Istat
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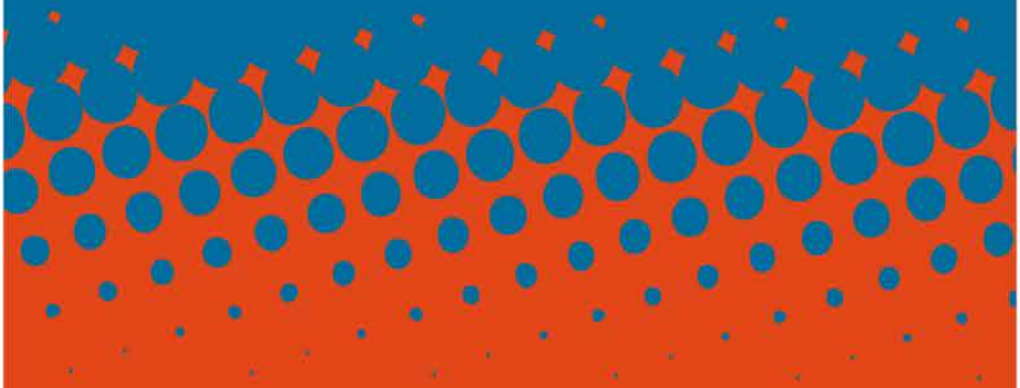
bes 2019

EQUITABLE AND SUSTAINABLE WELL-BEING IN ITALY



Health
Education and training
Work and life balance
Economic well-being
Social relationships
Politics and institutions
Safety
Subjective well-being
Landscape and cultural heritage
Environment
Innovation, Research and Creativity
Quality of services

bes 2019

EQUITABLE AND SUSTAINABLE WELL-BEING IN ITALY

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STREETLIB

INDEX

Foreword

Now in its seventh edition, the Bes Report proceeds from a permanent work of updating, analyzing as well as disseminating indicators on equitable and sustainable well-being. As usual, the Report has been conceived as a set of tools to help both collective and individual choices – at the national and local level – to be designed to foster well-being in all its multiple dimensions.

At all government levels, evidence-based and transparent decisions in the processes of both ex-ante and ex-post policy monitoring and evaluation have increasingly gained momentum. In this perspective, a few years back the Italian legislator established that selected indicators of equitable and sustainable well-being were to be included among the planning and evaluation instruments of national economic policy. These indicators are now regularly published in a dedicated annex to the Economic and Financial Document. This practice makes Italy a pioneering country as far as the adoption of a Beyond GDP policy-evaluation approach is concerned.

At the same time, the progressive growth in the autonomy and responsibility of local authorities in our country requires an increasing ability to describe and monitor our territories. This calls for our statistical information to be increasingly capable of representing heterogeneous contexts, supporting the decision-making processes of local administrators and providing citizens with information apt to sustain their active part in the growth of their communities. This is why Istat is particularly committed to release data with a high territorial detail. We invest on methodology and thematic research in order for these statistical details to be so flexible as to enable us to produce "variable-geometry" territorial information. Going beyond conventional administrative borders and adopting functionally-defined areas will make it indeed technically possible for us to design, each time, an ad hoc geographical perimeter, depending on the specific topic of interest.

Refining the territorial representativeness of statistical indicators – especially those covering income and poverty – is a shared priority also at the EU level. Thematic and methodological innovation greatly benefits from the activity of the existing international research networks. Istat is an active partner in various projects, and is carrying out, together with other NSIs and European Universities, the project MAKSWELL (MAKing Sustainable development and WELL-being frameworks work for policy analysis). MAKSWELL has already produced results in this specific field. Another relevant international project about well-being is GROWINPRO (GRowth, Welfare, INnovation, PROductivity): an international consortium, involving prestigious European universities, Istat and other NSIs, with the task of studying the determinants of sustainable and inclusive economic growth.

The strong synergy between the academic world and public statistical institutions arises from the common goal of providing, in addition to quantitative information, also visions and analyses apt to decipher an increasingly complex socio-economic reality. The outcomes of such an endeavor are visible in the publications of Istat, which - in addition to describing phenomena - are progressively oriented to propose ways of "understanding" them. The Bes Report is a perfect example of this philosophy.

Consistent with this approach, in this seventh edition of the Bes Report we have strengthened the analytical approach to measure how the selected well-being domains have evolved over time. We also have extended our territorial analysis, thereby including performance measures based upon the regional distribution of indicators. Whenever possible, we integrated gender-, age- and geographically-based analysis with data by educational attainment, in order to better describe how different population groups do differ in their well-being outcomes. The Report finally benefits from the analysis carried out in two special

sections of cross-cutting nature, which, respectively, focus on the well-being of the young segment of the population, and on the relationship between subjective well-being and other individual and context indicators.
To conclude, it is important to remember that national well-being goals represent an essential part in the process of achieving the Global Sustainable Development Goals, which accompany the 2030 UN Agenda. In this integrated perspective, and given the natural overlapping of these two frameworks, while publishing the Bes Report, Istat also releases an updated version of the SDGs indicators for Italy.
My wish is that this Report, and more generally all the activities carried out by Istat, may contribute to a better understanding of the complex and fast-changing world that surrounds us, thereby allowing the design and implementation of good, evidence-based, sustainable and equitable, public policies.

The President of Istat
Gian Carlo Blangiardo

Warnings

CONVENTIONAL SIGNS

The following conventional signs are used in the statistical tables:

Dash

(-) a) the phenomenon does not exist;
b) the phenomemon exists and is detected but there have been no cases.

Four dots

(....) the phenomenon exists, but data
are not known for whatever reason.

Double dot

(..) for numbers not reaching half
the figure for the minimum order considered.

Asterisk

(*) data obscured for the protection of statistical confidentiality.

PERCENTAGE COMPOSITIONS

The percentage compositions are rounded to the first decimal place. The sum of the percentage values calculated in this way may not be equal to 100.

GEPGRAPHIC AREAS

North

North-west	Piemonte, Valle d'Aosta/Vallée d'Aoste, Lombardia, Liguria
North-east	Trentino-Alto Adige/Südtirol, Veneto, Friuli-Venezia Giulia, Emilia-Romagna

Centre Toscana, Umbria, Marche, Lazio

South and Islands

South	Abruzzo, Molise, Campania, Puglia, Basilicata, Calabria
Islands	Sicilia, Sardegna

Overview of equitable and sustainable well-being[1]

1. Introduction

The Bes Report, now in its seventh edition, includes information and analysis on the evolution of Equitable and Sustainable Well-being indicators. The Bes experience carried out by Istat is strengthened by the growing attention, at European level, to the improvement of the territorial representativeness of indicators on income and poverty[2], the analysis of the determinants of sustainable and inclusive economic growth[3] and the review of the system of indicators also launched by the OECD within the framework How's life?.

At the national level, the interaction with the Ministry of Economy and Finance on the use of well-being indicators as targets for economic policy measures continues, as envisaged by the Budget Law, making Italy one of the most advanced countries in adopting a beyond-GDP approach to policy evaluation. In this issue of the Report, the analytical approach used to study the evolution of the various well-being domains has been strengthened, through the overall assessment of the changes recorded among the indicators by geographic area, both in comparison with the previous year and, from a medium-term perspective, with respect to 2010 (Section 2.1). In this way, it is possible to obtain first and immediate summary measures, also by domain. The territorial analyses included in the 12 domain chapters are also extended by considering performance measures based on the distribution of indicators by region (par. 2.2).[4]

The analysis of indicators by region, gender and age group was complemented, where measurable, by the analysis by educational level in order to better describe the differences between population groups in well-being outcomes. The analysis by educational attainment covers 52 indicators and considers three levels: 'low' if the highest educational attainment is lower secondary, elementary or no qualification (Isced 0-2), 'medium' if the highest educational attainment is upper secondary (Isced 3-4), 'high' if a degree or other tertiary qualification is obtained (Isced 5-8).

The regional analysis has also been further developed, with the introduction of a new graphic representation of the territorial heterogeneity of well-being indicators, measured as percentage variation of the indicators by region with respect to the Italian average. Also in this report, the chapters describing the evolution of well-being in each domain are followed by two in-depth studies, providing cross-domain analyses of the aspects related to well-being. The first study is an analysis of well-being of young people aged 18-34, measured through the construction of a multidimensional indicator that allows to identify the groups of most vulnerable youth, who are deprived in more than one dimension of well-being. The second study presents an analysis of the relationship at territorial level between subjective well-being (measured by the percentage of people who are very satisfied with their lives)

1 This chapter was edited by Fabio Bacchini, Maria Pia Sorvillo and Alessandra Tinto, with contributions from: Barbara Baldazzi, Miria Savioli and Lorena Di Donatantonio.

2 Some results are included in the deliverables 2.2 e 3.1 of MAKSWELL project "MAKing Sustainable development and WELL-being frameworks work for policy analysis" (www.makswell.eu).

3 These are the objectives of the new European research project GROWINPRO (GRowth, Welfare, INnovation, PROductivity), which involves several European research and statistical institutes, including Istat.

4 The approach adopted takes up and extends the figures disseminated in Chapter 5 of ISTAT's 2019 Annual Report (https://www.istat.it/storage/rapporto-annuale/2019/capitolo5.pdf).

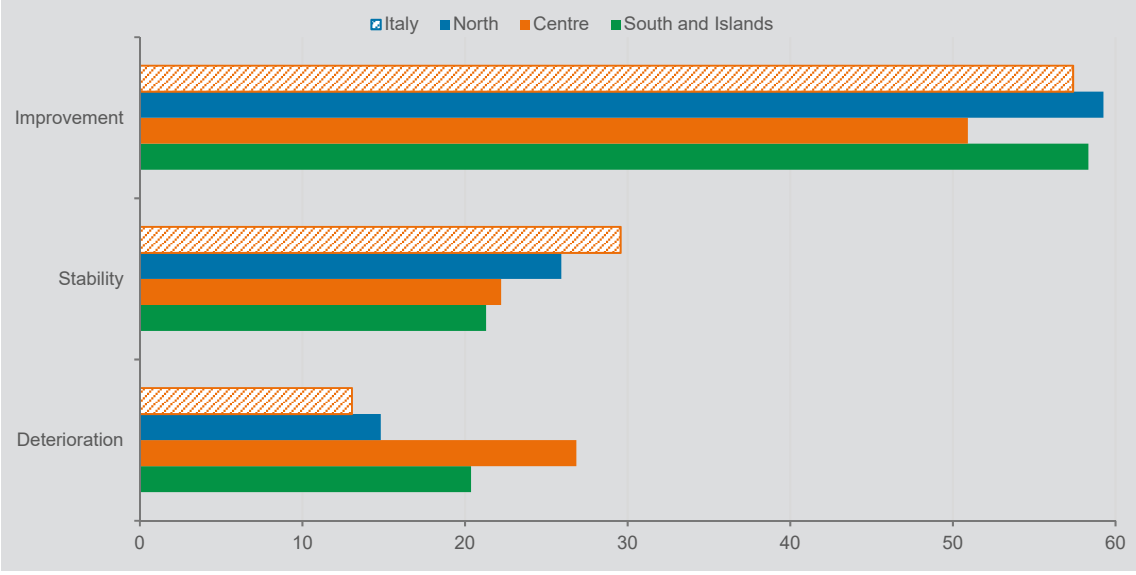
and other individual and contextual indicators, among which, for the first time, the equivalent disposable household income, taking into account also the regional variations of this association. In the final part of the Report, updated regional focus is proposed, with territorial analyses carried out considering performance measures based on the trend of composite indices calculated for each domain. For each region, it is possible to compare the performance of the composite indices of the last available year with respect to the previous year and with respect to 2010 using the values of the composite indices of the geographic breakdown, of the region and Italy as benchmarks.
In this chapter, in addition to the territorial analyses (par. 2), the main features of the periodic work of revision of indicators is presented together with the description of improved methods of data dissemination (par. 3). Finally, the state of the art of the process of introducing well-being indicators into the economic planning documents is described (par. 4).

2. Evolution of well-being

2.1 Time trend of Bes indicators

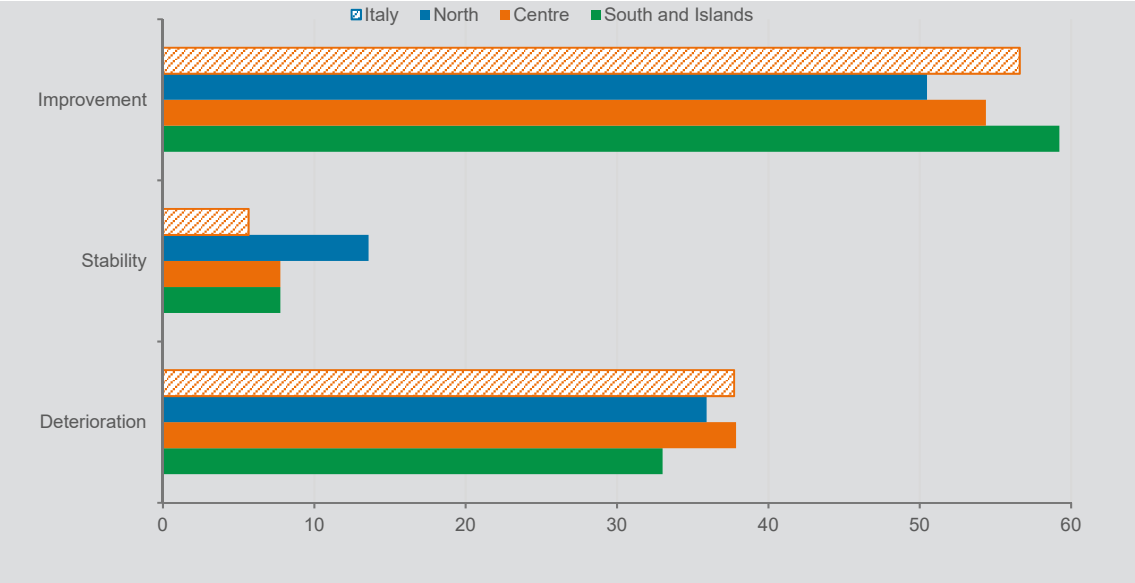
The joint observation of positive or negative changes in each indicator in the latest available year (in most cases 2018) compared to the previous year provides an initial outlook of the evolution of well-being. Indicators show improvement in well-being in Italy and in each of the three geographic areas. Over 50% of the approximately 110 indicators for which comparison is possible (115 for Italy and 108 for the geographic areas) show an improvement, with higher values in the North (59.3%) and lower values in the Centre (50.9%). Looking at the share of indicators showing a deterioration in the last year, the lowest proportion is observed in the North (14.8%), the highest in the Centre (26.9%).

Figure 1. Evolution of Bes indicators: comparison between latest available year and the previous by geographic area. Percentage of total comparable indicators. Italy



The longer term evolution is also positive, when comparing recent data with 2010 (Figure 2) over 50% of the indicators register a positive change in all geographic areas. However, in this case, a wider share of indicators shows a deterioration (37.7% for Italy and 35.9%, 37.9% and 33% for the North, Centre and South and Islands respectively).

Figure 2. Evolution of Bes indicators: comparison between latest available year and 2010 by geographic area. Percentage of total comparable indicators. Italy



A closer look at the variations occurred for each of the 12 domains allows capturing other important aspects of the evolution of well-being. In the most recent year, in Italy, over 50% of the indicators improved in the majority of domains (Figure 3). Lower values are recorded in the domains Work and life balance (41.7%), Social Relationships (44.4%), Landscape and Cultural Heritage (44.4%) and Environment (46.7%). The analysis of the percentage of indicators showing deterioration confirms the difficulties in the domain Work and life balance (4 out of 12 indicators deteriorated comparing with the previous year), as well as Economic well-being (3 indicators out of 10 deteriorated).

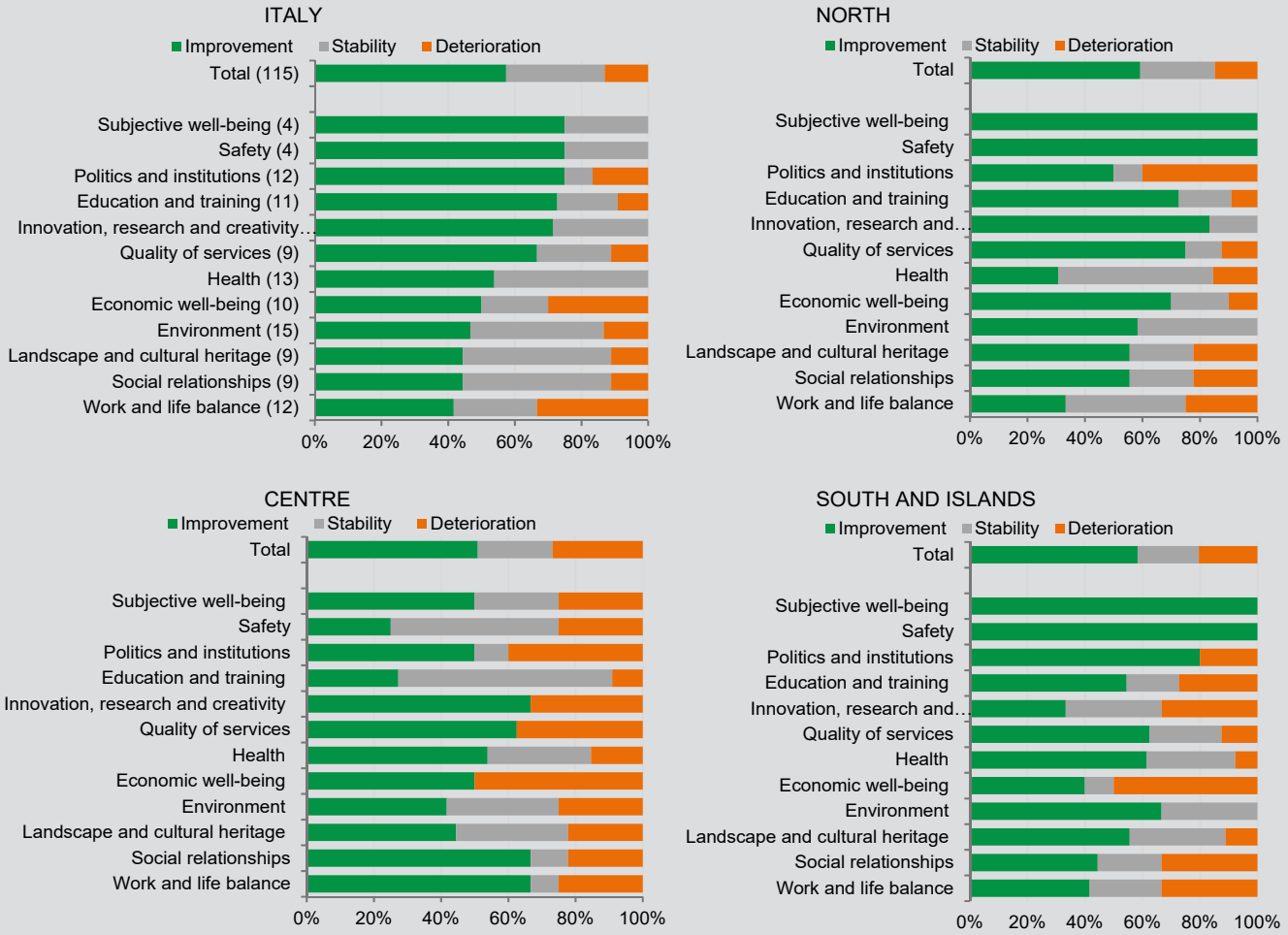
The analysis by geographic area shows significant differences. When considering the share of indicators improving, in the North all domains show values above 50% with the exception of two, Work and life balance (33.3%) and Health (30.8%), were there is a prevalence of stability (41.7% and 53.8% of indicators, respectively). In a situation of generalized improvement, only the Politics and Institutions domain registers a high proportion of deteriorating indicators (4 out of 10).

Signs of improvement are observed also in the Centre, albeit with less intensity than in the North. In particular, the Safety and Education and training domains reach in the Centre the lowest proportion of improving indicators (25.0% and 27.3% respectively), with a prevalence of stable indicators. Furthermore, in the Economic well-being, Politics and institutions and Innovation, research and creativity domains the number of indicators with a worse level comparing to the previous year is particularly high (50%, 40% and 33.3% respectively).

