

Ten years of Equitable and Sustainable Well-being (Bes)¹

The peculiarity of the times we are living, one year after the start of the pandemic, has made even more evident the inadequacy of GDP as the only measure of a population's well-being. The importance of having a set of indicators that would measure well-being intended as a multidimensional concept, supported by the literature since the 1960s and urged by civil society, led Istat to launch in 2010, together with Cnel, the Bes project for the measurement of Equitable and Sustainable Well-being (Benessere Equo e Sostenibile). After a process of analysis open and joint with the scientific community, associations and citizens, 12 domains relevant to well-being were identified, and approximately 130 indicators were identified to measure various aspects - material conditions and quality of life - related to well-being declined in its 12 domains.

This Report adds a new element to this process, updating the system of indicators developed to follow the evolution of the concept of well-being, in order to grasp the deep transformations underway, including those brought about by the COVID-19 pandemic.

1. Main steps in ten years of the Bes project

Following the 2007 'Istanbul Declaration' and the launch of the 'Global Project on Measuring the Progress of Societies' by the OECD, a growing number of countries have launched methodological and policy initiatives on how to go 'beyond GDP'. The 'Beyond Gdp' conference, organised in 2007 by the European Commission (together with the European Parliament, the Club of Rome, WWF and OECD), brought the issue to the attention of European political leaders and, in January 2008, French President Nicolas Sarkozy set up the Commission on the Measurement of Economic Performance and Social Progress. Headed by Nobel prizes Joseph Stiglitz and Amartya Sen, and by Jean-Paul Fitoussi, the Commission concluded its work in September 2009, just after the European Commission published its recommendation 'GDP and beyond: measuring progress in a changing world' and the OECD issued the report on measuring progress of societies.

In 2010, Italy joined this international debate with the Bes project for the measurement of equitable and sustainable well-being. The project was announced on 27 December 2010 and work officially began in April 2011.

Two main aspects are considered, in order to tackle the challenge of defining the constituent elements of well-being in Italy: the first, of a political nature, concerns the identification of the relevant domains of analysis in the Italian context; the second, of a technical-statistical nature, concerns the selection of indicators that are useful for the measurement of the phenomena.

Following this approach, based on debate and sharing, Cnel and Istat have set up a 'Steering Committee on the measurement of the progress of Italian society', made up of representatives from trade unions, trade associations, the third sector, ecological associations and women's associations. The Committee, also starting from the indications provided by

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citizens and the results of the international experiences already carried out, developed the current system divided into 12 domains.

The initial consultation with citizens, aimed at assessing the importance the population attributes to the different dimensions of well-being, was carried out by including a set of specific questions in the 2011 “Aspects of Daily Life” survey, asking them to assign a score from 0 to 10 to a set of 15 different thematic areas related to well-being. People were also able to draw up their own ranking of well-being domains through a website dedicated to the initiative², which offered two tools for consultation: a short questionnaire and a blog.

A scientific commission set up by Istat and composed of various researchers was in charge of the technical-statistical component, i.e. the selection of useful indicators for measuring well-being in the 12 domains identified. On the 22nd of June 2012, just as the Rio de Janeiro Conference on Sustainable Development got underway, the list of 134 indicators identified was made public.

The first Bes report was published in March 2013, followed by a new edition every year until this eighth edition. This path has led to methodological and analytical innovations each time, with revisions in the set of indicators and the study of their distribution by social groups.

In 2016, a further advance in quality was achieved, on the one hand, through the integration with the Sustainable Development Goals (SDGs) and the sharing of a subset of key indicators within the two frameworks, and, on the other, through the inclusion of 12 Bes indicators in the Economic and Financial Document (DEF). In fact, following the procedure envisaged by the reform of the Budget Law (Law no. 163/2016), a subset of 12 Bes indicators was included in the DEF, with the aim of monitoring and assessing the effect of policies on some fundamental dimensions of the quality of life, placing Italy among the countries at the forefront in this field. In this regard, every year Istat provides the Ministry of the Economy and Finance with an update of the indicators for the last three years for their inclusion in the DEF, a task that requires the continuous acceleration of production processes and the development of statistical-econometric models for the calculation of ad hoc estimates.

2. Framework upgrading in the wake of the pandemic

The profound transformations that have characterised Italian society in the last decade and the spread of the COVID-19 pandemic, with the exceptionality of a period which has led to the emergence of new needs and exacerbated inequalities, have required work to enrich the conceptual framework of Bes. This intervention concerned, on the one hand, the data sources, with the formulation of new questions within the current Istat surveys (for example, questions on distance learning and on trust in doctors and scientists included in the 2021 Aspects of Daily Life survey). On the other hand, the timeliness of updates was enhanced further, with the replacement of some indicators that could be updated on a multi-yearly basis with others available on an annual basis. This is the case of some measures on safety, household economic vulnerability and family work asymmetry.

However, the main result of the Bes group’s interaction with experts in the field is the addition or replacement of indicators in the original framework. The new set consists of 152

² The website is no longer in use and all material can be found in the webpage of the National Statistical Institute Istat <https://www.istat.it/en/well-being-and-sustainability/the-measurement-of-well-being>.

indicators³, 33 of which are new (Table 1), integrating eight of the twelve Bes domains. The integration has been carried out in coherence with the fundamental lines of the #NextGenerationEU programme, through which Europe is redesigning its strategic vision for inclusion and growth; it responds to specific knowledge needs, including the enrichment of available information on health, digitalisation, human capital (both on the training and labour sides) and climate change, with choices that are strongly oriented towards policy action.

In particular, the Health domain was strengthened with the addition of two new indicators, one on avoidable mortality and one on multimorbidity and severe limitations among people aged 75 and over, to better represent the fragilities of the very old and the weaknesses of the health system and thus facilitate the identification of areas on which to intervene.

The Quality of services domain has also been enriched with new indicators, which offer more detailed information on the health services sector: the availability of specialist doctors, general practitioners and paediatricians and nurses, hospital beds in high-care wards, the unmet need for medical examinations, hospital patient emigration to a different region, the share of doctors with more than 1,500 patients. In the same domain, moreover, the indicator on the separate collection of urban waste has been improved (now expressed in terms of resident population in the municipalities that have reached the target of 65% separate collection), and the information on mobility has been expanded, adding to the indicators of supply and satisfaction with the quality of public transport the percentage of people who use public transport on a daily basis.

The digital transition and the acceleration imposed by the COVID-19 emergency made it necessary to develop, in the Innovation, research and creativity domain, a dimension related to the diffusion of digital technology, at the heart of the #NextGenerationEU strategy. The chosen indicators - regular internet use, availability of at least one computer and Internet connection in the household, share of enterprises with web sales to end customers, municipalities with online services for families, digital skills of the employed - are oriented to capture the effects of digital technology diffusion on well-being in terms of opportunities offered to citizens and enterprises.

As for the human capital aspects, the Education and training domain is enriched with the introduction of an indicator on children enrolled in nursery school, one on graduates in technical and scientific disciplines (STEM) and a better specification of the cultural participation indicators.

In 2020, the health emergency has forced many sectors to make a sudden shift to working from home; in order to monitor this mode of working a new indicator has been included in the Work and life balance domain, and a new experimentation has been conducted to provide annual estimates of the indicator on asymmetry in family work.

Finally, the set of environmental indicators has been strengthened with climate change-related aspects, introducing new weather-climate measures and a subjective indicator on concern about climate change.

³ The complete list of the 152 indicators is available on the Istat website, <https://www.istat.it/en/well-being-and-sustainability/the-measurement-of-well-being/bes-report>.

Table 1. New indicators introduced in the Bes 2020 framework

DOMAIN	INDICATOR	SOURCE
HEALTH	Avoidable mortality (age 0-74)	Istat, Vital register on deaths and causes of death
	Multimorbidity and severe limitations (75 years and over)	Istat, Survey on Aspects of daily life
EDUCATION AND TRAINING	Pupils aged 0-2 years enrolled in early childcare services	Istat, Survey on Aspects of daily life
	STEM graduates	Istat, Processing of Ministry of Education, University and Research data
	Outdoor cultural participation	Istat, Survey on Aspects of daily life
	Reading books and newspapers	Istat, Survey on Aspects of daily life
	Use of libraries	Istat, Survey on Aspects of daily life
WORK AND LIFE BALANCE	Share of household work time carried out by women in a couple on the total of the household work time	Istat, Time use survey; Survey on Aspects of daily life
	Employed persons working from home	Istat, Labour Force Survey
ECONOMIC WELL-BEING	Housing cost overburden rate	Istat, Eu-Silc
SAFETY	Fear of crime rate	Istat, Survey on Aspects of daily life
	Social decay (or incivilities) rate	Istat, Survey on Aspects of daily life
	Perception of crime risk	Istat, Survey on Aspects of daily life
ENVIRONMENT	Air quality - PM _{2,5}	Istat, Processing on Ispra data
	Concern for climate change	Istat, Survey on Aspects of daily life
	Municipal waste collected	Istat, Processing on Ispra data
	Warm Spell Duration Index	Copernicus - European Union's Earth Observation Programme, Gridded dataset of climate reanalysis, ERA5 hourly data
	Extreme precipitation events	Copernicus - European Union's Earth Observation Programme, Gridded dataset of climate reanalysis, ERA5 hourly data
INNOVATION, RESEARCH AND CREATIVITY	Consecutive Dry Days	Copernicus - European Union's Earth Observation Programme, Gridded dataset of climate reanalysis, ERA5 hourly data
	Regular internet users	Istat, Survey on Aspects of daily life
	Availability of at least one computer and Internet connection in the household	Istat, Survey on Aspects of daily life
	Municipalities with online services for families	Istat, Survey on information and communication technology in public administrations
	Enterprises with web sales to end customers	Istat, Survey on information and communication technology in enterprises
QUALITY OF SERVICES	Employed persons with basic or above basic overall digital skills	Istat, Survey on Aspects of daily life
	Overall Fixed Very High Capacity Network (VHCN) coverage	Istat, Processing of Agcom data
	Frequent users of public transport	Istat, Survey on Aspects of daily life
	Hospital beds in high-care wards	Istat, Processing of Ministry of Health data
	Physicians	IQVIA ITALIA, One-Key Database
	Nurses and midwives	Co.Ge.A.P.S. (Consorzio Gestione Anagrafica Professioni Sanitarie), National database of ECM credits (Continuing Medical Education)
	Separate collection service for municipal waste	Istat, Processing of ISPRA data
	Hospital patient emigration to a different region	Istat, Processing of data on Hospital Discharges of the Ministry of Health
	Unmet need for medical examination	Istat, Survey on Aspects of daily life
General practitioners with a number of patients above the maximum threshold	Istat, Processing of Ministry of Health data	

3. The evolution of Equitable and Sustainable Well-being in Italy

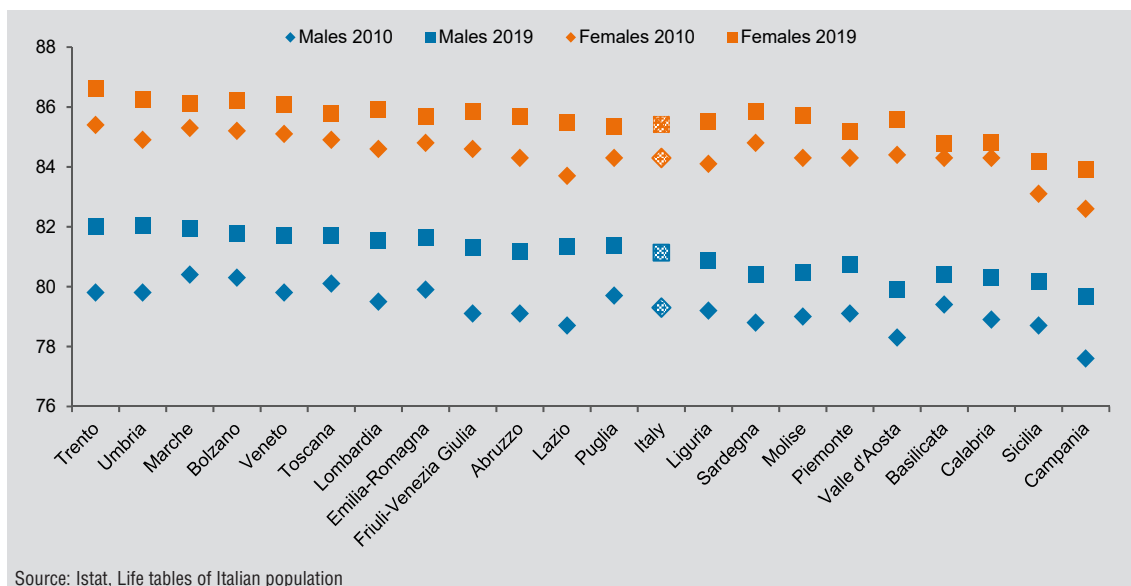
How have the indicators for the various domains evolved since the Bes project began? Has our Country made any progress and are any improvements in material conditions and quality of life perceived as such by citizens, thus increasing the assessment of their level of well-being?

An overview of the last ten years shows unequivocally critical trends in terms of resistance and resilience to external shocks in Italy's socio-economic situation. In the face of negative events that have affected the international scene, our Country has shown a more marked and lasting worsening trend than others. This is also true in the case of the COVID-19 crisis, which, while affecting the entire Eurozone and the rest of the world, is hitting largely the most fragile countries, including Italy. Hence the need and extreme necessity to initiate a virtuous process of development, guided by the identification of the strongest imbalances, which will lead to a path of greater dynamism and increase our capacity and speed of recovery. With this in mind, we will read the indicators of the various domains in a sequence that highlights where the shortcomings and slowness of our system's functioning lurk, the reasons for the delays, and the new risks of backwardness.

