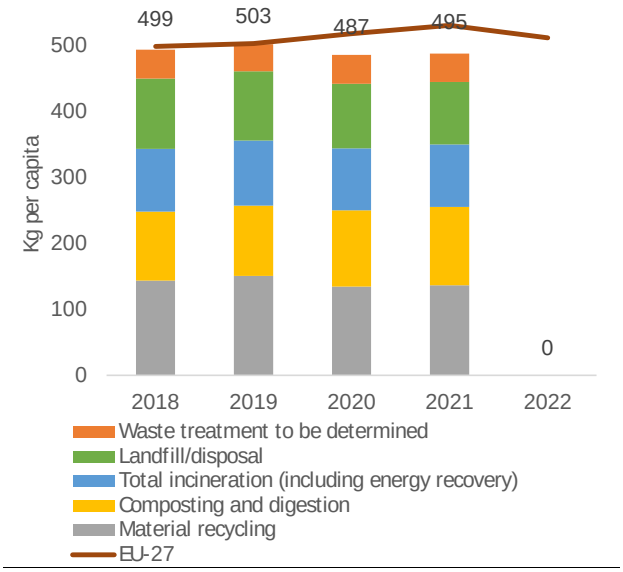
([112]) This analysis excludes air travel. For more details and the data sources, see Weitzel, M; van der Vorst, C. (2024), Uneven progress in reducing emissions in the EU ETS, JRC Science for policy brief, JRC138215, Joint Research Centre.

([113]) Other than cement and lime production, chemicals, metals, refineries, and power generation.

([114]) Eurostat, EU average: 22.4%.

the country is on track to meet the 2025 target for both packaging and municipal waste. The EU target envisages 50% of recycling by 2025, but overall, plastic packaging waste generation is increasing in Italy – it stood at 54.8% in 2021 ([115]). In the last few years, Italy has decreased its dependence on landfilling. It is on track to achieve the EU landfilling target of a maximum of 10% by 2035. Furthermore, 87.1% of e-waste was recycled in 2021, above the EU average of 81.3%. There are still large regional differences in waste management performance, as well as in waste infrastructure (see Annex 17) and the north is generally more advanced. Waste management is highly fragmented, leading to diseconomies ([116]). The number of new patents on waste and recycling equalled 22 in 2020, confirming Italy's leading position in circular economy innovation.

Graph A9.2: **Treatment of municipal waste**



Source: Eurostat

Industrial pollution is still cause for concern. Between 2010 and 2021, the industrial sector decreased its emissions into the air of all main pollutants, and Italy was among the top 5 for PM10 reduction. A similar trend can be observed in reduction of emissions into water, with heavy metals (cadmium, mercury, nickel, and lead) as the only exceptions. Specific environmental concerns remain for the former Ilva steel works in Taranto. In 2020, the country produced 168 kg of hazardous waste per capita – well below the EU average of 214 kg per capita – and treated 44.1%.

There is still room to improve resource efficiency in the built environment. In 2020, the residential floor area per capita was above the EU average – 66.4 versus 52.3 m^2 per capita – and grew faster than the average. By contrast, the non-residential floor area per capita was just over half the EU average. Italy shows water leakages above the current EU average (see Annex 6). In 2018, the soil sealing index stood just below the EU average, 106.4 versus 108.3. However, Italy's sealed area per capita is well above the EU average. Soil sealing affects 3.49% of the total area, versus an EU average of 1.86% (see Annex 6).

Construction and demolition waste remains a source of concern. Between 2010 and 2020, waste generated from construction and demolition activities per capita increased and surpassed the EU average. The proportion of backfilling has remained low since 2014 and stood at 0.7% in 2020 (EU average 9.9%). Italy's recovery rate equalled 98% in 2020, achieving the Waste Framework Directive's backfilling target (75%).

Table A9.1: **Circularity indicators**

	2018	2019	2020	2021	2022	2023	EU-27	Latest year
Industry								
Resource productivity (purchasing power standard (PPS) per kilogram)	3.6	3.6	3.7	3.6	3.7	-	2.5	2022
Circular material use rate (%)	18.8	18.8	20.6	19.0	18.7	-	11.5	2022
Eco-innovation index (2013=100)	127.1	117.7	121.6	125.3	129.4	-	121.5	2022
Recycling of plastic packaging (%)	43.4	44.7	51.2	54.8	-	-	40.7	2021
Cost of air emissions from industry (EUR bn)	35.4	32.7	31.7	32.0	-	-	352.7	2021
Built environment								
Recovery rate from construction and demolition waste (%)	98.0	-	98.0	80.7	-	-	89.0	2020
Soil sealing index (base year = 2006)	102.4	-	-	-	-	-	103.4	2018
Non-residential floor area (m^2 per capita)	11.1	11.3	11.5	-	-	-	18.0	2020
Waste backfilled (%)	0.4	-	0.7	-	0.6	-	9.9	2020

Source: Eurostat, European Environment Agency

Digital transformation is key to ensuring a resilient and competitive economy. In line with the Digital Decade Policy Programme, and in particular with the targets in that Programme for digital transformation by 2030, this Annex describes Italy's performance on digital skills, digital infrastructure/connectivity and the digitalisation of businesses and public services. Where relevant, it makes reference to progress on implementing the Recovery and Resilience Plan (RRP). Italy allocates 25.6% of its total RRP budget to digital (EUR 47 billion) ([117])). Under Cohesion Policy, an additional EUR 5.5 billion (13% of the country's total Cohesion Policy funding) is allocated to the country's digital transformation ([118]).

The Digital Decade Policy Programme sets out a pathway for EU's successful digital transformation by 2030. Italy's national roadmap outlines the actions it intends to take to reach the objectives and targets at national level. The first Report on the State of the Digital Decade highlighted the need to accelerate and deepen the collective efforts to reach the EU-wide targets and objectives ([119]). Among others, a digitally skilled population increases the development and adoption of digital technologies and leads to productivity gains and new business models. It also leads to higher inclusion and participation in an environment increasingly shaped by the digital transformation ([120]). Digital technologies, infrastructure and tools all play a role in addressing the current structural challenges, including strategic dependencies, cybersecurity and climate change.

Stepping up work to improve digital skills remains a key priority for Italy, to support an inclusive and robust digital transformation. Italy has very low levels of basic digital skills (46% vs 56% at the EU level) and only 4.1% of people in employment are ICT specialists vs. an EU average of 4.8%.

As regards digital infrastructure and connectivity, although Italy scores high on 5G and recorded remarkable progress, the country needs to increase its very high-capacity network (VHCN) coverage, including in remote/rural areas. In the last few years, a significant increase is observable in the percentage of households covered by very high capacity network (VHCN) and by fibre to the premises (FTTP). For both indicators, the household coverage rate rose from 44% to 60% from 2021 to 2023. However, it remains considerably below the EU average (79% for VHCN and 64% for FTTP). For 5G, the overall coverage reaches 99% of populated areas in the country and the coverage on the 3.4-3.8 GHz spectrum band reaches 88% of populated areas (compared to only 51% at the EU level). The RRP includes measures, currently being implemented, supporting 5G deployment and fixed gigabit connectivity throughout the country, on top of the digital investments financed by cohesion policy funds.

Most Italian companies have a basic level of digital intensity, and the country performs well on the uptake of cloud computing, while room for improvement remains as regards artificial intelligence and data analytics. Most Italian SMEs have at least a basic level of digital intensity (61% vs 58% at the EU level) and most of enterprises make use of cloud services, AI or data analytics (63% vs 55% at the EU level). However, looking at these technologies separately, while the share of enterprises using cloud services is particularly high (55% vs 39% in the EU), Italy's performance remains below the EU average in the use of data analytics and of artificial intelligence. In this area, the main measure supported by the RRP is 'Transition 4.0', expected to support the uptake by enterprises of digital technologies through tax credits for the purchase of

([117]) The share of financial allocations that contribute to digital objectives has been calculated using Annex VII to the Recovery and Resilience Facility Regulation.

([118]) This amount includes all investment specifically aimed at or substantially contributing to digital transformation in the 2021-2027 Cohesion Policy programming period. The source funds are the European Regional Development Fund, the Cohesion Fund, the European Social Fund Plus, and the Just Transition Fund.

([119]) European Commission (2023): Report on the State of the Digital Decade 2023, 2023 Report on the state of the Digital Decade | Shaping Europe's digital future (europa.eu).

([120]) See for example OECD (2019): OECD Economic Outlook, Digitalisation and productivity: A story of complementarities, OECD Economic Outlook, Volume 2019 Issue 1 | OECD iLibrary (oecd-ilibrary.org) and OECD (2019): Going Digital: Shaping Policies, Improving Lives – Summary, https://www.oecd.org/digital/going-digital-synthesis-summary.pdf.

tangible and intangible goods. In 2022, 3.1% of enterprises in Italy reported ICT service outage due to cyberattacks (e.g. ransomware attacks, denial of service attacks). Over the same year, 29.7% of enterprises developed or reviewed their ICT security policy within the previous 12 months.

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 the EU average. In particular, on digital public services for

Table A10.1: **Key Digital Decade targets monitored by the Digital Economy and Society Index indicators**

	Italy			EU	Digital Decade target by 2030 (EU)
	2022	2023	2024	2024	
Digital skills					
At least basic digital skills	**46%**	**46%**	**46%**	**56%**	**80%**
% individuals	2021	2021	2023	2023	2030
ICT specialists ([1])	**3.8%**	**3.9%**	**4.1%**	**4.8%**	**20 million**
% individuals in employment aged 15-74	2021	2022	2023	2023	2030
Digital infrastructure/connectivity					
Fixed very high capacity network (VHCN) coverage	**44%**	**54%**	**60%**	**79%**	**100%**
% households	2021	2022	2023	2023	2030
Fibre to the premises (FTTP) coverage ([2])	**44%**	**54%**	**60%**	**64%**	**-**
% households	2021	2022	2023	2023	
Overall 5G coverage ([3])	**100%**	**100%**	**99%**	**89%**	**100%**
% populated areas	2021	2022	2023	2023	2030
Digitalisation of businesses					
SMEs with at least a basic level of digital intensity	**60%**	**NA**	**61%**	**58%**	**90%**
% SMEs	2021		2023	2023	2030
Data analytics	**NA**	**NA**	**27%**	**33%**	**-**
% enterprises			2023	2023	
Cloud	**52%**	**52%**	**55%**	**39%**	**-**
% enterprises	2021	2021	2023	2023	
Artificial intelligence	**6%**	**6%**	**5%**	**8%**	**-**
% enterprises	2021	2021	2023	2023	
AI or cloud or data analytics ([4])	**NA**	**NA**	**63%**	**55%**	**75%**
% enterprises			2023	2023	2030
Digitalisation of public services					
Digital public services for citizens	**67**	**68**	**68**	**79**	**100**
Score (0 to 100)	2021	2022	2023	2023	2030
Digital public services for businesses	**79**	**75**	**76**	**85**	**100**
Score (0 to 100)	2021	2022	2023	2023	2030
Access to e-health records	**NA**	**71**	**83**	**79**	**100**
Score (0 to 100)		2022	2023	2023	2030

([1]) The 20 million target represents about 10% of total employment.

([2]) The fibre to the premises coverage indicator is included separately as its evaluation will also be monitored separately and taken into consideration when interpreting VHCN coverage data in the Digital Decade.

([3]) The variation does not reflect a change in coverage, but it is the consequence of small refinements in criteria adopted to estimate the coverage.

([4]) At least 75 % of Union enterprises have taken up one or more of the following, in line with their business operations: (i) cloud computing services; (ii) big data; (iii) artificial intelligence.

Source: Digital Economy and Society Index

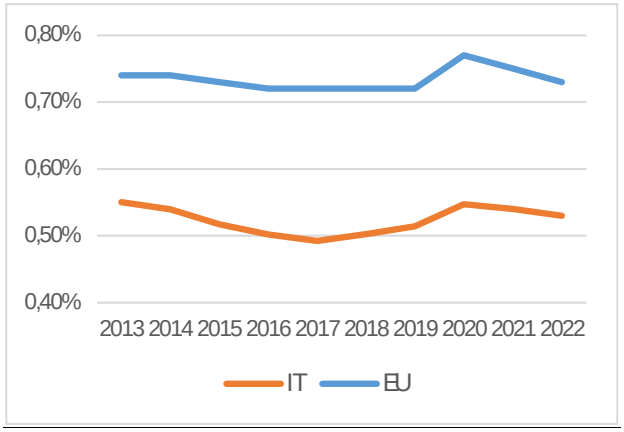
citizens, Italy scores 68 vs 79 at EU level; on digital public services for businesses, this score is 76 vs an EU average of 85. Moreover, the online interaction with public authorities is now below the EU average (69% of internet users vs the EU average of 75%). Italy's performance on the access to electronic health records is in line with the EU average with a score of 83 out of 100. The 'Italia Digitale 2026' plan is expected to modernise public administration and services, with RRP support. A number of measures, being implemented, support the interoperability of data platforms, the improvement of citizens' experience, the migration to cloud and the digitalisation of main central public administrations. The uptake of electronic identification (eID), provided via two schemes notified under the eIDAS Regulation, continued to increase.

This Annex provides a general overview of the performance of Italy's research and innovation system, which is essential for delivering the twin transition and ensuring long-term competitiveness.

Italy remains a 'moderate innovation performer', according to the 2023 European Innovation Scoreboard (EIS) ([121]). While overall the country's performance has slowly improved since 2016, it stands at 90.3% of the EU average. Additionally, regional differences persist, with northern regions and Lazio outperforming the rest of the country and the south lagging behind in innovation capacity (ref. Map A17.1) ([122]).

Low public R&D investment continues to impact the availability of human capital and skills in science, technology and innovation: these two elements hinder the innovation potential of the country. Despite a rising and above-EU average share of scientific publications that are most cited, an indicator of scientific excellence, Italy's scientific potential is not fully leveraged. Public R&D intensity ([123]) is low and stagnant, standing at 0.53% of GDP in 2022, below the EU average (0.73%) ([124]) (Graph A11.1). In addition, while the number of new graduates in science and engineering is catching up with EU levels, the share of the population aged 25-34 who have successfully completed tertiary education remains very low, at only 30.6% in 2023 ([125]). Research careers in Italy do not seem as attractive as those abroad ([126]), resulting in a twofold effect: first, an exacerbation of the brain drain, and second, the number of foreign doctorate students in Italy being below EU average ([127]) with adverse effects on the internationalisation of the research system. The share of international co-publications remains in fact below the EU average ([128]).

Graph A11.1: **Public R&D intensity 2013-2022**



Source: DG R&I, based on Eurostat, 2013-2022.

Italy's recovery and resilience plan (RRP) will help alleviate these challenges through a major mobilisation of financial resources. Additionally, it has introduced measures to improve the attractiveness of research careers. Investments such as projects of major national interest ([129]) and support for young researchers and innovative doctorates are designed to enhance scientific research and widen the pool of human capital in R&I. Furthermore, an RRP reform ([130]) aims to support the mobility of high-skilled R&I professionals between the public and the private sector, while simplifying the management of research funds and improving the career path of researchers. Monitoring the structural impact and sustainability of these measures and of these additional resources will be fundamental for assessing their

([121]) 2023 European Innovation Scoreboard, country profile: Italy https://ec.europa.eu/assets/rtd/eis/2023/ec_rtd_eis-country-profile-it.pdf. The EIS provides a comparative analysis of innovation performance in the EU countries, including the relative strengths and weaknesses of their national innovation systems (also compared to the EU average).

([122]) Source: Regional Competitiveness Index 2022, Innovation sub-index.

([123]) Defined as gross domestic public expenditure on research and development (R&D) as a percentage of GDP.

([124]) Source: DG R&I, based on Eurostat.

([125]) EU average: 43.1%. Source: Eurostat.

([126]) 'Relazione sulla Ricerca e l'innovazione in Italia' – Third edition (2021) by the Italian National Research Council.

([127]) Source: EIS 2023. Foreign doctorate students as a percentage of all doctorate students. Italy's performance is 87.9% of the EU average.

([128]) Source: EIS 2023. Number of scientific publications with at least one co-author based abroad per million population. Italy's performance is 88.2% of the EU average.

([129]) Progetti di Rilevante Interesse Nazionale (PRIN).