In the most recent year, well-being has shown improvements also in southern Italy. However, there are still signs of difficulties linked mainly to the intensity of the economic recovery (50% and 33.3% of the indicators in the domains Economic well-being and Work and life

balance show negative variations) and to trends in the productive structure (in the domain Innovation, research and creativity 2 indicators out of 6 worsened).
The comparison with 2010 shows a greater homogeneity of indicator variations among the

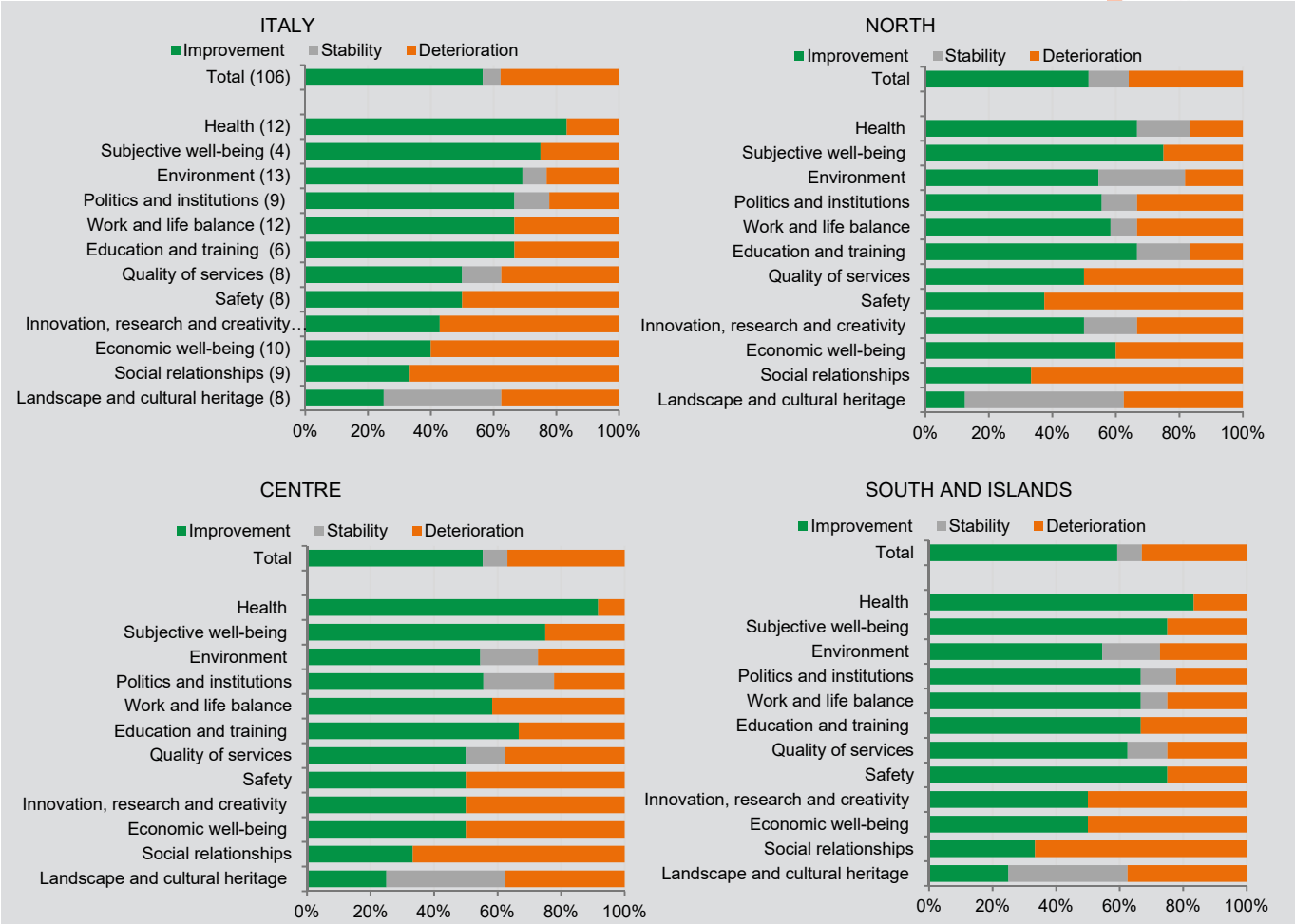
Figure 3. Trend of Bes indicators: comparison between latest available year and the previous by domain and geographic area. Percentage of total comparable indicators. Italy(a)



(a) For each domain, in the figure for Italy in parenthesis the number of indicators for which the comparison between the latest available year and the previous is available; in the figures by geographic area the comparison is based on 108 indicators instead of 115, excluding those for which data is not available (2 indicators for the Politics and institutions domain; 3 indicators for Environment; 1 indicator for Innovation, research and creativity; 1 indicator for Quality of services).

domains in the different geographic breakdowns (Figure 4). In spite of an overall progress of well-being in the different areas of the Country, a high proportion of indicators showing a deterioration is found in the domains Work and life balance (respectively 33.3%, 41.7% and 25.0% in the North, Centre and South and Islands), Economic well-being (40%, 50.0% and 50.0%), Social Relationships (66.7% of indicators worsening in all geographic areas) and Innovation, research and creativity (33.3%, 50.0% and 50.0%). In the North and in the Centre the recovery of 2010 levels of well-being appears more difficult also in the domains Quality of services (35.9% and 36.9%) and Safety (62.5% and 50.0% respectively), while the deterioration of the domain Education and training mainly affected the Centre and the South and Islands (in both areas one third of the indicators deteriorated).

Figure 4. Trend of Bes indicators: comparison between latest available year and 2010 by domain and geographic area. Percentage of total comparable indicators. Italy (a)



(a) For each domain, in the figure for Italy in parenthesis the number of indicators for which the comparison between the latest available year and 2010 is available; in the figures by geographic breakdown the comparison is based on 103 indicators instead of 106, excluding those for which data is not available (2 indicators for the Environment domain; 1 indicator for Innovation, research and creativity).

2.2 The analysis by region

The overall representation of relative levels of well-being in the regions is obtained by observing the distribution of indicators by quintiles in the latest available year.[5] The position of each region is observed with respect to the 5 groups defined by the quintiles, the first with the most problematic situation and the last with the most favourable one (Table 1). The geography of equitable and sustainable well-being drawn by this analysis reflects the traditional Italian territorial gradient, with the northern regions showing higher levels of well-being compared to the central and southern regions. The provinces of Bolzano and Trento are those with the highest levels of well-being, with respectively 53.2% and 60% of

5 After ordering the regional distribution of the values of each indicator in such a way as to obtain 5 groups of equal size, for each region the percentage of indicators in the different groups is calculated (from those in the lowest 20% to those in the top 20%). The polarity of each indicator, i.e. whether an increase in the number of indicators has a positive or negative impact on well-being, has been taken into account in the calculation. The same criterion was introduced in the previous edition of the Report (https://www.istat.it/it/archivio/224669).

the indicators in the quintile of excellence (the highest) and less than 10% at the opposite extreme, in the quintile of difficulty. The worst levels of well-being are recorded in Calabria and Sicilia, with 56.3% and 52.1% of the indicators falling in the first quintile, respectively.

Table 1. Bes indicators by region and quintile. Percentage distribution. Latest available year

REGIONS AND GEOGRAPHIC AREAS	QUINTILES					Total available indicators
	I	II	III	IV	V	
	(0-20)	*(20-40)*	*(40-60)*	*(60-80)*	*(80-100)*	
Piemonte	8.4	18.5	28.6	31.9	12.6	119
Valle d'Aosta/ Vallée d'Aoste	15.5	12.1	12.9	21.6	37.9	116
Liguria	15.0	20.8	22.5	25.8	15.8	120
Lombardia	12.6	13.5	15.1	22.7	36.1	119
Bolzano/Bozen	9.9	10.8	11.7	14.4	53.2	111
Trento	9.1	0.9	12.7	17.3	60.0	110
Veneto	9.2	18.3	13.3	31.7	27.5	120
Friuli-Venezia Giulia	5.0	11.8	16.0	29.4	37.8	119
Emilia-Romagna	12.7	18.6	13.6	26.3	28.8	118
Toscana	8.3	12.5	32.5	30.0	16.7	120
Umbria	10.3	22.2	31.6	20.5	15.4	117
Marche	5.9	21.9	27.7	28.6	16.0	119
Lazio	21.7	35.0	18.3	13.3	11.7	120
Abruzzo	12.5	43.3	21.7	17.5	5.0	120
Molise	26.5	31.6	11.1	14.5	16.2	117
Campania	57.5	15.0	10.8	6.7	10.0	120
Puglia	38.3	30.8	12.5	9.2	9.2	120
Basilicata	31.9	31.1	16.0	6.7	14.3	119
Calabria	56.7	13.3	7.5	6.7	15.8	120
Sicilia	52.5	15.8	13.3	9.2	9.2	120
Sardegna	26.1	33.6	13.5	14.3	12.6	119
North	6.5	17.1	14.6	41.5	20.3	123
Centre	9.8	26.2	40.2	18.0	5.7	122
South and Islands	48.4	24.6	13.1	11.5	2.5	122

Improvements in well-being levels over the past year are also confirmed by the analysis of quintiles distribution, with a widespread increase in the share of indicators in the highest quintile comparing to the distribution observed last year. In particular, Liguria, Lombardia, Marche and Molise show the most marked relative progress (the share of indicators in the last quintile increased respectively by 8.6, 12.4, 8.7 and 12.3 percentage points) while Puglia shows the most marked deterioration (-6.5 percentage points).

3. Innovations

3.1 Indicators

Bes is a constantly evolving project: while the 12 domains represent a well-established structure, the indicators identified to represent them are reviewed regularly in order to take into account emerging information needs, possible new data sources and methodological advan-

ces. This edition of the Report, in particular, is based on a set of 130 indicators and contains minimal revisions affecting the Education and training and Work and life balance domains.
In the Education and training domain, the indicator on participation in pre-primary education now refers to the percentage of children aged 4-5 years in school, including those in the first year of primary school. This indicator is based on a shared methodology at European level and is published by Eurostat. In the same domain, two more indicators related to pupils' skills were improved following new data available from the source. Starting from 2018, Invalsi (data source for these indicators) assigns each student a level of competence (from level 1 to level 5) for the subjects of Italian and Mathematics.[6] Bes indicators on pupil's skills, previously calculated as the scores obtained for alphabetical and numerical competence, have been replaced by indicators of low-performance, measuring the percentage of students who do not reach an adequate level compared to the one set (level 3) by the National guidelines. Moreover, a procedure of anchorage (consisting in placing the different test items on a single scale), makes it possible, from this edition of the survey on, to monitor these indicators over time.
In the Work and life balance domain, the indicator "Share of employed people aged 15-64 years working over 60 hours per week (including paid work and household work)", derived from the survey on Time Use, is now calculated with reference to the employed persons, since the work overload particularly concerns this population group.
The Innovation, research and creativity domain was also affected by little revisions. The indicator on the propensity to patent was revised according to the release by the OECD of the elaborations for the regionalization of the PATSTAT 2019 data of the European Patent Office, EPO (REGPAT database). Also the Cultural employment indicator was revised, according to the latest Eurostat guidelines on the subject (Guide to Eurostat culture statistics 2018 edition).
Lastly, the inclusion in the 2018 Eu-Silc survey of a specific ad hoc module on well-being allowed to investigate in more detail the phenomenon of subjective well-being, and to provide an estimate of the dimensions of affect balance and eudaimonia (meaning of life) which, together with the cognitive sphere, constitute the three components defining subjective well-being (see box in the Subjective well-being chapter).

3.2 Data dissemination

The way the indicators are disseminated and the possibilities for their online consultation and display have been enhanced in this edition of the Report. In particular, in recent years, the need has emerged for users to be able to consult Bes data in a customised way, to be able to consider data for different domains, indicators and geographic areas at the same time. To this end, with this edition the statistical appendix, usually distributed in the form of separate excel tables for each indicator, consists of three files in excel format. The first contains data for all indicators classified by region, geographic area and, when available, gender; a second file contains data for all indicators by age-group and gender; a last file contains, for the indicators for which it is available, the classification by level of education, age-group and gender.[7] This Report also presents a more complete tool for the graphic

6 A level is a description of the student's skills in the areas covered by the tests, therefore of his or her ability to perform specific cognitive operations.
7 All three files contain also time trend of indicators.

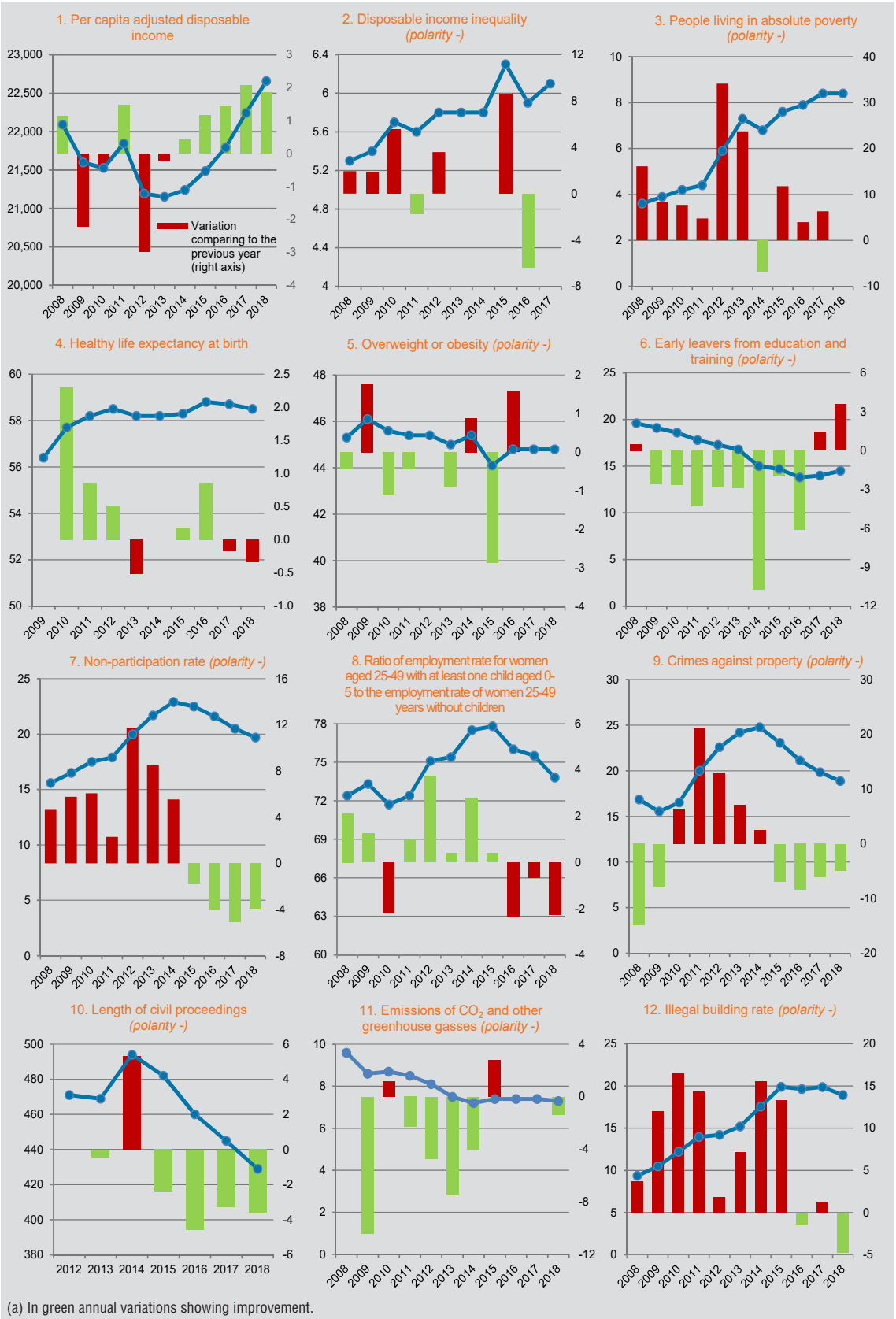
visualization of indicators, in order to facilitate the analysis, by users, of the evolution of well-being by geographic area, gender, age-group and level of education. A dashboard allowing the graphic display of indicators and the customized selection of data that can be easily exported in the usual formats is available on the ISTAT website.[8]

4. Well-being indicators included in the planning documents on economy and finance measures

The experience of monitoring public policies through well-being indicators is strengthened according to the path indicated by the Budget Law (163 of 2016). The second edition of the Report to Parliament on Bes indicators was presented in February 2019, with an initial assessment of the possible effects of the 2019 Budget Law on well-being indicators. The time series of the 12 indicators are shown in Figure 5.
The picture given by the 12 indicators is in line with the overall representation of well-being indicators, with a widespread improvement in recent years, however, accompanied by some critical issues related to economic factors (indicators 2 and 3), the education system (indicator 6), the work and life balance for women (indicator 8). To better explain the use of well-being indicators in the policy cycle, it is possible to consider the example of the introduction of 'basic income' regulation, which is expected to have a positive impact on economic well-being, with an increase in the adjusted disposable income of Italian households, a rebalancing of income distribution and a reduction in poverty. On the environmental front, incentives for the purchase of electric vehicles and the extension of tax deductions for energy efficiency measures are expected to be reflected in the improvement of the related indicators. During the month of April the annex on equitable and sustainable well-being is included in the Economic and Finance Document, in which a descriptive statistical analysis and a qualitative evaluation of the expected impact of the National Reform Plan 2019 is dedicated to each indicator. Although the experience of evaluating policies through well-being indicators is still in evolution, it is relevant to underline that the available data and documents constitute an important starting point, which will have to be linked in the future to an in-depth analysis of the relationship between indicators and specific policies, as well as to the identification of appropriate forecasting models for this type of measures.

8 See https://www.istat.it/en/well-being-and-sustainability/the-measurement-of-well-being/bes-report

Figure 5. Bes indicators included in the Document on economy and finance measures. Years 2008-2018. *Values and variations on the previous year (a)*



(a) In green annual variations showing improvement.

1. Health[1]

In a framework characterized by a generalized improvement compared to 2010 (10 out of 12 indicators with a positive evolution), most recent data show a widespread stability compared to the previous year, with positive signals for 5 of the 13 domain indicators.
The progress concerns Life expectancy without activity limitations at 65 years of age, mortality rate for cancer, and mortality rate for dementia and nervous system diseases in the elderly. Improvements in infant mortality rates and sedentariness are also reported.
No relevant changes were found for life expectancy at birth and healthy life expectancy at birth, for the mental health index, for road accident mortality rate among young people and for 4 of the 5 indicators analyzing the lifestyles (Table 1).

Table 1. Health indicators: value for the latest available year. Percentage variations on previous year and on 2010

INDICATOR	Latest available year value	% variation (compared with the previous year)	% variation (compared with 2010)
1. Life expectancy at birth *(years, 2018)*	83.0		
2. Healthy life expectancy at birth *(years, 2018)*	58.5		
3. Mental health index (SF36) (MH) *(mean scores, 2018)*	67.8		—
4. Infant mortality rate *(per 1,000, 2016)*	2.8		
5. Road accidents mortality rate (15-34 years old) *(per 10,000, 2018)*	0.7		
6. Age-standardised cancer mortality rate (20-64 years old) *(per 10,000, 2016)*	8.7		
7. Age-standardised mortality rate for dementia and nervous system diseases (65 years and over) *(per 10,000, 2016)*	31.2		
8. Life expectancy without activity limitations at 65 years of age *(years, 2018)*	9.9		
9. Overweight or obesity *(%, 2018)*	44.8		
10. Smoking *(%, 2018)*	19.4		
11. Alcohol consumption *(%, 2018)*	16.7		
12. Sedentariness *(%, 2018)*	35.7		
13. Adequate nutrition *(%, 2018)*	19.6		

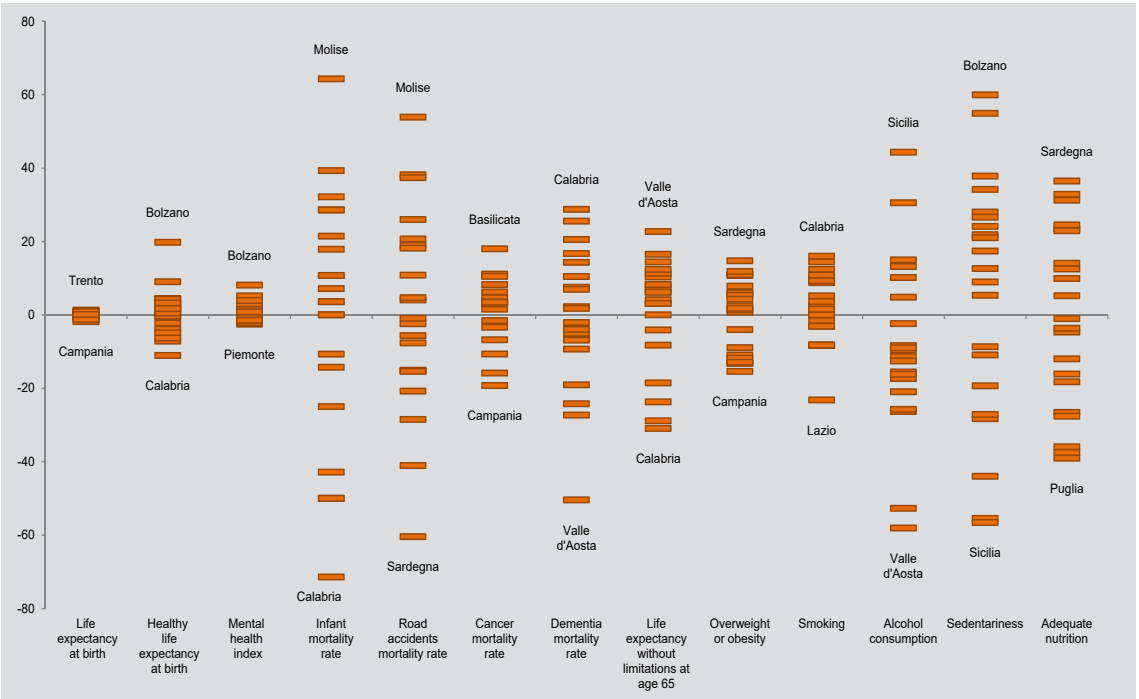
— Comparison not available Improvement Stability Deterioration

Note: variations between two points in time above 1% are considered positive (in green), below -1% are considered negative (in red). Variations between -1 and +1% refer to stability (in grey).