Ten years of progress in health cancelled out in a single year

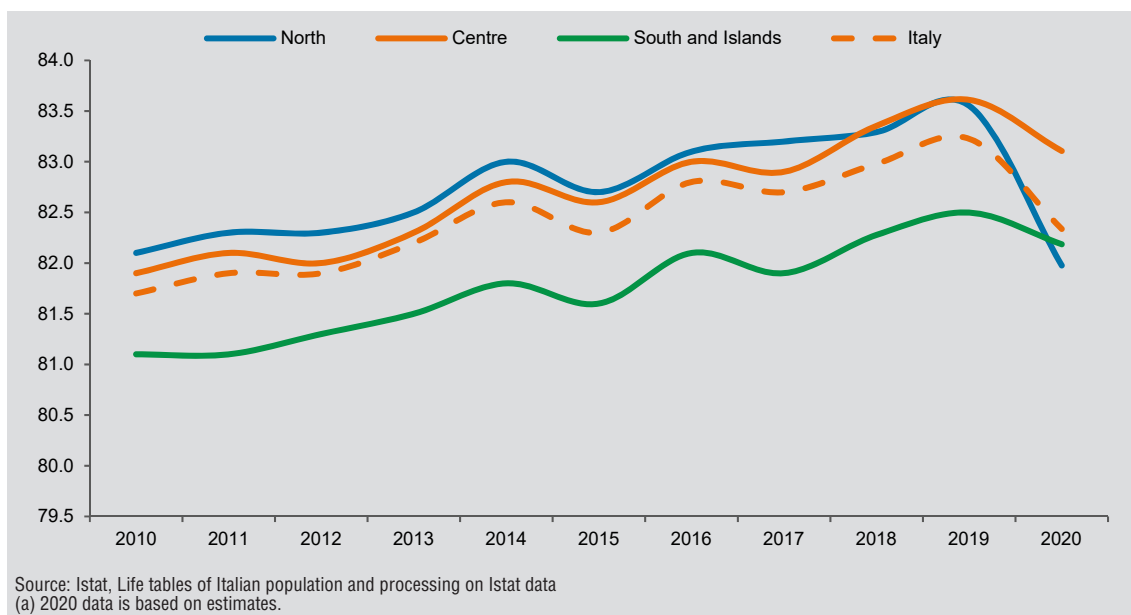
Health is a crucial dimension of well-being - first in the ranking of importance of the domains drawn up by citizens in the initial consultation phase - which is now severely affected. Over the decade, life expectancy at birth has shown progressive improvements, accompanied by positive data on life expectancy without limitations at 65 years of age, cancer mortality, mortality from dementias in the elderly, infant mortality and sedentariness. Between 2010 and 2019, men benefited more of the positive evolution, and they caught up, albeit partially, women. The latter gained just one year in life expectancy at birth over the decade, compared with two years gained by men. At the territorial level, a certain heterogeneity can be observed: for example, in Lazio, men have gained almost three years and women about two; at the opposite extreme Basilicata and Calabria, where progress is measured at just over one year for men and only six months for women (Figure 1). This overall positive picture, albeit with evident geographical inequalities, has been heavily affected by the COVID-19, which has cancelled, completely in the North and partially in the other areas of the country, the gains in life expectancy at birth accrued in the decade. It is a setback that will take a long time to be fully recovered (Figure 2).

Figure 1. Life expectancy at birth, by gender and region. Years 2010 and 2019. In years



Source: Istat, Life tables of Italian population

Figure 2. Life expectancy at birth, by geographic area. Years 2010-2020 (a). In years



Source: Istat, Life tables of Italian population and processing on Istat data
 (a) 2020 data is based on estimates.

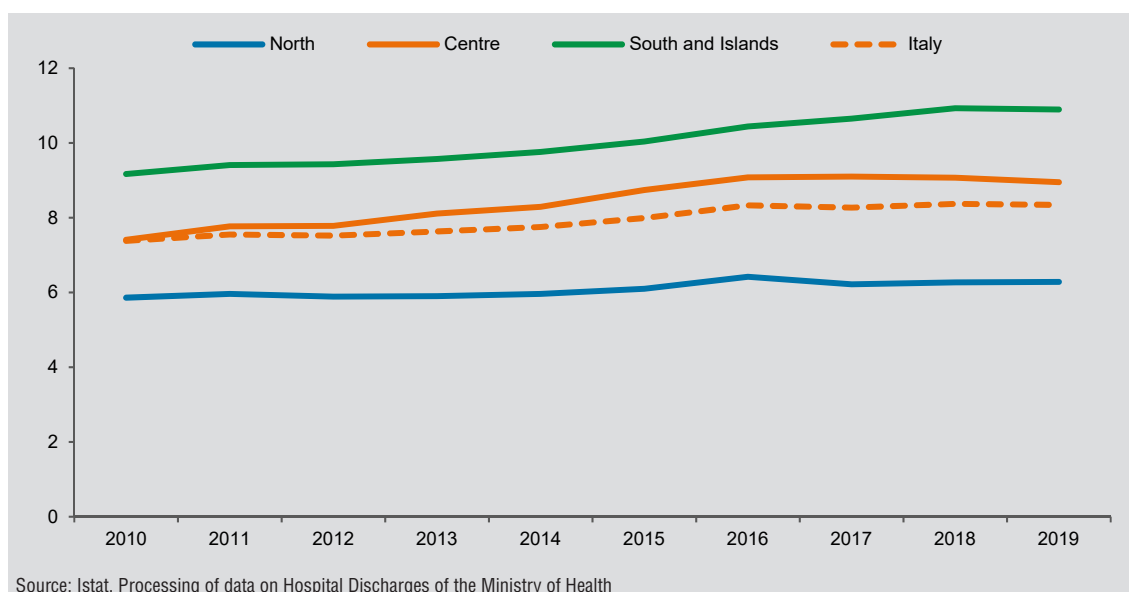
In ten years, fewer hospital beds, older doctors and greater inequality in access to care

Indicators on quality of health services can provide useful elements for assessing the situation in which the COVID-19 pandemic has occurred and understanding what tools are available to recover as quickly as possible from the crisis.

Between 2010 and 2018, hospital supply has been changing, with a reduction in facilities and beds. In particular, the number of beds decreased by an average of 1.8% per year, to reach, in 2018, a figure of 3.49 beds – ordinary and day hospital beds – per 1,000 inhabitants.

During the same period, the number of beds in intensive care units also fell (from 3.51 per 10,000 inhabitants in 2010 to 3.04). At the same time, the data show a relative worsening of the chances of care in some areas: the hospital patient emigration from the southern regions and from the Centre to a different area, already significantly higher in 2010, has been constantly growing since then and the gap between territories has widened further (Figure 3). It is very likely that the figure for 2020 will show a decrease, which, however, will not be interpreted as a positive element of reduction of territorial inequalities, but rather as the result of the limitations determined by the measures taken to combat the COVID-19 pandemic and the decrease in services resulting from the health emergency.

Figure 3. Hospital patient emigration to regions different from that of residence for ordinary acute hospital admissions, by geographic area of origin. Years 2010-2019. Per 100 discharges of residents in the region



With regard to the availability of health personnel, Italy ranks among the top European countries in terms of number of doctors - specialists, general practitioners and freely chosen paediatricians working in the public and private health system - per resident population. In recent years, this ratio has been increasing slightly, rising from 3.9 per 1,000 inhabitants in 2013 to 4 in 2019. The average age of doctors is, however, very high (Figure 4) and the overload of patients on GPs appears to be increasing, especially in northern Italy (Figure 5). The situation of nurses is particularly critical: the number of nurses and midwives increased until 2017 (from 5.3 per 1,000 inhabitants in 2013 to 6.1) and remained stable in the following years. The ratio of nurses to population is very unbalanced compared to other countries: Germany, for example, has more than twice as many nurses per inhabitant than Italy.

Figure 4. Doctors aged 55 years and over in Italy and selected European countries. Years 2010-2018. Per 100 doctors

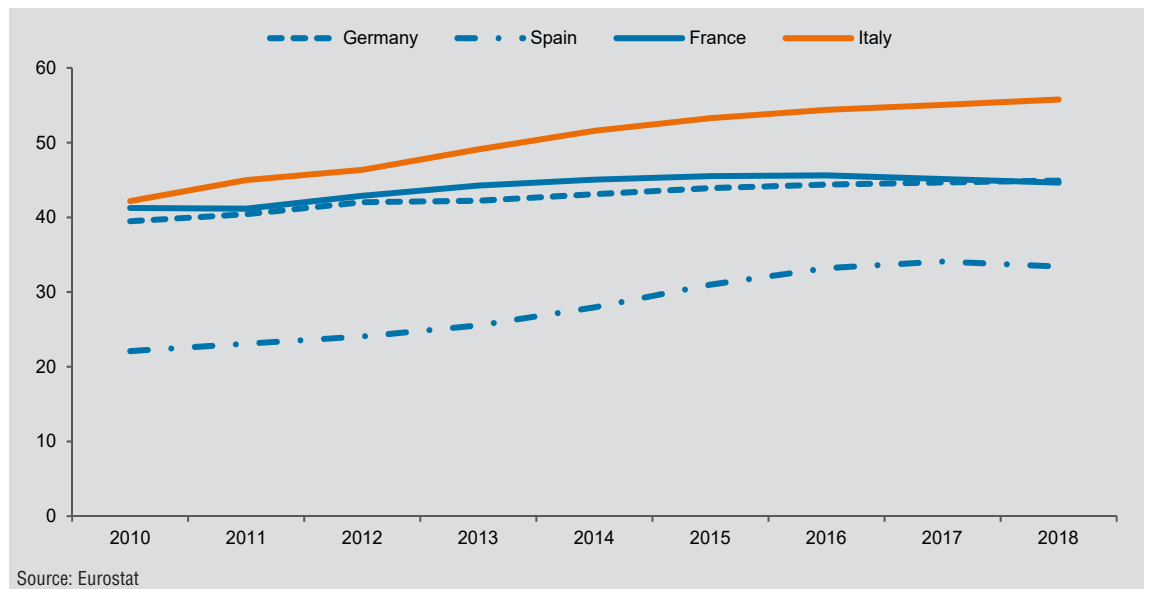
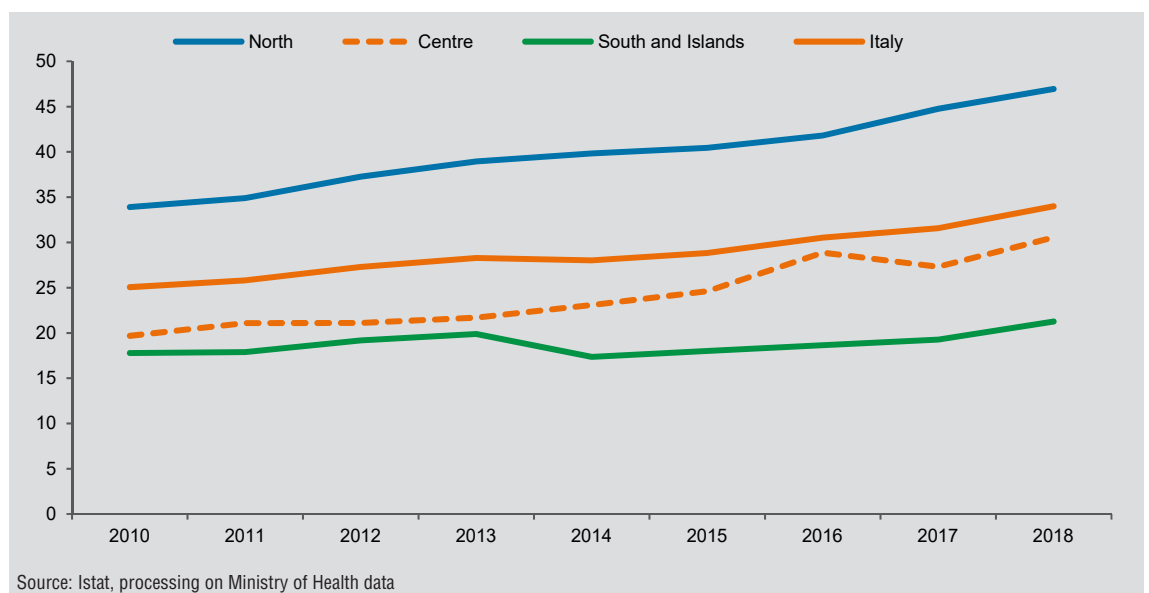


Figure 5. General practitioners with a number of patients above the maximum threshold of 1.500 by geographic area. Years 2010-2018. Percentage values



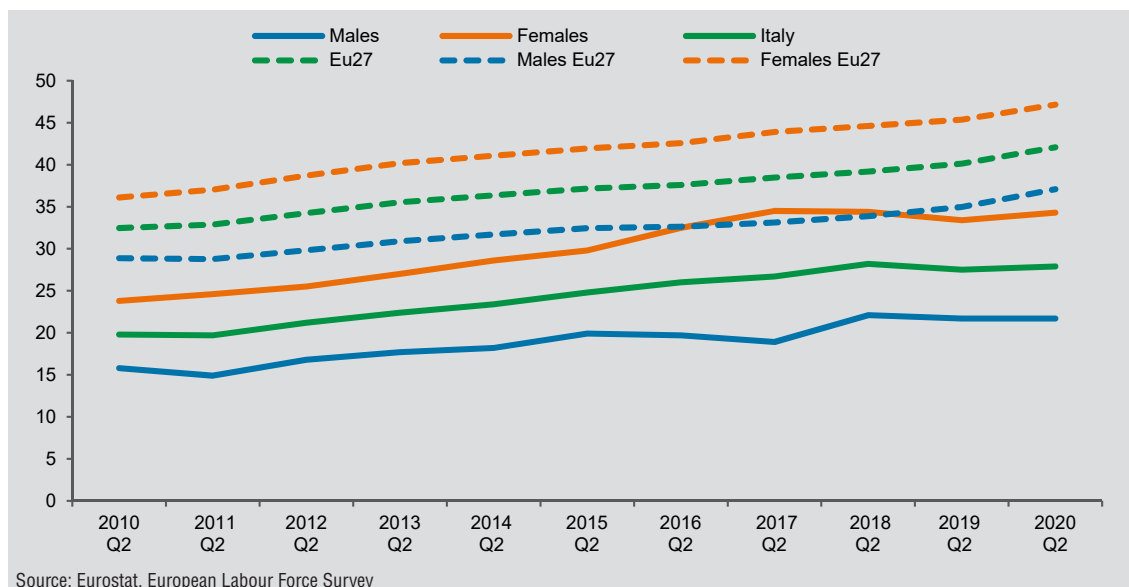
Too few children in nurseries and too few university graduates. The education gap with Europe continues to widen