([130]) RRP reform 'Implementation of R&I support measures to promote simplification and mobility'.

Table A11.1: **Key innovation indicators**

Italy	2010	2015	2020	2021	2022	EU average (1)
Key indicators						
R&D intensity (GERD as % of GDP)	1,22	1,34	1,51	1,43	1,33	2,24
Public expenditure on R&D as % of GDP	0,52	0,52	0,55	0,54	0,53	0,73
Business enterprise expenditure on R&D (BERD) as % of GDP	0,66	0,78	0,93	0,86	0,78	1,48
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	10,1	10,6	11,4	:	:	9,6
Patent Cooperation Treaty (PCT) patent applications per billion GDP (in PPS)	2,0	2,3	2,3	:	:	3,4
Academia-business cooperation						
Public-private scientific co-publications as % of total publications	6,8	7,9	8,1	8,3	8,7	7,6
Public expenditure on R&D financed by business enterprise (national) as % of GDP	0,012	0,012	0,028	0,030	:	0,054
Human capital and skills availability						
New graduates in science & engineering per thousand pop. aged 25-34	6,5	10,8	15,1	16,4	:	16,9
Public support for business enterprise expenditure on R&D (BERD)						
Total public sector support for BERD as % of GDP	0,051	0,106	0,121	0,120	:	0,204
R&D tax incentives: foregone revenues as % of GDP	0,004	0,051	0,058	0,068	:	0,104
Green innovation						
Share of environment-related patents in total patent applications filed under PCT (%)	12,3	10,8	11,6	:	:	14,7
Finance for innovation and economic renewal						
Venture capital (market statistics) as % of GDP	0,007	0,004	0,015	0,019	0,027	0,085
Employment share of high growth enterprises measured in employment (%)	:	10,8	12,2	:	:	12,5

(1) EU average for the latest available year or the year with the largest number of country data.
Source: Eurostat, OECD, DG JRC, Science-Metrix (Scopus database and EPO's Patent Statistical Database), Invest Europe.

effectiveness in addressing this persistent weakness. On top of the RRP investments, cohesion policy funds make available in 2021-2027 more than EUR 6.3 billion to support research and innovation, notably in the South of Italy.

Science-business linkages as a means to boost knowledge valorisation need strengthening to fully leverage the country's innovation potential. While the number of public-private scientific co-publications is above the EU average, business enterprise expenditure on R&D was low in 2022. Also, public expenditure on R&D financed by business enterprise lags behind EU levels and science-business linkages remain under-exploited, notably for SMEs, while knowledge exchange and collaboration activities still need to have a more prominent role in Italy's higher education system ([131]).

The RRP includes measures with the potential to reinforce science-business linkages. The much-awaited abolition of the 'professor privilege' ([132]) in the reformed Industrial Property Code is expected to have positive impacts on fostering innovation, along with funding the enhancement of industrial-property activities, such as proof of concept programmes. Other measures aim at strengthening technology transfer centres and at supporting the creation of 'national R&D

([131]) European Commission/Ministry of Universities and Research/OECD Technical Support Instrument project ITA.CON: 'Improving the system of Knowledge Exchange and Collaboration between universities and society in Italy' (2024).

([132]) The rule that gives academics rather than universities ownership over any patents they create.

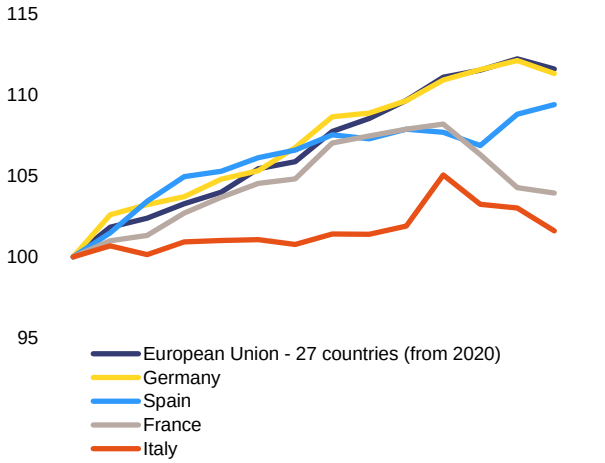
leaders' on key enabling technologies. To complete this process, the OECD, in a recent study ([133]), recommended among other things that the role of technology transfer offices be further institutionalised in order to strengthen knowledge exchange and collaboration activities.

([133]) European Commission/Ministry of Universities and Research/OECD Technical Support Instrument project ITA.CON: 'Improving the system of knowledge exchange and collaboration between universities and society in Italy' (2024).

Since the start of the COVID-19 pandemic, short-term productivity dynamics in Italy have been characterised by marked volatility. Since the outbreak of COVID-19, productivity patterns in Italy have been significantly volatile, largely as a result of the sizeable fluctuations observed in both its output and labour determinants in the years 2020 to 2022. GDP per hour worked, for instance, was significantly impacted by the variation in the number of hours worked, resulting in an increase at the height of the pandemic (+3.1% year-on-year in 2020), and in a subsequent decrease when economic activity caught up (-1.7% and -0.2% in 2021 and 2022 respectively). GDP per person employed, instead, reflected in the short run the impact of temporary job protection schemes, which shielded employment from the drop in output and allowed for relative stability in the number of employed persons throughout the pandemic. As a result, labour productivity per employed person tended to follow more closely the developments of GDP, falling in 2020 and recovering in the following years.

Despite such short-term fluctuations, however, Italy's productivity growth remains structurally weak in the longer run. Over the two decades up to 2019, labour productivity in Italy grew by only 0.16 percentage points per year on average – well below the performance of peer countries over the same period ([134]). Total factor productivity (TFP) also showed a similar trend, with negative average TFP growth in Italy in the 2000-2019 period, as opposed to positive growth rates in the major EU economies ([135]). As shown e.g. in Graph A12.1, over the years such structurally subdued productivity growth resulted in a widening gap not only compared to peer countries, but also vis-à-vis the EU average levels. Marked regional differences in productivity growth were also reported (see Annex 17, Table A17.1), with southern regions and islands performing far below the national average and the north of the country. Despite such unsatisfactory productivity performance, Italy remains one of the few EU Member States without a national productivity board.

Graph A12.1: **Labour productivity (GDP per hour worked) 2010 = 100**



Source: Eurostat

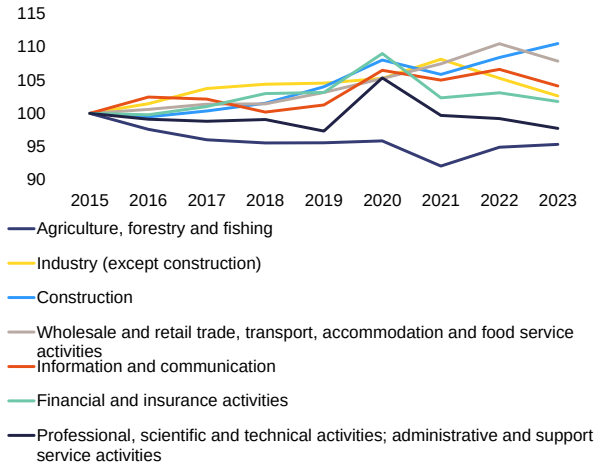
From a sectoral perspective, heterogeneity in productivity performance remains high (Graph A12.2). For instance, while the industrial sector faced a productivity decline of -2.8% in 2023 (well below the EU average of -1.7%), other segments did significantly better than in comparable countries. This was the case e.g. for the construction sector, which likely benefited from the generous support measures introduced by the government. In the wholesale and retail trade, transport, accommodation and food services sector, productivity growth outperformed the EU average in 2021 and 2022, in conjunction with the rebound of tourism in the post-pandemic years ([136]), but cooled down in the course of 2023. Financial and insurance activities, as well as other service activities, instead, have shown a less positive dynamic throughout the past years, whereas agriculture remains affected by structurally weak productivity.

([134]) For example, 1 percentage point (pp) per year in Germany, 0.89 pp per year in France, 0.83 pp per year in Spain. Banca d'Italia, *A structural analysis of productivity in Italy: a cross-industry, cross-country perspective*, 2023.

([135]) Banca d'Italia, A structural analysis of productivity in Italy: a cross-industry, cross-country perspective, 2023.

([136]) The tourism sector experienced strong recovery in the course of 2022, with the expenditure of foreign travellers in Italy more than doubling compared to the previous year, and approaching pre-pandemic levels by the end of 2022. See: Banca d'Italia, *Indagine sul turismo internazionale*, 2023.

Graph A12.2: **Labour productivity by sector (GDP per hour worked) 2015 = 100**



Source: Eurostat

The Italian production system has weathered relatively well the multiple crises that have hit it over the past few years, although several factors, linked inter alia to the current economic situation, weigh on its overall competitiveness. Compared to before the pandemic, for instance, the number of active firms has fallen only marginally (largely due to the significant amount of public support provided), while the number of people employed has even increased slightly. Bankruptcies also remain well below the EU average. Nevertheless, several factors linked inter alia to the present economic conjuncture hamper the competitiveness of Italian firms. Energy prices and inflation, for instance, while significantly lower than the peaks observed in 2022, remain largely above the averages of recent years, continuing to affect firms' production costs and, in turn, their competitiveness and profit margins. According to the Italian national institute of statistics, between 2021 and 2022 industrial production prices in Italy increased by 34.4%, while in most economic sectors over half of firms experienced declines in gross operating margins ([137]). Similarly, supply chain disruptions and the availability of key input materials continue to play an important role: although the share of firms reporting material shortages is still lower in Italy than in the major EU manufacturing economies, it increased about 17-fold between 2019 and 2023, and is now almost at the same level as the EU average. In addition, the recent developments in the Red Sea area have the potential to pose additional threats to logistics and supply chains already under pressure, and they are therefore likely to affect – should they become protracted – countries like Italy that rely heavily on the Suez Canal for their maritime trade ([138]). At a time when the need to move towards a net-zero economy ([139]) will increasingly require access to several materials, particularly those key to the manufacturing of net-zero strategic technologies ([140]), it will be important for Italy, as a manufacturing country with the potential to develop net-zero supply chains, to ensure stable and sufficient access to such materials, so as to sustain its competitiveness and resilience amid the twin transitions.

The business environment in Italy remains overall challenging, despite some improvements. The percentage of firms reporting business regulation as a major obstacle remains above the EU average (24% in 2023), although it is declining over time. When businesses were asked as part of the IMD World Competitiveness Ranking to indicate the top attractiveness factors of the Italian economy, business environment elements were mentioned much less frequently than in peer countries: for instance, an effective legal environment was cited by only 11.1% of respondents (vs 71.7% in Germany), a competitive tax regime by only 2.7% (well below EU peers), and a business-friendly environment by 26.4% (below both France and Spain, although above Germany) ([141]). The Italian recovery and resilience plan (RRP) includes numerous

([137]) Istat, Rapporto sulla competitività dei settori produttivi, 2023.

([138]) Istituto per gli Studi di Politica Internazionale (ISPI), *Commercio: dopo Suez, quale futuro per la globalizzazione?*, https://www.ispionline.it/it/pubblicazione/commercio-dopo-suez-quale-futuro-la-globalizzazione-29866.

([139]) See e.g. Net-Zero Industry Act, COM(2023) 161 final.

([140]) Among which, for instance, lithium for battery production, rare earth elements for wind mill motors, silicon for electronics, inter alia. See.: European Commission, *Study on the Critical Raw Materials for the EU*, 2023.

([141]) 2023 IMD World Competitiveness Ranking.

reforms and investments that have the potential to significantly improve the quality of the business environment in Italy. Among them are measures to digitalise public administration and simplify administrative procedures (including permitting for renewable energy projects). Properly implementing such reforms and investments therefore represents an important opportunity to improve the overall quality of the business environment in Italy.

The situation of payment delays remains overall challenging, although improvements have been observed, and significant potential will derive from the correct implementation of the reforms envisaged under the RRP. According to the latest data from Intrum, the payment gap in public administration-to-business transactions (i.e. the difference between the initially agreed payment time, and the actual time taken by a firm to receive payment from a debtor public administration) is still above the EU average (at 18 days in 2023, vs EU average of 16 days), although a significant improvement has been observed compared to 2022. Such results are also broadly corroborated by the data collected by the Italian authorities in the context of the ongoing infringement procedure ([142]), which show payment times well above the legal limits in several sectors of the Italian public administration, particularly at the central and local level. For what concerns business-to-business transactions, instead, the payment gap was 16 days in 2023, i.e. still 1 day above the EU average (Intrum). Italy's RRP includes an ambitious reform aimed at strengthening the capacity of the Italian public administration to pay within the deadlines set by the Late Payments Directive ([143]): fully implementing such reform, as well as maintaining sound payment performance over time, therefore remains crucial to allow for the predictability of cash flows and sound liquidity management in businesses, particularly in SMEs.

For what concerns access to finance, Italy's performance is broadly in line with EU benchmarks, although the recent tightening of interest rates had an impact on firms' financing costs, and non-traditional forms of finance remain relatively underdeveloped. Italy maintained an above-average score in the 2022 EIF SME Access to Finance composite indicator, which provides a snapshot of the state of external financing in EU Member States. Nonetheless, the interest rate hikes recently introduced to cope with high inflation have already had a negative impact on the cost of credit for businesses, with an estimated EUR 10.3 billion increase in financing costs for Italian firms over the past year, and a parallel reduction in the stock of loans by -6.2% yearly ([144]). In addition, business financing remains largely loan-based, and the use of equity or non-traditional forms of finance is comparatively low (e.g. venture capital investment represented 0.0036% of GDP in 2022, which is only about half of the EU average).

Italy is making significant efforts to improve the efficiency of its public procurement system. Beyond introducing a new Code of Public Contracts in 2023, Italy is proceeding with the implementation of the ambitious reform of the public procurement framework included in its RRP. Such reform aims, inter alia, at simplifying procedures, increasing digitalisation and professionalising public buyers, and it is expected to improve the speed, competitiveness and overall efficiency of the Italian public procurement system. The full implementation of RRP commitments therefore remains crucial to achieve such objectives. In some areas, however, challenges persist, such as e.g. in the case of single bid procedures, which still made up 37% of total bids in 2023 (well above the EU average of 28.6%). Italy is instead one of the most advanced countries in the EU when it comes to the use of public procurement to achieve green objectives (e.g. with the introduction of minimum environmental standards (*Criteri Ambientali Minimi*)). It also made some progress in using public procurement as a leverage to spur innovation, e.g. through the launch of the 'Smarter Italy'

([142]) INFR(2014)2143.

([143]) Directive 2011/7/EU.

([144]) Confindustria, Rapporti di previsione, Centro Studi Confindustria – L'economia italiana torna alla bassa crescita?, Autumn 2023.

programme, which aims at stimulating the development of innovative solutions by market operators that participate in procurement bids.

Italy is well integrated into the single market, although barriers remain. Italy's intra-EU trade in goods reached over EUR 300 bn for both imports and exports in 2022, one of the largest Member State contributions on both indicators. However, challenges persist, notably in the area of services. For what concerns the regulation of professions, for instance, the level of restrictiveness remains overall high, although Italy recently announced actions that, if implemented, have the potential to partially improve the status quo. This is the case e.g. for architects and certain categories of engineers, where reforms to access criteria and other requirements have been announced. Similarly, for real estate agents, preliminary exchanges are ongoing to determine the nature of future entry requirements, while for lawyers some restrictions on the types of associations have already been lifted. Access rules have also been amended for patent agents. Long-standing challenges persist also in specific areas, such as the procedures for the award of maritime, lakeside and riverside concessions for leisure and touristic activities ('beach concessions'): the delays in the implementation of transparent and competitive award procedures for such concessions, as well as their lack of profitability for public authorities, remain sources of concern, in particular given that the initial improvements made with the 2021 Annual Competition Law appear to have been hampered by subsequent legislative interventions.

In terms of compliance with single market rules, Italy performs better than the EU average as regards the transposition of directives, with the number of non-transposed directives falling below both the EU average and the European Council's 1% target. Italy instead has a slightly above-average number of incorrectly transposed directives, although such a figure is in line with peer countries as France and Spain. The SOLVIT network, which provides support for problems linked with the implementation of single market rules, is also performing comparatively well in Italy, with 91% of the cases handled as lead centre being solved (against an EU average of 88.3%).