1 This chapter was edited by Laura Murianni and Alessandra Tinto with contributions from: Silvia Bruzzone, Lidia Gargiulo and Marilena Pappagallo.

The indicators of the health domain show a remarkable heterogeneity by region in the deviations from the Italian average value (Figure 1).
The Province of Bolzano often ranks among the most virtuous regions - in 3 indicators out of 13 it shows the maximum values - while Campania ranks the minimum values in at least 4 indicators out of 13.
Among indicators with greater territorial variability than the national average there are infant mortality rate and road accidents mortality rate. Concerning the lifestyles, regional heterogeneity is higher for sedentariness, alcohol consumption and adequate nutrition, while it is less marked for smoking and overweight.
For the indicator on sedentariness, Sicilia records a value almost 60% higher than the Italian average (55.9% vs. the Italian average of 35.7%), while the minimum value is found in the province of Bolzano, where only 14.3% of people aged 14 years and over do not practice any physical activity. The highest proportion of people who consume adequate quantities of fruit and vegetables daily is observed in Sardegna (+36.4% compared to the Italian average) and the lowest in Puglia (-39% from the average).
Life expectancy at birth, the mental health index and healthy life expectancy at birth are indicators whose level is more homogeneous among regions. The provinces of Trento and Bolzano reach the highest values for all three indicators compared to the Italian average value, while for life expectancy at birth and the mental health index the lowest values are observed in Campania (-2.4% from the Italian average) and for life expectancy in good health at birth in Calabria (-11.1% from the average).

Figure 1. Percentage variation for Health indicators comparing to the value for Italy by region. Latest available year (a)

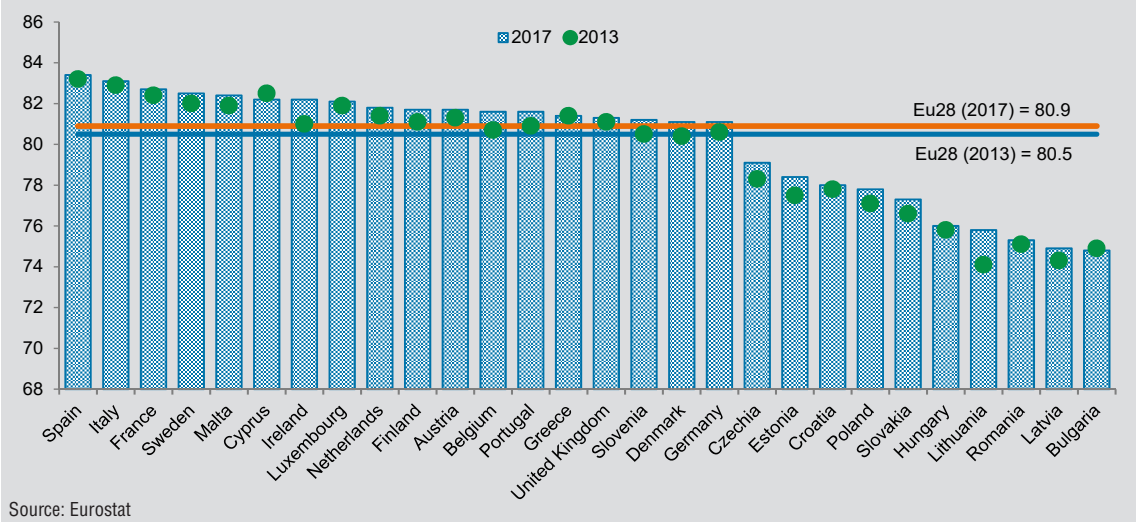


(a) Values above zero correspond to better well-being conditions comparing to the Italian average; on the contrary, values below zero correspond to worse well-being conditions. The calculation took into account the polarity of indicators.

International comparison

In 2017[2], with 83.1 years, Italy confirmed its second place for life expectancy at birth in the ranking of the 28 Member States of the European Union (80.9 years the average value), after Spain (83.4 years) (Figure 2).

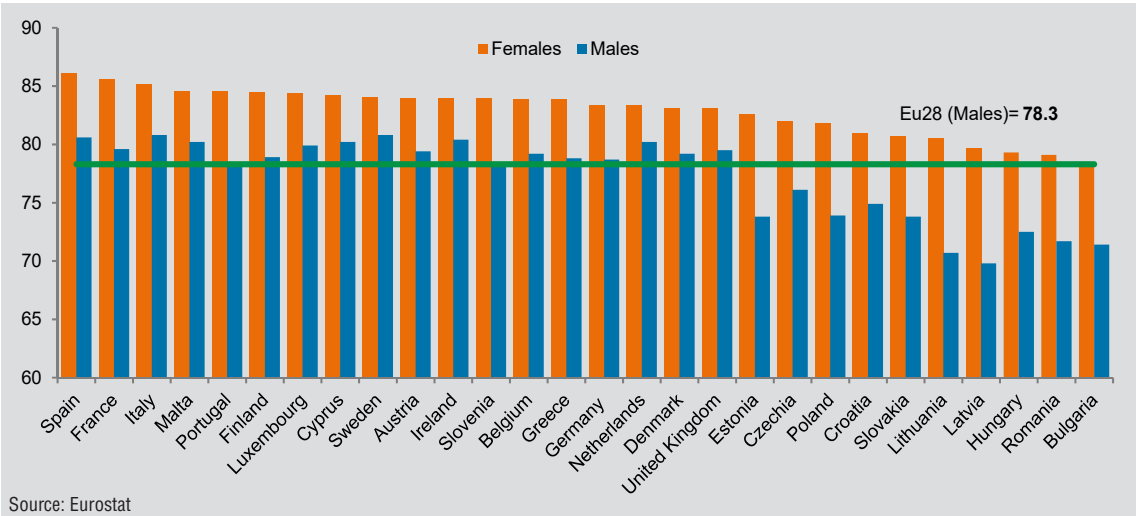
Figure 2. Life expectancy at birth in Eu28 countries. Years 2013 and 2017. In years



Source: Eurostat

The situation changes if we analyze data by gender: in 2017 a man born in Italy, as well as in Sweden, has the highest life expectancy compared to all EU countries, i.e. 80.8 years. An Italian woman can expect to live up to 85.2 years, less only than in France (85.6 years) and Spain (86.1) (the EU average is 83.5 years) (Figure 3).

Figure 3. Life expectancy at birth by gender in Eu28 countries. In descending order for males life expectancy. Year 2017. In years

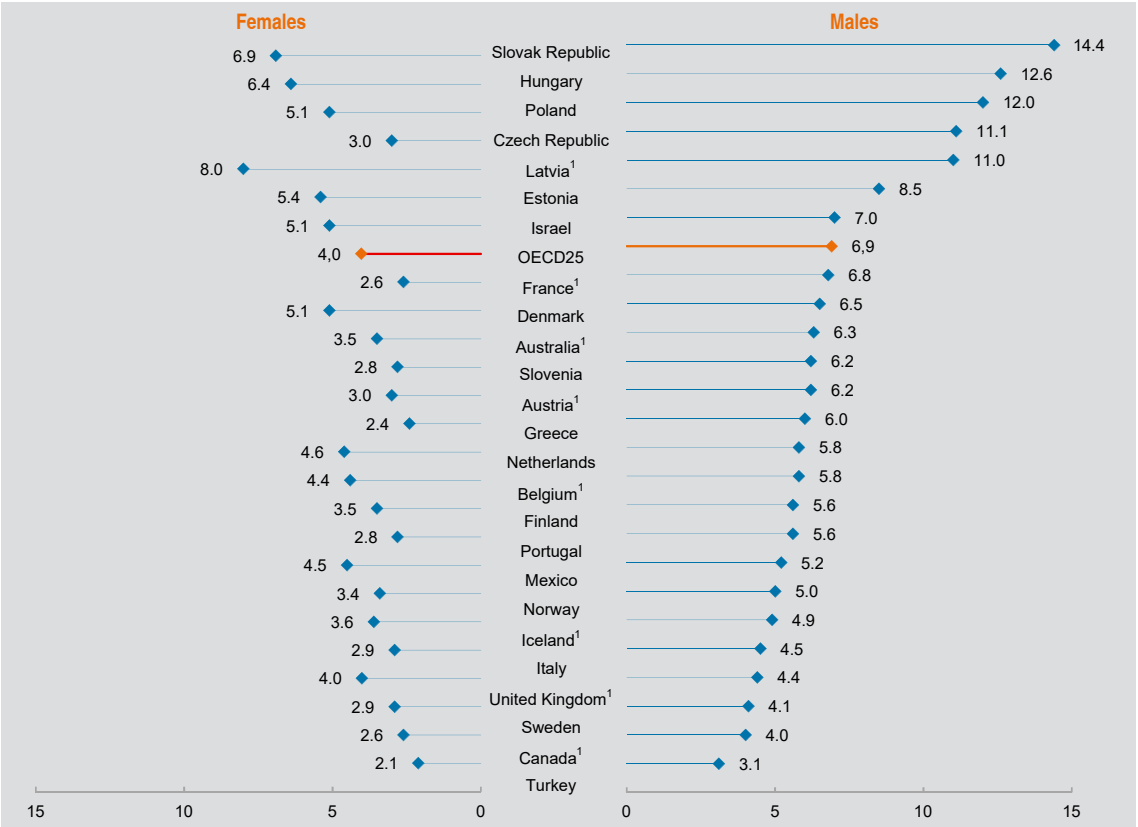


Source: Eurostat

2 For reasons of international comparability, the latest available data from Eurostat's database is commented in this paragraph, year 2017. It should be noted that the calculation method used by Eurostat differs from that used by ISTAT for the adoption of a different model of estimates of survival in senile age (85 years and over). The figure is updated on 06/06/2019 and extracted from the Eurostat database on 11/10/2019. (https://ec.europa.eu/eurostat/statistics-explained/index.php/Quality_of_life_indicators).

The evolution of life expectancy at 30 years shows marked differences according to the level of education: in some of the OECD Countries the most educated can expect to live on average about 5.5 years longer than the least educated[3].
These differences are more pronounced among men: the most educated can live 6.9 years longer than the least educated, while for women the differential by level of education is 4 years. In Eastern European Countries, the differentials by educational attainment are very high in Slovakia, where the average life expectancy for a 30-year-old man with a high educational attainment is 14.4 years longer than that of a less educated man, and in Latvia, where a more educated woman lives 8 years longer than a less educated woman.
The lowest levels of inequality are recorded for women in Greece (2.4 years) and France (2.6 years) and for men in the UK (4.4 years) and Italy (4.5 years) (Figure 4).

Figure 4. Gap in life expectancy at age 30 between people with highest and lowest level of education by gender in selected Oecd countries

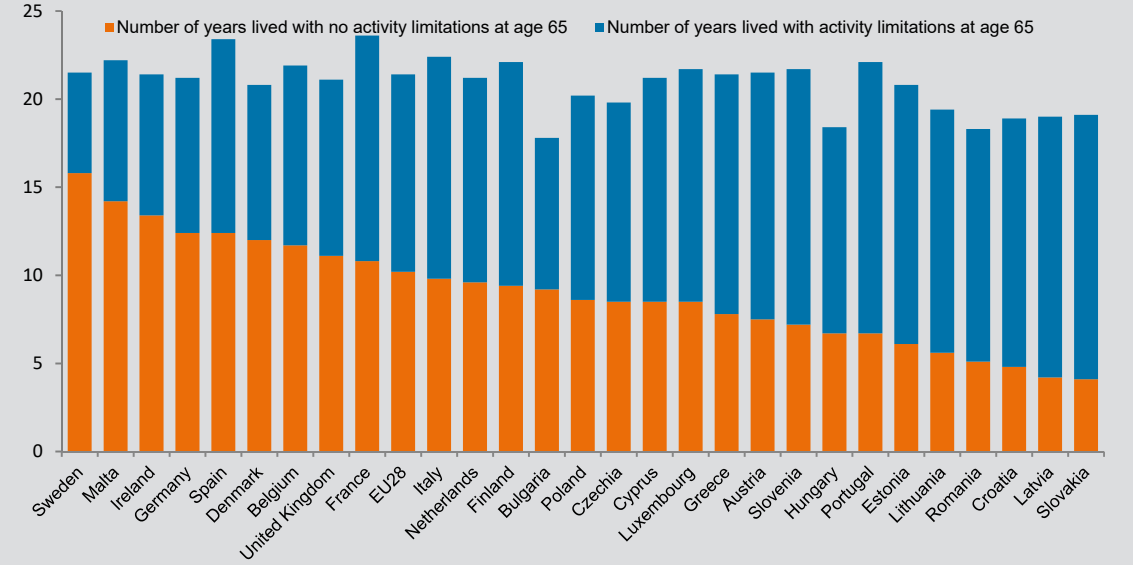


Source: Oecd Health Statistics
(1) 2010-2012 data. The remaining countries refer to data between 2015 and 2017.

The increase in life expectancy is accompanied, especially in the elderly population, by the spread of chronic diseases. In Italy, life expectancy without activity limitations at 65 years of age (9.8 years) is slightly lower than the EU average (10.2), but much lower than in Sweden (15.8 years) (Figure 5).

3 https://www.oecd-ilibrary.org//sites/6303de6b-en/index.html?itemId=/content/component/6303de6ben&mimeType=text/html.#

Figure 5. Life expectancy at age 65 with and without activity limitations. Year 2017



Source: Istat, based on Eurostat data

The latest available data indicate that both overall and infant mortality have returned to decline in Italy, which remains the country with the lowest values together with France, Spain and Switzerland.
Analysis of road traffic accident mortality data for the general population in 2018 continues to show, albeit to a limited extent compared to 2017, a decline for most EU countries[4].

Analysis of national data

Life expectancy increases, but the years to live in good health are stable

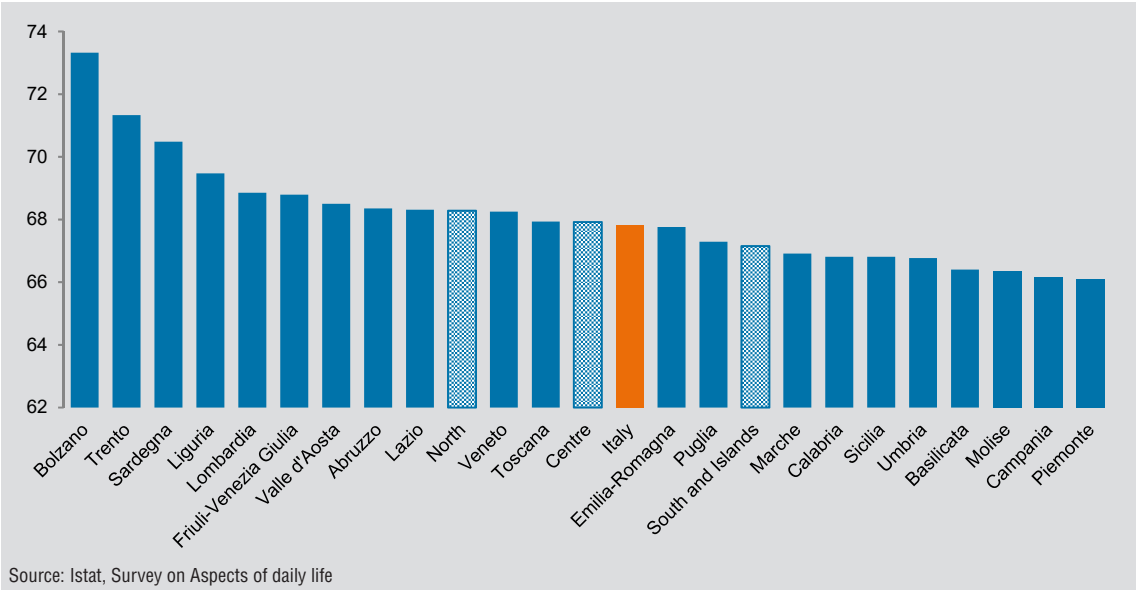
In 2018, life expectancy at birth reaches its highest value to date, 82.3 years. Compared to 2017, life expectancy is 0.3 years longer on average. For men the average number of years of life expectancy at birth reaches 80.9 years and for women 85.2 years. In 2018 the gender gap (4.3 years) remains at the level of the previous year.
Healthy life expectancy at birth, on the other hand, remains substantially stable (58.5 years in 2018).

4 Data are decreasing for all countries except Denmark, Finland, Germany, Hungary, Latvia, Luxembourg, the Netherlands, Poland, Portugal, Sweden and the Czech Republic. Between 2010 and 2018, the average annual reduction in the number of road deaths among the general population was 2.8% in the EU28 and 2.6% in Italy, which is still lower than estimated in order to reach the European target of halving the number of road deaths by 2020. In order to meet the target set, the number of deaths in the EU and Italy should fall by about 20% each year until 2020 over the period 2019-2020. (European Transport Safety Council, Annual PIN report. Year 2019 - https://etsc.eu/13th-annual-road-safety-performance-index-pin-report/ - European Commission CARE (Community Data Base on Road Accidents) - Brussels 4/4/2019 http://europa.eu/rapid/press-release_MEMO-19-1990_en.htm.

The disadvantage of women and residents in the South is constant for the main health indicators

Healthy life expectancy at birth in 2018 is 57.6 for women and 59.4 for men, with a constant gender differential over the last year.
In 2018, a 65-year-old woman can expect to live an average of 22.5 years, but of these 12.7 years will be lived with limitations in activities; a peer of her age will live an average of 19.3 years, of which 9.3 with limitations.
In 2018, life expectancy at birth in the North is 1 year longer than in the South, while for healthy life expectancy at birth the extent of territorial differences between North and South is about 3 years. The gap has narrowed by 1 year compared to 2017 due to the decrease in the value of the indicator in the North, while it has remained stable in the South. All regions in the South of Italy show values below the national average, both for healthy life expectancy at birth and for life expectancy with limitations in activities at 65.
In 2018 the mental health index[5] remains stable compared to 2017 (67.8%); stable also the gender differentials, with a disadvantage for women (65.9% for women vs. 69.2% for men), for all age groups, but the differences are particularly marked in older age.
In southern Italy mental health index records the lowest values. However, among the regions of the North, Piemonte has values close to those of the majority of the regions of the South (66.1%), while Sardinia is the only region in the South and Islands having levels similar to those of the regions of the North, with a value that exceeds 70 percentage points (Figure 6).

Figure 6. Mental health index for people aged 14 years and older by region and geographic area. Year 2018. Standardised mean values



Source: Istat, Survey on Aspects of daily life

5 Among the psychometric tools developed at international level, the Mental Health Index is considered here (MH) of the SF-36, based on the aggregation of the scores totalized by each individual by answering 5 specifications questions, which provides a measure of the psychological distress of individuals, and includes states related to anxiety, and to depression. The scores can vary between 0 and 100 and are to be compared in relative terms: as the score improves the assessment of mental health conditions (Keller SD, Ware JE, Bentler PM, et al. Use of structural equation modelling to test the construct validity of the SF-36 Health Survey in ten countries: Results from the IQOLA Project. J Clin Epidemiol. 1998;51:1179-88).

Continued reduction in infant mortality and cancer mortality

Infant mortality rates in 2016 are slightly lower than in 2015 (2.9 per thousand live births in 2015 compared to 2.8 in 2016). For boys, infant mortality rates are higher than for girls (3.0 per thousand live births for boys, 2.6 for girls).
The greatest contribution to the decrease is linked to the improvement of the indicator in the Centre, where the rate goes from 2.9 to 2.6 per 1,000 live births in 2016. In the North and South and Islands the rates remain stable for the third consecutive year (2.5 and 3.4 per 1,000 respectively).
In adulthood (20-64 years of age) the mortality rate from malignant tumors is considered premature and, at least in part, avoidable if contrasted with adequate prevention and early diagnosis. In 2016, the mortality rate for this condition is 8.7 per 10,000 residents and has decreased compared to 2015 (8.9 per 10,000 inhabitants).
In 2016 the rate of malignant tumors for women is 7.7 per 10,000, lower than both 2015 and 2014 (8 and 7.9 per 10,000, respectively). In men the mortality rate is higher: the value in 2016 is 9.6 per 10,000 inhabitants.
At the territorial level, the disadvantage of South of Italy is confirmed and tends to increase. The highest value of the indicator, both for men and women, is recorded in Campania (respectively 11.7 and 9.0 per 10,000 inhabitants).