Early childhood education and care is key to any future learning accompanied with positive effects on behaviour. At the same time, it involves a lighter workload on families, in particular women. Although the percentage of children in childcare and nurseries has increased over time, the 33% target set by Europe for 2010, has not been yet reached after ten years

(in the three-year period 2018-2020 we were at 28.2%). Moreover, indicators show improvements in education but they are not enough to keep the pace with Europe. In the second quarter of 2020, 62.6% of people aged 25-64 had an upper secondary education level (compared with 54.8% in 2010) that is however still 16 percentage points behind the European average (79%). This gap has unfortunately not narrowed yet. The likelihood of new generations to graduate with a college and tertiary degree has increased but, differently from what is happening in the rest of Europe, the positive trend appears to have halted in the last four years. The percentage of people aged between 30 and 34 having completed tertiary education went from 19.8% in 2010 to 27.9% in 2020, which is 14 percentage points less than the Eu27 average (42.1% in the second quarter of 2020). This growth pattern was even more significant for women, 13 percentage points more than male in 2020 (the gap was 8 in 2010). If compared with the rest of Europe however, the female figure still lags behind, not even reaching the 2010 European average (see Figure 6).

The distribution of those having completed tertiary education among the various areas of study indicate a strong imbalance. Few students choose scientific and technological subjects (STEM). There were fewer Italian male students enrolled in these subjects compared with the European average (35% vs 40.1% in 2018). Women are underrepresented in STEM fields, as well as in the rest of Europe; 16.3% of Italian female undergraduates versus 14.6% in Eu27.

Figure 6. People aged 30-34 with tertiary education in Italy and in Eu27 by gender. Years 2010-2020 II quarter. Percentage values



Decrease in early school leavers but growth in NEET

A figure that worries is the percentage of early school leavers. In the second quarter of 2020, 13.5% of young people aged between 18 and 24 with at most lower-secondary education are no longer engaged in any kind of further education or training. This figure, while alarming, is lower than the one recorded in 2010 (18.6%). Early school leaving is strongly

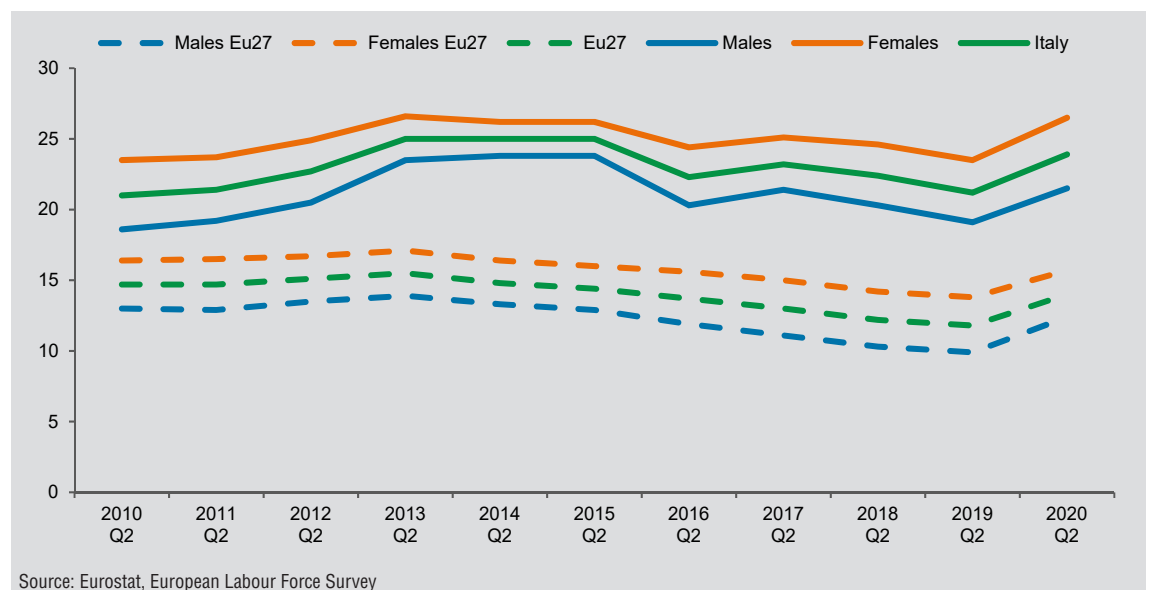
linked to the family background. In 2019, those with parents with a lower secondary school diploma had a 24% probability of leaving school. This probability drops to 5.5% if the parents have a higher secondary school diploma and to 1.9% if they have a university degree. Similarly, only 2.5% of children with at least a parent in a qualifying profession leave their studies while this number increases to 24%, one in four children, in children with parents with unskilled jobs.

Also in this case, women perform better. In 2020, 10.2% of young women aged 18 to 24, dropped out of school compared to 16.6% of young men (quarterly figures). There was a positive trend between 2010 and 2019 with a 27% decrease in early school leaving. The drop is more marked among males who narrow the gap with females from 6.5 percentage points in 2010 to 3.9 in 2019 (yearly figures).

Particularly high is the school dropout rate among foreigners if compared with the Italian student population, 36.5% against 11.3%, figure calculated in 2019 and pretty much unchanged in the last ten years.

Low investments in human capital lead to low employment opportunities and this in turn is responsible for a high percentage of young people aged 15 to 29 who are neither studying nor working (the so called NEET: “not in education, employment, or training”). In the last decade, after some years of decrease, this phenomenon has once again began to grow, involving 23.9% of young people in the second quarter of 2020 (compared with 21% in the second quarter of 2010). In the negative periods, such as the second quarter of 2020, the NEET tend to also increase in most European countries. In Italy, however, the increase was even more marked, widening the gap with the rest of Europe (it was roughly 6 percentage points higher in the second quarter of 2010 and increased to 10 percentage points in 2020) (Figure 7).

Figure 7. People aged 15-29 not in education, employment or training in Italy and in Eu27, by gender. Years 2010-2020 II quarter. Percentage values



Strong impact of the pandemic on a weak and segmented labour market

Insufficient progress in the field of education together with a dual labour market and a weak propensity to innovate severely limit the chances of growth and resilience.

The indicators that capture employment opportunities and their distribution together with those measuring the sharing of the care burden within the family which in turn affect female participation in the labour market clearly certify Italy's weaknesses and tendency to stagnate.

Over the last ten years, the employment rate in Italy has remained more or less stable, with its lowest point during the recession phases. The slow recovery in employment, following the economic and financial crisis, was however insufficient to return to the 2008 levels, especially for men, young ones, people living in the south and Islands of the Country and the less educated.

The divide with Europe has furtherly widened, in particular concerning women. These, despite improvements in the last decade, still carry most of the workload within the family. In 2010, in Italy the rate of employment of women aged 20-64 was 11.5 points lower than the European average. In 2020, this difference increased to 14 points lower (Figure 8). The index measuring the asymmetry in the distribution of hours dedicated to family care is high particularly in the South and Islands where it took years to reach levels that in the North were observed in 2008. In the northern regions, however, a fair and uniform distribution of the workload within the family has not been reached yet. In the period 2018/2019 the percentage of workload carried out by women aged 25-44 in families where both worked (asymmetry index) was still 60.9% (Figure 9).

Figure 8. Employment rate (age 20-64) in Italy and Eu27 by gender. Years 2010-2020 II quarter. Percentage values

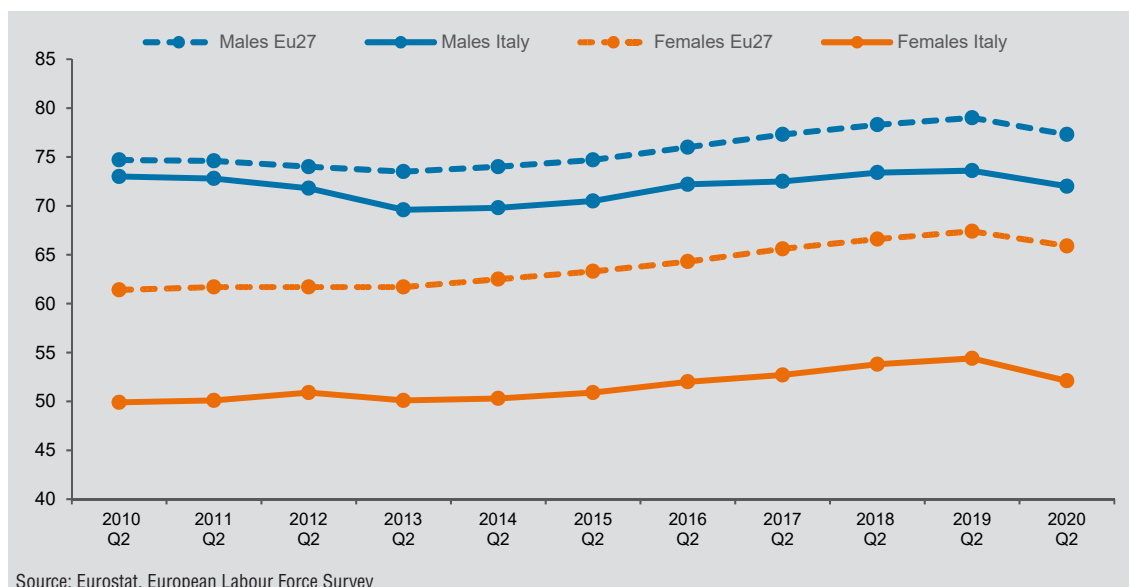
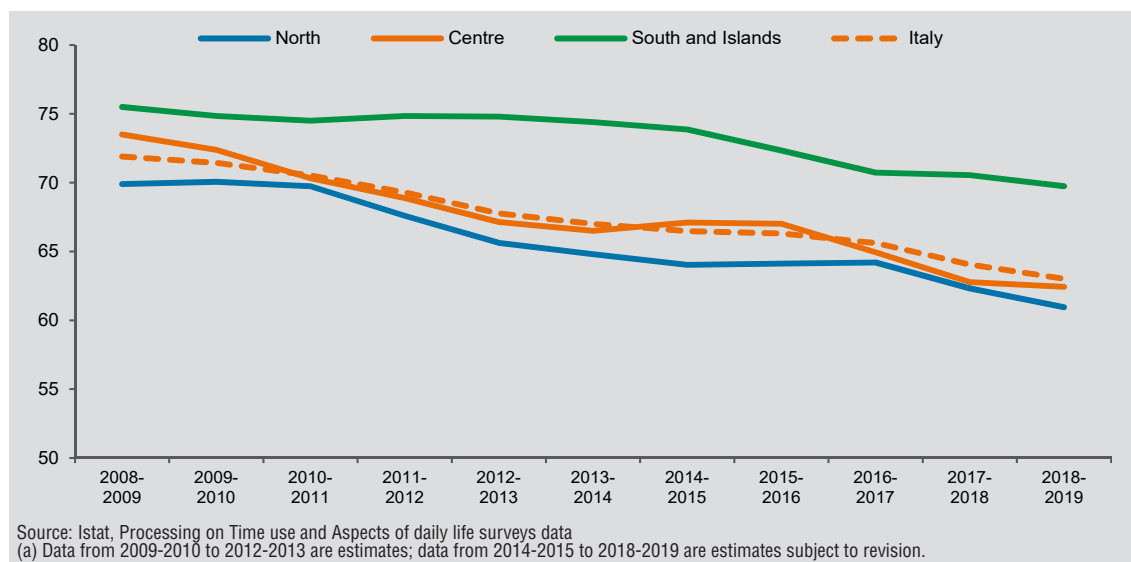
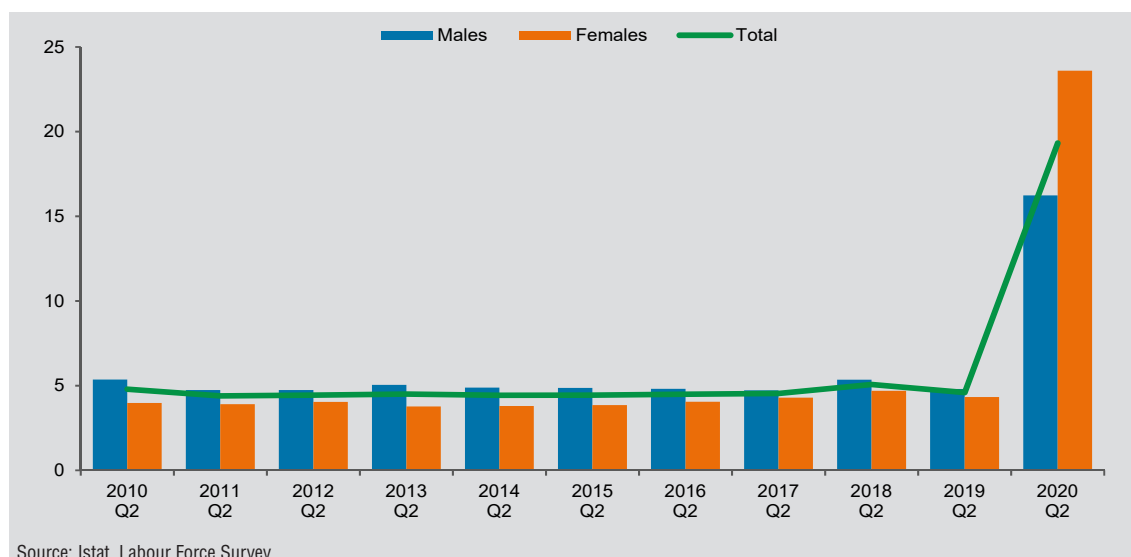


Figure 9. Share of household work time carried out by women in a couple on the total of the household work time (asymmetry index) in couples with women aged 25-44 by geographic area. Years 2008/2009 - 2018/2019. Percentage values (a)



In addition, rigidity in the working organization limits the possibilities to improve one's work-life balance and thus discouraging the female participation in the labour market. Until 2019, for example, only a limited proportion of activities and employees worked from home, only about 5%. This figure then increased in 2020 to include over 20% of women and slightly above 15% of men and only because of the COVID-19 pandemic and the need to both reduce its spread and continue activities that would have been otherwise interrupted (Figure 10). This increase was the result of a shock, which in turn led to a new approach to flexibility highlighting both opportunities and weaknesses. Once the emergency due to the pandemic will be behind us, this experience might serve as a valuable tool to review organizational labour models.