Italy also successfully reached the production stage with the implementation of the Once-Only Technical System (OOTS) ([145]). As part of the Single Digital Gateway Regulation ([146]), the system will enable the automated cross-border exchange of evidence between competent authorities, improving online access to information, administrative procedures and assistance within the EU. The onboarding of the Italian competent authorities is crucial for the system to function smoothly and to reduce administrative burden.

([145])Implementing Regulation (EU) 2022/1463.

([146]) Regulation (EU) 2018/1724.

Table A12.1: **Industry and the Single Market**

Italy							
POLICY AREA	**INDICATOR NAME**	**2019**	**2020**	**2021**	**2022**	**2023**	**EU27 average***
HEADLINE INDICATORS							
Economic Structure	Net Private investment, level of private capital stock, net of depreciation, % GDP[1]	0,8	-0,8	2,2	3,8	3,6	**3,8**
	Net Public investment, level of public capital stock, net of depreciation, % GDP[1]	-0,4	-0,4	0	-0,1	0,5	**1,2**
	Real labour productivity per person in industry (% yoy)[2]	-0,8	-9,5	13,3	-1,6	-2,8	**-1,24**
Cost competitiveness	Nominal unit labour cost in industry (% yoy)[2]	2,1	3	-2,2	5	6	**9,83**
SINGLE MARKET							
Single Market integration	EU Trade integration, % (Average intra-EU imports + average intra EU exports)/GDP[2]	16,1	15,3	17,4	19,9	19,4	**42,9**
Compliance	Transposition deficit, % of all directives not transposed[3]	0,7	0,4	1,2	0,7	0,4	**0,7**
	Conformity deficit, % of all directives transposed incorrectly[3]	1,4	1,7	1,8	1,5	1,4	**1,1**
	SOLVIT, % resolution rate per country[3]	96,0	96,3	96,8	98,6	91,0	**88,3**
Restrictions	Number of pending infringement proceedings[3]	47	49	50	46	43	**25,9**
	EEA Services Trade Restrictiveness Index[4]	0,06	0,06	0,06	0,06	0,06	**0,05**
Public procurement	Single bids, % of total contractors[3]	32	31	35	37	37	**28,6**
	Direct Awards, %[3]	7	7	7	5	5	**8,1**
ECONOMIC STRUCTURE							
Shortages	Material Shortage (industry), firms facing constraints, %[5]	1,1	1,0	10,3	18,0	17,1	**17,2**
	Labour Shortage using survey data (industry), firms facing constraints, %[5]	2,0	1,2	2,9	6,1	9,0	**23,3**
	Vacancy rate, % of vacant posts to all available ones (vacant + occupied)[2]	1,4	0,9	1,8	2,3	2,3	**2,5**
Strategic dependencies	Concentration in selected raw materials, Import concentration index based on a basket of critical raw materials[6]	0,16	0,15	0,16	0,17	0,19	**0,22**
	Installed renewables electricity capacity, % of total electricity produced[2]	0,3	0,3	0,5	0,5		**50**
BUSINESS ENVIRONMENT - SMEs							
Investment obstacles	Impact of regulation on long-term investment, % of firms reporting business regulation as major obstacle[7]	40,0	34,9	34,3	34,0	24,0	**22,2**
Business demography	Bankruptcies, Index (2015=100)[2]	75,7	51,6	61,2	48,7	52,2	**105,6**
	Business registrations, Index (2015=100)[2]	94,4	78,4	89,0	83,5	84,8	**120,2**
Late payments	Payment gap - corporates B2B, difference in days between offered and actual payment[8]	-	2	11	16	16	**15**
	Payment gap - public sector, difference in days between offered and actual payment[8]	-	10	11	22	18	**16**
	Share of SMEs experiencing late payments in past 6 months, %[9]	56,9	58,2	46,6	52,4	54,3	**48,7**
Access to finance	EIF Access to finance index - Loan, Composite: SME external financing over last 6 months, index values between 0 and 1[10]	0,73	0,80	0,60	0,65	-	**0,49**
	EIF Access to finance index - Equity, Composite: VC/GDP, IPO/GDP, SMEs using equity, index values between 0 and 1[10]	0,12	0,09	0,12	0,13	-	**0,17**

Source: (1) AMECO, (2) Eurostat, (3) Single Market Scoreboard, (4) OECD, (5) ECFIN BCS, (6) COMEXT and Commission calculations, (7) EIB Investment Survey, (8) Intrum Payment Report, (9) SAFE survey, (10) EIF SME Access to Finance Index

* Own Commission calculations for the EU27 average

Italy's public administration is essential for the economy's competitiveness by, in particular, shaping the conditions for the twin transitions and creating a favourable business environment. Despite a slight improvement from last year, the perception of government effectiveness in Italy remains below the EU average ([147]). Weak administrative capacity, an ageing workforce and a low level of digitalisation continue to be obstacles to better performance. In the revised recovery and resilience plan (RRP), the government reform agenda for public administration maintained a strong focus on strengthening administrative capacity, improving the recruitment and management of public sector employees, fostering digitalisation and ensuring administrative simplification. In addition, new measures aim to equip local government civil servants with green skills.

Italy continues to address challenges related to ageing, low capacity and skills in public administration. Recent measures include amendments to the legal framework for recruitment aimed at shortening the timeline and new apprenticeship and on-the-job training contracts, employer-branding campaigns to attract young professionals, and initiatives to boost mobility. As part of the RRP, Italy has made progress in introducing strategic human resource management practices. The launch of a single recruitment portal (Inpa) aims to help match supply and demand for all public bodies and is also expected to promote mobility. Regulatory changes are under way to promote vertical mobility and strengthen senior management capacity. A new portal called Syllabus aims to improve civil servants' participation in adult learning. Adult learning, alongside gender parity in senior civil service positions, remain below the EU average (Table A13.1A13.1).

Strong regional differences characterise the capacity of the Italian public administration to deliver public services (see Annex 17). The southern Italian regions still have lower administrative and technical capacities than the rest of the country. A dedicated 2021-2027 cohesion policy programme is investing EUR 1.3 billion to improve the administrative capacity of the Italian administration, notably in less developed regions.

The policymaking process has undergone several changes in the areas of coordination and implementation. Italy has revised the governance of the RRP, strengthening the coordinating role of the Presidency of Council of Ministers and allowing public entities responsible for RRP measures to reorganise their structure for better management. A parliamentary discussion on regional asymmetric autonomy law is ongoing. On evidence-informed policymaking, Italy's different administrations continue to have highly different and informal approaches as there is no law on policy advice bodies, except for the National Council for Economics and Labour. Impact analysis of regulatory acts is carried out annually, with a slight increase in the percentage of acts subjected to *ex ante* impact assessments compared to 2019. However, the use of *ex post* impact assessment tools is still moderate.

Italy's overall e-government maturity, the use of e-government, and digital skills are below the EU average (Graph A13.1). Gaps in the strategic management of e-government and its coordination prevent the efforts of administrations at all levels from reaching a higher level of digital maturity. Some progress has been made in the digital economy and society dimensions. For example, connectivity has advanced with an increase in 5G coverage in populated areas. There use of selected digital technologies has also increased; for instance, 95% of SMEs are using e-invoices. Initiatives set out in the RRP (such as the National Digital Data Platform and the National Strategic Hub) and recent strategies addressing cloud, blockchain, artificial intelligence, cybersecurity and the telecoms sector aim to improve Italy's performance in the coming years.

The efficiency of the justice system continues to face challenges ([148]). The main issue is the

([147]) Worldwide Governance Indicators, 2022.

([148]) For more details, see the 2024 EU Justice Scoreboard and the Commission's 2024 Rule of Law Report (forthcoming).

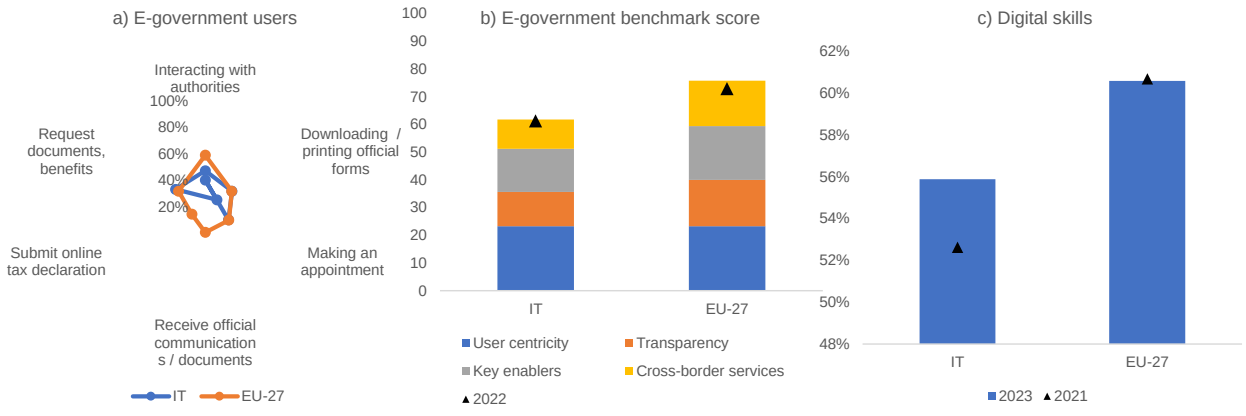
length of proceedings, where only slight improvements in reducing them were recorded. The quality of the justice system is good overall. New measures that introduce specific arrangements for child-friendly proceedings have been implemented. The level of digitalisation is generally advanced, but challenges remain regarding the digitalisation of criminal courts and prosecution services. On judicial independence, no systemic deficiencies have been reported.

Table A13.1: **Public administration indicators**

IT	Indicator ([1])	2019	2020	2021	2022	2023	EU-27([2])
E-government and open government data							
1	Share of internet users within the last year that used a public authority website or app	n/a	n/a	n/a	76.3	68.5	75.0
2	E-government benchmark overall score ([3])	n/a	64,4	60,9	61,3	61,8	75,8
3	Open data and portal maturity index	0,8	0,9	0,9	0,9	0,9	0,8
Educational attainment level, adult learning, gender parity and ageing							
4	Share of public administration employees with higher education (levels 5-8, %)	29.3	30.2	32.1 (b)	34.1	37.2	52.9
5	Participation rate of public administration employees in adult learning (%)	9.7	8.5	14.5 (b)	13.7	17.0	17.9
6	Gender parity in senior civil service positions ([4])	24,2	24,2	35,8	29,0	33,8	9,2
7	Ratio of 25-49 to 50-64 year olds in NACE sector O	0.8	0.8	0.9 (b)	0.9	0.9	1.5
Public financial management							
8	Medium-term budgetary framework index	0,8	0,8	0,8	0,8	n/a	0,7
9	Strength of fiscal rules index	2,2	2,2	2,2	2,2	n/a	1,4
Evidence-based policy making							
10	Regulatory governance	n/a	n/a	2,55	n/a	n/a	1,7

([1]) High values denote a good performance, except for indicator # 6. ([2]) 2023 value. If unavailable, the latest value available is shown. ([3]) Measures the user centricity and transparency of digital public services as well as the existence of key enablers for the provision of those services. ([4]) Defined as the absolute value of the difference between the percentage of men and women in senior civil service positions.
Flags: (b) break in time series; (d) definition differs; (u) low reliability.
Source: E-government activities of individuals via websites, Eurostat (# 1); E-government benchmark report (# 2); Open data maturity report (# 3); Labour Force Survey, Eurostat (# 4, 5, 7); European Institute for Gender Equality (# 6); Fiscal Governance Database (# 8, 9); OECD Indicators of Regulatory Policy and Governance (# 10).

Graph A13.1: **a) Use of public authorities' websites or apps (left side); b) e-government maturity (centre); c) share of individuals with basic or above basic overall digital skills (right side)**



(1) 2023 data. Indicators a and c: % of people who used the internet in the last year.
Source: Eurostat and e-government benchmark report.

ANNEX 14: EMPLOYMENT, SKILLS AND SOCIAL POLICY CHALLENGES IN LIGHT OF THE EUROPEAN PILLAR OF SOCIAL RIGHTS

The European Pillar of Social Rights is the compass for upward convergence towards better working and living conditions in the EU. This Annex provides an overview of Italy's progress in implementing the Pillar's 20 principles and the EU headline and national targets for 2030 on employment, skills and poverty reduction.

Table A14.1: **Social Scoreboard for Italy**

Policy area	Headline indicator	
Equal opportunities and access to the labour market	Adult participation in learning (during the last 12 months, excl. guided on the job training, % of the population aged 25-64, 2022)	29
	Early leavers from education and training (% of the population aged 18-24, 2023)	10.5
	Share of individuals who have basic or above basic overall digital skills (% of the population aged 16-74, 2023)	45.8
	Young people not in employment, education or training (% of the population aged 15-29, 2023)	16.1
	Gender employment gap (percentage points, population aged 20-64, 2023)	19.5
	Income quintile ratio (S80/S20, 2022)	5.6
Dynamic labour markets and fair working conditions	Employment rate (% of the population aged 20-64, 2023)	66.3
	Unemployment rate (% of the active population aged 15-74, 2023)	7.7
	Long term unemployment (% of the active population aged 15-74, 2023)	4.2
	Gross disposable household income (GDHI) per capita growth (index, 2008=100, 2022)	94.2
Social protection and inclusion	At risk of poverty or social exclusion (AROPE) rate (% of the total population, 2022)	24.4
	At risk of poverty or social exclusion (AROPE) rate for children (% of the population aged 0-17, 2022)	28.5
	Impact of social transfers (other than pensions) on poverty reduction (% reduction of AROP, 2022)	25.83
	Disability employment gap (percentage points, population aged 20-64, 2022)	14
	Housing cost overburden (% of the total population, 2022)	6.6
	Children aged less than 3 years in formal childcare (% of the under 3-years-old population, 2022)	30.9
	Self-reported unmet need for medical care (% of the population aged 16+, 2022)	1.8

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

(1) Update of 27 October 2023. Members States are categorised based on the Social Scoreboard according to a methodology agreed with the EMCO and SPC Committees. Please consult the Annex of the Joint Employment Report 2024 for details on the methodology.
Source: Eurostat.

The Italian labour market registered some improvements in 2023, however there are continuing structural challenges. Despite a slowdown in economic growth, the employment rate fully recovered from the COVID-19 crisis and reached 66.3% in 2023, above pre-pandemic levels (63.5% in 2019). Despite this improvement, the employment rate is still one of the lowest in the EU (EU average 75.3%) and well below Italy's 2030 employment rate target of 73%. The activity rate (71.7%) was also one the lowest among EU countries (the EU average is 80.0%). Employment rates nonetheless vary significantly across the country (75.8% in the North-East vs 51.5% on the islands in 2022). While remaining well above the EU average (of 6.1%), in 2023, the unemployment rate fell to its lowest level (7.7%) since 2009. The labour market situation of young people and women merits continued attention. The share of young people neither in employment nor in education and training (NEETs) further decreased to 16.1% in 2023, but remains 5.1 percentage points (pps) above the EU average. In 2023, the female employment rate was 56.5% (against an EU average of 70.2%), resulting in a very high gender employment gap of 19.5 pps. This gap was even wider in the South and the islands. The gender pension gap (30.1%) and the gender pension coverage gap (14.3%) were among the highest in the EU in 2022, also because of the gender employment gap. Under its recovery and resilience plan (RRP), Italy passed an ambitious reform of the Public Employment Services that focuses on upskilling and reskilling initiatives. Unemployed workers and vulnerable or poor workers will benefit from the creation of the National Programme for the Guaranteed Employability of Workers. The implementation of these measures will need to be carefully monitored, anticipating potential governance challenges and ensuring homogenous services across the regions.

Increasing participation in early childhood education and care could help boost female employment. The share of children under the age of 3 in formal childcare was 30.9% in 2022 vs 35.9% in the EU. It was even lower for those from a disadvantaged socio-economic background. Childcare coverage in the school year 2021/22 varied from 40% in Umbria, Emilia-Romagna and Valle d'Aosta to 12% in Campania and Calabria ([149]). If fully implemented, the construction of new childcare places, as outlined in the RRP, could help address this challenge. The ESF+ supports the implementation of the European

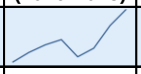
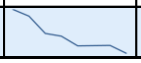
([149]) ISTAT, I servizi educativi per l'infanzia in un'epoca di profondi cambiamenti, 2022.