Mortality from dementia and nervous system diseases is slightly decreasing

In a population like the Italian one, characterized by a very high life expectancy and therefore by a considerable percentage of elderly people, diseases such as dementia and diseases of the nervous system are widespread (the mortality rate is 31.2 per 10,000 inhabitants). Women have a mortality rate of 32.2 per 10,000 inhabitants, men have a mortality rate of 30.

Stable mortality rate from road accidents among young people

In 2018, the death rate from road accidents among young people remained at the previous year's levels (0.7 deaths per 10,000 residents aged 15-34). The road death rate for the total population, on the other hand, shows a slight decrease compared to 2017 (-1%).

Improving sedentariness, other lifestyles remain stable

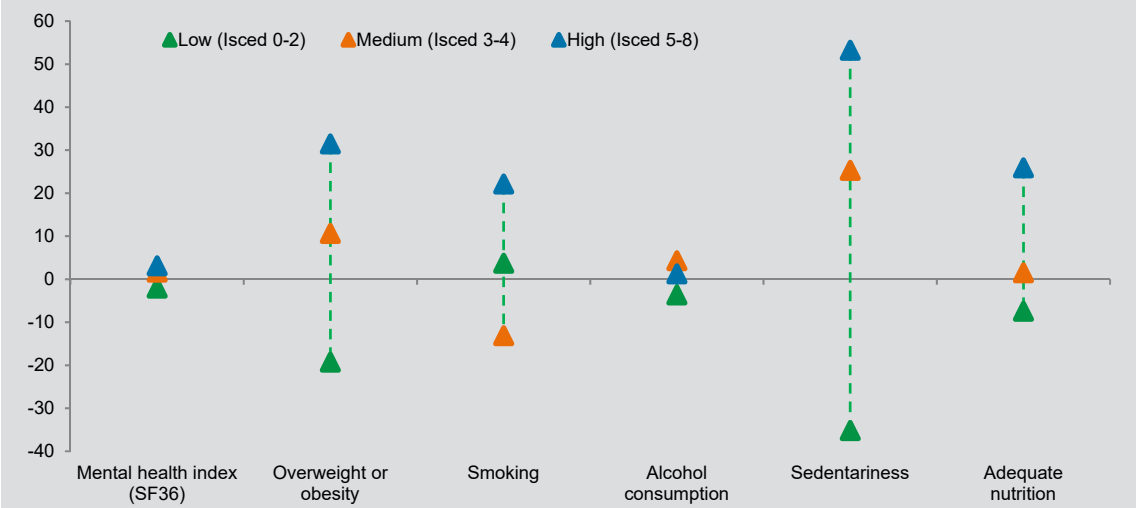
In 2018 the indicator measuring sedentariness in the Italian population improved from 37.9% in 2017 to 35.7% in 2018. The decrease mainly concerns women (-2.7 percentage points, comparing to -1.7 for men).
Between 2016 and 2018, the percentage of adult population who are overweight remained the same after the increase observed in 2015. In 2018, the regions of southern of Italy continue to have the highest values. However, the gap comparing to the Centre is narrowing, due to the increase in the percentage of overweight or obese people in the central regions (from 41.9% to 43.3%). For 13 out of 21 regions, the share of overweight adults increased in 2018, with the highest values in Liguria and Molise (about 4 percentage points). Also the greater prevalence of overweight among men is confirmed in 2018 (54.3% compared to 35.8% for women).
In 2018, the share of the smokers remain broadly the same (19.4%), with the highest rate observed in the Centre, which is also increasing (22.4% in 2018 compared to 20.3% in 2017).

Values relating to the percentage of people with risky habits in alcohol consumption and, in terms of healthy lifestyles, the share of people who consume adequate quantities of fruit and vegetables on a daily basis remain stable over the last year. The North pursues a less healthy lifestyle than the other areas in terms of excessive alcohol consumption (19.5% in the North, 16.7% in the Centre and 12.9% in the South).
The highest proportion of people who consume adequate quantities of fruit and vegetables is observed in the Centre (22.2% compared to 21.8% in the North and 15.1% in the South).

Significant differentials by level of education

The health indicators for which data is available are significantly related with the level of education achieved by people[6].
The indicator of life expectancy at birth varies significantly according to the level of education. Average life expectancy at birth is 82.3 years for highly educated men and falls to 79.2 years for the least educated (-3.1 years)[7]. For women the gap is smaller, with a life expectancy at birth ranging from 86 among the highly educated to 84.5 years among the least educated (-1.5 years).
The protective role of the educational qualification is also confirmed for health risk factors, with greater attention to healthy behaviours among the most educated. An exception to this is the inappropriate consumption of alcohol, on which the educational qualification does not seem to have any statistical effect (Figure 7)[8]. The educational qualification has a positive influence also on mental health conditions, although with less marked differences.

Figure 7. Percentage variation for some Health indicators comparing to the value for Italy by level of education. Latest available year (a) (b) (c)



(a) Low level of education: Isced 0-2; Medium level of education: Isced 3-4; High level of education: Isced 5-8.
(b) Values above zero correspond to better well-being conditions comparing to the Italian average; on the contrary, values below zero correspond to worse well-being conditions. The calculation took into account the polarity of indicators.
(c) The indicator on "Adequate nutrition" by level of education refers to persons aged 6 and over.

6 A more detailed analysis of the report is available in the OECD report (2019), Health for Everyone?: Social Inequalities in Health and Health Systems, OECD Health Policy Studies, OECD Publishing, Paris, https://doi.org/10.1787/3c8385d0-en.

7 It should be noted that the estimates reconstructed at national level, refer to annuities (2012-2014) and that the qualification (low, medium, high) has been calculated also taking into account age (to consider the effects of the Italian school reform on the classification variable of education). All further methodological details are available on the ISTAT website (Istat, 2018, Tavole di dati Diseguaglianze regionali nella speranza di vita per livello di istruzione https://www.istat.it/it/archivio/212512).

8 For more information: Istat. Il consumo di alcol in Italia: https://www.istat.it/it/archivio/215088.

Indicators

1. **Healthy life expectancy at birth:** It expresses the average number of years that a child born in a given calendar year can expect to live in good health on the assumption that the risks of death and perceived health conditions remain constant. It is built using the prevalence of individuals who respond positively ("good" or "very good") to the question on perceived health.

   Source: Istat - Life tables of Italian population and Survey on Aspects of daily life.

2. **Mental health index (SF36):** The mental health index is a measure of psychological distress obtained from the synthesis of the scores obtained by each individual of 14 years and over to 5 questions from the SF36 questionnaire (36-Item Short Form Survey). It includes one or more items from each of the four major mental health dimensions (anxiety, depression, loss of behavioral or emotional control, and psychological well-being). The final score varies from 0 to 100, with better psychological well-being corresponding to higher scores.

   Source: Istat - Survey on Aspects of daily life.

3. **Infant mortality rate:** Deaths during the first year of life per 10.000 born alive.

   Source: Istat - For deaths: Survey on deaths and causes of death. For live births: Migration and calculation of yearly resident population.

4. **Road accidents mortality rate (15-34 years):** Age-standardised* mortality rate in road accidents by five year age groups for people aged 15-34 years.

   Source: Istat - For deaths: Survey on road accidents resulting in death or injury. For population: Survey on the municipal resident population by sex, year of birth and marital status.

5. **Age-standardised* cancer mortality rate (20-64 years):** Mortality rate for cancer (initial cause) by five year age groups for people aged 20-64 years.

   Source: Istat - For deaths: Istat, Survey on deaths and causes of death. For population: Survey on the municipal resident population.

6. **Age-standardised* mortality rate for dementia and nervous system diseases (65 years and over):** Mortality rate for nervous system diseases and psychical and behavioral disorders (initial cause) by five year age groups for people aged 65 years and over.

   Source: Istat - For deaths: Istat, Survey on deaths and causes of death. For population: Survey on the municipal resident population.

7. **Life expectancy without activity limitations at 65 years of age:** It expresses the average number of years that a person aged 65 can expect to live without suffering limitations in activities due to health problems. It is based on the prevalence of individuals who answer to be limited, for at least the past 6 months, because of a health problem in activities people usually do.

   Source: Istat - Life tables of Italian population and Survey on Aspects of daily life.

8. **Overweight or obesity:** Standardised* rate of people aged 18 and over who are overweight or obese. The indicator refers to the Body Mass Index (BMI), which classifies people as overweight (25 <= BMI <30) or obese (BMI> 30) as classified by the World Health Organization (WHO).

   Source: Istat - Survey on Aspects of daily life.

9. **Smoking:** Standardised* rate of people aged 14 and over who report current smoking.

   Source: Istat - Survey on Aspects of daily life.

10. **Alcohol consumption:** Standardised* rate of people aged 14 and over who are at-risk consumers of alcohol. Taking into account the definitions adopted by the WHO and the recommendations from INRAN, in agreement with the National Institute of Health, are identified as "at-risk consumers" all those individuals who have at least one risk behaviour, exceeding the daily consumption of alcohol (according to specific thresholds for sex and age) or concentrating on a single occasion of consumption the intake of 6 or more units of any alcoholic drink (binge drinking).

    Source: Istat - Survey on Aspects of daily life.

11. **Sedentariness:** Standardised* rate of people aged 14 and over referring not to play sports neither continuously nor intermittently during their spare time, and people aged 14 and over referring not to perform any physical activity, such as walking at least 2 km, cycling, swimming, etc.

    Source: Istat - Survey on Aspects of daily life.

12. **Adequate nutrition:** Standardised* rate of people aged 3 years and over who say they take every day at least 4 portions of fruit and vegetables.

    Source: Istat - Survey on Aspects of daily life.

(*) The indicator is standardized using the 2013 European standard population.

Indicators by region and geographic area

REGIONS AND GEOGRAPHIC AREAS	Life expectancy at birth (a)	Healthy life expectancy at birth (a)	Mental health index (SF36) (b)	Infant mortality rate (c)	Road accidents mortality rate (15-34 years) (d) (e)	Age-standardised cancer mortality rate (20-64 years) (f)
	2018	2018	2018	2016	2018	2016
Piemonte	82.6	59.2	66.1	2.2	0.6	8.8
Valle d'Aosta/Vallée d'Aoste	81.9	61.1	68.5	4.2	0.4	9.6
Liguria	82.7	58.5	69.5	2.5	1.2	8.5
Lombardia	83.4	58.8	68.9	2.8	0.5	8.4
Trentino-Alto Adige/Südtirol	84.0	67.7	72.3	3.3	0.5	7.8
Bolzano/Bozen	*83.8*	*70.0*	*73.3*	*3.1*	*0.4*	*7.9*
Trento	*84.0*	*65.4*	*71.3*	*3.5*	*0.5*	*7.7*
Veneto	83.6	59.0	68.3	2.3	0.8	7.7
Friuli-Venezia Giulia	83.1	60.0	68.8	2.0	0.6	8.3
Emilia-Romagna	83.5	59.2	67.8	2.0	0.9	8.4
Toscana	83.6	61.7	67.9	2.7	0.7	8.2
Umbria	83.8	58.2	66.8	1.7	0.7	7.7
Marche	83.7	60.1	66.9	1.9	0.5	7.7
Lazio	83.0	59.3	68.3	2.8	0.8	9.2
Abruzzo	83.0	57.2	68.4	2.5	0.7	8.1
Molise	82.7	57.6	66.4	1.0	0.3	8.4
Campania	81.4	56.0	66.2	3.2	0.5	10.3
Puglia	83.0	57.5	67.3	2.7	0.8	8.3
Basilicata	82.6	55.9	66.4	4.2	0.9	7.1
Calabria	82.5	52.9	66.8	4.8	0.7	8.4
Sicilia	81.9	56.0	66.8	4.0	0.6	8.9
Sardegna	83.1	57.6	70.5	2.6	1.1	10.0
North	83.3	59.3	68.3	2.5	0.6	8.3
Centre	83.4	60.1	67.9	2.6	0.7	8.6
South and Islands	82.3	56.3	67.2	3.4	0.7	9.1
Italy	**83.0**	**58.5**	**67.8**	**2.8**	**0.7**	**8.7**

(a) Average number of years;
(b) Standardised mean values;
(c) Standardised rates per 1,000 resident live births;
(d) Standardised rates per 10,000 residents aged 15-34;
(e) 43 victims for the municipality of Genova died on the A10 Genova-Ventimiglia, in occasion of the accident on Morandi Bridge (14th of august 2018), among them 17 in the 15-34 age-group;
(f) Standardised rates per 10,000 residents aged 20-64;
(g) Standardised rates per 10,000 residents aged 65 and over;
(h) Standardised rates per 100 persons aged 18 and over;
(i) Standardised rates per 100 persons aged 14 and over;
(l) Standardised rates per 100 persons aged 3 and over.

Age-standardised mortality rate for dementia and nervous system diseases (65 years and over) (g)	Life expectancy without activity limitations at 65 years of age (a)	Overweight or obesity (h)	Smoking (i)	Alcohol consumption (i)	Sedentariness (i)	Adequate nutrition (l)
2016	2018	2018	2018	2018	2018	2018
34.1	10.8	42.1	21.0	19.3	25.7	22.9
46.9	10.6	42.1	18.4	26.4	27.9	25.6
33.1	11.2	42.4	20.0	18.2	31.2	20.8
33.2	10.7	40.0	19.3	18.6	27.1	21.8
34.7	11.0	39.7	18.1	23.3	15.2	20.6
39.7	*10.7*	*39.9*	*18.9*	*25.5*	*14.3*	*13.4*
30.5	*11.3*	*39.5*	*17.4*	*21.1*	*16.1*	*27.7*
38.7	10.7	43.7	17.0	21.0	22.2	19.5
28.8	10.2	42.9	16.6	20.2	23.5	22.9
32.7	10.0	44.5	17.7	19.6	26.2	22.9
30.6	10.5	41.3	21.0	19.4	28.2	24.0
32.4	8.7	46.6	21.0	18.3	29.5	25.9
33.3	10.3	44.2	21.0	18.1	32.5	20.5
26.7	10.4	44.0	23.9	14.2	39.6	21.0
31.8	10.5	48.8	19.7	15.9	38.8	16.9
24.8	10.1	50.7	17.3	18.8	42.6	15.0
23.2	8.1	51.7	18.7	11.6	55.5	13.9
29.0	9.0	49.7	17.6	14.5	45.8	11.3
26.0	7.9	50.7	19.4	17.1	45.4	11.0
22.2	7.9	50.1	16.3	15.0	51.4	14.9
27.9	8.3	50.6	19.1	9.3	55.9	16.6
37.1	9.0	38.2	20.0	18.2	33.8	24.8
34.1	10.6	41.9	18.8	19.5	25.6	21.8
29.6	10.3	43.3	22.4	16.7	34.4	22.2
27.5	8.6	49.6	18.4	12.9	50.0	15.1
31.2	**9.9**	**44.8**	**19.4**	**16.7**	**35.7**	**19.6**

2. Education and training[1]

Over the past year, indicators show a generalised trend towards improvement.
The measures of the level of education achieved by the population have a positive trend: 61.7% of people aged 25-64 have at least upper secondary school graduation (+0.8 compared to 2017); 27.8% of young people between 30 and 34 years of age have obtained a degree or other tertiary education (+0.9 compared to 2017).
Positive signs are also the reduction in the proportion of young people aged 15-29 who are not engaged in education, employment nor training (Neet), which drops to 23.4% (-0.7 compared to 2017), and the growth in the share of people who carried out activities of cultural participation in the year, rising to 27.9% (+0.8 compared to 2017). Both indicators, however, show a worse performance compared to 2010. Numerical and alphabetical skills of second grade students in high school, which for the first time can be compared with the results of the previous year, slightly improved.
On the other hand, the criticality of early school leavers, which is increasing compared to 2016, remains. In 2018, 14.5% of 18-24 year-olds who have not attained a high school diploma of second degree is not in education or training.

Table 1. Education and training indicators: value for the latest available year. Percentage variations on previous year and on 2010

INDICATOR	Latest available year value	% variation (compared with the previous year)	% variation (compared with 2010)
1. Participation in the school system of children aged 4-5 *(%, 2017/2018) (a)*	94.9		
2. People with at least upper secondary education level (25-64 years) *(%, 2018)*	61.7		
3. People having completed tertiary education (30-34 years) *(%, 2018)*	27.8		
4. First-time entry rate to university by cohort of upper secondary graduates *(%, 2018/2019) (b)*	50.4		
5. Early leavers from education and training *(%, 2018)*	14.5		
6. People not in education, employment, or training (Neet) *(%, 2018)*	23.4		
7. Participation in life-long learning *(%, 2018)*	8.1		
8. Inadequate level of literacy *(%, 2018/2019)*	30.4		—
9. Inadeguate level of numeracy *(%, 2018/2019)*	37.8		—
10. People with high level of IT competencies (%, 2018)	22.0		—
11. Syntetic indicator of the level of cultural participation *(%, 2018)*	27.9		

— Comparison not available Improvement Stability Deterioration

(a) 2010/2011 data not available, variation based on 2012/2013 data
(b) 2010/2011 data not available, variation based on 2013/2014 data

Note: variations between two points in time above 1% are considered positive (in green), below -1% are considered negative (in red). Variations between -1 and +1% refer to stability (in grey).

The analysis by region shows a highly differentiated situation (Figure 1).
The territorial variations in the share of tertiary graduates among people aged 30-34 and in that of people with at least a high school diploma in population aged 25-64 are marked:

1 This chapter was edited by Barbara Baldazzi with contributions from: Raffaella Cascioli, Anna Emilia Martino, Miria Savioli, Liana Verzicco and Laura Zannella.

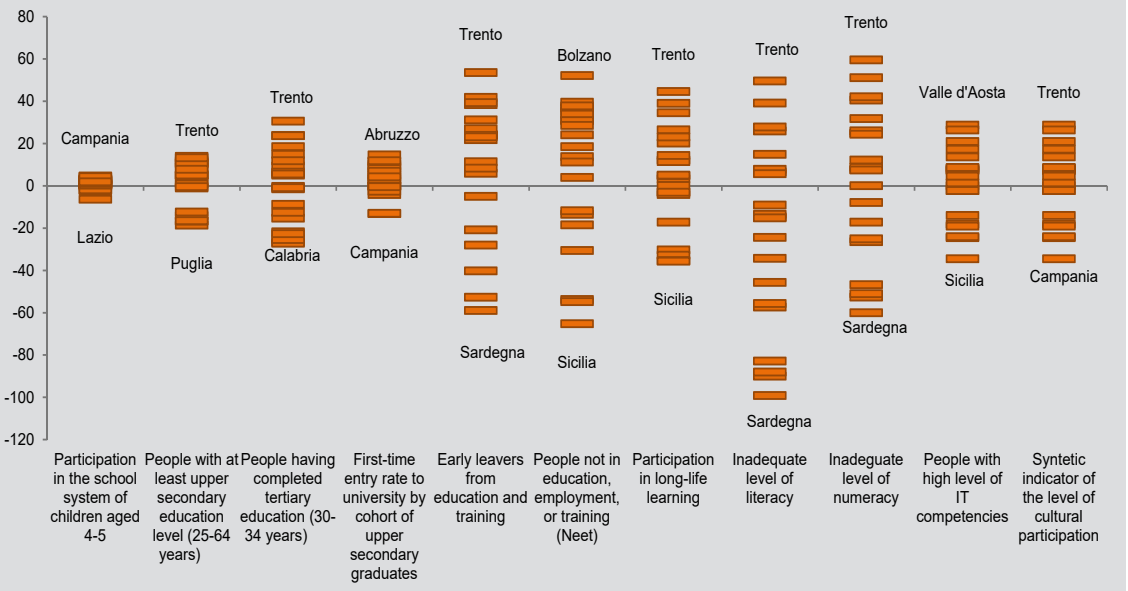
in the Centre, North and in Abruzzo, Molise and Basilicata there are more than sixty high school graduates every hundred people, and in the other regions of southern Italy just over fifty every hundred; in Piemonte, Lombardia, Trento, Veneto, Friuli-Venezia Giulia, Emilia-Romagna and Lazio one young person in three has a university or tertiary degree, while in the other regions about one in four.

The shares of people taking part in lifelong learning and cultural activities, two variables that are highly correlated with the educational qualification, reach high levels in the northern and central regions, where population is comparatively more educated than in the South.

Alphabetical and numerical skills of students attending second grade high school, early school leavers and Neet's share show the same regional gradient. The indicators are higher than average in the province of Trento, Veneto, Friuli-Venezia Giulia and Lombardia, while in Sardegna, Sicilia, Calabria, Puglia and Campania they are lower than the national average.

The indicator with the smallest territorial variations is the participation of children aged 4-5 years in kindergarten and, for those aged 5, in the first class of primary school. In Campania, in school year 2017/2018, 99.3% of children aged 4-5 years attended a pre-primary or primary school; in Lazio, 88.8%.

Figure 1. Percentage variation for Education and training indicators comparing to the value for Italy by region. Latest available year (a)



(a) Values above zero correspond to better well-being conditions comparing to the Italian average; on the contrary, values below zero correspond to worse well-being conditions. The calculation took into account the polarity of indicators.