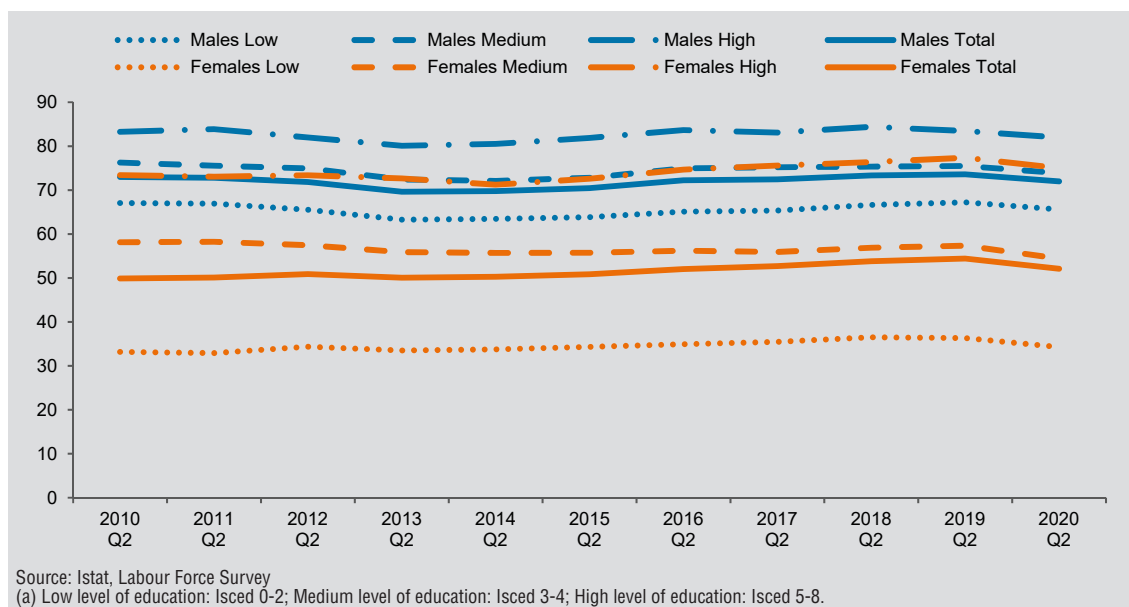
Figure 10. Employed persons working from home by gender. Years 2010-2020 II quarter. Percentage on total employed people



Education as a strong engine to reach well-being

A key factor that increases job prospects and more generally affects other aspects of well-being is education. As a matter of fact, the employment rate among university graduates, the only ones who managed to return to the pre-crisis levels, is higher than among those without a degree. It is 13 points higher than among those with a higher secondary diploma and 27 point higher if compared with those with a lower secondary diploma. This last figure increases to 40 percentage points (39.7%) among women (Figure 11). Education is also connected to longevity, an improved health and balanced lifestyle. In Italy, as in all other European countries, those who are unskilled and with low income are more likely to fall ill and generally have a lower life expectancy.

Figure 11. Employment rate (age 20-64) by gender and level of education (a). Years 2010-2020 II quarter. Percentage values

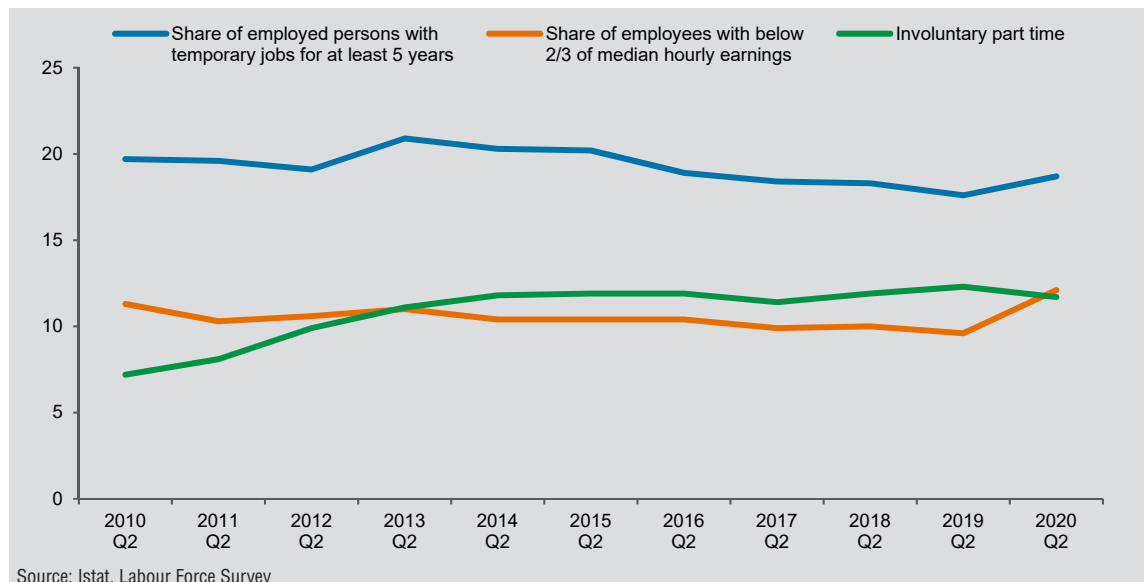


Problems with quality of work in Italy

A peculiar problem, that perhaps needs to be addressed with a specific focus, is the quality of work in our Country. The coronavirus pandemic is producing particularly deep and intense effects on it.

Over the decade, there has been a growth in the number of non-voluntary part-time workers, reaching 12% in 2015. There has also been an increase in the number of people working on temporary contracts. This phenomenon halted in 2013 when it had peaked at 20,9% but in 2020 it once again increased: in the second quarter of last year, the share of workers having only fixed term contracts for an extended period of time went from 17,6% to 18,7%. The reduction in the overall number of fixed-term workers, concentrated in those areas most vulnerable to the pandemic, increased the weight of the long-term component. Moreover, in the second quarter of 2020, after years of general stability, the percentage of employees with low wages (hourly wage less than two thirds of the median hourly wage) increased (Figure 12).

Figure 12. Share of employed persons with temporary jobs for at least 5 years, employees with below 2/3 of median hourly earnings and involuntary part time. Years 2010-2020 II quarter. Percentage values

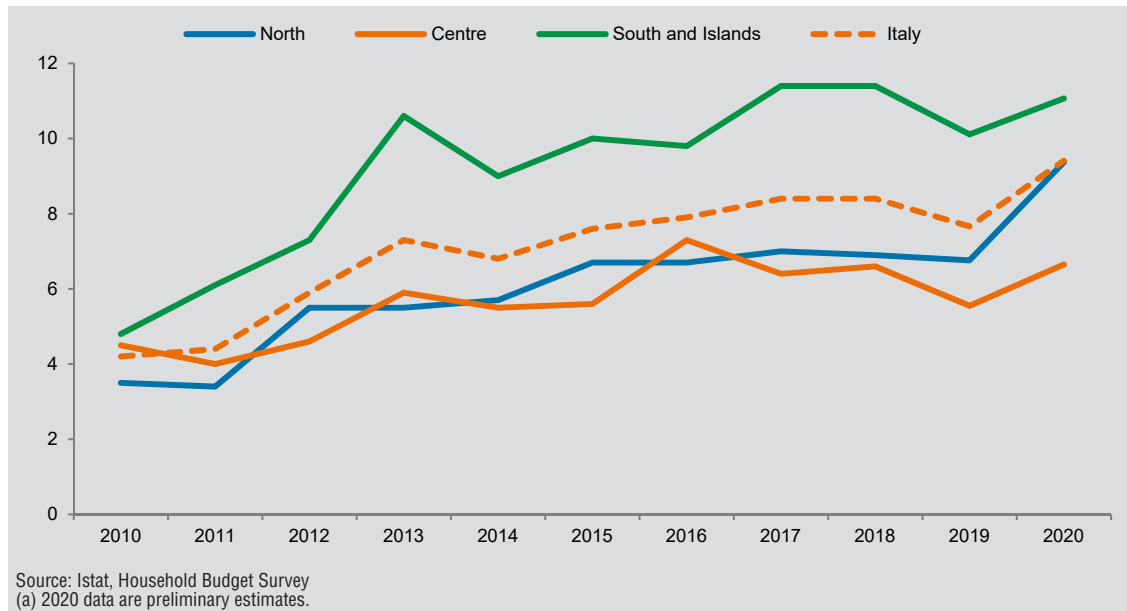


Poverty, doubled in 2012, increases once again as a result of the pandemic

The poverty trends in the last ten years confirm Italy's difficulty in recovering. During the first phase of the 2008 financial and economic crisis, the risk of poverty was limited thanks to social safety nets and families who helped young ones. Starting with the two-year period 2012-2013, that is the second downturn, the risk of poverty spread to larger segments of the population and its incidence doubled. Only in 2019, that is seven years later, there was a first slight decrease in the indicator with 7.7% of people in absolute poverty compared with 8.4% in 2018, when citizenship income was implemented replacing the previous inclusion income program (so called REI). Nevertheless, it must be pointed out that the incidence of absolute poverty remained, also in 2019, double compared to the pre-crisis levels.

A preliminary estimate for 2020 identifies over 5.6 million people in absolute poverty, with an average incidence of 9.4%, a significant increase compared to 2019. This figure is also the highest since 2005 when the historical series of the indicator began (Figure 13). Poverty spreads particularly in the North - since it was hit the most by the pandemic - the percentage of people in absolute poverty going from 6.8% to 9.4%. The incidence of absolute poverty also increases in the Centre and South and Islands of the nation but not as dramatically - respectively from 5.6% to 6.7% and from 10.1% to 11.1%. Households with children and teenagers are especially affected. The incidence of poverty among under 18 year olds increases by more than two percentage points (from 11.4% to 13.6%, the highest figure since 2005) with a total of 1,346,000 children and teens in poverty, an increase of 209,000 over the previous year. The increase is also evident among young adults (aged 18-34) from 9.1% to 11.4%. Finally, among individuals aged 65 and over, the incidence remains at 5.3%.

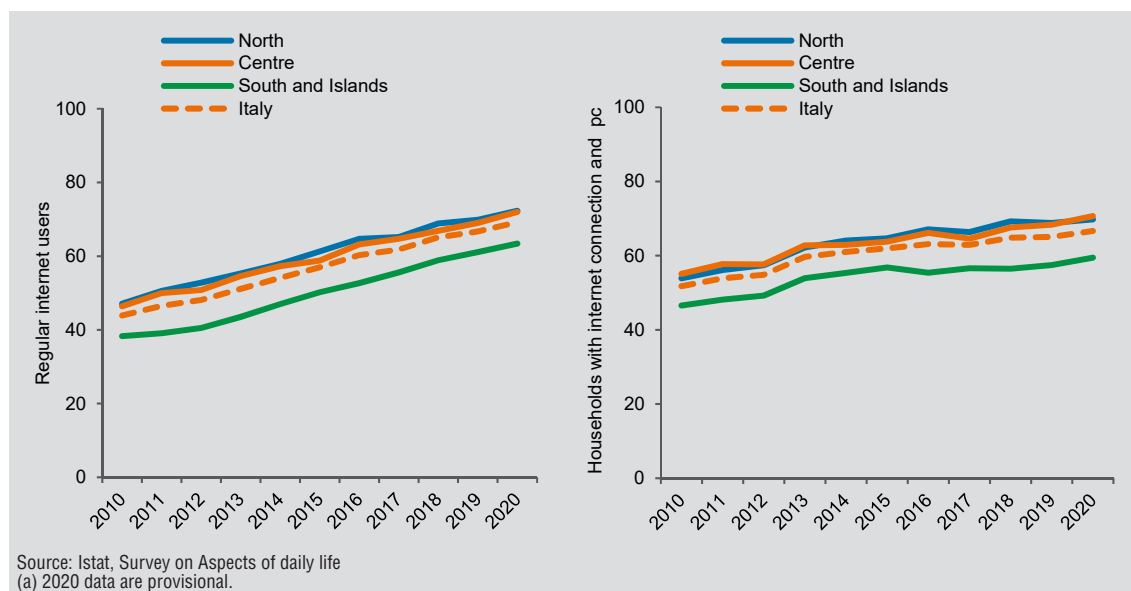
Figure 13. People living in absolute poverty by geographic area. Years 2010-2020 (a). Percentage values



Growth in internet use, digital divide of the South and Islands with the rest of the nation remains and women and senior citizens continue to lag behind

A particular area of skills and equipment, key to well-being, involves the propensity to digitalize, especially in light of the sanitary emergency brought about by the pandemic. The indicators used to monitor obstacles excluding or preventing complete access to digital services include use of and connection to internet together with the presence and availability of at least one computer, including tablets, in the family. Both indicators show significant improvements in the last ten years, even though in different ways. Use of internet has grown at a quicker pace, even compared with the average of other European nations. However, the positive trend moved at different speeds depending on age, gender and place of residence. The result is that families living in the South and Islands lagged behind families in the North when it came to availability of a computer and online connection by 10 percentage points in 2020, 3 more than in 2010. In addition, residents in the South and Islands suffered a persistent delay in regular use of internet (Figure 14). On average, the propensity to use internet among women is now close to that of men, but it remains very low among people aged 75 and over (80 percentage points less compared to teenagers aged 15-19), especially females.