Child Guarantee with a total budget of over EUR 1.1 billion.

In Italy, low wages and low work intensity linked to non-standard forms of work lead to an at-risk-of-poverty rate of people in work that is among the highest in the EU (11.5% vs 8.5%). Between 2013 and 2022, the purchasing power of wages in Italy fell by 2% compared to an EU-wide increase of 2.5% ([150]). This is exacerbated by recent inflation: in 2022, gross disposable household income fell and real wages are projected to further decline by 2.6% in 2023. Low-earning workers in Italy also face a higher risk of poverty as they relatively often live in households where other family members have low work-intensity or are not employed. This is linked to one of the highest shares of temporary employment in the EU (16.9%) as well as a prevalence of single-earner families (linked to the low employment rates of women and young people) ([151]). The Commission's Joint Research Centre estimates that about 17% of workers in Italy, particularly in the South and the islands, would be affected by the introduction of a minimum wage of EUR 9 ([152]).

Investments in tertiary education, upskilling and reskilling are key for Italy's growth and competitiveness in the context of demographic challenges and labour shortages. The job vacancy rate in 2023 remained below the EU average, but at 2.3% is historically high. Labour market tightness is mainly driven by services; at the end of 2023, almost 40% of firms in this sector declared labour a factor limiting production (against an average of 30% for the EU). The projected decline of the working-age population by 0.7% by 2030 and 14.1% by 2050 significantly increases the risk of labour shortages. ([153]) At the same time, Italy has a low proportion of young adults with a tertiary education (30.6%), while adult participation in education and training (25-64) has fallen from 33.9% in 2016 to only 29% in 2022, well below the 2030 national target of 60%. Furthermore, in 2023 only 45.75% of Italian adults had at least basic digital skills compared to 55.51% in the EU. The share of people with a high level of qualifications is expected to increase from 25% in 2022 to 34% in 2035, though still, however, below the labour market demand ([154]). Vocational education and training (VET) systems with work-based learning are critical to improve occupational outcomes. However, those who have undergone vocational education and training are less exposed to work-based learning (25.9%) than their EU peers (60.1%). The reform and the on-going expansion of the tertiary non-academic sector is key to improving young people's educational attainment and employment prospects.

Table A14.2: **Situation of Italy on 2030 employment, skills and poverty reduction targets**

Indicators	Latest data	Trend (2016-2023)	2030 target	EU target
Employment (%)	66.3 (2023)		73	78
Adult learning[1] (%)	29.0 (2022)		60	60
Poverty reduction[2] (thousands)	-498 (2022)		-3200	-15000

(1) Adult Education Survey, adults in learning in the past 12 months, special extraction excl. guided on-the-job training.
(2) Change in the number of persons at risk of poverty or social exclusion (AROPE), reference year 2019.
Source: Eurostat, DG EMPL

The risk of poverty or social exclusion remains high in a context where inflation has eroded the purchasing power of low-income families. Even though the share of people at risk of poverty or social exclusion (AROPE) decreased slightly to 24.4% in 2022, it remained above the EU average (21.6%) and is particularly high among children (28.5%). Since 2021, absolute poverty has increased by 0.8 pps in the context of high inflation, and is now

([150])ISTAT, Rapporto Annuale, 2023.

([151])Banca d'Italia, Questioni di Economia e Finanza N.806, 2023.

([152])Estimations performed by the European Commission, Joint Research Centre, based on the EUROMOD model, I6.0+. This is a 'day-after' static simulation obtained by increasing low wages to 9 EUR in the model which does not account for potential negative impacts on employment. The EUR 9 threshold is used as a reference because it is the level currently being discussed following a proposal by opposition parties.

([153])European Commission, Employment and Social Developments in Europe Report, 2023.

([154])Cedefop, 2023 skills forecast Italy, 2023.

affecting 9.7% of individuals ([155]). The risk of poverty is higher among the self-employed and people in non-standard forms of work. Further efforts are needed to reach the 2030 poverty reduction target. Access to social protection remains limited for some, especially the self-employed. There is still a high level of inequality: the income of the richest 20% of the population is 5.62 times higher than that of the poorest 20% (EU average: 4.74) and the impact of social transfers (excluding pensions) on reducing inequalities is below the EU average (31% vs 37% in 2022).

The existence of a well-functioning and adequate minimum income scheme is key to reducing social disparities. From 2024, the minimum income scheme no longer determines eligibility only by means-testing, but identifies eligible households based on demographic categories. A similar scheme to the previous 'Reddito di cittadinanza', now called 'Assegno di Inclusione', will continue to be provided based on a set income threshold, but only to households whose adult members are considered unable to work as the family includes children, persons with disabilities or people over 60. Households that are below the threshold but not included in these categories will receive a monthly payment of 350 EUR for the time they participate in a training course and for a maximum duration of 12 months. Simulations by the Bank of Italy suggest that, among households whose members hold Italian citizenship, the new minimum income scheme would reduce the number of recipient families by 40% (and 66% among households whose members hold a different citizenship) ([156]). On average, the incidence of absolute poverty is expected to be 0.8 pps higher and child poverty 0.5 pps higher. The available quantitative and qualitative evidence and the policy response undertaken and planned analysed in the second-stage analysis of the Social Convergence Framework of May 2024 (SWD(2024)132) point to challenges for Italy that may affect social convergence in relation to the labour market, social protection and inclusion and education and skills.

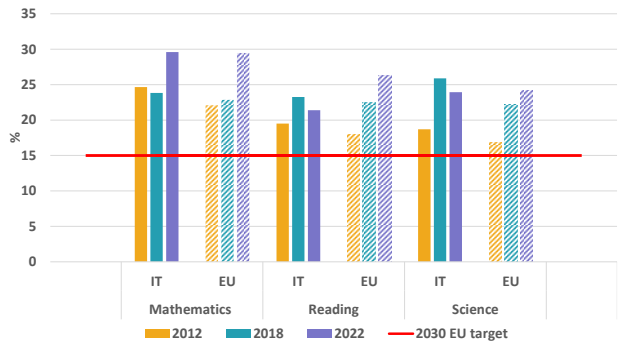
([155])ISTAT, LA POVERTÀ IN ITALIA, 2023.

([156])Banca d'Italia, La revisione delle misure di contrasto alla povertà in Italia, 2023, p.11. Note this model is static, i.e. it does not account for labour supply responses to the reform, and does not account for the introduction of the fixed support for training (Supporto alla Formazione e Lavoro).

This Annex outlines the main challenges of Italy's education and training system based on the 2023 Education and Training Monitor and the 2022 OECD Programme for International Student Assessment (PISA) results.

Almost a third of 15-year-olds lack basic skills in mathematics, and more than one in five in reading and science. This hampers the formation of human capital as well as Italy's future competitiveness. The share of underachieving students as measured by the Programme for International Student Assessment (PISA) in 2022 has remained stable since 2018 in science and reading but increased in mathematics (Graph A15.1). The rate in the first two domains is slightly below the EU average, although above the EU-level target of 15% set for 2030. In mathematics, however, the share increased by 5.8 pps between 2018 and 2022 (EU 6.6 pps) and reached 29.6% in 2022 (EU 29.5%), almost double the EU target. The share of top-performing students is below the EU average in all three domains, which could negatively affect Italy's competitiveness and its capacity for innovation in the future. About half of foreign-born students (48.1%) do not reach the minimum proficiency level in mathematics and the gap with native-born students stands at 20.6 pps. The difference shrinks by more than half, to 8.2 pps. in case of native-born students with foreign-born parents.

Graph A15.1: **Underachievement rates by field, PISA 2012, 2018 and 2022**



Source: OECD (2023).

The socio-economic gap in underachievement in mathematics has widened since 2018. The increase (+6 pps) has been driven by a rise by 8.5 pps of the underachievement rate of students from the bottom quarter of the socio-economic distribution. The rate now stands at 47.6%, in line with the EU average (48.0%). By contrast, the rate has remained stable for students from the top quarter since 2012. The share of top performers among disadvantaged students decreased by 1.7 pps, in line with the EU trend. The share of top performing students is below the EU average in all three domains.

A shortage of qualified teachers is fuelling a steady increase in the number of teachers on temporary contracts. In recent years, only half of the vacant posts available at the start of each school year could be filled with permanent appointments, due to a lack of candidates with the required qualifications in some subjects. In the school year 2021/2022, the number of teachers on temporary contracts reached 225 000, or almost a quarter of the total, up from 135 000 in the school year 2017/2018. Most temporary teachers have no automatic right to fill the same post in the following school year. Consequently, the turnover rate is high, which negatively impacts teaching continuity. A recent reform of initial training and recruitment for secondary school teachers ([157]) aims to address some of these issues by introducing a specific initial training for aspiring secondary school teachers and a clear path to tenure.

Participation in early childhood education is declining and now stands below the EU average. In 2021, 91% of children between the age of 3 and the starting age of compulsory primary education participated in early childhood education, compared with the EU average of 92.5%. Participation of children below 3 years of age remains below the EU average (see Annex 14).

Under Italy's national recovery and resilience plan (NRRP), several measures are being implemented to strengthen learning outcomes and reduce territorial disparities. In 2023, the Ministry of Education and Merit launched the *Agenda SUD* project. This is aimed at overcoming the gap in learning outcomes between northern and southern Italy through

([157])Decree Law n. 36/2022.

Table A15.1: **EU-level targets and other contextual indicators under the European Education Area strategic framework**

				2012		2018		2023	
Indicator			Target	Italy	EU-27	Italy	EU-27	Italy	EU-27
[1]Participation in early childhood education (age 3+)			96%	97.3% 2013	91.8% 2013	93.6%	92.2%	91.0% 2021	92.5% 2021,d
[2]Low-achieving 15-year-olds in:		Reading	< 15%	19.5%	18.0%	23.3%	22.5%	21.4% 2022	26.2% 2022
		Mathematics	< 15%	24.7%	22.1%	23.8%	22.9%	29.6% 2022	29.5% 2022
		Science	< 15%	18.7%	16.8%	25.9%	22.3%	23.9% 2022	24.2% 2022
Early leavers from education and training (age 18-24)	[3]Total		< 9 %	17.3%	12.6%	14.3% b	10.5%	10.5%	9.5%
	[3] By gender	Men		20.2%	14.5%	16.3% b	12.1%	13.1%	11.3%
		Women		14.3%	10.6%	12.1% b	8.7%	7.6%	7.7%
	[4] By degree of urbanisation	Cities		17.8% b	11.2%	14.8% b	9.4%	11.4%	8.6%
		Rural areas		17.7% b	14.0%	14.6% b	11.0%	10.1%	9.9%
	[5] By country of birth	Native		14.8%	11.3%	11.9% b	9.2%	9.1%	8.2%
		EU-born		35.9%	26.2%	32.4% b	22.4%	20.9%	21.0%
		Non EU-born		39.9%	30.1%	36.1% b	23.0%	27.0%	21.6%
[6]Socio-economic gap (percentage points)				26.9	:	27.4	29.5	33.4 2022	37.2 2022
[7]Exposure of VET graduates to work-based learning			≥ 60% (2025)	:	:	:	:	25.9%	64.5%
Tertiary educational attainment (age 25-34)	[8]Total		45%	22.5%	34.1%	27.9% b	38.7%	30.6%	43.1%
	[8] By gender	Men		17.5%	29.1%	21.6% b	33.3%	24.4%	37.6%
		Women		27.4%	39.2%	34.2% b	44.2%	37.1%	48.8%
	[9] By degree of urbanisation	Cities		28.3% b	43.5%	34.0% b	49.0%	37.9%	53.3%
		Rural areas		18.2% b	24.8%	22.6% b	27.7%	23.9%	31.7%
	[10] By country of birth	Native		24.8%	35.4%	30.9% b	39.7%	34.0%	44.2%
		EU-born		11.2%	29.3%	13.5% b	36.7%	15.5%	40.2%
		Non EU-born		10.6%	24.2%	13.6% b	31.0%	13.1%	37.1%
[11]Participation in adult learning (age 25-64)			≥ 47% (2025)	:	:	33.9% 2016	37.4% 2016	29.0% 2022	39.5% 2022
[12]Share of school teachers (ISCED 1-3) who are 55 years or over				37.2% 2013	22.7% 2013	36.3%	23.8%	36.2% 2021	24.5% 2021

Notes: b = break in time series; d = definition differs; e = estimated; p = provisional; u = low reliability; : = data not available.
Source: 1,3,4,5,7,8,9,10,12=Eurostat; 11= Eurostat, Adult Education Survey; 2,6=OECD, PISA.

targeted actions in primary and secondary state schools in southern and island regions, with support from EU cohesion policy funds and the Recovery and Resilience Facility. From September 2023, a new system of individualised orientation and guidance was launched in secondary schools with the aim of reducing early school leaving - which stood at 10.5% in 2023 compared with an EU average of 9.5% - and raising tertiary attainment. In addition, the Ministry of Education and Merit has issued guidelines for strengthening mathematical, scientific, technological and digital skills through innovative teaching methodologies at all education levels. The aim is to raise achievement and encourage enrolments in tertiary science, technology, engineering and mathematics (STEM) curricula, in particular for women.

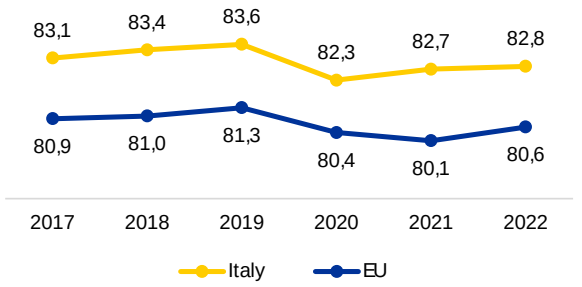
The proportion of young adults with a tertiary educational qualification is increasing but remains below the EU average. In 2023, 30.6% of Italian 25-34-year-olds had a tertiary educational qualification compared with the EU average of 43.1%. The tertiary educational attainment rate is particularly low among the foreign population, whether born in the EU (15,5%) or outside (13.1%), reflecting a continued difficulty in attracting highly qualified people. Women are more likely to hold a tertiary qualification than men (37.1% vs 24.4%), in line with the rest of the EU, but with a slightly wider gender gap (12.7 pps compared with 11.1 pps).

The proportion of tertiary students enrolling in STEM is slightly above the EU average, but few choose to pursue a degree in ICT. In 2021 30% of new entrants into tertiary education enrolled in STEM, as compared to an EU average of 28.1%. However, only 2.3% enrolled in ICT, less than half the EU average of 4.9%.

A healthy population and an effective, accessible, and resilient health system are prerequisites for a sustainable economy and society. This Annex provides a snapshot of population health and the health system in Italy.

Italy has one of the highest life expectancies at birth in the EU, though with significant regional differences. After a significant drop in 2020, life expectancy rebounded in 2021 and 2022, partially explained by a reduction in the COVID-19 mortality ([158]), but it is still lower than the pre-pandemic level. Overall, Italy has comparatively low rates for treatable mortality, but significant regional differences can be observed (as is the case for most health indicators). In 2021, the leading causes of death were diseases of the circulatory system ('cardiovascular diseases', notably ischaemic heart diseases) followed by cancer and COVID-19. Screening rates for some types of cancer (such as cervical cancer) are below the EU average.