The indicator that quantifies the proportion of young people who go to university after completing upper secondary education also varies little between regions: in Puglia, Campania, Sicilia and Calabria just under half of all graduates students enrolled for the first time at university in the same year in which they graduated; on the contrary, in Molise, Abruzzo, Marche and Liguria the percentage is over 55%.

On the whole, most of the indicators for the regions of the South express worse performances than those of the Centre-North regions, with the only exception of Lazio, which has the lowest level of participation in the school system for children aged 4-5 years. The provinces of Bolzano and Trento reach the most satisfactory levels for almost all measures of the domain.

International comparison

Since 2010, the main indicators of education and training in Italy are far below the European average (Figure 2).
Of particular concern is the international comparison for the early leavers from education and training among young people aged 18-24. Italy is the fourth country with the worst performance (14.5%), after Spain (17.7%), Malta (17.4%), and Romania (16.4%), and far above the European average (10.6%). Among people aged 30-34, 40.7% completed tertiary education (universities and other equivalent courses) in the average of the EU countries, the percentage for Italy drops to 27.8%, followed only by Romania (24.6%).
The percentage of people aged 25-64 who have obtained at least a high school diploma is also significantly lower than the European average (-16.4 points compared to 78.1% of Eu28). Only Spain (60.1%), Malta (54%) and Portugal (49.8%) have lower percentages.
Italy's disadvantage with respect to the EU average for lifelong learning is, on the other hand, less pronounced, with 8.1% of individuals participating in lifelong learning, compared to 11.1% of the European average.
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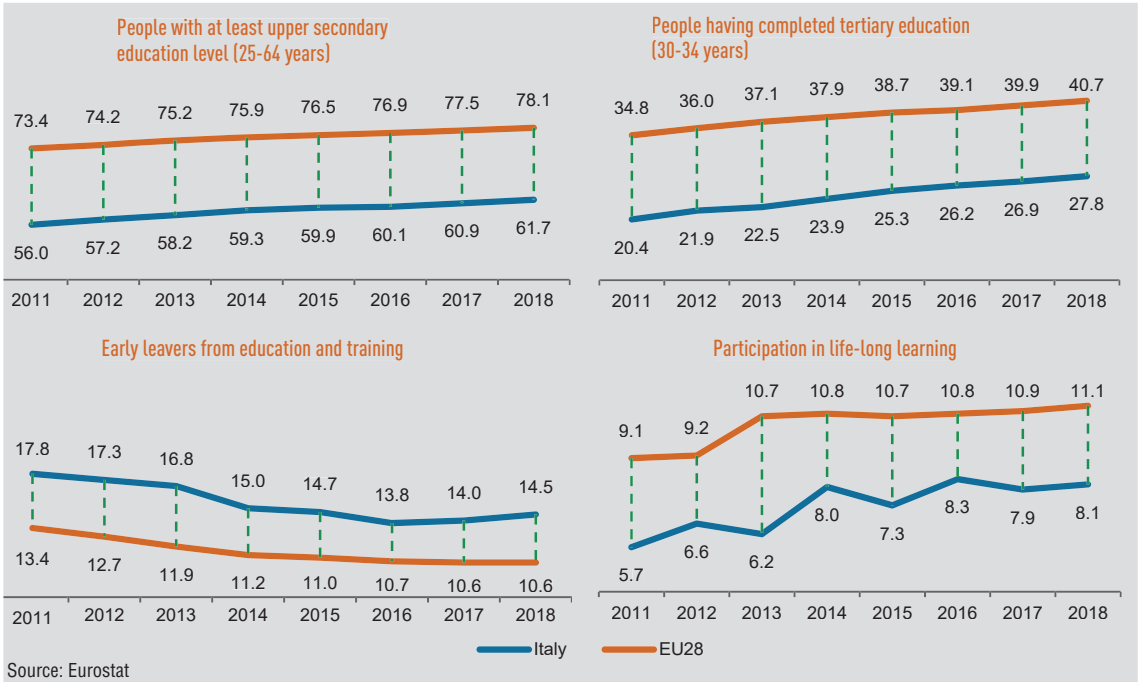
Figure 2. Main indicators of education and training in Italy and the Eu28. Years 2011-2018. Percentage values



Source: Eurostat

Italy's disadvantage with respect to the EU average for lifelong learning is, on the other hand, less pronounced, with 8.1% of individuals participating in lifelong learning, compared to 11.1% of the European average.

Analysis of national data

The number of children attending childcare services is still too low

Access to early childhood services and pre-primary school has positive and long-term effects on the child's cognitive and behavioural abilities. The very first experiences of children lay the foundation for all forms of later learning. The Italian legislation[2], more than the common feeling, recognizes the educational purposes of the service provided by the nursery, being aimed at fostering the expression of cognitive, affective and relational potential of the child. However, this regulatory definition is not followed by adequate investments and widespread participation in early childhood education. Italy, in fact, has very low levels of inclusion of children between 0 and 2 years in nursery schools. Only 13% of children between 0 and 2 years of age attended municipal nursery schools[3]. If 3-year-old children and private facilities are also included, the share reaches 28.6%, which is still below the European target of at least one in three children[4].
Participation in the educational system of children aged 4 and 5 provides, on the other hand, a positive indication: about 95% of children are included in pre-primary school (or in the first year of primary school, because those who have turned five can also access it[5]).

More 18-24 year-olds leaving education and training early

The proportion of early school leavers among 18-24 year-olds increased to 14.5% in 2018, maintaining major regional and gender differences.
Between 2016 and 2018, the proportion of girls aged 18-24 without a high school diploma and not in education and training increased by about 1 percentage point (from 11.2% to 12.3%), while it increased less among boys (16.5% in 2018, compared to 16.1% in 2016).

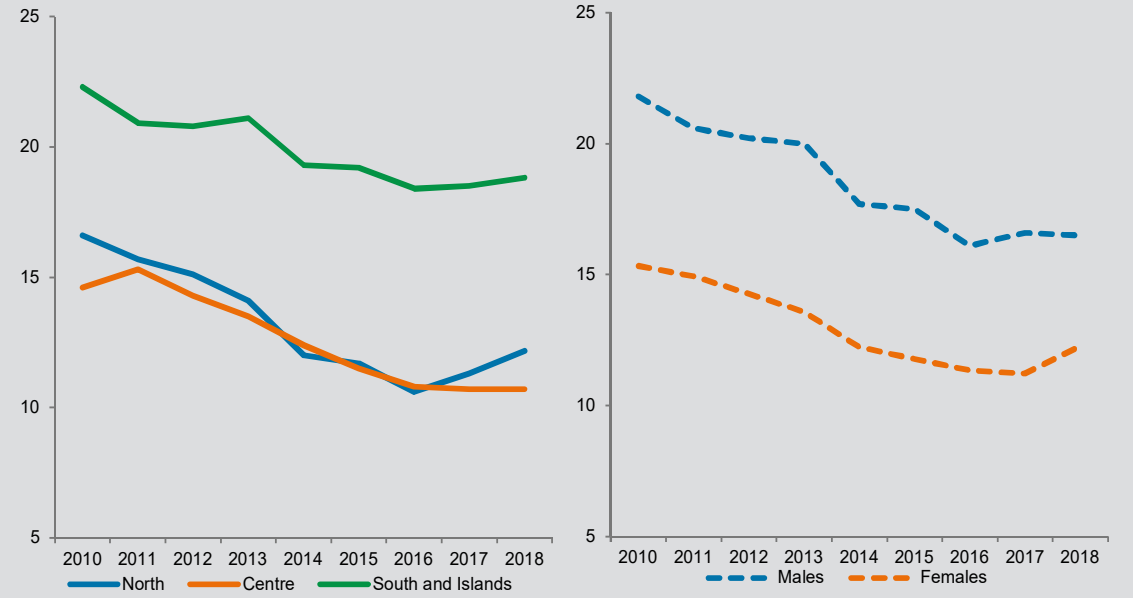
2 See Laws 285/1997, 448/2001, 107/2015, 11/2016 et seq. and Legislative Decree 65/2017, which established an integrated education system in the 0-6 age group.

3 See the chapter on "Quality of services".

4 The Lisbon European Council in 2000 set as a priority the upgrading of pre-school age services. The strategy was subsequently developed into two measurable objectives. to provide childcare to at least 90% of all children between 3 years and the mandatory school age and at least 33% of all children under 3 years of age.

5 Since this edition of the BES Report, the first indicator of the Education and Training domain has changed: the indicator published also by Eurostat, therefore with a methodology shared at European level, on "Participation in the school system of children aged 4-5 years" (i.e. the percentage of children aged 4-5 years attending pre-primary school or the first year of primary school calculated on the total number of children aged 4-5 years) has been inserted in place of the indicator on "Participation in pre-primary school of children aged 4-5 years".

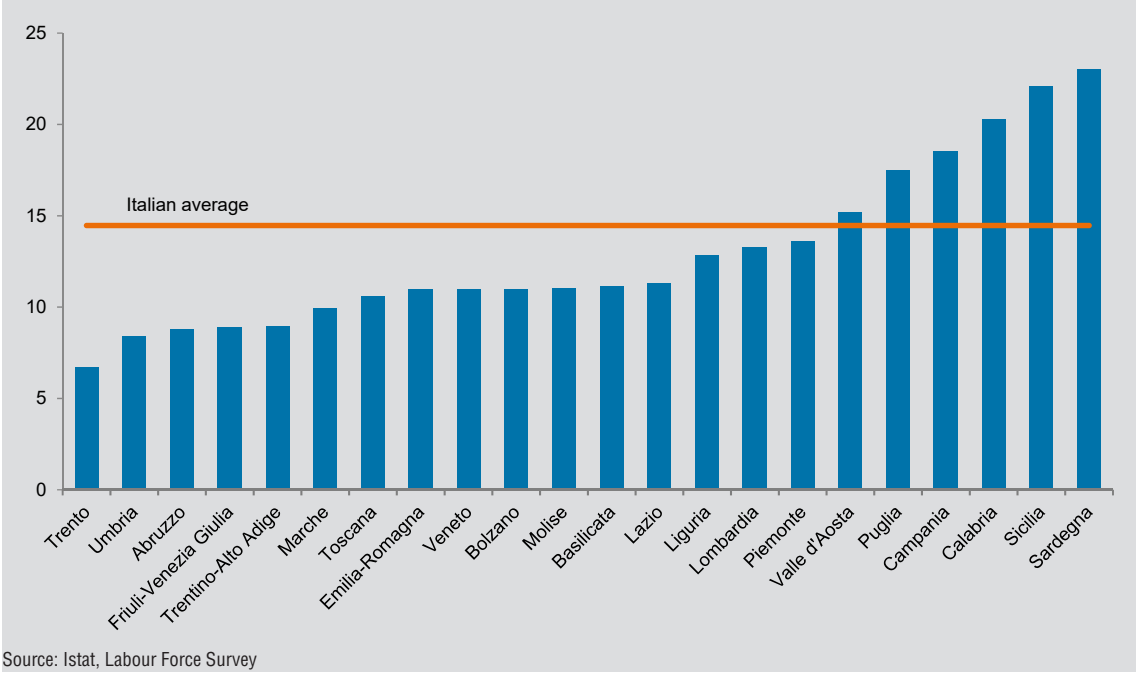
Figure 3. Early leavers from education and training by geographic area and gender. Years 2010-2018. Percentage values



Source: Istat, Labour Force Survey

In the last two years, the percentage of young people who left education early has increased by 1.6 percentage points in the North (from 10.6% to 12.2%), with the sharpest increase achieved in Veneto (from 6.9% to 11%) and Piemonte (from 10.2% to 13.6%). In southern Italy, the share of early school leavers exceeded 20% in Calabria (20.3% in 2018 against 15.7% in 2016) and Sardegna (23% against 18.1%). Sicilia (22.1%), Campania (18.5%), Puglia (17.5%) and Valle d'Aosta (15.2%) also showed a more critical situation than the national average (Figure 4).

Figure 4. Early leavers from education and training in the Italian regions. Year 2018. Percentage values



Source: Istat, Labour Force Survey

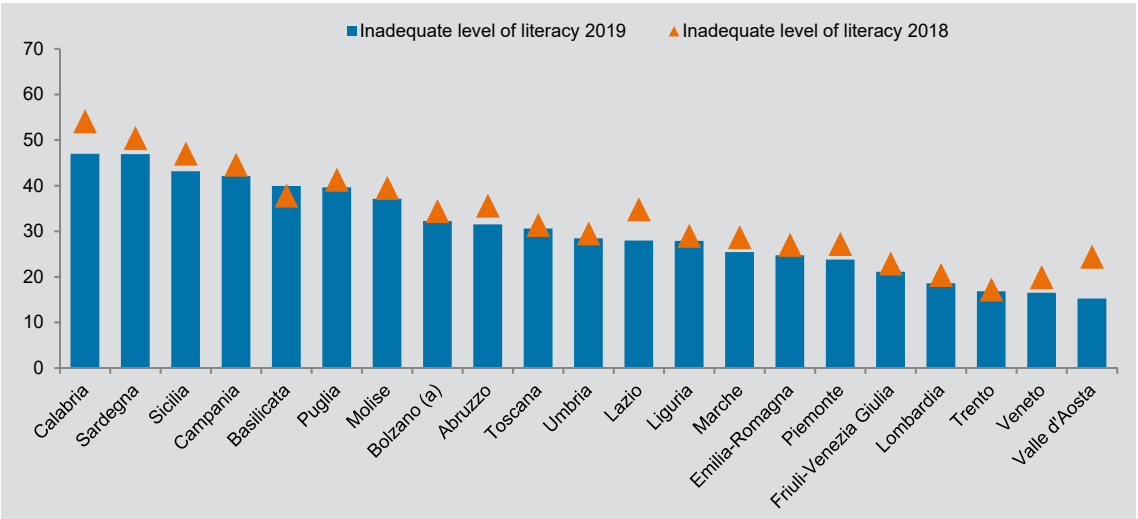
Small improvements in students' skills in mathematics and Italian

During the school year 2018/2019, the share of students attending the second year of secondary school who did not achieve the sufficiency (are low performers) is 30.4% in Italian skills, 37.8% in mathematics skills. Compared to the previous school year, the percentage of those who did not reach a pass in Italian fell by 3.1 percentage points (it was 33.5%) and by 3.8 points in mathematics (it was 41.6%). Improvements occurred rather uniformly between the geographical areas.
Among girls, who were less proficient in mathematics, 42.2% had inadequate mathematics skills (they were 45.1% in the previous school year), while the percentage is lower among boys (33.5%, comparing to 38.2% in the previous school year). The situation is reversed for Italian. Boys, in spite of an improvement, show more difficulties than girls: 34.4% do not have an adequate level of Italian skills (it was 37.7% in 2018), comparing to 26.3% among girls (they were 29.1% in 2018).

Marked differences across regions

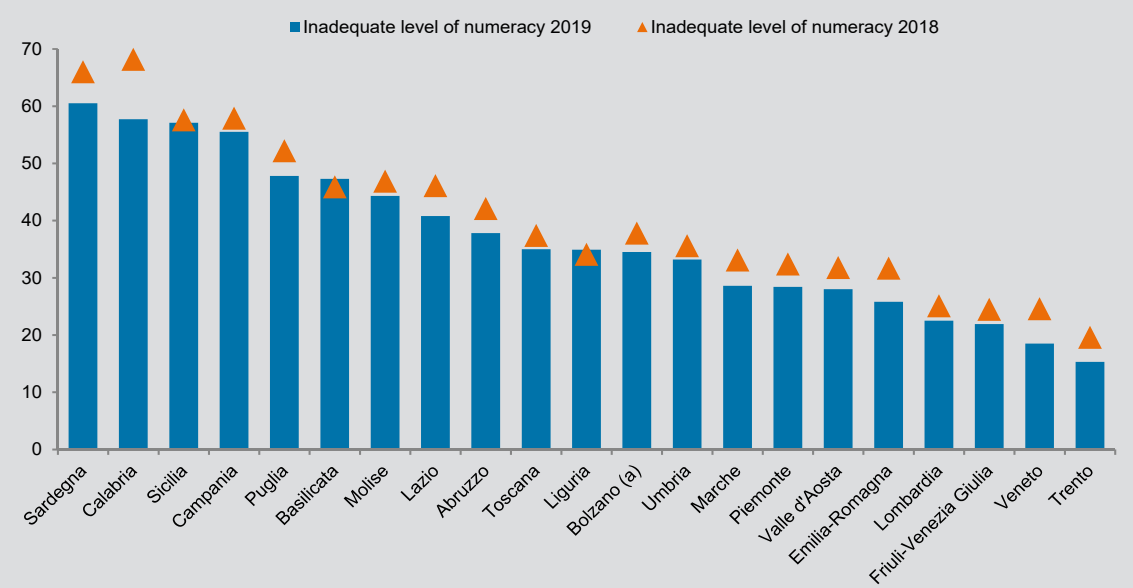
In the southern regions the highest proportion of students performing below the baseline level of proficiency literacy or numeracy is observed (Figures 5 and 6). Particularly severe, for Italian skills, is the situation in Calabria (47% of students are insufficient), Sardegna (46.9%), Sicilia (43.2%) and Campania (42.1%). For mathematics, the highest percentages of students performing below the baseline level is observed in Sardegna (60.5%), Calabria (57.7%), Sicilia (57.1%), Campania (55.5%), Puglia (47.8%), Basilicata (47.3%), Molise (44.3%) and Lazio (40.8%).
Compared to 2018, however, there have been improvements, and the percentage of students with inadequate skills has decreased. For Italian skills, the sharpest decrease was recorded in Valle d'Aosta (-9.1 percentage points), Calabria (-7.1) and Lazio (-6.8). For mathematics skills, distances were reduced in Calabria (-10.5), Veneto (-6.1), Emilia-Romagna (-5.9), Sardegna (-5.5) and Lazio (-5.3).

Figure 5. Share of students in Class II of secondary school performing below the baseline level of proficiency in literacy competence. School years 2017/2018, 2018/2019



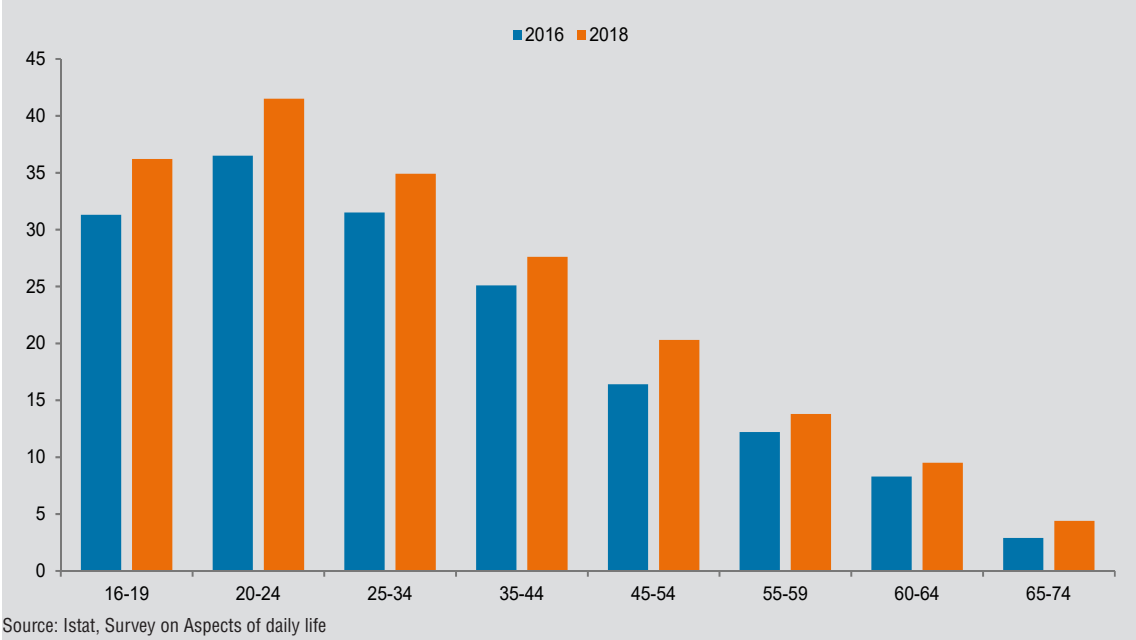
Source: Invalsi, National Institute for the Educational Evaluation of Instruction and Training, Evaluation Service
(a) Results refer to the Autonomous Province of Bolzano (Italian language)

Figure 6. Share of students in Class II of secondary school performing below the baseline level of proficiency in numeracy competence. School years 2017/2018, 2018/2019



Source: Invalsi, National Institute for the Educational Evaluation of Instruction and Training, Evaluation Service
(a) Results refer to the Autonomous Province of Bolzano (Italian language)

Figura 7. Share of population aged 16-74 with advanced digital skills by age group. Years 2016, 2018



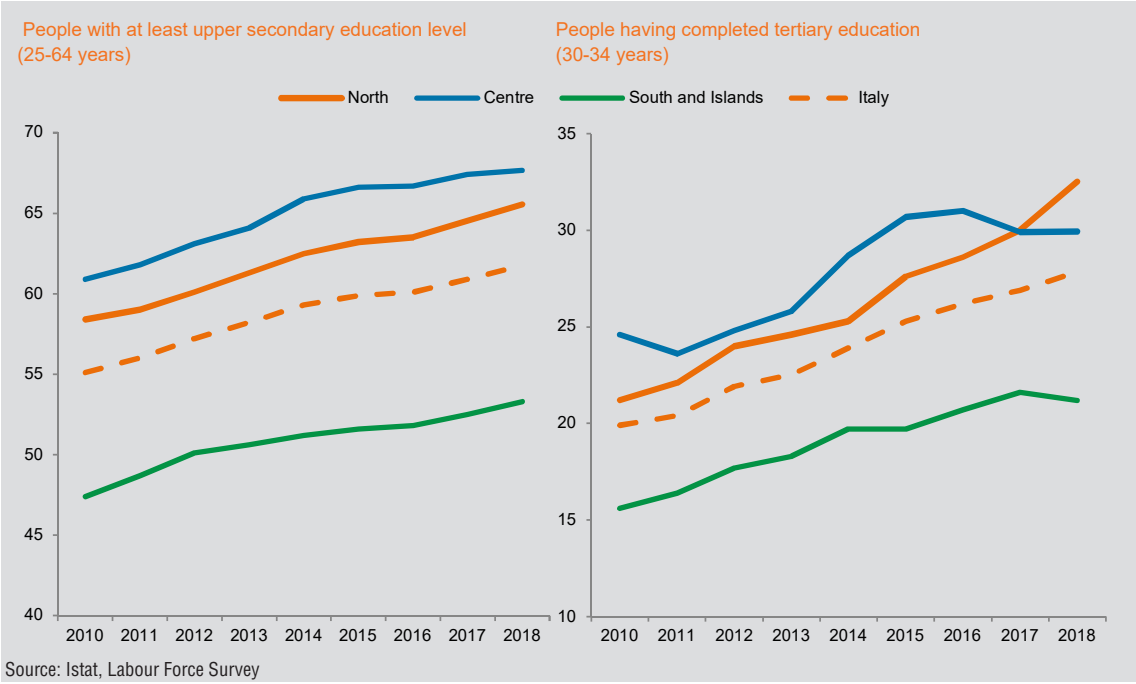
Source: Istat, Survey on Aspects of daily life

In 2018, the share of the population aged 16-74 with a high level of IT competencies was 22%, increasing in all age groups compared to 2016 (19.5% - Figure 7). The youngest have the most advanced skills (41.5% among people aged 20-24, about 35% among those aged 16-19 and 25-34).