Figure 14. Percentage of individuals aged 11 and over who used the internet at least once a week in the 3 months before the interview (regular internet users) and households with internet connection and at least one computer by geographic area. Years 2010-2020 (a). Percentage values

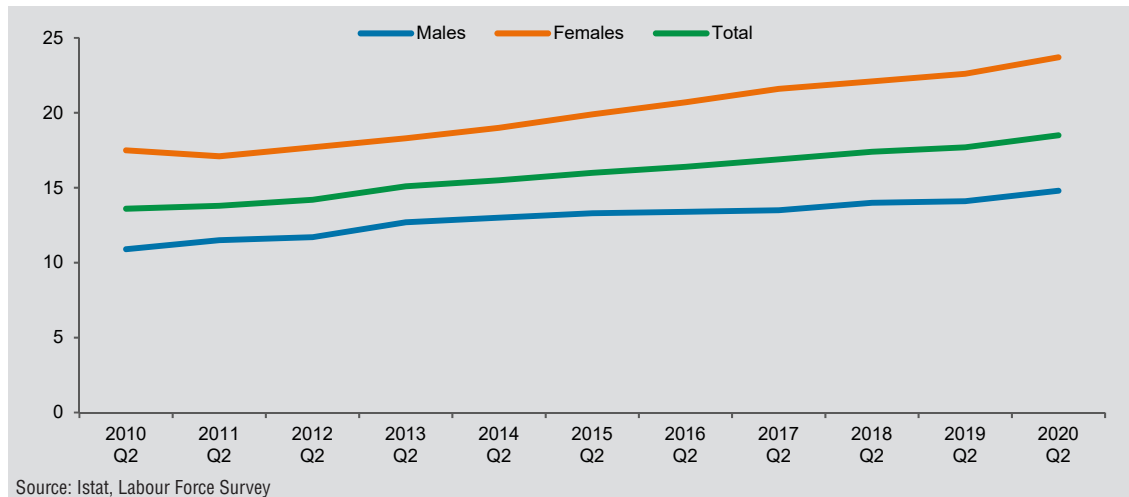


Although the number of knowledge workers increases so does the distance with Europe

The indicators chosen to measure the spread and use of competencies certify the ability of our system to employ the more educated human capital and optimise its potential effects on innovation. The impact of knowledge workers (those with a university degree employed in scientific and technological fields), on the total employment has constantly increased in the last ten years (from 13.6% to 18.5%) and has continued to do so even during the first year of the pandemic (Figure 15). This occurred as the balance, over the decade, between the increase in knowledge workers (+36%) and the substantial stability of total employment (+0.25%). Women have certainly contributed to a larger extent in achieving this result: between 2010 and 2020 the number of female knowledge workers increased more than that of male knowledge workers (39.5% against 32.8%). In addition, the feminisation rate (F/M) went from 1.1 to 1.2.

These figures confirm on one hand the protective effect of education against occupational shocks and on the other hand, the strength of demand for qualified labour which is key for any future occupational prospects in the Country and more job opportunities for women. However, Italy continues to lag behind the rest of Europe. In 2019, the gap between the percentage of knowledge workers in Italy and the Eu28 average is more than 6 percentage points (17.6% against 23.9%) and it has widened further as of 2010 by -5.6 percentage points, the difference between 13.4% in Italy and 19% in the Eu28.

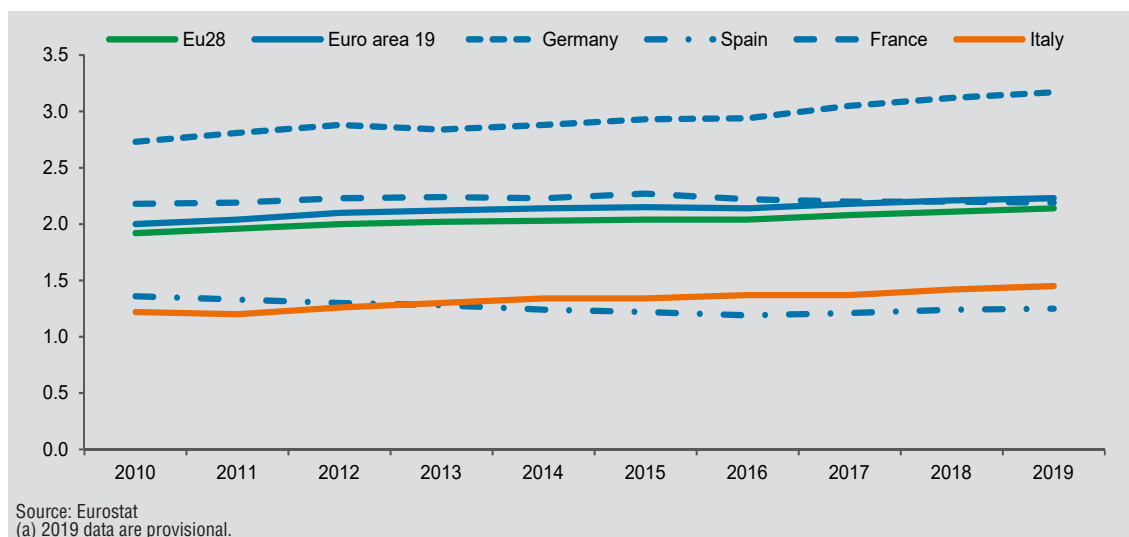
Figure 15. Percentage of employees with tertiary education (ISCED 6-7-8) in scientific-technological occupations (ISCO 2-3) on total employees by gender. Years 2010-2020. Values per 100 workers



Inadequate investments in research and development, the gap between Italy and Europe does not narrow

When considering the investments made by our Country in research and development, it is clear how insufficient these are to produce enough innovation. The R&D intensity, measured as the relationship between investments in research and development (public and private) and GDP, is consistently below the European average, far from the 1.53% target set at a national level within the “Europe 2020” strategy. Only the regions in the Centre and North of the Country managed to reach this target in 2018. While the distance from the Eu28 average has decreased over the years, the national position within Europe has not changed significantly. The gap between Italy and Europe remains wide and it increases with Germany (Figure 16).

Figure 16. Research and development *intra-muros* in Italy and in the European Union. Years 2010-2019 (a), Percentage of GDP

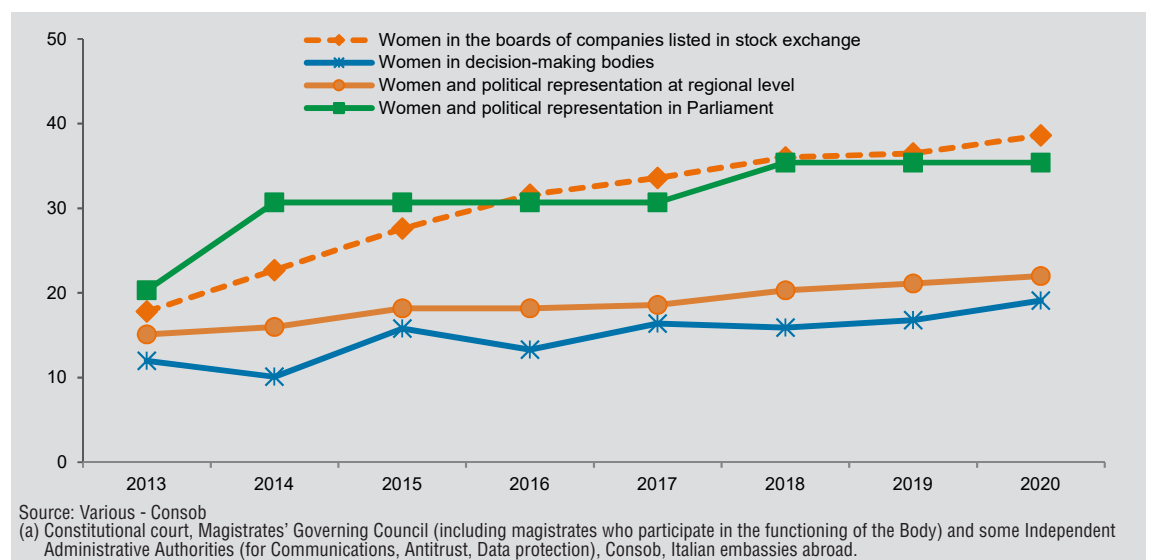


The scenario outlined seems to suggest a series of interrelations connecting a lack of dynamism of our employment rates to the particular characteristics of the labour demand, the rigidity and the shortage of the care service supply and the sluggish pace of our innovation processes. The low level of innovation negatively affects the labour demand and tends to favour non-qualified labour. This negative effect is amplified within the female work population. A non-qualified and less productive job is underpaid and insufficient in compensating for the opportunity cost of working particularly high for women due to the distortions generated by the asymmetry in redistributing the family care charge between men and women. This asymmetry is exacerbated by the lack of services that could improve the work-life balance. In addition, the opportunity cost is even higher due to the distorted and different tax treatment regarding the deductions of the dependent spouse. This in turn further discourages low income married women.

More women slowly appear in decision-making bodies

In addition to the above mentioned disincentives there are others depending on gender discrimination. In Italy a law was implemented (the Golfo-Mosca law n.120/2011) in 2012 that called for a quota of women to be appointed in a company's board and in the board of auditors of listed companies. The underlining principle is that a gender balance in the boardroom can determine a change in the company's policies and improve the general working conditions for women. Figure 17 shows that while the presence of women in corporate board is progressively increasing (38.6%) as a direct consequence of the law, it is still limited in other areas of society and the economy. In the national Parliament there are over than 35% of women. Instead, inside regional councils the percentage of women stands at 22%, number that is slowly increasing. In other institutions such as the institutional court, the high judicial council, other Authorities (i.e. privacy, communications, competition and market), the diplomatic corps, taken as a whole, the number of women is still small even if slowly increasing. It reached 19.1% in 2020.

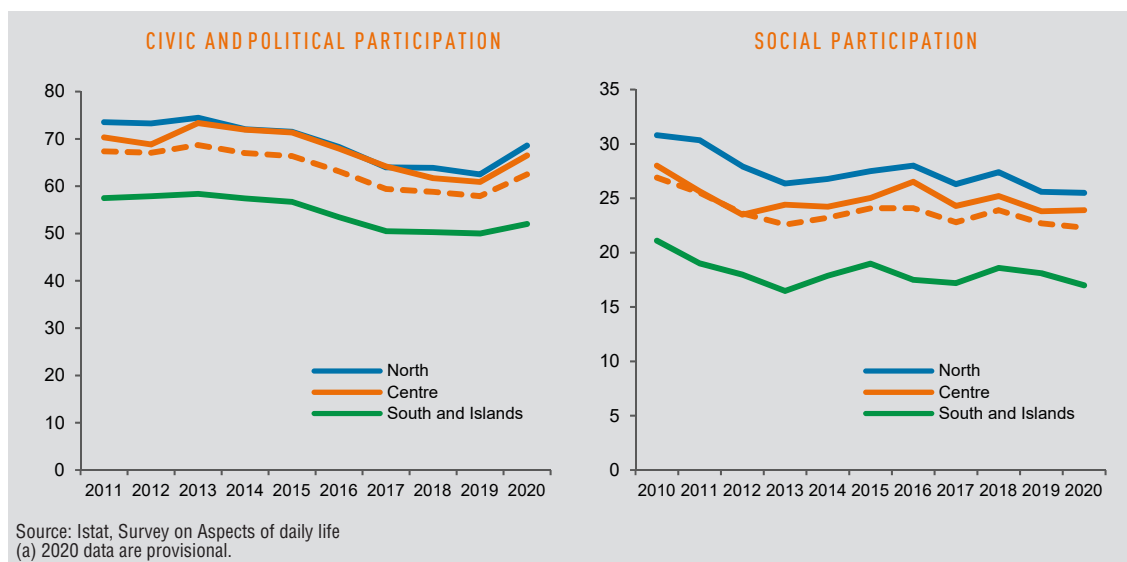
Figure 17. Women on corporate board, in decision-making bodies, regional assemblies and national Parliament (a). Years 2013-2020. Percentage values



After years of decline, civic and political participation is on the rise again

Over the decade, there has been a decline in the percentage of the population involved in activities such as talking about politics, getting informed, participating online, as well as in social participation activities. However, it is precisely in 2020 that political participation seems to be on the rise again, as a consequence of a strong need for information to follow the evolution of the COVID-19 regulations imposed at national and local level (Figure 18). This trend is more evident in the Centre and North of the country, while the South and Islands remain at lower levels. Moreover, the recovery is more marked among women, who partially make up for the wide gap with men.