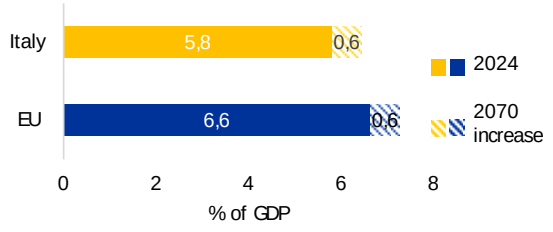
Graph A16.1: **Life expectancy at birth, years**



Source: Eurostat

In 2021 Italy's health spending was below the EU average, both in per capita terms (nearly one third below) and relative to GDP. In 2021, total healthcare spending was at 9.2% of GDP, compared to an EU average of 10.9%. This represents a decline from 9.6% in 2020, as the rebound in GDP outpaced the growth in health spending. Provisional data suggest that in 2022 total healthcare spending fell further to 8.8% of GDP. Around three quarters of total health expenditure is publicly funded (lower than the EU average), under mechanisms comprising a mix of national taxes (playing an equalisation role) and regional taxes. Main spending categories were outpatient care, inpatient care, followed by pharmaceuticals and medical devices. Approximately two thirds of all pharmaceutical spending in 2021 was in hospitals, one of the highest percentages among EU countries despite a lower than EU average density of hospital beds. Private health spending (accounting for a higher share of total health spending than the EU average) mainly takes the form of out-of-pocket payments (90%) and to a lesser extent voluntary health insurance. The main drivers for out-of-pocket payments are outpatient specialist care consultations, purchased to gain faster access to medical specialists, and outpatient pharmaceuticals. Much of the private spending on outpatient pharmaceuticals (73%) is on brand name medicines despite policies to promote greater use of generics; paradoxically this spending appears to be concentrated in the southern regions, where the average disposable income per capita is lower. Based on the age profile of the Italian population, public expenditure on health is projected to increase by 0.6 percentage points of GDP by 2070, in line with the EU average (see Graph 16.2 and Annex 21).

Graph A16.2: **Projected increase in public expenditure on healthcare over 2024-2070**



Baseline scenario
Source: European Commission / EPC (2024)

In 2021, spending on prevention in Italy amounted to 6.8% of total spending on healthcare, compared to 6.0% for the EU overall. Between 2019 and 2021, spending on preventive care in Italy increased by around 45%, compared to a 106% increase for the EU overall. Provisional data for 2022 indicate a drop to 6.5% of total health spending going to preventive care. Total antibiotic consumption

([158])Based on data provided directly by Member States to the European Centre for Disease Prevention and Control, under the European Surveillance System.

Table A16.1: **Key health indicators**

	2018	2019	2020	2021	2022	EU average (latest year)
Treatable mortality per 100 000 population (mortality avoidable through optimal quality healthcare)	65,2	63,7	66,5	64,5	NA	93.3 (2021)
Cancer mortality per 100 000 population	235,5	230,9	227,0	221,5	NA	235.4 (2021)
Current expenditure on health, % GDP	8,7	8,7	9,6	9,2	8,8	10.9 (2021)
Public share of health expenditure, % of current health expenditure	73,9	73,7	75,9	75,5	NA	81.1 (2021)
Spending on prevention, % of current health expenditure	4,7	4,7	5,4	6,8	6,5	6.0 (2021)
Available hospital beds per 100 000 population	315	316	319	312	NA	525 (2021)
Doctors per 1 000 population	4,0	4,1	4,0	4,1	4,2	4.1 (2021)*
Nurses per 1 000 population	5,8	6,2	6,3	6,2	NA	7.9 (2021)
Total consumption of antibacterials for systemic use, daily defined dose per 1 000 inhabitants per day ***	21,4	21,7	18,4	17,5	21,9	19.4 (2022)

Note: The EU average is weighted for all indicators except for doctors and nurses per 1 000 population, for which the EU simple average is used. Doctors' density data refer to practising doctors in all countries except Greece, Portugal (licensed to practise) and Slovakia (professionally active). Nurses' density data refer to practising nurses in all countries except Ireland, France, Portugal, Slovakia (professionally active) and Greece (hospital only).
Source: Eurostat Database; except: * OECD, ** Joint Questionnaire on non-monetary healthcare statistics, *** ECDC, **** Council Recommendation on stepping up EU actions to combat antimicrobial resistance in a One Health approach.

is still above the EU average, and the use of broad-spectrum antibiotics (WHO 'watch' list) is a matter of public health concern.

Historical differences in policies and financing have created marked regional imbalances in the availability of resources (infrastructure and workforce) taking a toll on the supply and quality of health services. High regional variability in the level of unmet needs for medical care can be linked to waiting times and longer distances to travel to access health services, as Italy has managed to reduce the income gap for unmet needs in medical care. Access to health services can be hampered by lack of local availability, with uneven geographical distribution and growing shortages of doctors practising in public hospitals and within primary care, even though the overall density of practising doctors is slightly above the EU average. As more than 55% of doctors in Italy are aged 55 or above (and over a quarter will reach retirement age by 2027), shortages in some specialties, such as emergency medicine, will likely persist due to their limited attractiveness among medical graduates. The most pressing shortages are in primary care (partly due to a significant reduction in the number of general practitioners in 2020-2021). While primary care is well developed, it is under-resourced and most general practitioners still work in 'solo' practices, with limited opportunities for team-working or sharing diagnostic technologies. Recent developments in nurse training are expected to ensure a sufficient replenishment rate for nurses, as Italy has a historically low density of nurses (well below the EU average). The growing burden of chronic diseases in an ageing population will increase demand for better integration of care levels (especially in regions with higher-than-average rates of comorbidities and non-communicable diseases) and better cooperation between national and local authorities.

Historically, investments in healthcare have lagged behind in Italy, but EU funds provide substantial support. Among EU countries, Italy has had a comparatively low percentage of GDP allocated to investment in gross capital formation in healthcare. Through its recovery and resilience plan (RRP), Italy plans to invest around EUR 16.1 billion to build health system resilience and improve quality of care. The RRP envisages reforms and investment to strengthen community-based specialised structures, boost digitalisation of healthcare services, upgrade hospital equipment and infrastructure, and improve human resources in health. Significant funding for healthcare is also planned under the EU cohesion policy funds in 2021-2027. Italy will invest close to EUR 1.8 billion in health equipment, infrastructure upgrades, mobile health assets, digitalisation of healthcare, and in various measures to improve the accessibility, effectiveness and resilience of health services in the less developed regions of the country, with a focus on health workforce and improving access for vulnerable groups ([159]).

([159])The EU cohesion policy data reflect the status as of 13 May 2024.

Annex 17 showcases the economic and social regional dynamics in Italy. It provides an analysis of economic, social and territorial cohesion in the Italian regions and assesses emerging investment and subnational reform needs to foster economic growth, social development and competitiveness in the country.

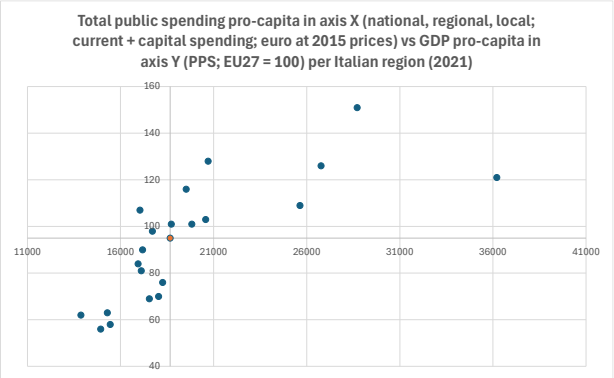
Overview of economic and social performance at regional level

The Italian economy is characterised by slow growth compared to the EU average as well as by a persistent North-South divide. Over the last 20 years all regions, except Bolzano, have been steadily losing ground compared to the EU average in terms of GDP per capita.

Regional disparities across the North-South are deep and entrenched. Between 2007 and 2022, regional gaps increased in Italy. Overall, GDP fell considerably in the southern regions (-10%) and in the centre of the country (-6.2%) while it increased moderately in the north-west (+0.8%), and north-east (+1.7%) (Banca d'Italia, 2023) ([160]). In 2022, 6 southern regions had a GDP per capita in purchasing power parity below 75% of the EU average (Table A17.1). The country experienced a strong recovery in GDP per capita in the 2 years following the outbreak of the COVID-19 pandemic. However, in 2022, the public debt-to-GDP ratio remained at 141.7%, whereas the GDP growth is expected to have slowed down in all Italian regions in 2023.

The economic impact of tighter financial conditions has particularly hit the southern regions. A restrictive macroeconomic environment and the gap in fiscal capacity between South and North translate into important public spending divergences that fuel the increasing South-North regional divide. In 2021, total public spending (current and capital spending) ranged from EUR 36 200 per capita in Valle d'Aosta to EUR 13 800 per capita in Campania (Graph A17.1). The economy of the southern regions is highly dependent on public spending, but municipalities in the south of Italy have lower spending capacities than in the rest of the country and are characterised by higher dept levels. These limit their capacity to invest and to provide public services. Under public spending programmes, southern regions are usually compelled to allocate a higher proportion of funds on extraordinary maintenance actions while northern regions have more margin to focus on new infrastructures (ARERA, 2023) ([161]).

Graph A17.1: **Total public spending pro-capita vs GDP pro-capita per Italian region (2021)**



(1) Orange dot: Italian average
Source: Eurostat (GDP per capita), Conti Pubblici Territoriali (public spending per capita), DG REGIO elaborations

A wide public service divide persists between the southern and centre-northern regions. This happens in sectors managed at national level (i.e. education and justice) as well as in sectors managed at regional and local level such as water, waste, urban transport and risk prevention, in which southern regions have a lower performance. Water leakages remain high at 42% and above 50% in the south ([162]) in 2022. The slow pace of reform to regional water operators (Piani d'Ambito) hinders efficient management. Many regions in the south suffer significant delays both in terms of governance and investments, technical and administrative capacities of local bodies, lengthy public works, and a high presence of EU infringement procedures. Over 850 agglomerations are in breach of the Urban Wastewater Treatment Directive, affecting

([160]) Banca d'Italia, 2023, L'economia delle regioni italiane: Dinamiche recenti e aspetti strutturali page 63).

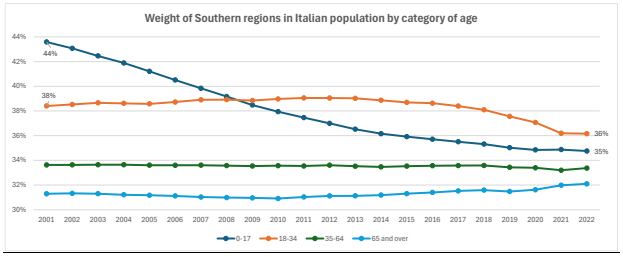
([161])ARERA, 2023, Relazione annuale -Stato dei servizi 2022, file:///U:/LIBRARY%20ITALY/2021-2027/Country%20report/2024/ARERA%20RA23_volume_1.pdf (pages 435, 436).

([162]) ISTAT Le statistiche dell'ISTAT sull'acqua 2020-2023, 2024

over 26.7 million population equivalent, two thirds in the south. From 2015 to 2024, Italy paid more than EUR 730 million in fines related to infringements in the waste and water management sectors alone.

Welfare assistance measures such as the minimum income scheme ('reddito di cittadinanza') helped reduce poverty, which nevertheless remains high, particularly in the South. During the COVID-19 pandemic, the number of people living under the absolute poverty line increased by 250 000 in the south, against a decline of 170 000 in the centre-north ([163]). The incidence of households in energy poverty reached 13% in the continental south, 17.6% in Sardegna and Sicilia, but it was lower than 6% in the centre-north regions (average 2017-2021) ([164]).

Graph A17.2: **Weight of southern regions in Italian population per category of age (1 January, yearly data 2001-2022)**



Source: Eurostat, DG REGIO elaboration

Population decline in the south, especially as regards young and skilled people, was one of the main factors behind weak growth. The south represents a declining share of the Italian population for all age categories except for people aged 65 years or more (Graph A17.2). In the centre-north regions, the number of people aged between 0 and 17 years increased from 5.5 million in 2001 to 6 million in 2022, whereas in the south there was a decline of 1.1 million: from 4.3 to 3.2 million people over the same period for the same age category. According to the Istituto Nazionale di Statistica (ISTAT) projections (2023) ([165]), in 2061 people aged 70 years old and more are expected to represent 30.7% of the southern population against 18.5% in the centre-north.

Disparities in GDP per capita are closely linked to large and even widening labour productivity gaps between the more developed northern regions and the rest of the country. The poor path in labour productivity has been continuous and particularly pronounced over the last two decades. In 2022, labour productivity ranged from 136% of the EU average in Bolzano to only 81% in Calabria, was above 107% in all northern regions and Lazio, but below 95% in all southern regions, Marche and Umbria.

Low productivity is combined with weak employment rates in southern Italy. In 2022, less than half of the population aged 20–64 was employed in Sicily (46.2%), Calabria (47.0%) and Campania (47.3%). From 2005 to 2022, the number of employed people aged 20-64 increased in the centre-north regions by 783 000 people while it fell by 307 500 people in the south. Low employment rates also explain higher income inequality in the south ([166]).

High regional disparities in employment rates are related to the employment gaps recorded for women and young people. In 2023, there were 10 regions in the EU where less than half of women aged 20–64 years were in employment. 6 of these were located in southern Italy, with the lowest rates in Calabria (35.2%), Campania (33.8 %) and Sicily (35.5%) ([167]).

The largest regional disparities in the EU in employment rates for recent graduates were observed for Italy (% of population aged 20-34 years): Sicily (42.0%) had the lowest employment rate in the EU while Bolzano had

([163])SVIMEZ, 2023, Rapporto: L'economia e la società del Mezzogiorno, https://lnx.svimez.info/svimez/wp-content/uploads/2023/12/rapporto_2023_slides_sito.pdf

([164]) Banca d'Italia, 2023, L'economia delle regioni italiane Dinamiche recenti e aspetti strutturali

([165])ISTAT, 2023, I giovani del Mezzogiorno: l'incerta transizione all'età adulta, https://www.istat.it/it/files//2023/10/Focus-I-giovani-del-mezzogiorno.pdf

([166]) Banca d'Italia, 2023, L'economia delle regioni italiane Dinamiche recenti e aspetti strutturali

([167])Eurostat, 2023 data

Table A17.1: **Selected indicators at regional level in Italy**

Region	GDP per head (PPS)	Productivity (GVA (PPS) per person employed)	Real productivity growth	GDP per head growth	Population growth	Population aged 15-64	Population aged 25-64 with high educational attainment	R&D expenditure	R&D expenditure in the business enterprise sector (BERD)	Employment in high-technology sectors	EU Regional Competitiveness Index 2.0 - 2022 edition
	EU27 = 100 [2022]	EU27 = 100 [2022]	Average % change on the preceding year [2013-2022]	Average % change on the preceding year [2013-2022]	Average annual change per 1000 residents [2011-2022]	% of total population [2023]	% of population aged 25-64 [2023]	% of GDP [2021]	% of GDP [2021]	% of total employment [2022]	EU27 = 100 [2022]
European Union (27 MS)	100	100	0.7	1.6	1.9	63.8	35.1	2.3	1.5	4.9	100
Italia	97	106.5	0.2	0.56	-0.2	63.5	21.6	1.5	0.9	4	84.1
Nord-Ovest	120	119.7	0.4	0.77	0.5	63	22.8	1.5	1.1	4.8	97.8
Sud	65	86.6	0.1	0.26	-2.5	64.5	18.4	1	0.5	2.6	67.5
Isole	62	87.8	-0.1	-0.25	-1.9	63.7	17.3	0.9	0.3	2.4	61.8
Nord-Est	115	113.7	0.5	0.97	0.4	63.2	22	1.6	1.1	3.3	92.2
Centro (IT)	103	105.1	-0.2	0.23	2	63.2	25.6	1.7	0.8	5.5	88.8
Piemonte	101	106.7	0.5	0.52	-2.3	61.9	20.9	2.1	1.6	4.4	90.1
Valle d'Aosta/Vallée d'Aoste	129	125.7	-0.3	-0.66	-4	62.9	20.8	0.6	0.3		81.3
Liguria	105	111.8	0	-0.13	-2.8	60.5	23.5	1.6	0.9	3.7	85.6
Lombardia	130	125.7	0.4	0.99	2.2	63.9	23.5	1.3	1	5.2	103.2
Abruzzo	80	90.5	-0.1	-0.37	-2.2	62.8	22.2	1.1	0.5	3.2	77.2
Molise	73	95.1	-0.4	-0.07	-7.1	62.8	21.9	1	0.6	2	69.9
Campania	63	87	0	0.33	-1.8	65.7	17.8	1.3	0.6	3.3	68.4
Puglia	65	84.3	0	0.5	-2.4	63.9	17.5	0.9	0.4	2	67.1
Basilicata	83	100.7	1.2	1.52	-6.1	63.9	19.7	0.5	0.1	2.1	68.1
Calabria	57	81	0.5	-0.31	-4	63.6	19	0.6	0.1	2	58.8
Sicilia	59	89.1	0	-0.31	-1.7	63.9	16.8	0.9	0.3	2.6	60.1
Sardegna	71	84.7	-0.3	-0.11	-2.5	63.4	18.6	0.8	0.1	1.9	67.1
Provincia Autonoma di Bolzano/Bozen	161	136.5	0.2	1.34	5.1	64.3	18.9	0.8	0.5	1.8	85.5
Provincia Autonoma di Trento	130	126.5	0.5	1.07	1.7	63.3	23.5	1.5	0.6	3.7	90.2
Veneto	109	109.6	0.3	0.9	-0.3	63.6	20.5	1.3	0.8	3.3	92.6
Friuli-Venezia Giulia	106	110.7	0.7	0.92	-2.1	61.7	22	1.7	0.9	2.9	89.6
Emilia-Romagna	117	114.1	0.6	0.98	1.2	63.2	23.7	2.2	1.6	3.6	93.6
Toscana	103	107.7	0	0.47	-0.1	62.2	22.4	1.6	0.9	3.8	86.9
Umbria	83	90.1	0.1	-0.25	-2.4	61.6	23.8	1	0.4	2.9	85
Marche	91	94.5	-0.1	0.32	-3.9	62.2	23.2	1	0.6	2.2	85.6
Lazio	110	108.2	-0.4	0.12	5.1	64.4	28.4	2	0.7	8.1	91.4

Source: Eurostat, EDGAR database

a rate twice as high (85.4%) and above the EU average ([168]).