The level of education has been improving, with widening territorial gaps

In 2018, 61.7% of people aged 25-64 have attained at least a high school diploma, in constant growth over time (it was 60.9% in 2017). However, territorial differences are significant. In the South, in fact, only one person every two has obtained at least the diploma in the 25-64 age group; in the North the proportion rises to 65.5%, to 67.7% in the Centre. While the gap between the Centre and the North is narrowing, the gap between Centre-North and the South continues to increase. Among the young people aged 30-34, the percentage of those who have achieved a tertiary/university degree is constantly increasing: in 2018 the young graduates are 27.8% (the previous year they were 26.9%). Again, the gap between North and South is widening: 32.5% of young people in the North hold a tertiary degree compared to 21.2% of young people living in the South. In the Centre the share of graduates, about 30%, has remained almost unchanged over the last 4 years. The regions with the highest proportion of 30-34 year-olds with a tertiary degree are the province of Trento (36.4%), Friuli-Venezia Giulia and Emilia-Romagna (34.4%), Lombardia (33%), Veneto (32%), Lazio (31.1%) and Piemonte (30.4%). In all regions of southern Italy the percentage is below 25%, with the exception of Basilicata, where it reaches 25.4%.

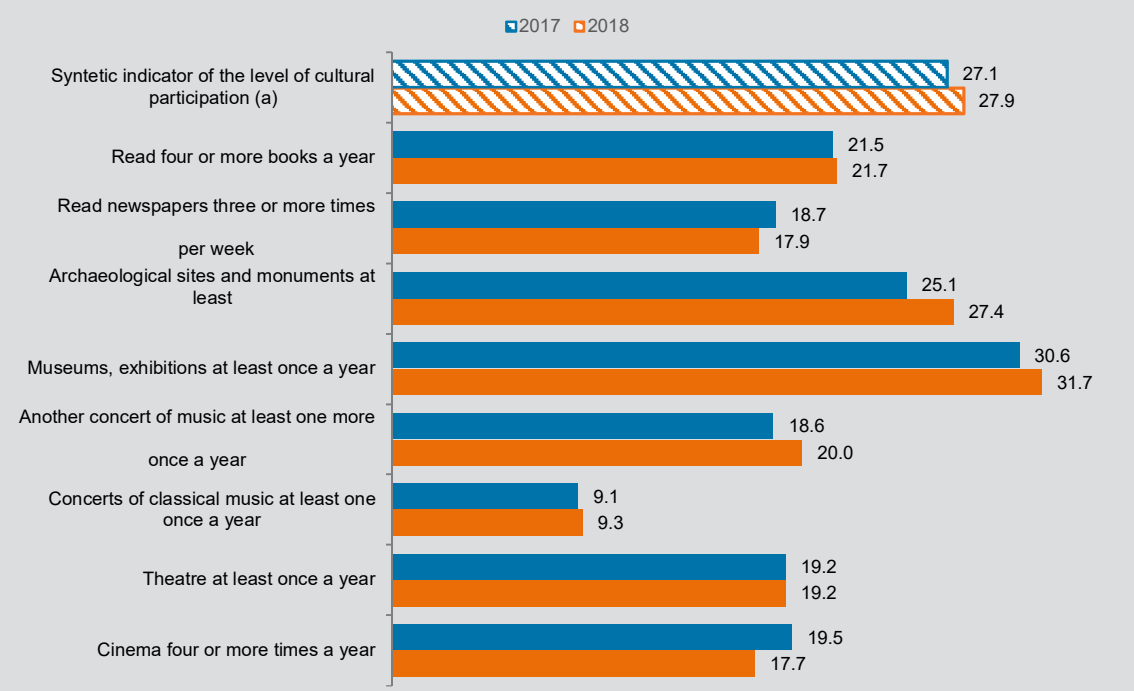
Figure 8. Share of people with at least upper secondary education among the population aged 25-64 and share of graduates and other tertiary education among the population aged 30-34 by geographic area. Years 2010-2018



Source: Istat, Labour Force Survey

In 2018 the share of people aged 6 years and over who have been involved in at least three cultural activities (such as going to the cinema, theatre or concert, attending museums or exhibitions, reading books or newspapers, etc.) increased by about one percentage point, reaching 27.9%. If, on the one hand, the percentage of people declaring to have frequented archaeological sites and monuments, museums and exhibitions increased, on the other hand, the share of those who declare themselves to have read newspapers and books and those who have been to the cinema decreased.

Figure 9. Share of people participating in at least 3 cultural activities. Years 2017-2018



Source: Istat, Survey on Aspects of daily life
(a) Carried out three or more of the activities

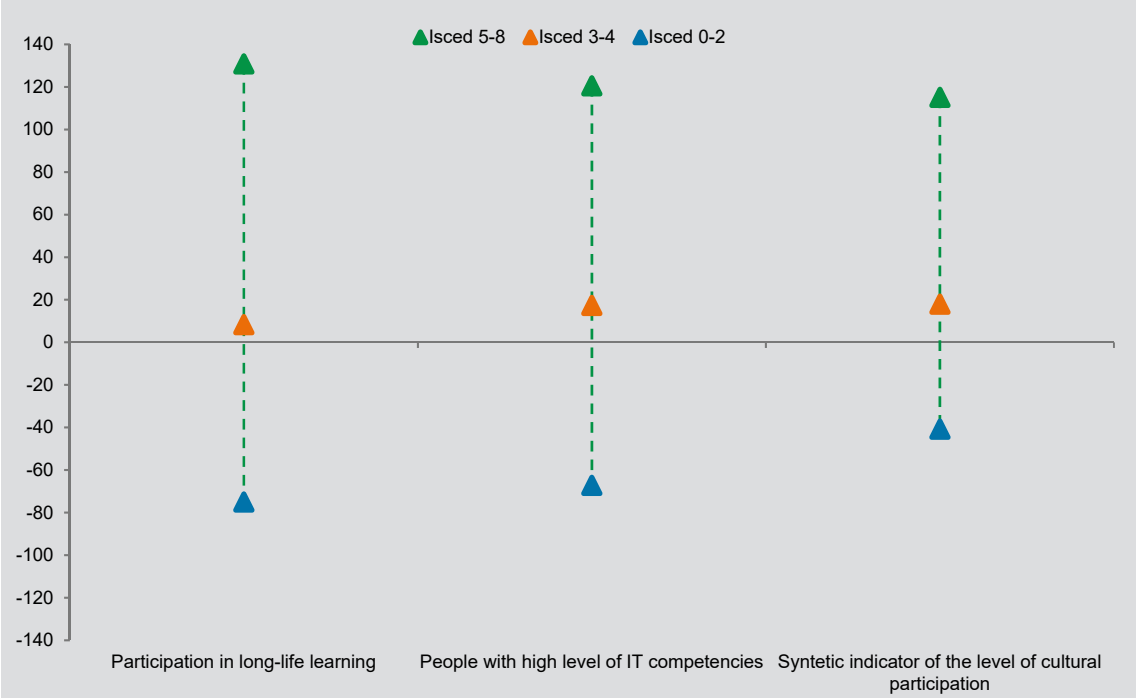
High levels of education, high levels of participation and skills

The level of education, together with employment and economic conditions, is directly linked to the possibility of remaining active and being fully integrated into the cultural and social life of a community.

Among those who have achieved a high educational qualification, in fact, there is a double percentage compared to the Italian average of participation in lifelong learning at all ages. This happens for both men and women. People with a high educational qualification who have participated in training activities are 18.7%, compared to 8.1% of the Italian average. Participation in cultural activities among those with a secondary or tertiary degree (32.9% and 60% respectively) is more frequent than in the average population (27.9%) and than among people with a low degree (16.5% - figure 10).

Advanced digital skills are also a prerogative of people with higher educational qualifications: almost half (48.5%) of those with a high level of education have high digital skills, compared to 25.8% of those with secondary education and 7.2% of those with a lower educational qualification.

Figure 10. Percentage variation for some Education and training indicators comparing to the value for Italy by level of education. Latest available year (a) (b)



Source: Istat, Labour force survey, Survey on Aspects of daily life
(a) Low level of education: Isced 0-2; Medium level of education: Isced 3-4; High level of education: Isced 5-8.
(b) Values above zero correspond to better well-being conditions comparing to the Italian average; on the contrary, values below zero correspond to worse well-being conditions. The calculation took into account the polarity of indicators.

Indicators

1. **Participation in the school system of children aged 4-5:** Percentage of children aged 4-5 years participating in pre-primary education or in primary education on total children aged 4-5 years.
   Source: Ministry of Education, Universities and Research
2. **People with at least upper secondary education level (25-64 years):** Percentage of people aged 25-64 having completed at least upper secondary education (ISCED level not below 3) on total people aged 25-64 years.
   Source: Istat, Labour force survey
3. **People having completed tertiary education (30-34 years):** Percentage of people aged 30-34 years having completed tertiary education (ISCED 5, 6, 7 or 8) on total people aged 30-34.
   Source: Istat, Labour force survey
4. **First-time entry rate to university by cohort of upper secondary graduates:** Proportion of new-graduates from upper secondary education enrolled for the first time at university in the same year of upper secondary graduation (cohort-specific rate). Students enrolled in "Istituti Tecnici Superiori", "Istituti di Alta Formazione Artistica, Musicale e Coreutica", "Scuole superiori per Mediatori linguistici" and at foreign universities are excluded.
   Source: Ministry of Education, Universities and Research
5. **Early leavers from education and training:** Percentage of people aged 18-24 years who have achieved only lower secondary (ISCED 2) and are not included in a training program on total people aged 18-24 years.
   Source: Istat, Labour force survey
6. **People not in education, employment, or training (Neet):** Percentage of people aged 15-29 years that are not in education, employment, or training on total people aged 15-29 years.
   Source: Istat, Labour force survey
7. **Participation in life-long learning:** Percentage of people aged 25-64 years participating in formal or non-formal education on total people aged 25-64 years.
   Source: Istat, Labour force survey
8. **Inadequate level of literacy:** Share of students in grade 10 (second year of upper secondary education) performing below the baseline level of proficiency in literacy competence.
   Source: Invalsi, National Institute for the Educational Evaluation of Instruction and Training, Evaluation Service
9. **Inadeguate level of numeracy:** Share of students in grade 10 (second year of upper secondary education) performing below the baseline level of proficiency in numeric competence (level 2 out of 5 levels).
   Source: Invalsi, National Institute for the Educational Evaluation of Instruction and Training, Evaluation Service
10. **People with high level of IT competencies:** Percentage of people aged 16-74 with advanced competences in all 4 groups identified in the "Digital competence framework".
    Source: Istat, Survey on Aspects of daily life
11. Syntetic indicator of the level of cultural participation: Percentage of people aged 6 years and over who have carried out 3 or more activities in the 12 months before the interview on total people aged 6 years and over. The activities considered are: go to the cinema at least four times, at least once to the theatre, exhibitions and museums, archaeological sites, monuments, concerts of classical music, opera, concerts of other kind of music; read the newspaper at least three times per week, read at least four books. Istat,
    Source: Survey on Aspects of daily life

Indicators by region and geographic area

REGIONS AND GEOGRAPHIC AREAS	Participation in the school system of children aged 4-5 (a) 2017/2018	People with at least upper secondary education level (25-64 years) (b) 2018	People having completed tertiary education (30-34 years) (c) 2018	First-time entry rate to university by cohort of upper secondary graduates (d) 2018	Early leavers from education and training (e) 2018
Piemonte	95.3	62.9	30.4	52.9	13.6
Valle d'Aosta/Vallée d'Aoste	97.3	61.1	27.4	50.2	15.2
Liguria	95.8	67.2	29.6	55.4	12.8
Lombardia	92.7	65.0	33.0	54.5	13.3
Trentino-Alto Adige/Südtirol	97.5	69.7	32.8	....	8.9
Bolzano/Bozen	*97.4*	*69.1*	*29.2*	....	*11.0*
Trento	*97.7*	*70.3*	*36.4*	*51.6*	*6.7*
Veneto	94.7	64.6	32.0	50.2	11.0
Friuli-Venezia Giulia	95.7	68.6	34.4	51.9	8.9
Emilia-Romagna	93.1	68.1	34.4	53.6	11.0
Toscana	95.3	64.9	29.4	51.9	10.6
Umbria	95.9	68.4	27.8	54.9	8.4
Marche	95.8	64.9	27.6	56.1	10.0
Lazio	88.8	69.9	31.1	53.8	11.3
Abruzzo	97.3	66.6	23.6	57.7	8.8
Molise	95.4	62.2	24.3	56.3	11.0
Campania	99.3	53.0	20.4	43.7	18.5
Puglia	98.1	50.2	21.8	48.3	17.5
Basilicata	97.9	61.5	25.4	52.5	11.1
Calabria	99.0	54.1	20.3	49.1	20.3
Sicilia	96.0	51.4	20.8	43.8	22.1
Sardegna	96.7	51.5	21.5	50.1	23.0
North	94.0	65.5	32.5	52.5	12.2
Centre	92.1	67.7	29.9	53.7	10.7
South and Islands	97.8	53.3	21.2	46.6	18.8
Italy	94.9	61.7	27.8	50.4	14.5

(a) Per 100 children aged 4-5;
(b) Per 100 persons aged 25-64;
(c) Per 100 persons aged 30-34;
(d) Specific cohort rate;
(e) Per 100 persons aged 18-24;
(f) Per 100 persons aged 15-29;
(g) Per 100 students in Grade 10;
(h) Per 100 persons aged 16-74;
(i) Per 100 persons aged 6 years and over.

People not in education, employment, or training (Neet) (f)	Participation in life-long learning (b)	Inadequate level of literacy (g)	Inadeguate level of numeracy (g)	People with high level of IT competencies (h)	Syntetic indicator of the level of cultural participation (i)
2018	2018	2018/2019	2018/2019	2018	2018
17.7	8.4	23.8	28.4	23.6	31.1
16.1	8.5	15.3	28.0	28.3	31.6
20.1	9.1	27.9	34.9	22	30.7
15.1	9.0	18.6	22.5	26.6	32.9
12.6	11.0	....	....	25.7	38.0
11.2	*10.3*	*32.2*	*34.5*	*23.6*	*38.6*
14.1	*11.7*	*16.8*	*15.3*	*27.8*	*37.3*
14.8	9.8	16.5	18.5	23.8	31.5
14.5	11.3	21.1	21.9	25.8	33.8
15.4	10.9	24.7	25.8	25	34.8
16.2	10.0	30.6	35.0	23.8	33.4
19.0	9.3	28.4	33.2	22.3	29.7
16.7	7.9	25.4	28.6	21.5	24.9
22.4	8.1	28.0	40.8	23.9	32.1
20.7	6.7	31.5	37.8	21.5	20.7
26.5	7.8	37.1	44.3	18.9	17.9
35.9	5.7	42.1	55.5	16.6	18.9
30.5	5.4	39.6	47.8	18	19.1
26.1	7.9	39.9	47.3	17.8	21.9
36.2	5.2	47.0	57.7	16.7	16.5
38.6	5.2	43.2	57.1	14.4	18.7
27.7	8.5	46.9	60.5	23	24.4
15.6	9.5	20.7	23.8	25.0	32.8
19.6	8.7	28.5	36.8	23.5	31.4
33.8	5.9	41.9	53.5	17.2	19.3
23.4	**8.1**	**30.4**	**37.8**	**22.0**	**27.9**

3. Work and life balance[1]

In 2018 the domain indicators show strongly divergent trends compared to the previous year. There has been a widespread improvement in indicators relating to employment and non-participation in employment (Table 1). Data on the perception of job insecurity and accidents at work also show positive signs, while the satisfaction for the work done remains unchanged. On the other hand, indicators measuring the quality of work are worsening: in fact, the percentage of employees who have seen their employment contract transformed from temporary to permanent is decreasing and the proportion of temporary employees and collaborators with fixed-term contracts for at least five years remains substantially unchanged. Even for employees with a low pay, the situation remains unchanged, while the share of over-qualified employed persons is increasing. Involuntary part time also worsens. Finally, the employment disadvantage of women aged 25 to 49 with pre-school children slightly increases compared to women without children. With regard to the longer-term analysis, there are positive signs compared to 2010 for 9 over 14 domain indicators.