Figure 18. Persons aged 14 and over carrying out activities of civic, political and social participation by geographic area. Years 2010-2020 (a). Percentage values



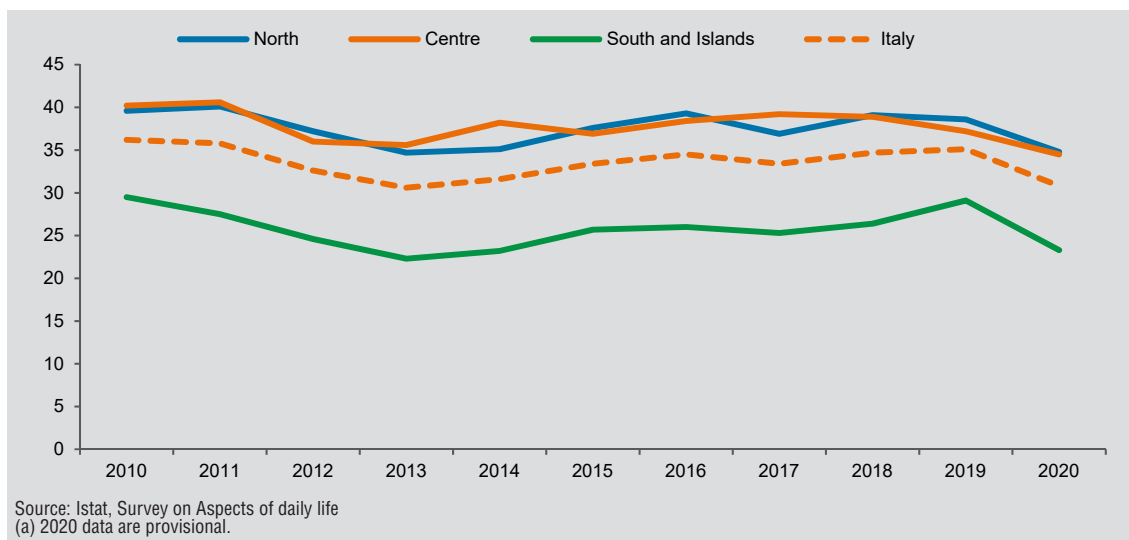
Cultural participation was recovering before 2020

Since 2010, cultural participation activities outside the home has declined sharply, reaching 30.6% in 2013 and then showing an upward trend in all areas of the Country until 2019. In 2020, however, closures due to the measures to contrast the COVID-19 pandemic have marked a major setback, completely reversing the progress of recent years.

The net effect over the period is a decrease of 4.3 percentage points (from 35.1% to 30.8%), more pronounced in the South and Islands (-5.8 percentage points) (Figure 19).

During the decade, reading (at least 4 books per year and/or at least 3 printed or online newspapers per week) also recorded a decreasing trend, going from 44.4% in 2010 to 39.2% in 2020. However, in the last year there has been a slight recovery due to the increase in the share of people who read at least 4 books per year (from 22.3% to 23.7%).

Figure 19. Persons aged 6 and over who have carried out 2 or more cultural participation activities away from home in the 12 months before the interview. Years 2010-2020 (a). Percentage values



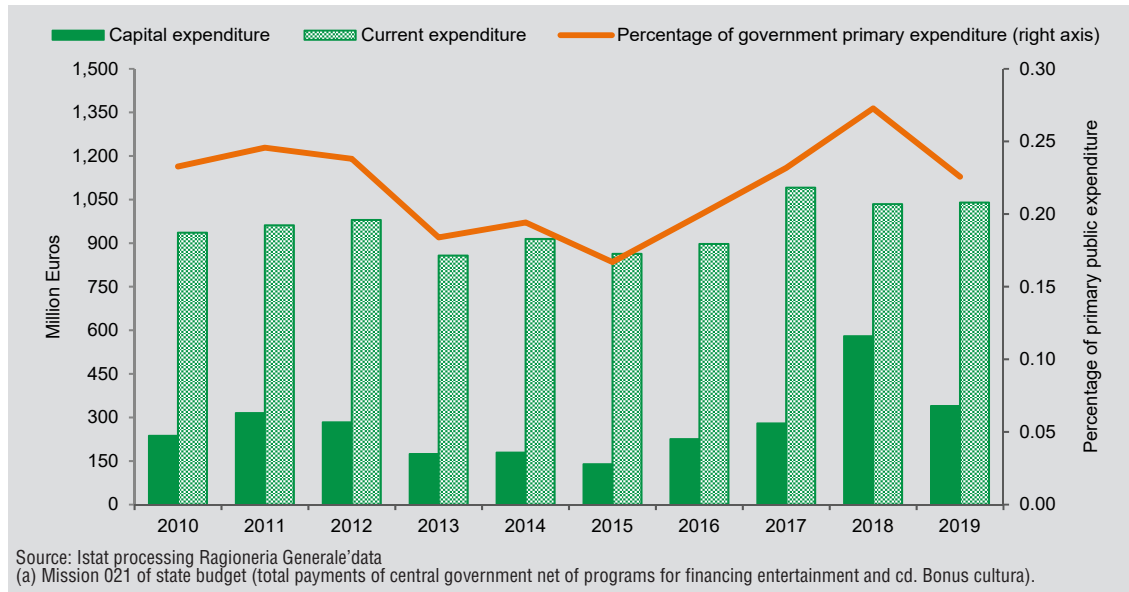
Inadequate and fewer investments in the conservation and protection of cultural heritage and activities

One of the fundamental key issues concerning the nation's cultural and landscaping heritage is the inadequacy of public spending on it. In 2019, public spending on conservation and protection of cultural and landscaping heritage amounted to 1,4 billion euros, net of repayments and financial liabilities, equal to 0.23% of primary public spending, down 14,6% after three years of growth⁴ (Figure 20): a figure in sharp contrast with the vastness and importance of the nation's historical and artistic heritage.

⁴ Mission 021 of the State Budget (total payments by central government), not considering the programs "Support, development and protection of the performing arts sector" and "Support, development and protection of the live performing arts sector" (until 2016), "Support, development and protection of the film and audiovisual sector" (from 2017), "Promotion of the development of culture and knowledge of cultural heritage for young people" (so-called Bonus Cultura, 2016).

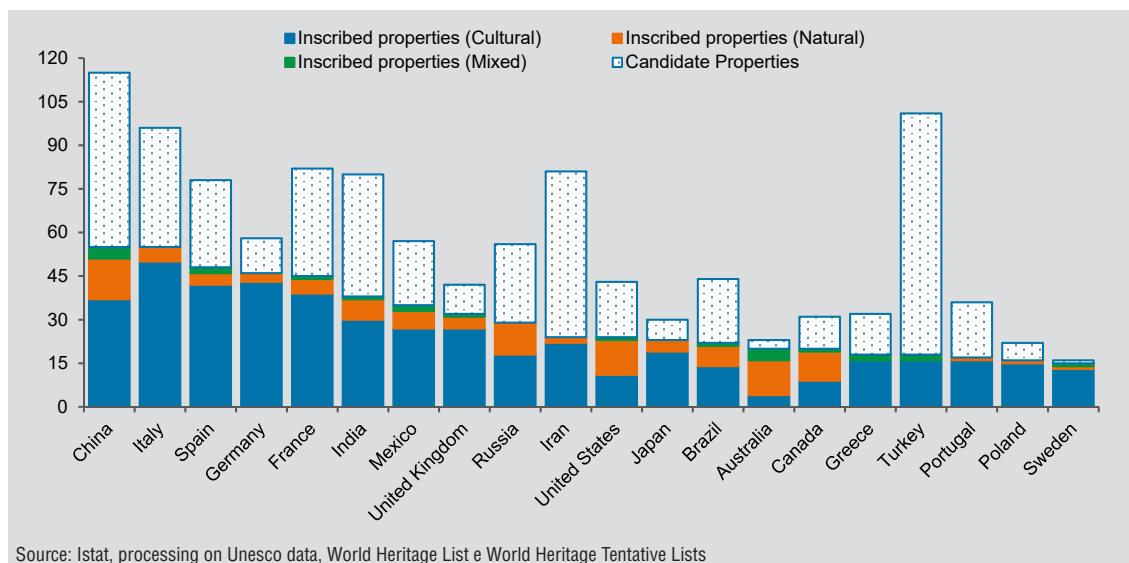
Expenditure for the protection and enhancement of cultural and landscape assets and activities (in the classification by missions of the General State Accounts Office) is not comparable with the sum of expenditure for Cultural services and Protection of biodiversity and landscape (in the classification by functions used for international comparisons). In addition, the international comparison the total expenditure of the entire public administration is considered and not only that of the state. Primary expenditure is net of the repayment of public debt.

Figure 20. State expenditure on conservation and protection of cultural and landscaping heritage (a) by item. Years 2010-2019. Millions of Euro and percentage values



The importance of the national cultural patrimony is evident in Italy's ranking in Unesco's heritage list. As of 2019, Italy was, together with China, at first place for number of registered assets. More precisely, it had 55 assets, equal to 4.9% of the total⁵, coming before Spain, Germany and France. Assets candidates for Unesco registration in Italy are 41⁶ (see Figure 21).

Figure 21. Registered assets in Unesco's heritage list by selection criterion and candidates for registration by nation (first 20 nations per number of registered assets). Year 2020. Absolute values



5 Including six transboundary properties; source: UNESCO, World Heritage List. There are 1,121 properties on the World Heritage List, of which 39 are transboundary, with ownership shared by two or more States (as of December 2020).

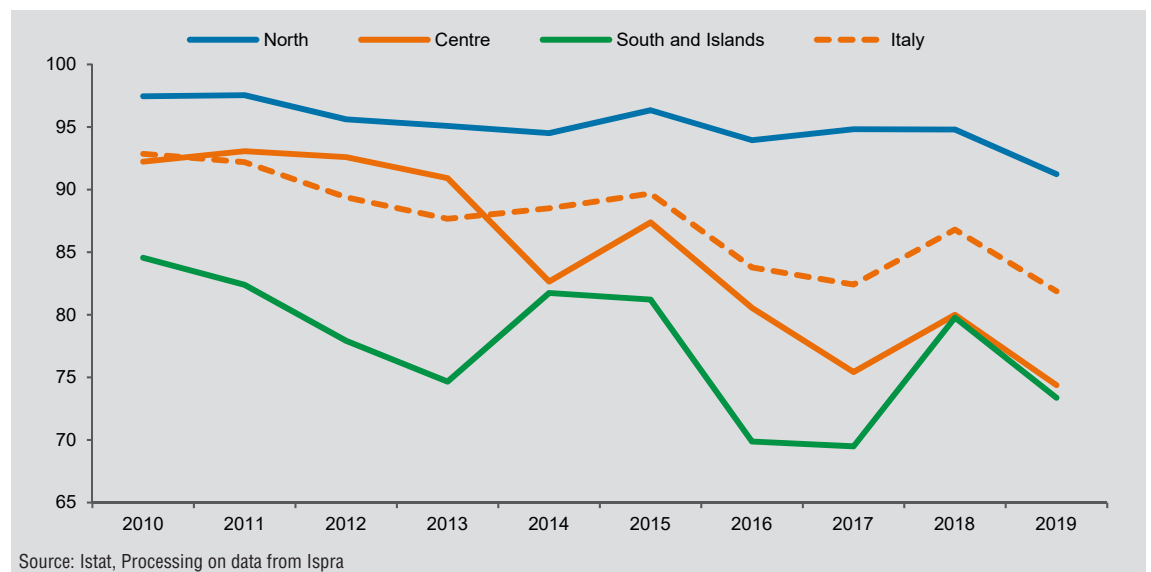
6 World Heritage properties are divided into cultural, natural and mixed. The 41 candidate properties are mostly cultural (28, including eight cultural landscapes), 11 natural and two mixed. Source: UNESCO, World Heritage Tentative Lists (as of December 2020).

Slow improvement in the air quality but levels remain critical. Marked progress on waste disposal

Environmental conditions play a key role in guaranteeing either directly or indirectly the wellbeing of society. Consider for example the debate over the relationship between the spread of COVID-19 and the quality of the environment. The set of Bes measures regarding these relationships captures a wide and articulated array of points of view, from the quality of air and water to the emission of climate changing gases to weather climatic events.

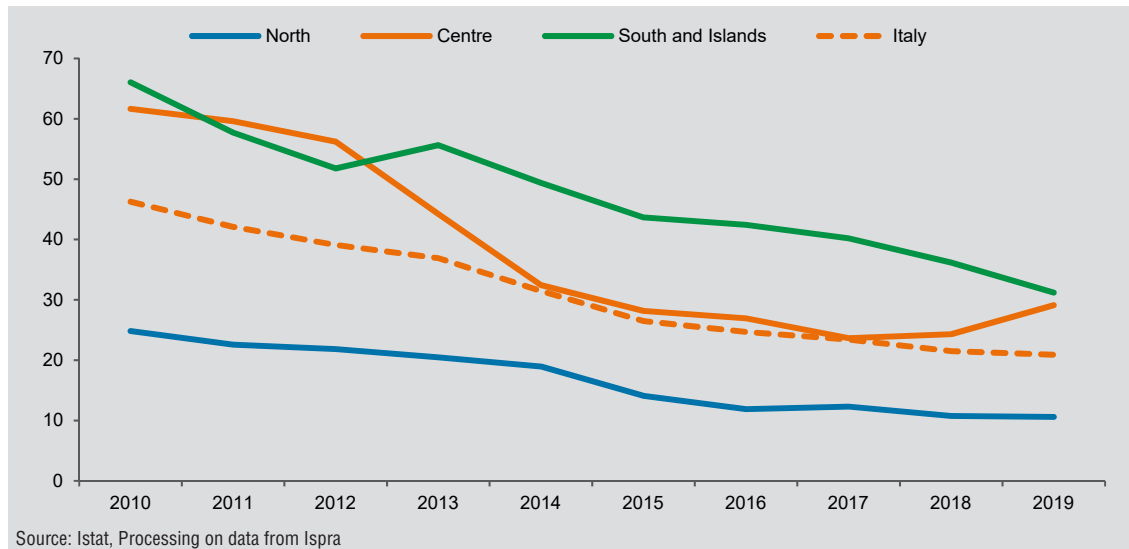
Water resources and air quality indicators go in opposite directions. Leakages in the local potable water distribution network rose from 32.1% in 2008 to 42% in 2018 with values particularly high in the South and Islands. On the other hand, air quality slightly improved thanks to fewer increases in the yearly average of $PM_{2.5}$, compared to WHO benchmark values ($10\mu g/m^3$) whose values in more than 80% of cases are yet still very high (from 92.9% in 2010 to 81.9% in 2019) (Figure 22). However, Italy has been fined several times by the European Commission for systematically and continuously exceeding the limits for PM_{10} , NO_2 , and $PM_{2.5}$ set by the European directive 2008/50/CE.