The southern Italy economy is still affected by limited educational attainment. There were high numbers of early school leavers, a lower proportion of people with tertiary education or employed in science and technology (Table A17.1). Even if in recent years, the propensity to enrol for university studies has increased in the South compared with the North, southern graduates present a higher mobility rate, measured as the share of graduates moving outside their area (in this case, move from the south to the centre-north or abroad), equal to 39.8%, against rates of 5.8% in the north and 21.4% in the centre ([169]).

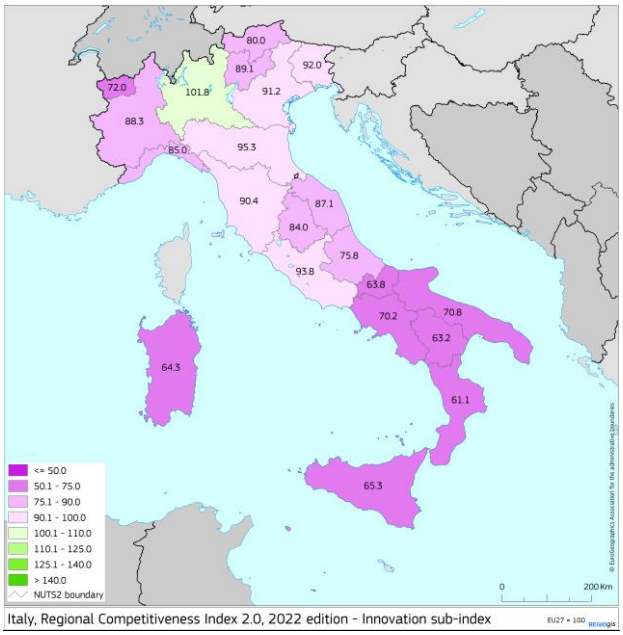
([168]) Eurostat, 2023, Regions in Europe – 2023 edition, https://ec.europa.eu/eurostat/web/interactive-publications/regions-2023.

([169]) ISTAT, 2023, I giovani del Mezzogiorno: l'incerta transizione all'età adulta, https://www.istat.it/it/files//2023/10/Focus-I-giovani-del-mezzogiorno.pdf

Educational attainment, ability to innovate and sectoral specialisation of the business base are important factors behind the observed productivity and employment trends. This points to a reduced capacity of the country, especially its less developed regions, to capture growth trends in dynamic and advanced sectors.

The share of employment in high tech sectors is close to the EU average in the northern and central regions, but less than half in the southern and island regions. National R&D expenditure by the business sector as a percentage of GDP is significantly lower than the EU average in the less developed regions. Innovation capacity (Map A.17.1) in southern and insular Italian regions is markedly lower than in the rest of Italy, with only Lombardy above the EU average.

Map A17.1: **Regional Innovation Index 2022**



Source: DG REGIO, JRC

Investment and subnational reform needs ahead

Administrative and technical capacities of public administrations remain a critical bottleneck for the development of southern regions. The Association for the development of industry in the South (SVIMEZ) assessed that the southern municipalities lag behind in issuing public tenders and awarding works compared to centre-north (for Recovery and Resilience Funds resources) ([170]). Similar trends have been observed for the implementation of investment co-financed by cohesion policy funds. In 2022, investment spending of local bodies increased by 5% in the centre-north and by 3% in the south ([171]).

Graduates in science, technology, engineering and mathematics are not attracted to the public sector as possible employer (Formez, 2022) ([172]). The Italian Court of Auditors ([173]) observed that the number of scientists and engineers in public administrations in several EU countries have shown significant increases in recent years while the number is stable in Italy. At subnational level, in order to increase the attractiveness of the public sector, retain skilled human capital and improve the role of universities in the south, Italy could set up agreements involving local universities, public bodies and service providers in order to meet the needs for skilled staff of public administrations and public service providers. A systemic action would be beneficial in particular for recruiting and training of staff with specific skills linked to those environmental services and green transition, which are managed in Italy at the regional and municipal level.

The adoption of a performance-based public service delivery into funding instruments, based on measurable results, could be beneficial especially in less developed regions given the North-South public service divide. The Italian Regulatory Authority for Energy, Networks and Environment (ARERA) has already put in place incentive mechanisms with bonuses and penalties based on results in the provision of water services and municipal waste.

([170]) SVIMEZ, 2023, Rapporto: L'economia e la società del Mezzogiorno, https://lnx.svimez.info/svimez/wp-content/uploads/2023/12/rapporto_2023_slides_sito.pdf

([171]) Banca d'Italia, 2023, L'economia delle regioni italiane Dinamiche recenti e aspetti strutturali

([172]) Formez PA (2022) La selezione di personale per le pubbliche amministrazioni, Rapporto Formez PA 2022

([173]) Corte dei Conti Italiana, 2023, Relazione sullo stato di attuazione del PNRR

Public action is also important at subnational level to improve public services governance. For the water sector, provisions of the Italian National Recovery and Resilience Plan (NRRP) are expected to complete the transition towards integrated water services in compliance to national provisions, resulting in a more effective regional governance, less fragmented market structures and more efficient water management. This is relevant especially in the south, given the delays occurred in some regions, such as Calabria and Sicily while Puglia has one operator in charge of the water management system. Overall, in sectors such as municipal waste and water management, mid-sized and large mixed private-public companies are expanding in the centre-north, often as efficiency oriented multi-utility companies dealing with different environmental services. However, in the south, services continue to be mostly provided by small operators, mostly publicly owned, which struggle to gather specialised technical skills, recommending a swift public action to accelerate the modernisation processes.

It is important to speed up investment for the digitalisation of water infrastructure. In terms of supply and distribution networks, only 55% of infrastructures in the south are digitally geo-referenced against a national average of 79% while for the sewer network, the rate of digitalised geo-reference is equal to 20% in the south against 74.7% at national level ([174]). It is also essential to carry out investment on wastewater treatment also to reduce the number of EU infringements and investment to improve the efficiency of the water cycle, notably in the south.

Italy continues to experience significant regional disparities in infrastructure for waste management, suggesting a need for the calibration of regional policies to better match waste production and infrastructure capacity by both reducing waste upstream and facilitating the regional self-sufficiency downstream. A weak and inefficient infrastructure network implies that 90% of the additional costs for exporting waste relies in centre-southern regions of Italy. On average, a southern Italian household pays 25% more in regional waste taxes and gets in return a lower quality service.

Investments are also important to reduce energy poverty in the south, which has been growing also as consequence of inflation. EU funds such as the European Regional Development Fund (ERDF) provide an opportunity to improve the energy efficiency performance of social housing and to help to deploy renewable energy sources to handle this issue.

Decisive action is envisaged to promote focused investment in research, innovation and business support in the less developed Italian regions. During the 2014-20 programming period, ERDF allocations to research, innovation and business policies increased from EUR 4.1 billion to 7.2 billion. This was also the result of additional resources under REACT-EU to respond to the crisis generated by the COVID pandemic. Despite the overall increase, allocations for the most ambitious measures concerning research and innovation, technology transfer and university-business cooperation have decreased. The persistent preponderance, notably in the south, of generic incentives for productive investment and the more limited use of ambitious targeted measures for research and innovation is a factor behind the scarce results on R&D spending as a share of GDP. It also accounts for the slow technological development, limited patents/trademarks, few innovative start-up, small integration with international supply chains, and ultimately on productivity gaps. Italy could also benefit from facilitating investments in net-zero technologies, making use of the opportunities of the Strategic Technologies for Europe Platform initiative.

National and subnational action is also important in reducing the current fragmentation between innovation bodies (clusters, districts, innovation poles, consortia, etc.) in order to reflect the real needs in each region. In addition, the functioning of these bodies is expected to depend on market-oriented initiatives and effective public-private

([174]) ARERA, 2023, Relazione annuale -Stato dei servizi 2022, file:///U:/LIBRARY%20ITALY/2021-2027/Country%20report/2024/ARERA%20RA23_volume_1.pdf.

partnerships, rather than on public support. Setting up a clear division of competences on innovation and business support especially between the central and regional levels may help to eliminate inefficient overlapping initiatives, rationalise existing innovation structures and bodies, focus on fewer, more strategic measures and sectors at national and regional level.

ANNEX 18: KEY FINANCIAL SECTOR DEVELOPMENTS

Italy has a predominantly bank-based financial sector. The banking sector is primarily domestically owned (roughly 92% of total banking-sector assets), with the five largest banking groups accounting for 51% of banking-sector assets. With EUR 3.8 trillion in assets at the end of 2023, the Italian banking sector remains among the largest in the EU. The largest banking groups (IntesaSanPaolo and UniCredit) have substantial international operations, primarily in central, eastern and south-eastern Europe. Following reforms in the cooperative sector since 2015, the fragmentation of the banking sector has gradually reduced and its efficiency has increased.

Italy's banking sector improved its performance in 2023. The capital adequacy ratio for the Italian banking sector stood at 19.7% in Q3-2023, the highest level in years and slightly above the EU average of 19.6%. The quality of capital has also improved, with a common equity tier 1 ratio of 15.7% compared to 14.5% a year ago, boosted by a reduction in risk-weighted assets and improved internal capital generation. The latter is the result of a jump in profitability, as the return on equity of Italian banks improved to 12.7% in September 2023 (EU average: 9.9%), up from 5.7% in 2021. This was due to strong growth in net interest income, as well as lower loan-loss provisions and good cost control, with the cost-to-income ratio falling to 49.8% in September 2023. Italian banks' liquidity coverage ratio fell to 175.8% in September 2023 from 180.6% in September 2022. This reflected significant repayments of funding from the ECB's targeted long-term refinancing operations (TLTRO III), with central bank liquidity falling to 4.8% of total liabilities in December 2023 from 10.8% at end-2022. However, the banks' liquidity position remains comfortable, as their aggregate excess liquidity held at the Italian Central Bank exceeds future repayments of outstanding TLTRO III loans. Moreover, Italian banks' net bond issuance in recent quarters testifies to their ability to raise new funding on the markets to replace ECB funding.

Higher inflation and interest rates have had a limited impact on banks' asset quality so far. The gross non-performing loan (NPL) ratio continued its decline, and fell to 2.8% in September 2023 (EU average 1.8%), supported by NPL disposals. According to the European Banking Authority data, the share of Stage 2 loans and advances to total gross loans and advances fell 11.5% in December 2023 compared to 12.2% a year before, with an improved cash coverage ratio. Interest rate hikes have led to the upward repricing of variable-rate mortgage loans (which account for roughly 35% of the outstanding mortgage stock). This has started to put pressure on the quality of household loans, although new loan defaults as a share of the performing loan book remain low. On the corporate side, the

Table A18.1: **Financial soundness indicators**

	2017	2018	2019	2020	2021	2022	2023	EU	Median
Total assets of the banking sector (% of GDP)	214.0	207.1	207.2	231.6	218.6	203.8	184.6	257.0	184.6
Share (total assets) of the five largest banks (%)	43.4	45.6	47.9	49.3	51.6	50.5	-	-	69.6
Share (total assets) of domestic credit institutions (%)[1]	92.0	91.8	93.1	92.5	91.6	91.2	91.3	-	62.9
NFC credit growth (year-on-year % change)	0.4	1.5	-1.8	8.3	1.8	0.1	-3.9	-	2.4
HH credit growth (year-on-year % change)	2.8	2.8	2.6	2.4	3.7	3.3	-1.3	-	1.4
Financial soundness indicators:[1]									
- non-performing loans (% of total loans)	11.2	8.4	6.7	4.5	3.5	2.9	2.8	1.8	1.8
- capital adequacy ratio (%)	16.8	16.1	17.2	19.3	18.8	19.2	19.7	19.6	20.1
- return on equity (%)[2]	7.1	5.8	4.9	1.0	5.7	9.1	12.7	9.9	13.2
Cost-to-income ratio (%)[1]	65.1	65.9	65.5	68.3	63.2	59.0	49.8	52.8	44.9
Loan-to-deposit ratio (%)[1]	102.1	97.1	94.4	77.0	73.3	75.8	79.3	93.3	80.2
Central bank liquidity as % of liabilities	8.4	8.1	7.2	11.7	13.4	10.8	4.8	-	0.7
Private sector debt (% of GDP)	109.4	107.7	106.0	118.4	111.3	105.5	-	133.0	118.4
Long-term interest rate spread versus Bund (basis points)	179.6	221.4	220.4	167.9	118.4	201.4	184.9	107.7	104.2
Market funding ratio (%)	31.6	34.0	35.2	35.4	37.3	38.0	-	50.8	39.8
Green bonds outstanding to all bonds (%)[3]	-	-	-	0.4	1.2	1.7	2.5	4.0	2.7

1-3 | 4-10 | 11-17 | 18-24 | 24-27 — Colours indicate performance ranking among 27 EU Member States.

(1) Last data: Q3 2023.
(2) Data are annualised.
(3) Data available for EA countries only, EU average refers to EA area.
Source: ECB, Eurostat

interest-only grace period for corporate loans covered by state-guarantees granted during the pandemic has now ended and borrowers have now had to start repaying principal for these loans. This has led to a rise in the corresponding default rate for these loans (circa 2% year-on-year in December 2023), which nevertheless remains moderate. Relatively low levels of indebtedness and leverage for firms and households are supportive of banks' asset quality.

The bank-sovereign nexus has deepened following the pandemic and remains sizeable. Outstanding loans backed by pandemic-related government guarantees made up about one fifth of bank loans to firms as of June 2023. This further deepens the nexus between banks and the Italian sovereign, even though an increasing share of these loans' principal was repaid in 2023. In addition, Italian banks' exposure to domestic sovereign debt amounted to 9.5% of total assets at the end of 2023, one of the highest shares among euro area peers, albeit lower than the 10.9% at the end of 2020. To shield their balance sheets from volatility in sovereign yields, banks have booked a large part of their sovereign bond portfolio at amortised cost (66% as of December 2023). However, the recent rise in interest rates has led to an increase in unrealised losses in the fixed income securities held in the amortised portfolios, albeit so far with limited potential impact, net of hedging, on banks' capital ratios.