Table 1. Work and life balance indicators: value for the latest available year. Percentage variations on previous year and on 2010

INDICATOR	Latest available year value	% variation (compared with the previous year)	% variation (compared with 2010)
1. Employment rate (20-64 year-olds) *(%, 2018)*	63.0		
2. Non-participation rate *(%, 2018)*	19.7		
3. Transition rate (12 months time-distance) from non-standard to standard employment *(%, 2017/2018) (a)*	15.0		
4. Share of employed persons with temporary jobs for at least 5 years *(%, 2018)*	17.7		
5. Share of employees with below 2/3 of median hourly earnings *(%, 2018)*	10.0		
6. Share of over-qualified employed persons *(%, 2018) (d)*	24.6		
7. Incidence rate of fatal occupational injuries or injuries leading to permanent disability *(per 10,000 employed, 2017)*	11.4		
8. Share of employed persons not in regular occupation *(%, 2016)*	13.1		
9. Ratio of employment rate for women aged 25-49 with at least one child aged 0-5 to the employment rate of women 25-49 years without children *(%, 2018)*	73.8		
10. Share of employed people aged 15-64 years working over 60 hours per week (including paid work and household work) *(%, 2013/2014) (b)*	49.6	—	
11. Share of household work time carried out by women in a couple on the total of the household work time *(%, 2013/2014) (b)*	67.0	—	
12. Share of employed persons who feel satisfied with their work *(mean value, 2018) (c)*	7.4		
13. Share of employed persons who feel their work unsecure *(%, 2018) (c)*	6.0		
14. Involuntary part time *(%, 2018)*	11.9		

Improvement | Stability | Deterioration | — Comparison not available

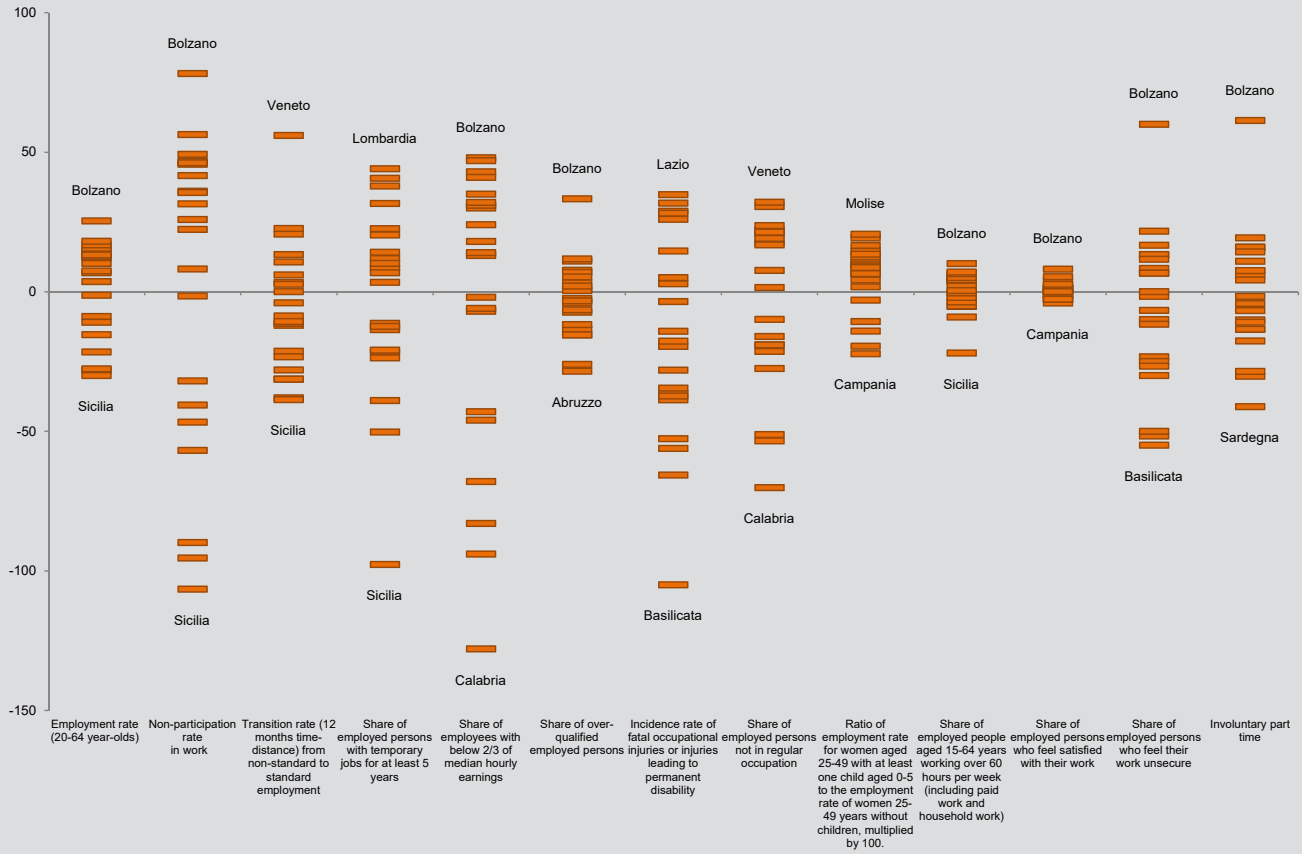
(a) 2010 data not available, variation based on 2013/14;
(b) Data calculated on employees. 2010 data not available, variation based on 2008/2009;
(c) 2010 data not available, variation based on 2013;

Note: Variations between two points in time above 1% are considered positive (in green), below -1% are considered negative (in red). Variations between -1 and +1% refer to stability (in grey).

1 This chapter was edited by Carmen Federica Conte with contributions from: Barbara Baldazzi, Federica Pintaldi and Vincenzo Spinelli.

The analysis of the dispersion by region of the domain indicators shows a high degree of heterogeneity over the territory (Figure 1). The indicators on labour market participation (employment rate, non-participation rate and incidence of involuntary part-time work) indicate higher levels of heterogeneity between regions. Specifically, the employment rate is higher at the North, with maximum values in the province of Bolzano where employment rate is 79% (+25% compared to the national value) followed by Emilia-Romagna (74.4%). At the opposite extreme the southern regions, where employment levels are well below the national average. In 2018, Sicilia recorded the lowest employment rate (44%; -30% compared to the national value) followed by Campania and Calabria.

Figure 1. Percentage variation for Work and life balance indicators comparing to the value for Italy by region. Latest available year (a)



(a) Values above zero correspond to better well-being conditions comparing to the Italian average; on the contrary, values below zero correspond to worse well-being conditions. The calculation took into account the polarity of indicators.

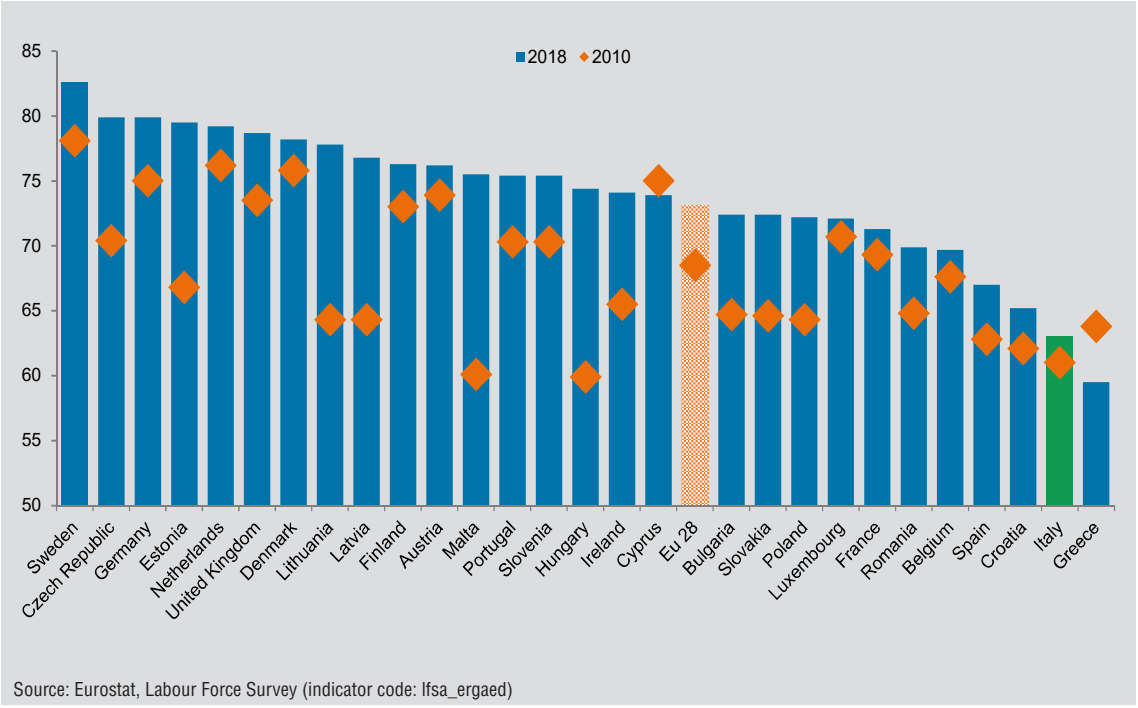
The non-participation rate confirms and amplifies the picture of territorial heterogeneity. The regions of southern Italy are the most penalized and the maximum value is recorded in Sicilia, where the non-participation rate in work is more than double the national value (40.7%). The perception of job insecurity is confirmed to be higher in areas of southern Italy. The indicators measuring the quality of work (stability, pay, competence, safety at work) also show high levels of dispersion. In 2018, the highest percentage of transformations from unstable to stable contracts is recorded in Veneto (+56% compared to the national average), the lowest in Sicilia (-38% compared to the national average) where the percentage of "precarious workers" (35%) is almost double compared to the national average. Basilicata is the region with the highest percentage of severe occupational inju-

ries (about double the national average). The gap in low wages between North and South remains. Calabria is the region with the highest proportion of low paid workers (22.8%). Greater territorial homogeneity emerges with regard to competences. The phenomenon of vertical mismatch – that is the misalignment between the qualifications obtained and the professional positions held by the worker - seems to be spread more homogeneously throughout the national territory: the share varies between 16.4% of the province of Bolzano and 31.6% of Abruzzo. The indicators on life and work time balance also show lower levels of territorial dispersion.

International comparison

In Europe, in 2018, the employment rate for population aged 20-64 increased by one percentage point compared to 2017, reinforcing the positive trend of the last five years. Sweden is the country with the highest level (82.6%) while in the Czech Republic, Germany, Estonia, the Netherlands the rate is just below 80%. Greece has the lowest employment rate (59.5%), followed by Italy (63%), Croatia, Spain, Belgium and Romania (all with rates below 70%). Between 2010 and 2018, employment rates increased in most European countries, with increases of over 12 percentage points in Hungary, Malta, Latvia, Lithuania and Estonia. On the other hand, over the same period, employment rates decreased by 1.1 % percentage points in Cyprus, and 4.3 percentage points in Greece (Figure 2).

Figure 2. Employment rate for population aged 20-64. Years 2010 and 2018. Percentage values



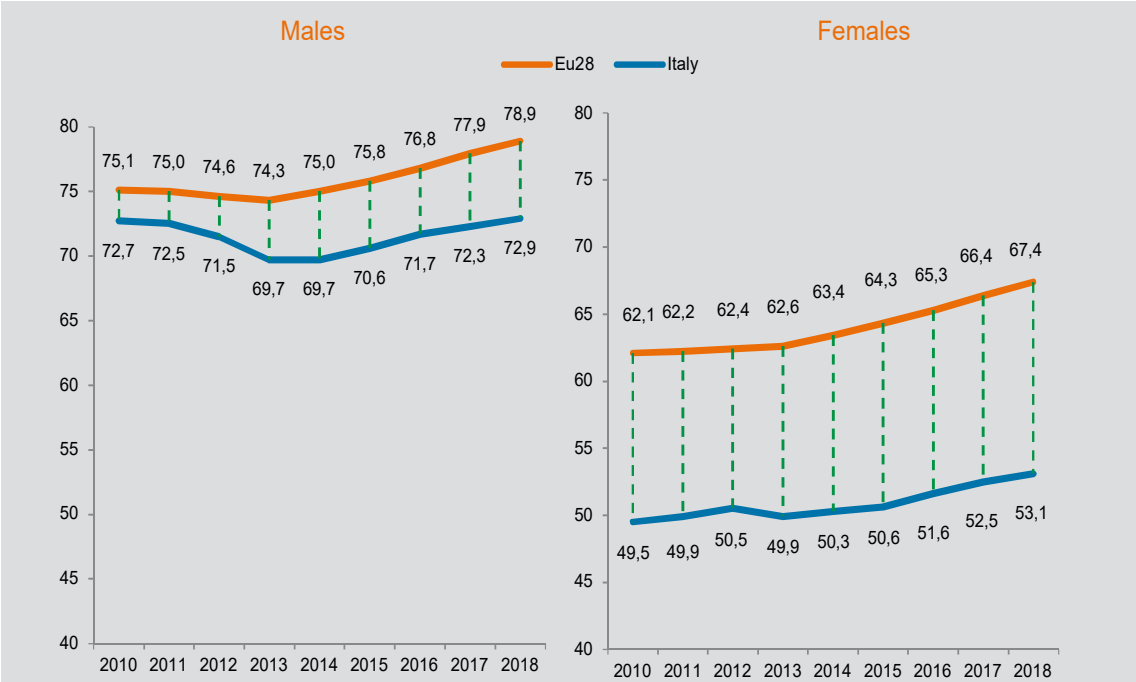
Source: Eurostat, Labour Force Survey (indicator code: lfsa_ergaed)

Increasing gap between Italy and Europe

In Italy the employment rate continued to improve in 2018, although at a slower pace compared to the previous year. However, the intensity of the increase remains below the Eu28 average

(+0.7 and +1 percentage points respectively), further widening the gap that exceeds 10 percentage points. The widening of the gap is affected both by low female employment (14 percentage points below the Eu28 average in 2018), which has steadily but moderately improved in recent years, and by the contained trend of the recovery in male employment (in 2018 the gap for males was 6 percentage points, compared to 2.4 percentage points in 2010) (Figure 3).

Figure 3. Distance between the employment rate of population aged 20-64 in Eu28 and in Italy by gender - years 2011-2018



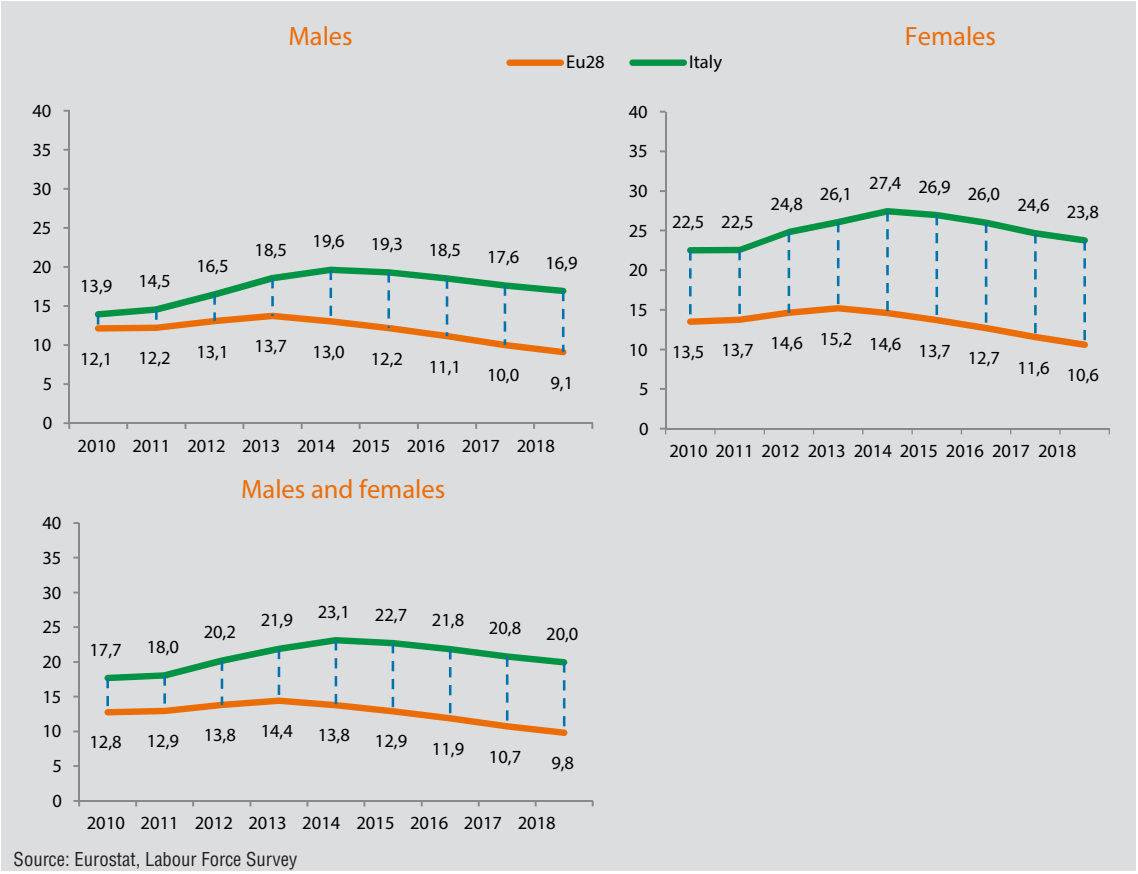
Source: Eurostat, Labour Force Survey

Wide gap for levels of non-participation and involuntary part-time

In 2018, the non-participation rate to work in Italy, that includes, in addition to the unemployed, also the so-called potential workforce (those who are not but they would be willing to work), albeit down by almost one percentage point compared with the previous year, is about 10 percentage points higher than the European average (more than 7 points for men and about 13 for women) (Figure 4). Also in this case the gap with the Eu has expanded in recent years.

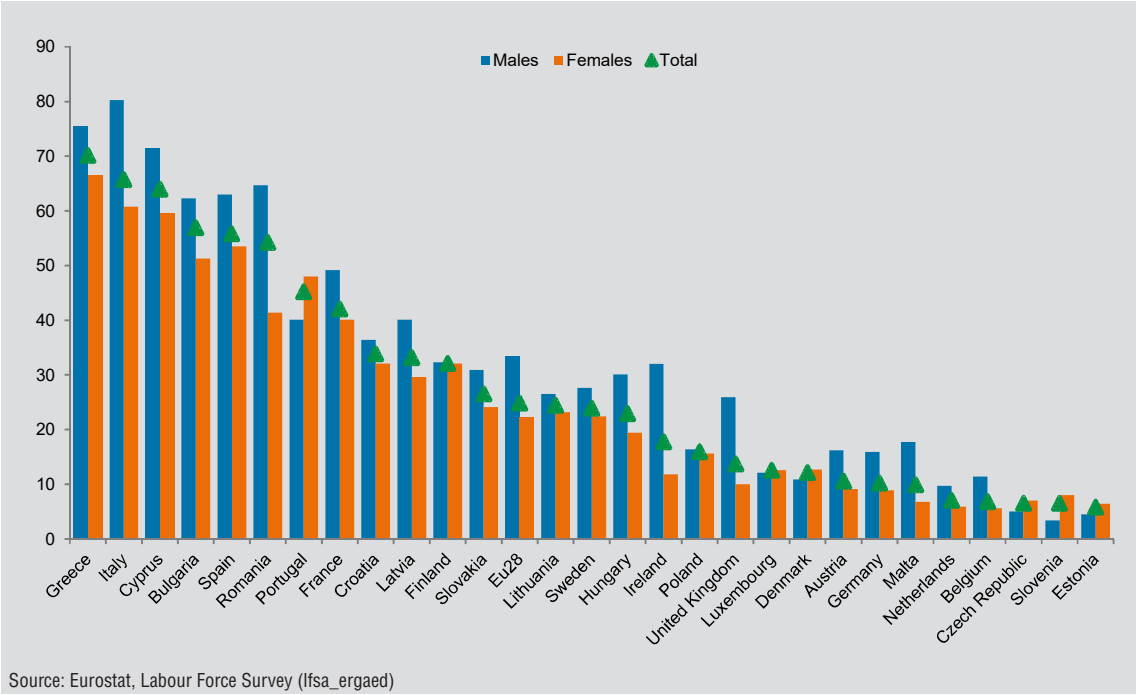
Involuntary part-time work is another indicator that can provide useful information about the difficulties of the job offer. People can accept part-time jobs for lack of full-time alternatives. In 2018, almost one in four of the part-time workers (24.8%) would have preferred to work full-time. Greece, Italy and Cyprus are the countries with the highest percentage (over 60%) of involuntary part-time workers (Figure 5).

Figure 4. Non-participation rate in Italy and the Eu28 by gender. Years 2010-2018. Percentage values



Source: Eurostat, Labour Force Survey

Figure 5. Incidence of involuntary part-time work among people aged 15 - 64 with a part-time job. Year 2018. Percentage values



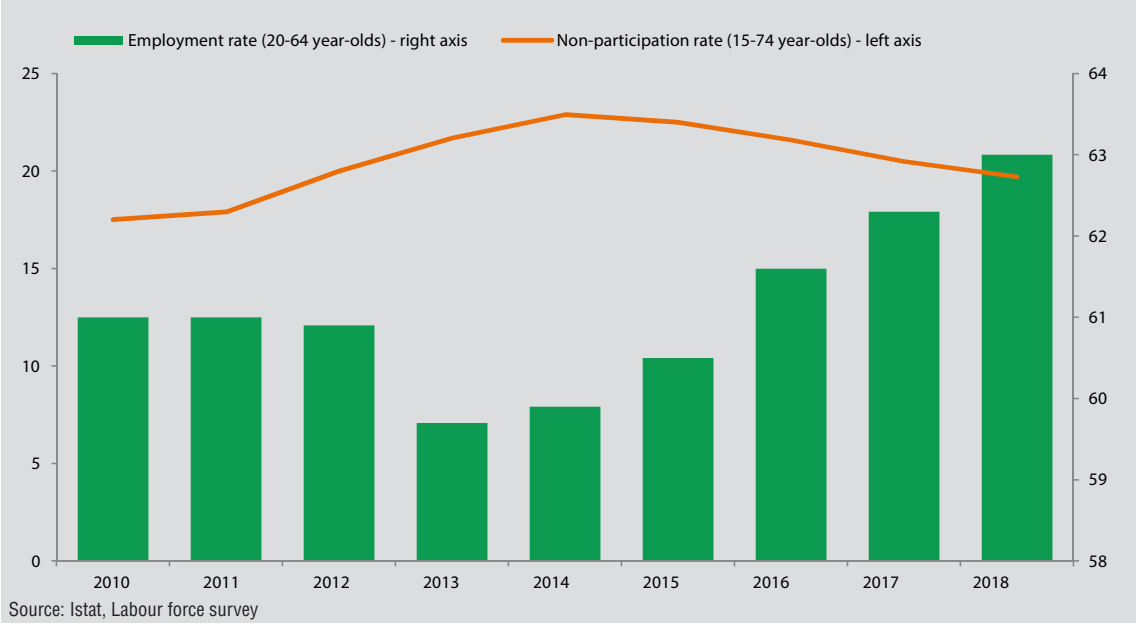
Source: Eurostat, Labour Force Survey (lfsa_ergaed)

National data

Employment growth continues

In 2018 the employment rate of the Italian population aged 20-64 increased (+0.7 percentage points compared to 2017) albeit at a lower intensity than in the previous year. The deceleration has mainly affected women (from +0.9 percentage points in 2017 to +0.6 points in 2018). In 2018, the percentage of women in work is over 53%, with an increase in female employment over the last five years by about 2.8 percentage points. In northern Italy 72.2% of residents between the ages of 20 and 64 are employed. This percentage falls to 67.8% in the Centre and registers values of just over 48% in the South and Islands. Particularly penalized is the female component resident in the regions of southern Italy where only about 35 out of every 100 women work (64% in the North and just under 60% in the Centre). The non-participation rate continues to decrease in 2018 (-0.8 percentage points), reaching a value that is just under 20%. However, the rate remains far from the pre-crisis levels, which fluctuated around 15%. The reduction in non-participation rate affects all areas of the Peninsula. However, this value remains high in the regions of southern Italy (34.7%), above all for women (42.3%) (Figure 6).