Figure 22. Exceedance of the $PM_{2.5}$ yearly average compared to WHO benchmark values ($10\mu g/m^3$) over the total measured by geographic area. Years 2010-2019. Percentage values



Improvements are registered in the waste management. The production of urban waste per resident goes from 548 kg in 2010 to 504 kg in 2019 and the share disposed of in landfill measured against the total amount of waste collected also decreases from 46.3% in 2010 to 20.9% in 2019. It must however be highlighted that Italy is still very far from the EU target which aims at disposing in a landfill by 2035 only 10% of collected urban waste (Figure 23).

Figure 23. Municipal waste sent to landfill by geographic area. Years 2010-2019. Percentage values



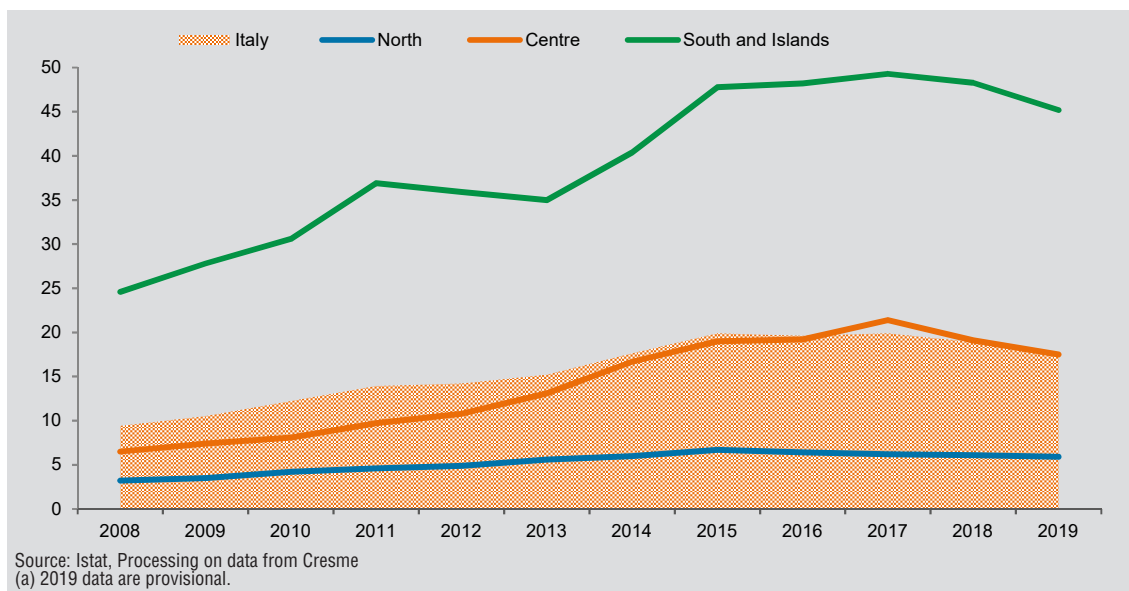
Increase in the soil sealing and illegal construction reaches alarming levels in the South and Islands

Consumption of impermeable soil increases from 6.98% in 2012 to 7.1% in 2019 thus causing an irreversible loss of natural areas and agricultural land. This phenomenon is also accompanied by an increase in illegal construction, which undermines civic consciousness, the effectiveness and efficiency of the authorities in protecting the land and the quality of life. In addition to this, it also leaves a nation vulnerable to seismic and hydrological danger at risk.

In 2019, illegal construction declined for two consecutive years but between 2015 and 2017, it had remained unaffected. This was partly due to the 2009 economic crisis and after a long period of growth (Figure 24). The crisis generated an unprecedented contraction in the building sector. However, it had a lighter impact on the illegal component, particularly in the more fragile geographic areas and those areas already affected by this phenomenon⁷. As a result, this further widened territorial divide: the illegal construction index rose from 3.2 to 5.9 (less than 3 points) in the North of the nation, from 6.5 to 17.5 (11 points) in the Centre and from 24.6 to 45.2 (20 points) in the South and Islands.

⁷ In 2007, on the eve of the economic crisis, the ratio was 9 unauthorised buildings every 100 authorised, and Italian municipalities were issuing around 250 thousand building permits for new buildings. By 2010, the number of permits had already more than halved, and in 2015 it reached a minimum of 43 thousand (over 80% less than in 2007). In the same period, however, the flow of unauthorised buildings is estimated to have fallen by around 40%: the dynamics of the unauthorised building index between 2007 and 2015 is therefore essentially explained by the collapse of legal building production.

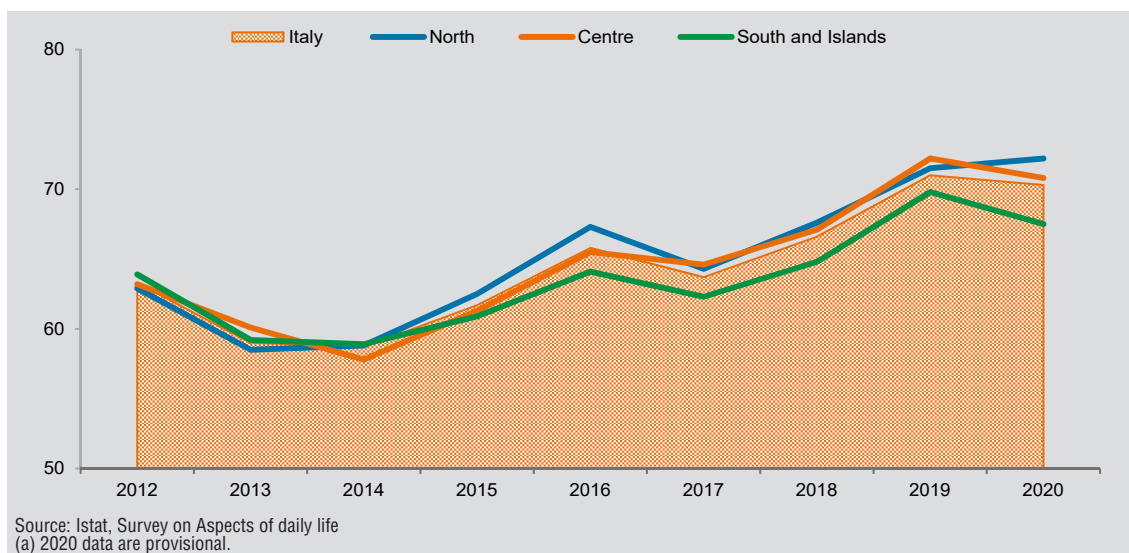
Figure 24. Illegal building rate by geographic area. Years 2008-2019 (a). New illegal buildings every 100 legal



Increase in public awareness towards climate changes

Compared to the past, the subjective indicators point to an increased public awareness towards environmental issues. An increasing share of individuals 14 years old and over worry about issues such as the greenhouse effect and climate change: from 63.3% in 2012 to 71% in 2019 (Figure 25). The percentage of people who claim to be very or partly satisfied with the environmental situation in the area where they live (70.1% in 2020), after a constant growth beginning in 2012, comes to a halt in all areas and socio-demographic groups (by gender, age, level of education).

Figure 25. Concern for the increase in greenhouse effect and/or climate changes by geographic area and education. Years 2012-2020 (a). Values per 100 individuals aged 14 and over

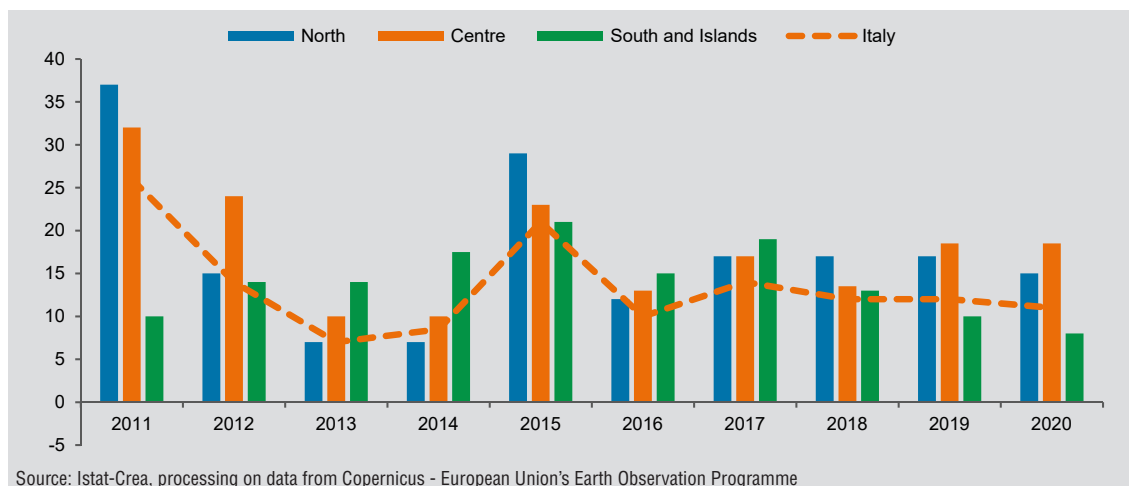


Subjective perceptions of climate risks are driven by factors of objectivity

Extreme weather climatic events are on the rise in the nation. The intensity of hot days in the last ten years is always higher than the median of the reference period 1981-2010 (Figure 26). In addition to this, there have also been prolonged periods of insufficient rain which in some years caused a sharp reduction in the available water supply. For example, in 2017 there were serious problems in supplying water in several areas near Rome as a result of the drop in level of the Bracciano lake, one of the most important water reserves. On the other hand, there was an increase in the number of intense and localised precipitations that were often associated with natural disasters caused by floods and landslides.

At the same time, the Italian economy reduced carbon dioxide emissions and other climate altering gases (tons of CO₂ equivalent per resident) – from 8.8 in 2010 to 7.1 in 2019. Consumption of internal material dropped by 30% between 2010 and 2018. A positive milestone concerns the consumption of energy from renewable sources, which already in 2012 had exceeded the target of 26.4% of internal consumption set for 2020.

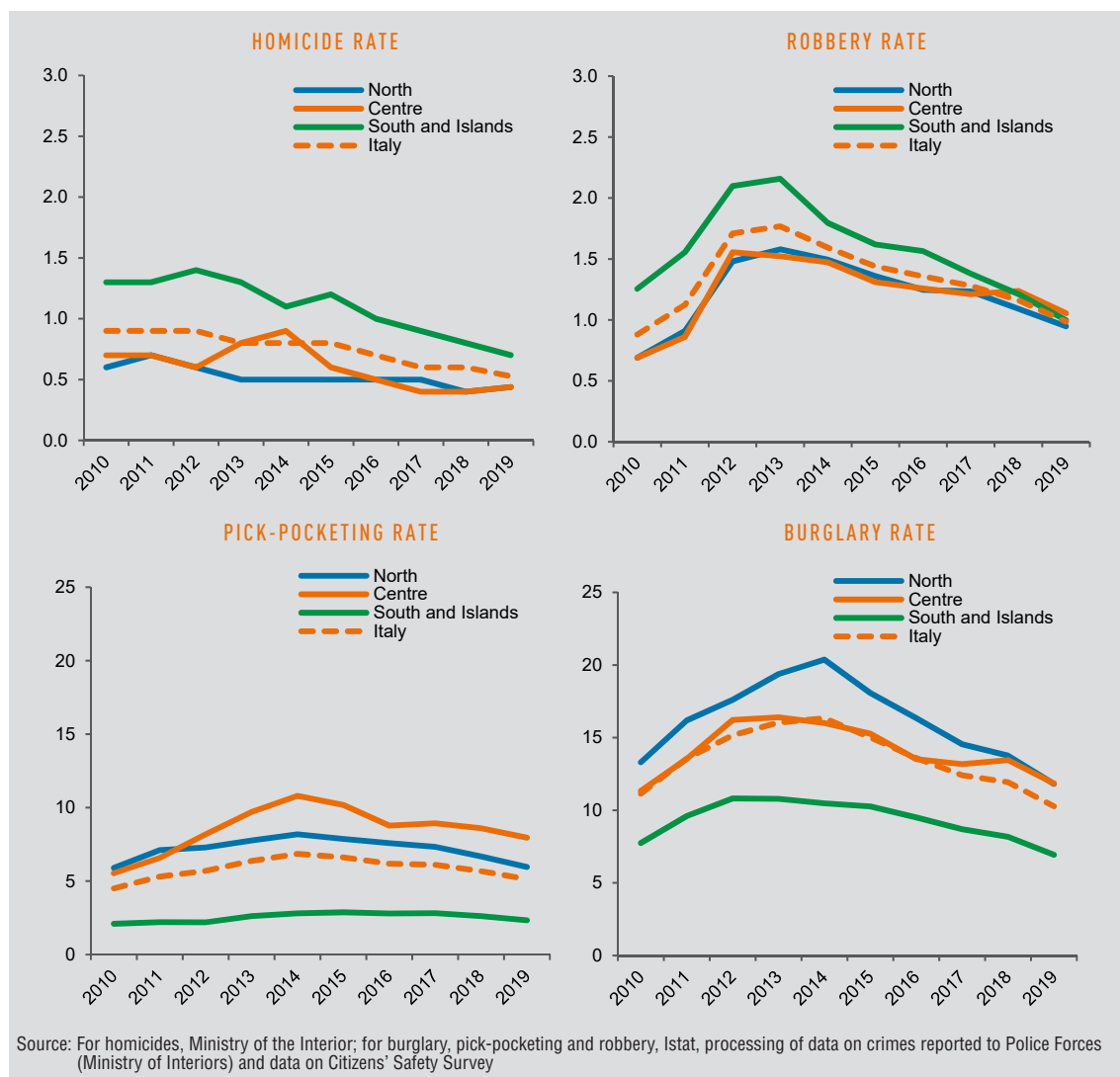
Figure 26. Duration index of hot periods (WSDI): deviations from the climatic median (reference period 1981-2010) by geographic area. Years 2011-2020