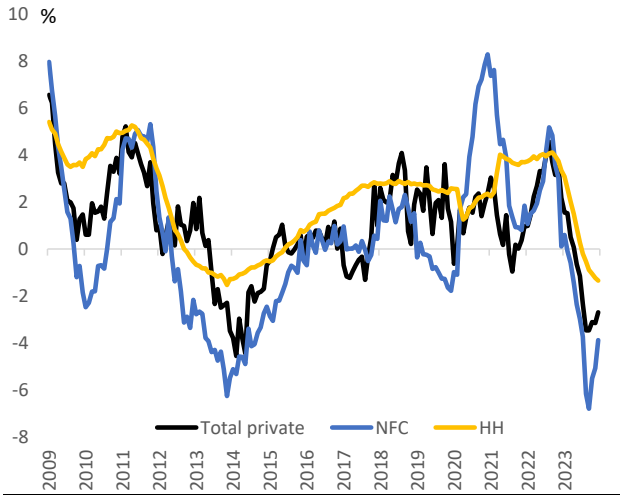
In spite of the banking sector's resilience, pockets of vulnerability persist. The impact of higher interest rates and a less favourable economic outlook remains limited so far. However, it may affect the future repayment ability of borrowers, particularly those with high debt-to-income ratios and a large share of variable-rate loans. This increases the risk that a larger share of loans currently classified as unlikely-to-pay, and constituting more than half of the NPL stock in Italy at the end of 2022, may default in the future. Moreover, while the bulk of NPLs has exited the banks' balance sheets, freeing up capital for new, healthy lending, the stock of NPLs still to be reabsorbed by the economy remains substantial ([175]). The cost of funding may also increase for the banks that still have to repay TLTRO III or that had had to issue eligible instruments to meet their minimum requirement for own funds and eligible liabilities as of 1 January 2024. The recently introduced bank levy appears to be manageable for the banking sector ([176]). Italian banks have taken measures to reduce their exposure to Russia to manageable levels from a capital perspective.

Lending to households and corporates declined in 2023. Lending to the private sector slowed down in the second half of 2022 and in 2023, turning negative on a 12-month basis since May 2023, against the backdrop of tighter monetary conditions and declining credit demand. For households, credit growth was negative (-1.3%) in the 12 months ending in December 2023, mainly driven by a slowdown in mortgage loans due to higher interest rates. On the back of the economic slowdown, high financing costs and greater use of own funds, credit to non-financial corporations contracted significantly in 2023 (-3.9% year-on-year in December 2023). The trend was strengthened by increased repayments of public-guaranteed loans granted during the pandemic. A high share of variable-interest-rate loans for firms facilitated the pass through of rising interest rates, which reached an average of 5.1% in Q3 2023, up from 3.1% at the end of 2022.

([175]) According to Banca IFIS, the outstanding stock of NPLs in the economy still amounted to EUR 306 billion in 2022, lower than its EUR 361 billion 2015 peak but much higher than the pre-financial crisis level of EUR 78 billion.

([176]) Law 136/2023 introduced an extraordinary tax on banks' net interest income. Banks can opt-out from paying the tax if they set up a non-distributable capital reserve worth no less than 2.5 times the tax amount in 2023 financial statements.

Graph A18.1: **Evolution of credit activity**



Adjusted loans for sales and securitisations
Source: ECB

The real-estate market is cooling down but there are no signs of overvaluation. House prices in Italy continued to grow year-on-year in the first half of 2023, albeit more slowly than in 2022 and well below inflation. There was a decline in the number of residential sales in the first half of 2023, as financing conditions tightened. However, house sales returned to growth in the second half of 2023 and real residential prices recorded a positive twelve-month change for the first time in two years at the end of 2023. In the commercial real estate (CRE) sector, the drop in prices moderated and sales volumes remained stable in the first half of 2023 and returned to growth in the second half. According to the European Banking Authority, loans collateralised by CRE accounted for about 20% of total loans to non-financial corporations as of December 2023. These are mostly variable-rate loans and have a higher, albeit decreasing, share of non-performing loans than other sectors (6.5% as of December 2023 vs an overall NPL ratio of 3.9% for business loans). Noting no signs of overvaluation of real-estate prices, the Italian Central Bank has maintained the countercyclical capital buffer at zero ([177]).

The rise in interest rates and prices has affected insurers' profits, but the sector remains resilient. Assets of Italian insurers were equivalent to 48.4% of GDP as of end-September 2023 (EU average 54.3%). The solvency ratio at end-September 2023 remained robust and in line with the EU average. The increase in surrenders ([178]) and fall in premiums in life insurance, particularly from unit-linked policies, have led to losses for the life insurance segment in 2022 for the first time in 10 years ([179]). The non-life segment has performed better, as the rise in claims due to inflation was partly offset by rising premiums. Higher interest rates have resulted in a rise in net unrealised losses in insurers' bond holdings. However, fewer companies in the first half of 2023 than in 2022 made use of the legislation allowing them to temporarily suspend the effects of unrealised losses on insurers' profitability. The recent failure of a medium-sized insurance company, Eurovita, has inspired the introduction of a new insurance guarantee scheme for life insurance policy holders, which will be privately funded and governed by the insurance industry. Italy has one of the highest insurance protection gaps in Europe for natural hazards, particularly earthquakes ([180]). This led the Italian authorities to adopt in December 2023 a mandatory requirement for firms to be insured against natural hazards, with partial reinsurance by SACE, a state-owned entity.

Legislative initiatives are underway to facilitate access to non-bank financing. The market-funding ratio in Italy stood at 38% in 2022, the highest level since 2017, but lower than the EU average of 51.8%. Access to non-bank finance remains limited for businesses, while annual IPOs and corporate bond issuances as a share of GDP were lower in 2022 than 2021. In an effort to further promote non-bank financing, a legislative proposal has been adopted in February 2024 that aims to

([177]) However, the Bank of Italy decided on 26 April 2024 to apply a Systemic Risk Buffer to all banks authorized to operate in Italy equal to 1.0% of credit and counterparty risk-weighted exposures to Italian residents. The target rate of 1.0 per cent will be phased-in gradually, 0.5% by 31 December 2024 and the remaining 0.5% by 30 June 2025.

([178]) Life insurance contracts are typically equipped with a surrender option that allows the policyholder to terminate the contract prior to maturity.

([179]) Italian Insurance Supervisory Authority, 2022 Annual Report.

([180]) See EIOPA's dashboard on the insurance-protection gap for natural catastrophes in a nutshell (europa.eu).

stimulate the Italian IPO market and incentivise investors to invest in companies listed in Italy, while at the same time making changes to the corporate governance framework and promoting financial literacy.

This Annex provides an indicator-based overview of Italy's tax system. It includes information on the tax structure (the types of tax that Italy derives most of its revenue from), the tax burden on workers, and the progressivity and the redistributive effect of the tax system. It also provides information on tax collection and compliance.

Italy's tax revenues in relation to GDP are relatively high, with the largest contribution coming from labour taxation. Table A19.1 shows that Italy's tax revenues as a percentage of GDP were above the EU aggregate in 2022 and have been at a stable level in recent years. The shares of labour and environmental taxes as a share of GDP were slightly above the EU aggregate. Revenues from consumption taxes were close to the EU aggregate as a share of GDP, despite relatively low VAT revenues due to a wide use of reduced VAT rates. Revenues from recurrent taxes on property, which are among the taxes least detrimental to growth, were above the EU aggregate as a percentage of GDP. However, first residences are exempt for almost all property classes and the values used for property taxation are outdated. Outdated cadastral values have not been revised to bring them closer to market values. There was a large drop in environmental tax revenues between 2021 and 2022 (from 3% of GDP to 2.2%). Furthermore, pollution and resources taxes only accounted for 1.4% of environmental taxes in 2022, which are key for the application of the 'polluter pays' principle. Italy is nevertheless one of the most advanced countries when it comes to implementing environmental taxes and already applies five of the six main types of pollution and resources taxes (i.e. taxes on NOx emissions, waste landfilling and incineration, discharge of waste into water, pesticides, and plastic products). There remains scope to implement the sixth main type (i.e. taxes on fertilisers).

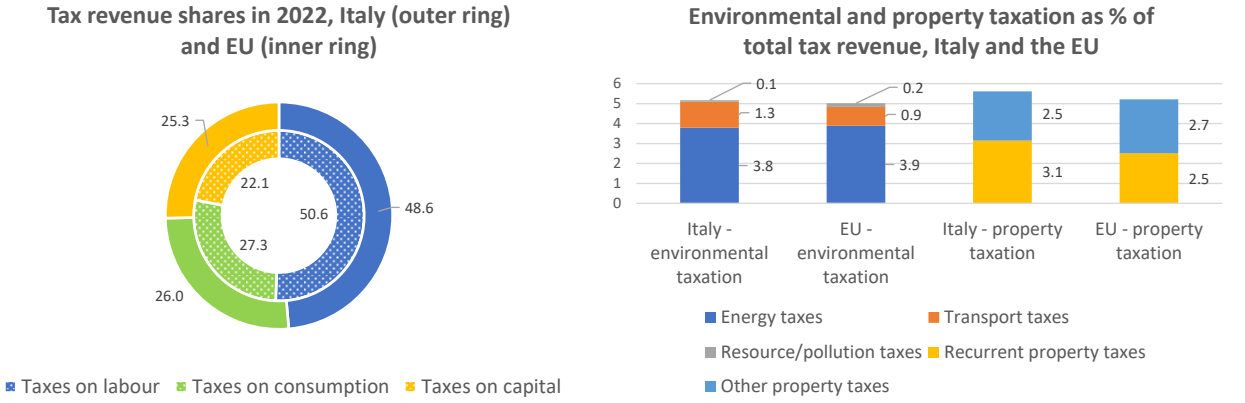
The labour tax burden in Italy remains high despite recent reforms. Italy's labour tax burden is also relatively progressive thanks to the current structure of tax brackets. Graph A19.2 shows that the labour tax wedge for Italy in 2023 was higher than the EU average for single persons at different wage levels (50%, 67%, 100% and 167% of the average wage). Second earners at a wage level of 67% of the average wage, whose spouses earn the average wage, also faced a tax wedge higher than the EU average. In addition, the tax wedge for second earners at 67% of the average wage was higher than the one for single persons at the same level. The changes to personal income taxation introduced in 2023 may have reduced the tax burden for low- and medium-income earners, but the tax wedge remained

Table A19.1: **Taxation indicators**

		Italy					EU-27				
		2010	2020	2021	2022	2023	2010	2020	2021	2022	2023
Tax structure	Total taxes (including compulsory actual social contributions) (% of GDP)	41.2	42.5	42.5	42.7		37.9	40.0	40.4	40.2	
	Labour taxes (as % of GDP)	21.5	22.2	21.4	20.7		20.0	21.3	20.7	20.3	
	Consumption taxes (as % of GDP)	10.6	10.7	11.3	11.1		10.8	10.7	11.2	11.0	
	Capital taxes (as % of GDP)	9.2	9.6	9.8	10.8		7.1	8.0	8.6	8.9	
	Of which, on income of corporations (as % of GDP)	2.8	2.5	2.4	3.4		2.4	2.5	3.0	3.4	
	Total property taxes (as % of GDP)	1.8	2.4	2.4	2.4		1.9	2.3	2.2	2.1	
	Recurrent taxes on immovable property (as % of GDP)	0.6	1.5	1.4	1.3		1.1	1.2	1.1	1.0	
	Environmental taxes as % of GDP	2.8	3.1	3.0	2.2		2.4	2.2	2.3	2.0	
Progressivity & fairness	Tax wedge at 50% of average wage (Single person) (*)	40.7	36.3	35.6	33.8	32.6	33.9	31.7	32.1	31.8	31.7
	Tax wedge at 100% of average wage (Single person) (*)	47.2	46.9	45.4	45.0	45.1	41.0	40.1	39.9	40.0	40.2
	Corporate income tax - effective average tax rates (1) (*)		20.2	14.4	15.5			19.5	19.0	19.0	
	Difference in Gini coefficient before and after taxes and cash social transfers (pensions excluded from social transfers) (2) (*)	5.9	6.6	8.0	7.9		8.6	8.1	8.2	7.9	
Tax administration & compliance	Outstanding tax arrears: total year-end tax debt (including debt considered not collectable) / total revenue (in %) (*)		213.6	199.9				40.9	35.5		
	VAT Gap (% of VAT total tax liability, VTTL)(**)	26.5	21.5	10.8	9.2			9.7	5.4		

(1) Forward-looking effective tax rate (OECD).
(2) A higher value indicates a stronger redistributive impact of taxation.
(*) EU-27 simple average.
(**) Forecast value for 2022, if available. For more details on the VAT gap, see European Commission, Directorate-General for Taxation and Customs Union, 2023, *VAT gap in the EU*, https://data.europa.eu/doi/10.2778/911698.
For more data on tax revenues as well as the methodology applied, see the Data on Taxation webpage, https://ec.europa.eu/taxation_customs/taxation-1/economic-analysis-taxation/data-taxation_en.
Source: European Commission and OECD

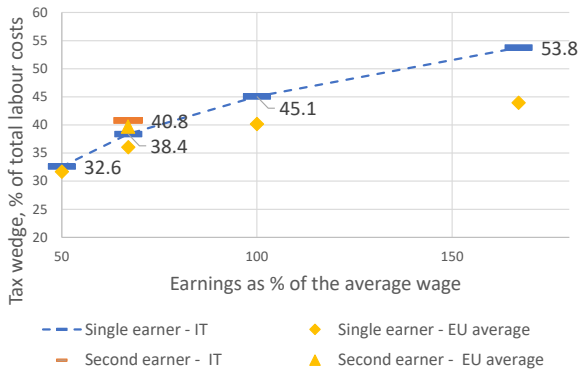
Graph A19.1: **Tax revenues from different tax types, % of total revenue**



Note: values for EU are GDP-weighted EU averages (EU aggregates).
Source: European Commission

above the EU average. The reduction of income inequality through the tax and benefit system (as measured by the corresponding change in the Gini coefficient) was at the EU average in 2022. Regarding corporate taxation, the average forward-looking effective corporate income tax rates were below the EU-27 average in 2022 at 15.5%.

Graph A19.2: **Tax wedge for single and second earners as a % of total labour costs, 2023**



The second earner tax wedge assumes a first earner at 100% of the average wage and no children. For the methodology of the tax wedge for second earners see OECD, 2016, *Taxing Wages 2014-2015*.
Source: European Commission

Several measures have been enacted in recent years to encourage tax compliance, but tax evasion remains high. Recent measures included the compulsory use of electronic invoicing and government incentives to encourage the use of electronic payments. According to data published by the Ministry of Economy and Finance ([181]) the 'propensity to evade' indicator decreased from 21.0% in 2016 to 17.2% in 2020 and 15.3% in 2021. However, the VAT compliance gap (the gap between revenues actually collected and the theoretical tax liability) remains at 10.8% and thereby above the EU-wide gap of 5.4%. Outstanding tax arrears have slightly decreased by 13.7 pps to 199.9% of total net revenue for 2021 and remained significantly above the EU-27 average. However, the high amount of tax arrears is mostly related to national accounting rules which prevent the writing-off of arrears that are considered as uncollectable, while the share of 'collectable arrears' is very low in Italy ([182]).

([181]) See Aggiornamento_relazione_2023_finale_h1710.pdf (mef.gov.it).

([182]) See OECD, 2023, *Tax Administration 2022, Comparative Information on OECD and other Advanced and Emerging Economies*, (900b6382-en.pdf (oecd-ilibrary.org)).

ANNEX 20: TABLE WITH ECONOMIC AND FINANCIAL INDICATORS

Table A20.1: **Key economic and financial indicators**

	2004-07	2008-12	2013-20	2021	2022	2023	forecast 2024	forecast 2025
Real GDP (y-o-y)	1.4	-1.4	-0.6	8.3	4.0	0.9	0.9	1.1
Potential growth (y-o-y)	.	-0.1	0.0	0.0	1.2	1.1	1.0	1.1
Private consumption (y-o-y)	1.2	-1.1	-0.7	5.5	4.9	1.2	0.2	1.4
Public consumption (y-o-y)	0.3	-0.4	-0.1	1.4	1.0	1.2	0.5	0.8
Gross fixed capital formation (y-o-y)	1.8	-4.9	0.4	20.3	8.6	4.7	1.3	0.7
Exports of goods and services (y-o-y)	5.9	-0.9	0.4	14.1	10.2	0.2	2.4	3.1
Imports of goods and services (y-o-y)	5.3	-2.9	1.3	15.6	12.9	-0.5	0.9	3.7
Contribution to GDP growth:								
Domestic demand (y-o-y)	1.2	-1.7	-0.4	7.1	4.7	2.0	0.5	1.1
Inventories (y-o-y)	0.1	-0.2	0.0	1.1	-0.2	-1.3	-0.1	0.0
Net exports (y-o-y)	0.1	0.6	-0.2	0.1	-0.6	0.3	0.5	-0.1
Contribution to potential GDP growth:								
Total Labour (hours) (y-o-y)	.	-0.3	0.0	-0.4	0.7	0.7	0.5	0.5
Capital accumulation (y-o-y)	.	0.3	-0.1	0.2	0.4	0.5	0.5	0.4
Total factor productivity (y-o-y)	.	-0.1	0.1	0.2	0.1	0.0	0.1	0.1
Output gap	2.1	-1.2	-2.9	-1.4	1.3	1.1	1.0	1.0
Unemployment rate	7.3	8.5	11.1	9.5	8.1	7.7	7.5	7.3
GDP deflator (y-o-y)	2.3	1.5	1.0	1.3	3.6	5.3	2.2	1.8
Harmonised index of consumer prices (HICP, y-o-y)	2.2	2.4	0.5	1.9	8.7	5.9	1.6	1.9
HICP excluding energy and unprocessed food (y-o-y)	2.0	2.1	0.7	0.8	4.0	5.5	2.4	2.0
Nominal compensation per employee (y-o-y)	2.6	1.1	0.1	6.3	4.8	2.4	3.8	2.9
Labour productivity (real, hours worked, y-o-y)	0.2	0.0	0.6	-1.7	-0.2	-1.4	-0.1	0.5
Unit labour costs (ULC, whole economy, y-o-y)	2.3	2.1	1.1	-0.9	2.5	3.3	3.6	2.2
Real unit labour costs (y-o-y)	0.0	0.5	0.1	-2.2	-1.0	-1.8	1.4	0.4
Real effective exchange rate (ULC, y-o-y)	0.9	0.3	-0.8	0.4	-0.9	-3.8	-1.0	-0.2
Real effective exchange rate (HICP, y-o-y)	0.6	-0.4	-0.4	-0.2	-1.4	1.7	.	.
Net savings rate of households (net saving as percentage of net disposable income)	8.6	4.6	3.9	7.9	1.6	0.3	.	.
Private credit flow, consolidated (% of GDP)	9.9	2.9	0.9	3.3	2.9	.	.	.
Private sector debt, consolidated (% of GDP)	99.7	121.3	112.8	111.3	104.6	.	.	.
of which household debt, consolidated (% of GDP)	34.1	42.4	41.9	42.5	40.6	.	.	.
of which non-financial corporate debt, consolidated (% of GDP)	65.5	78.9	70.9	68.8	64.0	.	.	.
Gross non-performing debt (% of total debt instruments and total loans and advances) (1)	4.4	8.3	9.3	2.7	2.2	.	.	.
Corporations, net lending (+) or net borrowing (-) (% of GDP)	-0.2	0.6	3.5	5.7	6.2	6.9	6.1	5.4
Corporations, gross operating surplus (% of GDP)	23.0	21.3	21.5	22.5	24.1	24.9	24.4	24.2
Households, net lending (+) or net borrowing (-) (% of GDP)	2.4	0.9	2.5	5.6	1.2	1.6	0.1	1.1
Deflated house price index (y-o-y)	3.7	-1.6	-1.6	1.0	-3.6	-3.7	.	.
Residential investment (% of GDP)	5.5	5.4	4.1	5.8	6.6	6.4	.	.
Current account balance (% of GDP), balance of payments	-1.1	-2.2	2.6	2.4	-1.6	0.5	1.7	1.7
Trade balance (% of GDP), balance of payments	-0.2	-0.7	3.1	2.1	-1.6	1.7	.	.
Terms of trade of goods and services (y-o-y)	-1.4	-1.0	1.5	-4.7	-8.5	8.0	1.3	0.0
Capital account balance (% of GDP)	0.1	0.1	0.1	0.1	0.5	0.8	.	.
Net international investment position (% of GDP)	-17.9	-21.0	-9.5	7.5	4.7	7.4	.	.
NENDI - NIIP excluding non-defaultable instruments (% of GDP) (2)	-9.4	-22.4	-9.0	5.6	1.7	6.5	.	.
IIP liabilities excluding non-defaultable instruments (% of GDP) (2)	94.5	113.9	125.7	135.2	125.1	118.8	.	.
Export performance vs. advanced countries (% change over 5 years)	.	.	-5.1	-2.7	-5.1	-0.9	.	.
Export market share, goods and services (y-o-y)	-2.6	-5.8	-0.7	-1.1	-2.5	-0.9	-1.1	-0.5
Net FDI flows (% of GDP)	0.8	1.0	0.1	1.4	-0.8	-0.2	.	.
General government balance (% of GDP)	-3.1	-3.7	-3.3	-8.7	-8.6	-7.4	-4.4	-4.7
Structural budget balance (% of GDP)	-4.7	-3.3	-1.8	-8.4	-9.6	-8.3	-5.0	-5.3
General government gross debt (% of GDP)	105.6	117.6	137.6	147.1	140.5	137.3	138.6	141.7

(1) domestic banking groups and stand-alone banks, EU and non-EU foreign-controlled subsidiaries and EU and non-EU foreign-controlled branches.
(2) NIIP excluding direct investment and portfolio equity shares.
Source: Eurostat and ECB as of 2024-5-17, where available; European Commission for forecast figures (Spring forecast 2024).

This annex assesses fiscal sustainability risks for Italy over the short, medium and long term. It follows the multi-dimensional approach of the European Commission's 2023 Debt Sustainability Monitor, updated based on the Commission 2024 spring forecast.

1 – Short-term risks to fiscal sustainability are low. The Commission's early-detection indicator (S0) does not point to any major short-term fiscal risks (Table A21.2) ([183]). Government gross financing needs are expected to slightly increase to around 27% of GDP on average over 2024-2025 (Table A21.1, Table 1). The sovereign credit rating remains above the investment grade for all four major rating agencies by the cut-off date of this report.

2 – Medium-term fiscal sustainability risks appear high.

The DSA baseline shows that the government debt ratio is expected to increase and remain at a high level in the medium term (at around 168% of GDP in 2034) (Graph 1, Table 1) ([184]). The debt increase is driven by the assumed structural primary deficit (excluding changes in cost of ageing) of 1.1% of GDP as of 2024. Compared to historical data, this appears plausible as most of the past fiscal positions were more stringent than the one assumed in the baseline (Table A21.2) ([185]). The debt dynamics are also driven by an unfavourable and increasing snowball effect of 1.4% of GDP annually on average over 2025-2034, mainly reflecting projected increases in interest payment expenditure.

The baseline projections are stress-tested against four alternative deterministic scenarios to assess the impact of changes in key assumptions relative to the baseline (Graph 1). Under the *historical structural primary balance (SPB) scenario* (i.e. the SPB returns to its historical 15-year average) the debt ratio would be lower than under the baseline by around 17 pps. in 2034. However, under the *adverse interest-growth rate differential scenario* (i.e. the interest-growth rate differential deteriorates by 1 pp. compared with the baseline), the debt ratio would be higher than under the baseline by around 15 pps. in 2034. Under the *financial stress scenario* (i.e. interest rates temporarily increase by 3.9 pps. compared with the baseline) the government debt ratio would be higher by around 5 pps. in 2034. Finally, under the *lower structural primary balance scenario* (i.e. the projected cumulative improvement in the SPB over 2023-2024 is halved) the debt ratio would be higher than under the baseline by about 19 pps. in 2034.

The stochastic projections indicate high risk, pointing to the high sensitivity of these projections to plausible unforeseen events ([186]). These stochastic simulations indicate an 81% probability that the debt ratio will be higher in 2028 than in 2023, implying high risks given the high debt level. At the

([183]) The S0 is a composite indicator of short-term risk of fiscal stress. It is based on a wide range of fiscal and financial-competitiveness indicators that have proven to be a good predictor of emerging fiscal stress in the past.

([184]) The assumptions underlying the Commission's 'no-fiscal policy change' baseline include in particular: (i) a structural primary deficit, before changes in ageing costs, of 1.1% of GDP from 2024 onwards; (ii) inflation converging linearly towards the 10-year forward inflation-linked swap rate 10 years ahead (which refers to the 10-year inflation expectations 10 years ahead); (iii) the nominal short- and long-term interest rates on new and rolled over debt converging linearly from current values to market-based forward nominal rates by T+10; (iv) real GDP growth rates from the Commission 2024 spring forecast, followed by the EPC/OGWG 'T+10 methodology projections between T+3 and T+10 (average of 0.5%); (v) ageing costs in line with the 2024 Ageing Report (European Commission, Institutional Paper 279, April 2024). For information on the methodology, see the 2023 Debt Sustainability Monitor (European Commission, Institutional Paper 271, March 2024).

([185]) This assessment is based on the fiscal consolidation space indicator, which measures the frequency with which a tighter fiscal position than assumed in a given scenario has been observed in the past. Technically, this consists in looking at the percentile rank of the projected SPB within the distribution of SPBs observed in the past in the country, taking into account all available data from 1980 to 2023.

([186]) The stochastic projections show the joint impact on debt of 10,000 different shocks affecting the government's budgetary position, economic growth, interest rates and exchange rates. This covers 80% of all the simulated debt paths and therefore excludes tail events.

same time, the uncertainty surrounding the baseline debt projections (as measured by the difference between the 10th and 90th debt distribution percentiles) is medium, reaching around 34 pps. of GDP in five years' time) (Graph 2).

3 – Long-term fiscal sustainability risks appear overall medium. This assessment is based on the combination of two fiscal gap indicators, capturing the required fiscal effort to stabilise debt (S2 indicator) and bring to 60% of GDP (S1 indicator) over the long term ([187]). This assessment is driven by the unfavourable initial budgetary and debt position, partly offset by the projected decline in ageing costs. Hence, these results are conditional on the country maintaining a sizeable SPB over the long term, and fully implementing sustainability-enhancing pension reforms.

The S2 indicator points to low fiscal sustainability risks. The indicator shows that, relative to the baseline, the SPB would need to improve by 1.2 pps. of GDP to ensure debt stabilisation over the long term. This result is underpinned by unfavourable initial budgetary position (contribution of 2.3 pps.), partly offset by the projected decline in ageing-related costs (-1.1 pps.). Ageing cost developments are primarily driven by a projected decrease in public pension expenditure (-1.5 pps.) and education spending (-0.7 pp.), which is only partly offset by a projected increase in health-care (0.6 pps.) and long-term care spending (0.5 pps.) (Table A21.1, Table 2).

The S1 indicator points to medium fiscal sustainability risks. The indicator shows that the country needs to further improve its fiscal position by 3.6 pps. of GDP to reduce its debt to 60% of GDP by 2070. This result is mainly driven by the current unfavourable initial budgetary position (contribution of 2.2 pps.) and the large distance of the Italian government debt ratio from the 60% reference value (1.5 pps.) (Table A21.1, Table 2).

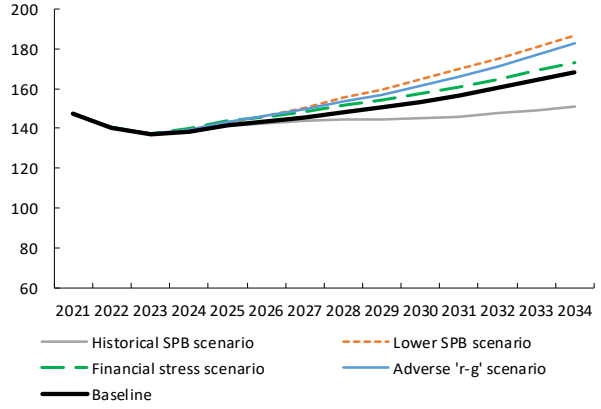
4 – Finally, several additional risk factors need to be considered in the assessment. On the one hand, risk-increasing factors are related to the share of short-term government debt. Contingent liability risks continue to stem from the share of non-performing loans in the banking sector. On the other hand, risk-mitigating factors are related to the structure of the debt. In particular, the major share of government debt is still held by domestic lenders. Moreover, the fact that public debt is completely denominated in euro excludes currency risks. The favourable net international investment position further mitigates fiscal risks.

([187]) The S2 fiscal sustainability indicator measures the permanent SPB adjustment in 2025 that would be required to stabilise public debt in the long term. It is complemented by the S1 indicator, which measures the permanent SPB adjustment in 2025 to bring the debt ratio to 60% by 2070. For both the S1 and S2 indicators, the risk assessment depends on the amount of fiscal consolidation needed: 'high risk' if the required effort exceeds 6 % of GDP, 'medium risk' if it is between 2% and 6% of GDP, and 'low risk' if the effort is negative or below 2% of GDP. The overall long-term risk classification combines the risk categories derived from S1 and S2. S1 may notch up the risk category derived from S2 if it signals a higher risk than S2. See the 2023 Debt Sustainability Monitor for further details.

Table A21.1: Debt sustainability analysis – Italy

Table 1. Baseline debt projections	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Gross debt ratio (% of GDP)	**147.1**	**140.5**	**137.3**	**138.6**	**141.7**	**143.3**	**145.7**	**148.1**	**150.6**	**153.5**	**156.7**	**160.3**	**164.2**	**168.0**
Changes in the ratio	-7.8	-6.6	-3.2	1.3	3.1	1.6	2.4	2.4	2.5	2.9	3.2	3.6	3.9	3.8
of which														
Primary deficit	5.2	4.3	3.6	0.5	0.5	0.7	1.1	1.2	1.3	1.4	1.6	1.8	1.9	2.0
Snowball effect	-10.2	-6.3	-4.5	-0.2	0.3	0.9	1.3	1.2	1.2	1.4	1.7	1.9	2.0	1.8
Stock-flow adjustments	-2.9	-4.6	-2.3	1.1	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gross financing needs (% of GDP)	25.4	22.9	25.3	25.7	27.3	26.0	26.7	27.4	27.9	28.6	29.4	30.3	31.1	32.0

Graph 1. Deterministic debt projections



Graph 2. Stochastic debt projections 2024-2028

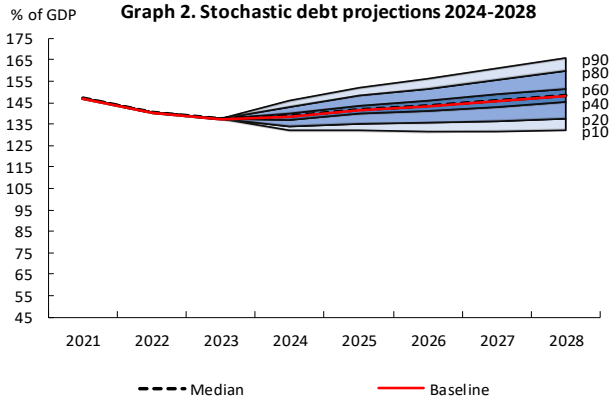


Table 2. Breakdown of the S1 and S2 sustainability gap indicators

		S1	S2
Overall index (pps. of GDP)		**3.6**	**1.2**
of which			
Initial budgetary position		2.2	2.3
Debt requirement		1.5	
Ageing costs		0.0	-1.1
of which	*Pensions*	-0.4	-1.5
	Health care	0.5	0.6
	Long-term care	0.4	0.5
	Education	-0.5	-0.7

Source: Commission services.

Table A21.2: Heat map of fiscal sustainability risks – Italy

Short term	Medium term - Debt sustainability analysis (DSA)								Long term		
			Deterministic scenarios					Stochastic projections			
Overall (S0)	Overall		Baseline	Historical SPB	Lower SPB	Adverse 'r-g'	Financial stress		S2	S1	Overall (S1 + S2)
LOW	HIGH	Overall	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	LOW	MEDIUM	MEDIUM
		Debt level (2034), % GDP	168.0	150.7	186.7	182.6	173.0				
		Debt peak year	2034	2034	2034	2034	2034				
		Fiscal consolidation space	72%	54%	93%	72%	72%				
		Probability of debt ratio exceeding in 2028 its 2023 level						81%			
		Difference between 90th and 10th percentiles (pps. GDP)						33.4			

(1) Debt level in 2034. 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 debt ratio exceeding in 2028 its 2023 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 10000 different shocks. Green, yellow and red cells indicate increasing uncertainty. (For further details on the Commission's multidimensional approach, see the 2023 Debt Sustainability Monitor)
Source: European Commission (for further details on the Commission's multidimensional approach, see the 2023 Debt Sustainability Monitor)

Source: Commission services.