After rising during the economic crisis, predatory crime has fallen in recent years

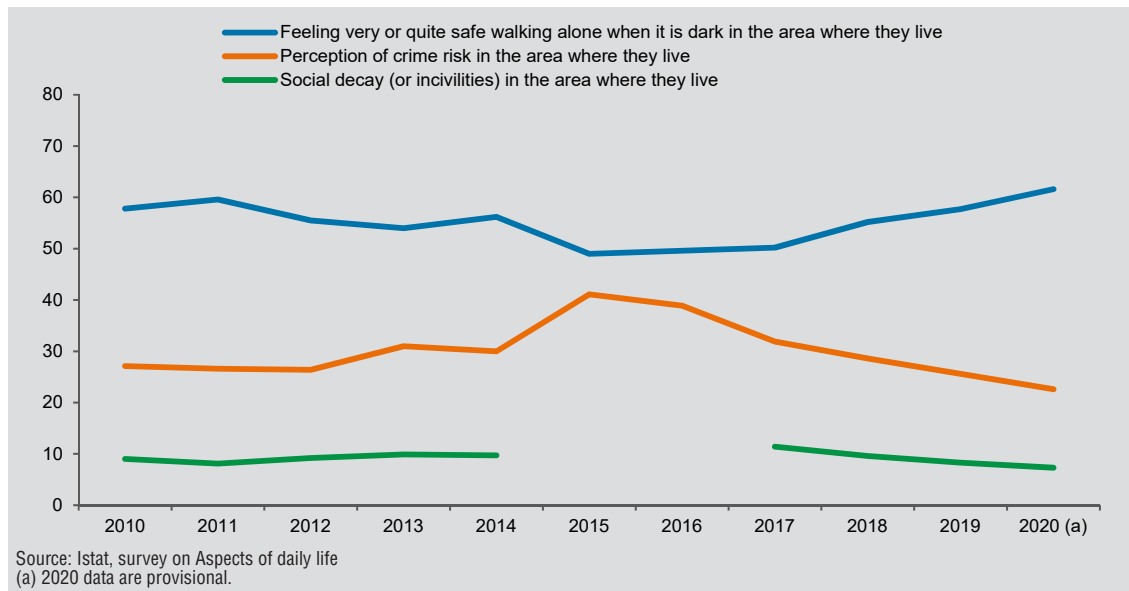
Between 2010 and 2014, predatory crime increased as a result of the effects of the crisis: residential burglaries peaked in 2014 (16.3 victims per 1,000 households compared to 11.1 in 2010), as did pickpocketing (6.9 victims per 1,000 inhabitants, compared to 4.5 in 2010), while robberies recorded their highest value in 2013 with 1.8 victims per 1,000 inhabitants, double than in 2010. Since 2015, all crimes have shown a downward trend and in 2019 the rate of burglaries was below the level recorded in 2010, while pickpocketing and robbery rates, while having recovered a lot, still have not returned to pre-crisis levels (Figure 27). Over the last decade, homicides have declined, mainly those affecting male victims (from 1.29 men killed per 100,000 inhabitants in 2010 to 0.70 in 2019), thanks to the decrease in homicides caused by mafia-type organised crime. Homicide rate of women has shown only a slight downward trend (from 0.52 women killed per 100,000 inhabitants in 2010 to 0.36 in 2019).

Figure 27. Homicide rate, burglary, pick-pocketing and robbery rate by geographic area. Years 2010-2019. Victims of homicide per 100,000 inhabitants, victims of pick-pocketing and robbery per 1,000 inhabitants, victims of burglary per 1,000 households



The population's perception of safety shows, in accordance with crime data, an overall positive trend. All indicators of perception of safety referring to the area in which one lives are improving, the perception of safety when walking alone in the dark is increasing and the perception of social and environmental decay and the risk of crime in the area where people live is decreasing. The most significant improvements in these indicators are found in the municipalities in the centre and on the outskirts of the metropolitan areas, and thus in the areas that have always recorded the most critical levels (Figure 28).

Figure 28. Perception of safety in the area where people live: people aged 14 and over feeling very or quite unsafe walking alone when it is dark, people aged 14 and over who often see elements of social and environmental decay, households declaring a very high or quite high risk of crime. Years 2010-2020 (a). Per 100 persons aged 14 and over or per 100 households



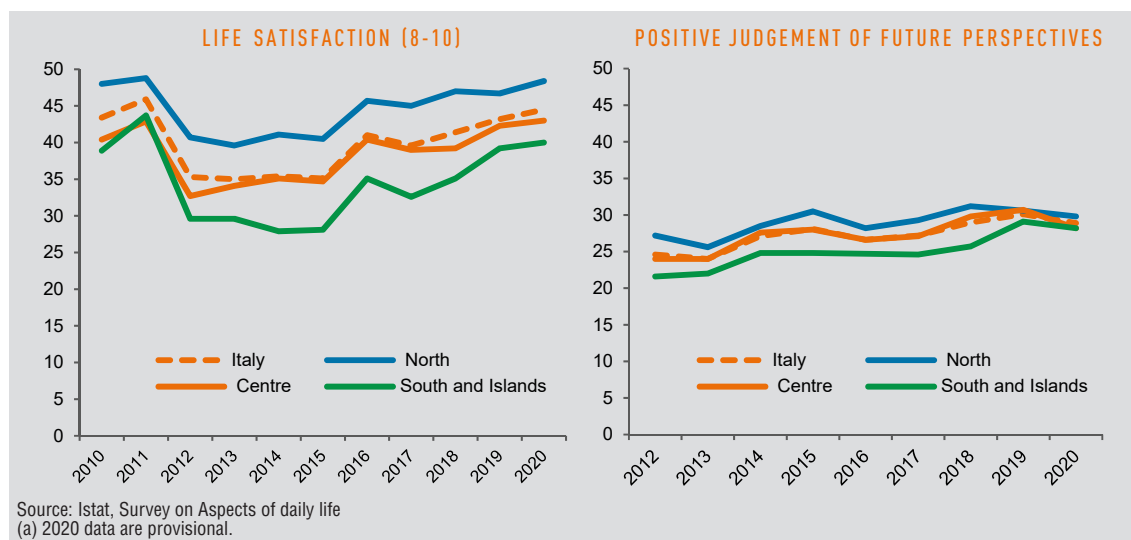
The share of people who are very satisfied with life as a whole is recovering after the economic crisis, but still at low levels

How do objective indicators translate into subjective assessments of well-being? The statistics of the last ten years show an initial phase of decline in overall satisfaction with life, followed by a period of growth that has brought the indicator back to levels similar to those at the beginning of the period. In fact, it should be remembered that right at the beginning of the decade our country found itself facing a serious financial crisis that halted the first timid signs of recovery from the 2008-2009 recession: employment and disposable income grew in 2011, albeit modestly, but fell again the following year. The effects on people's satisfaction with their economic situation were then intense and, although satisfaction with the other domains (leisure, health, relations with family and friends) did not decrease, the share of people who were very satisfied in general with their lives, already low, fell by as much as 10 points, only to rise again in 2016. In the year the pandemic began, despite the virus' particularly severe impact on the economy, satisfaction with life did not decline.

Growing concern about the future situation

The complexity of the economic scenarios and the high level of uncertainty triggered by the COVID-19 can be clearly seen in the indicators on expectations. Over the ten-year period, the share of those who believe their situation will improve over the next five years moves in line with, and sometimes ahead of, overall life satisfaction (Figure 29). In 2020, the two indicators move in opposite directions. As was the case in 2016, expectations may anticipate negative developments in subjective well-being.

Figure 29. People aged 14 and over who expressed a high score (8-10) of life satisfaction (over a 0 to 10 scale) and people aged 14 and over who think their situation will get better in the next 5 years by geographic area. Years 2010-2020 (a). Percentage values



These trends can be interpreted as the result of a radical change in the calibre of perceptions regarding the present and forecasts for the future. The dramatic nature of the events has led people to no longer take the quality of their situations for granted and therefore to emphasise their appreciation of them⁸. However, this could be a shock effect, which is not necessarily destined to last and be reflected in the indicators of the years to come. At the same time, the unpredictability of an event of this magnitude has increased uncertainty and fear of the future. Analyses tell us that the interaction between subjective well-being and satisfaction with individual areas of life is complex. Positive assessments of health do, however, weigh heavily, and it is possible that sensitivity to this dimension, as to the economic one, will be amplified in the coming years. It should be noted that the ten-year assessment of general satisfaction shows a relative improvement for the South and Islands compared with the 2010 values, even if the share of people who declare themselves very satisfied continues to be much lower (over 8 points) than for the rest of the country. During the economic and financial crisis of the last decade, the worsening for the regions of the South and Islands was more evident, but in recent years the repositioning towards the high satisfaction scores has been more marked in this macro-area, presumably driven by the launch of new policies to combat poverty. At the same time the percentage of those who expect a future improvement has grown relatively more in this area. The reduction in the share of “optimists” in 2020 is in line with that of the North and much smaller than that recorded in the Centre.

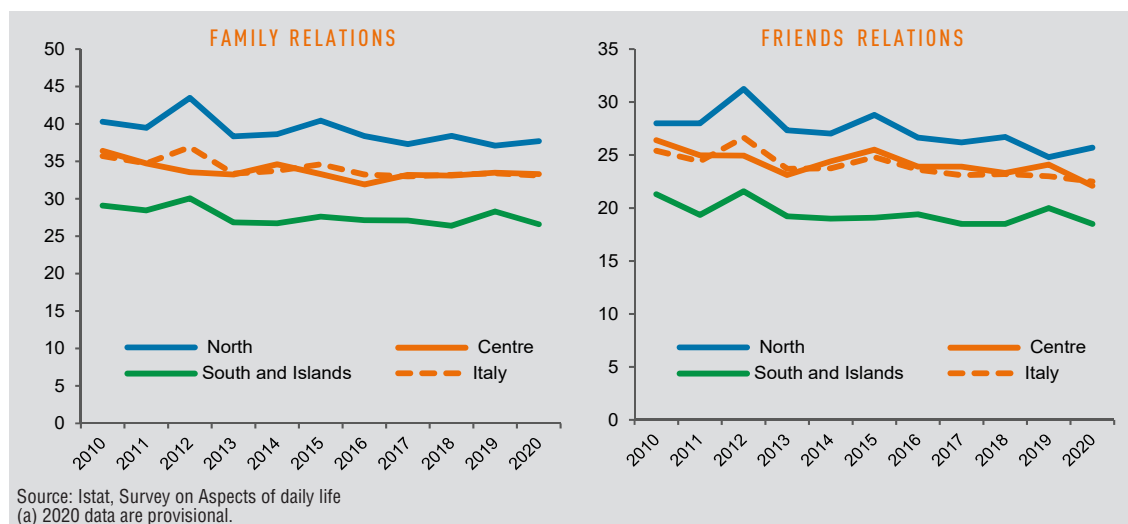
On the whole, however, life satisfaction in Italy remains unequal not only between regions but also by educational qualifications, age groups and, albeit to a lesser extent, between men and women.

8 Michalos defines, with the Multiple Discrepancies theory, life satisfaction as a function of personal living conditions (age, income, social networks) and 7 objective discrepancies: the discrepancy between what one has and what one wants; the discrepancy between what one has and what others have; the discrepancy between what one has and what one had best in the past; the discrepancy between what one has and what one expected to get; the discrepancy between what one has and what one expects to get in the future; the discrepancy between what one has and what one believes to deserve; the discrepancy between what one has and what one needs (Michalos, A. C. (1985). Multiple discrepancies theory (MDT). *Social Indicators Research*, 16, 37-413).

High and stable levels of satisfaction with family and friends relationships

Satisfaction with family and friends relationships, on the other hand, bucked the trend in 2020. In crises, satisfaction with family and friends generally increases, while satisfaction with one's own economic situation decreases. This is what happened, for example, in 2012 when there was a peak of the very satisfied in the North and in the South and Islands (Figure 30). Since then, satisfaction with family and friends has tended to be fairly stable, remaining at high levels: 33.1% and 22.5% declared themselves very satisfied, respectively, in the two relational spheres. In 2020, the evaluations for this sphere did not improve but, contrary to what could have been expected, given the period of forced distancing and the difficulties of daily life imposed by the pandemic, the network of relationships nevertheless held up.

Figure 30. People aged 14 and over that are very satisfied with family and friends relations by geographic area. Years 2010-2020 (a). Percentage values



The same applies to the indicator measuring trust (Figure 31): recovering in recent years, after the drop that followed the peak in 2014, it was stable in the year of the pandemic.

Figure 31. People aged 14 and over that feel that most people are worthy of trust by geographic area. Years 2010-2020 (a). Percentage values