Figure 6. Employment rate (20-64 year-olds) and non-participation rate (15-74 year-olds) in Italy - years 2010-2018. Percentage values



Source: Istat, Labour force survey

Despite the positive signals in the labour market, in 2018 the share of part-time workers on total employment is increasing (+0.5 percentage points compared to 2017). Women are still the most penalised (+1.2 percentage points) and in particular those resident in the North (+1.5 percentage points).

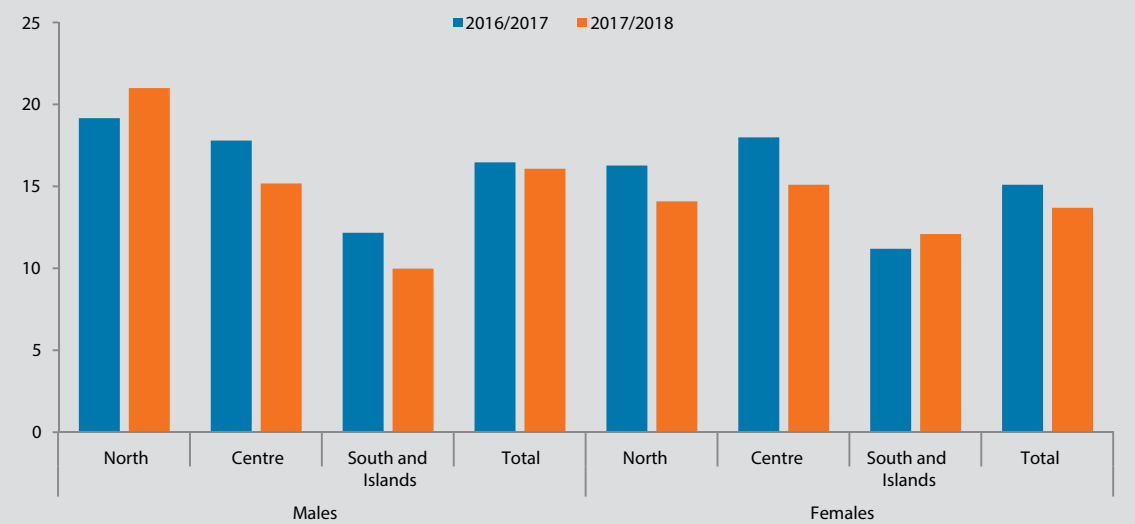
Negative signals for the degree of stability of work

Positive signals compared to 2017 for youth employment: the employment rate in the age group between 20 and 24 years of age increased by 1.1 percentage points in the last year. The increase mainly concerns the female component (+1.2 percentage points). The positive dynamic for young people is confirmed by the reduction of the non-participation rate (-4.2 percentage points for males in the 15-19 age group and -2.4 percentage points for women in the 20-24 age group). Also involuntary part-time is decreasing among the youngest (-1.4 percentage points among males, -0.6 percentage points among females).

Negative signals for the degree of stability of work

The quality of the work is also measured by its degree of stability. For the period 2017/2018 the percentage of employed persons who have had their work contracts converted from unstable (fixed-term worker) to stable (permanent worker) has undergone a further reduction (-0.8 percentage points) compared to the previous period. The reduction is quite generalized both by gender and by age. However, it is possible to observe small positive signs. A slight increase can be seen among females in the South (+0.9 percentage points in 2017/2018) and among males in the North of Italy (+1.8 percentage points in 2017/2018) (Figure 7).

Figure 7. Employed in non-standard jobs which have a standard job one year later by gender and geographic area. Years 2016/2017 - 2017/2018. Percentage values



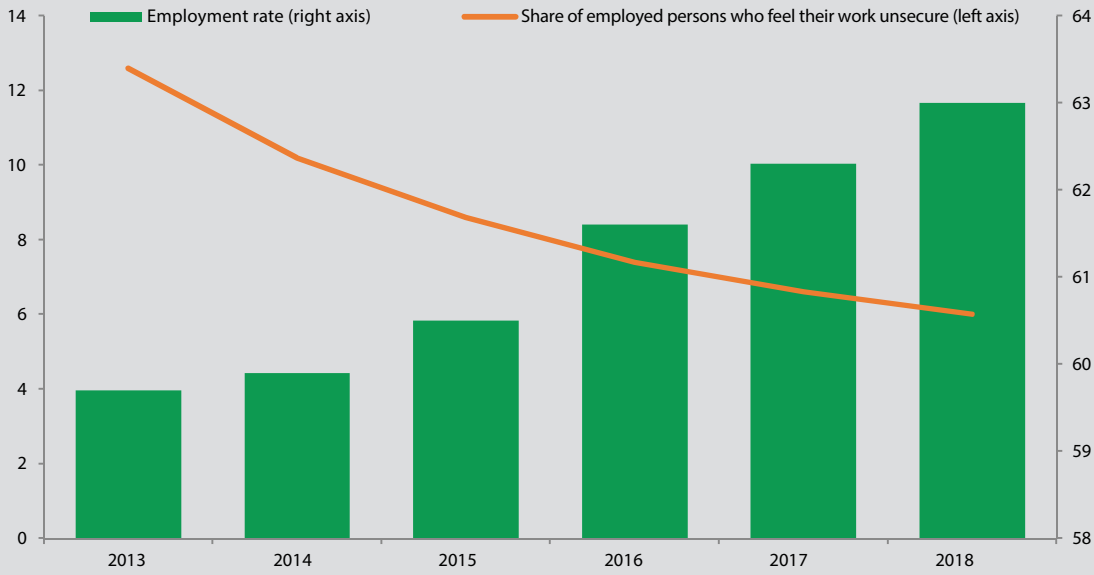
Source: Istat, Labour force survey

With regard to temporary employment, the situation remains substantially stable with respect to 2017 (-0.1 percentage points). There is a slight improvement in the indicator in the North (with a reduction in “precarious” contracts by -0.7 percentage points) and a small worsening in the regions of central Italy (+1.1 percentage points). The analysis by gender shows an improvement in the indicator for women (-1 percentage point), in particular for those living in the North (-2 percentage points compared to 2017).

Reducing perception of work insecurity but increasing mismatch

The instability of employment contracts is generally associated with a feeling of occupational insecurity. Despite the negative trends in terms of employment stability just described, the percentage of workers who perceive themselves as highly vulnerable - or who believe that, in the next 6 months, they are at risk of losing their current job and it is unlikely or not at all likely to find another similar one - decreased by 0.6 percentage points in 2018 compared to the previous year. If we consider a longer time span the perception of job insecurity is steadily decreasing. In recent years the values have decreased by more than 6 percentage points confirming the phase of substantial improvement in the Italian labour market. In 2018 men feel less vulnerable than women. The perception of insecurity in employment has been reduced especially for workers living in central Italy (-1.1 percentage points compared to 2017) and in the South (-1 percentage point compared to last year) and for young people of aged between 15 and 34 (-0.8 percentage points) (Figure 8).

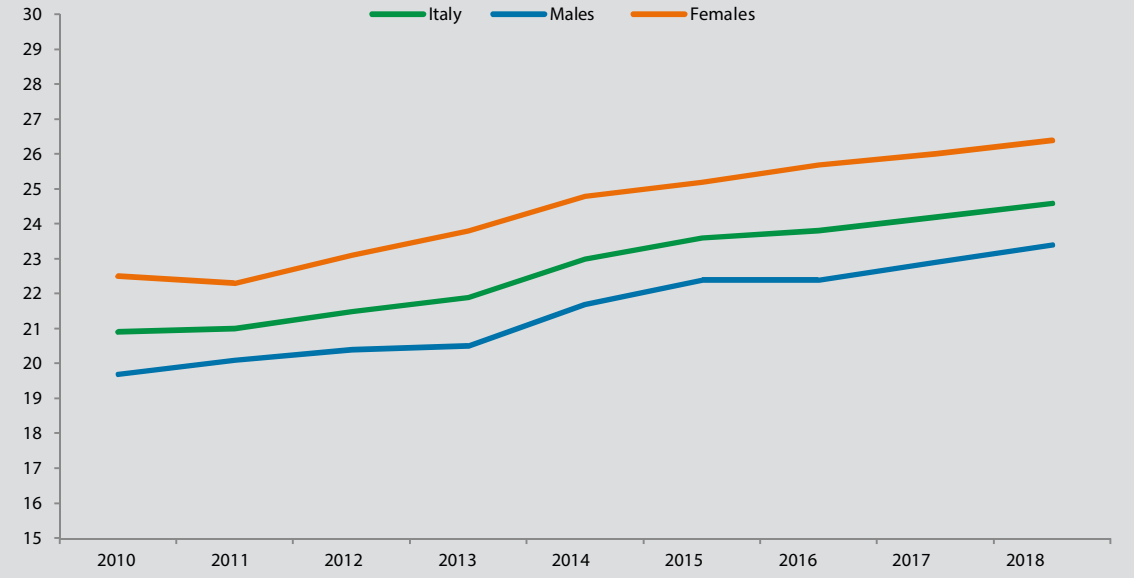
Figure 8. Comparison between employment rate of 20-64 year-olds and perceived work unsecurity - Years 2013-2018. Percentage values



Source: Istat, Labour force survey

Continues the negative trend for over-qualified employed persons, that is, who for those with a qualification higher than the qualification held by the majority of people who exercise the same profession, with a structural vertical mismatch with respect to skills (Figure 9). In the last ten years, mainly the very young, aged between 15 and 24 years, have been penalized (+9.7 percentage points compared to 2010). In 2018 the largest increases in the share of over-qualified employed persons are observed among the male in the South (+1.3 points percentages compared to 2017) and among older workers (+1.2 percentage points for men in the 45-54 age group and +1.2 percentage points for women aged 55-59). In 2018, in contrast to the trend of the last ten years, an improvement is recorded for very young female workers (-2.6 percentage points compared to 2017 in the 15-24 age group).

Figure 9. Incidence of over-qualified employed persons by gender - Years 2010-2018. Percentage values



Source: Istat, Labour force survey

Slight improvement in wages and job security

In 2018 there were no significant changes in the share of employees with below 2/3 of median hourly earnings. Slight signs of improvement in the indicator for young people (especially males) in the 25-34 age group (-0.9 percentage points compared to 2017) and workers in central Italy. The gap between the Centre-North and the South is confirmed.
Incidence rate of fatal occupational injuries or injuries leading to permanent disability is 11.4 per 10,000 employees in 2018 (-0, 5 percentage points compared to 2017). The biggest drop is in the regions of the South (-0.7 percentage points) even though the gap with the North remains wide. The reduction is mainly due to the male component (-0.7 percentage points) and among older people (-4.7 percentage points).

Women with children continue to be disadvantaged

The quality of employment is also measured by the possibility for women, and especially those with young children, to reconcile work with care activities. In 2018 the disadvantage of women (aged 25 to 49) with pre-school children slightly increases compared to women without children, the ratio between the employment rates of the two groups of women was reduced by 1.7 percentage points compared to 2017. Compared to 2015, the highest value in the decade, the ratio was reduced by 4 percentage points. Young women with young children are the most penalized (-2.1 percentage points compared to 2017).

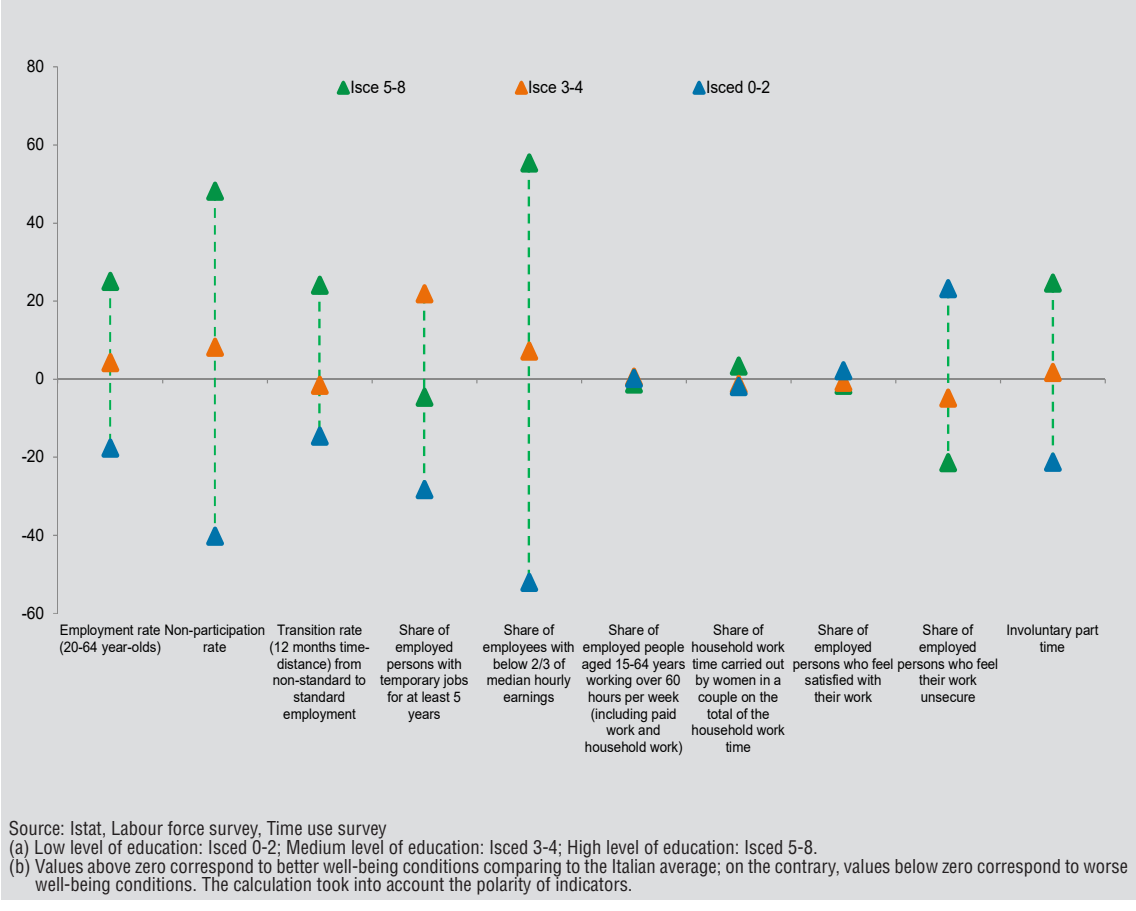
The employment market favours those with high educational levels

Whenever it was possible to calculate the differences by educational level, it emerged that higher levels of education have positive effects on many of the domain indicators. Indeed, workers with high educational qualifications are the most favoured in the job market. This is confirmed by the employment rate, with 78.7% of graduates who are employed compared

to 51.9% of those with a low educational qualification. High levels of education seem to offer even greater stability. In fact, the percentage of employees who see their employment contract transformed from unstable to stable is higher for workers with high educational qualifications. The workers with the highest level of education are also those who perceive themselves as less vulnerable (4.7% of them consider it is likely they lose their job and it is not likely that they find another similar job, compared to 7.3% among the least educated). Involuntary part-time work, precariousness and low wages mainly affect low-educated groups of workers.

The educational qualification possessed does not seem to influence the indicators aimed at measuring the work - life balance (work overload, family asymmetry and job satisfaction) (Figure 10).

Figure 10. Percentage variation for some indicators of the Work and life balance domain comparing to the value for Italy by level of education. Latest available year (a) (b)



Source: Istat, Labour force survey, Time use survey
(a) Low level of education: Isced 0-2; Medium level of education: Isced 3-4; High level of education: Isced 5-8.
(b) Values above zero correspond to better well-being conditions comparing to the Italian average; on the contrary, values below zero correspond to worse well-being conditions. The calculation took into account the polarity of indicators.

Indicators

1. **Employment rate (20-64 year-olds):** Percentage of employed people aged 20-64 on total people aged 20-64.
   Source: Istat, Labour force survey.
2. **Non-participation rate:** Percentage of unemployed people and the potential labour force (those who have not looked for a job in the past 4 weeks but willing to work), on the total labour force (employed and unemployes) plus the potential labour force, referred to population aged 15-74.
   Source: Istat, Labour force survey.
3. **Transition rate (12 months time-distance) from non-standard to standard employment:** Percentage of people employed in non-standard jobs at the time t0 (employees with temporary jobs + term-contract workers + project worker + occasional hired workers + single customer self-employed without employees) which have a standard job (permanent employees + self-employed with employees + no single customer self-employed without employees) a year later on total people employed in non-standard jobs at the time t0.
   Source: Istat, Labour force survey.
4. **Share of employed persons with temporary jobs for at least 5 years:** Percentage of temporary employees and term-contract workers who began their current job at least 5 years prior to interview on total temporary employees and term-contract workers.
   Source: Istat, Labour force survey.
5. **Share of employees with below 2/3 of median hourly earnings:** Percentage of employees with an hourly wage of less than 2/3 of the median on total number of employees.
   Source: Istat, Labour force survey.
6. **Share of over-qualified employed persons:** Percentage of people employed with a qualification higher than the qualification held by the majority of people who exercise the same profession on total employed people.
   Source: Istat, Labour force survey.
7. **Incidence rate of fatal occupational injuries or injuries leading to permanent disability:** Proportion of fatal occupational injuries or injuries leading to permanent disability on total people employed (excluding the armed forces) per 10,000.
   Source: Inail.
8. **Share of employed persons not in regular occupation:** People employed who do not comply with work, fiscal and pension laws on total people employed.
   Source: Istat, National Accounts.
9. **Ratio of employment rate for women aged 25-49 with at least one child aged 0-5 to the employment rate of women 25-49 years without children, multiplied by 100:** Employment rate of women aged 25-49 with at least one child aged 0-5 / Employment rate of women aged 25-49 without children.
   Source: Istat, Labour force survey.
10. **Share of employed people aged 15-64 years working over 60 hours per week (including paid work and household work):** Percentage of employed people aged 15-64 years that work over 60 hours per week of paid work and household work.
    Source: Istat, Time use survey.
11. **Share of household work time carried out by women in a couple on the total of the household work time:** Household work time carried out by women / household work time carried out by both partner * 100.
    Source: Istat, Time use survey.
12. **Share of employed persons who feel satisfied with their work:** The indicator is built as the average level of satisfaction (using a scale from 0 to 10) in more than one dimension: the type of work, earnings, prospects of career, relations with others, working conditions and environment, reconciliation with lifetimes.
    Source: Istat, Labour force survey.
13. **Share of employed persons who feel their work unsecure:** Employed persons who, in the following 6 months, consider it is likely they lose their job and it is not at all or a little likely that they find another similar job / Total employed persons *100.
    Source: Istat, Labour force survey.
14. **Involuntary part time:** PPeople employed in a part time job because they did not find a full time job on total employed.
    Source: Istat, Labour force survey.

Indicators by region and geographic area

REGIONS AND GEOGRAPHIC AREAS	Employment rate (20-64 year-olds) (a) 2018	Non-participation rate (b) 2018	Transition rate (12 months time-distance) from non-standard to standard employment (c) 2017/2018	Share of employed persons with temporary jobs for at least 5 years (d) 2018	Share of employees with below 2/3 of median hourly earnings (e) 2018	Share of over-qualified employed persons (f) 2018	Incidence rate of fatal occupational injuries or injuries leading to permanent disability (g) 2017
Piemonte	70.7	12.6	17.0	11.0	8.7	22.7	8.1
Valle d'Aosta/Vallée d'Aoste	72.9	10.7	11.8	20.1	5.7	21.9	8.2
Liguria	67.3	15.3	15.9	16.2	7.0	25.2	14.7
Lombardia	72.6	10.5	18.1	9.9	5.9	21.7	7.8
Trentino-Alto Adige/Südtirol	76.3	6.4	14.0	17.6	5.3	20.0	13.4
Bolzano/Bozen	*79.0*	*4.3*	*18.4*	*19.7*	*5.2*	*16.4*	*15.6*
Trento	*73.6*	*8.6*	*10.3*	*15.6*	*5.3*	*23.8*	*11.1*
Veneto	71.5	10.6	23.4	12.1	6.9	24.4	11.8
Friuli-Venezia Giulia	71.0	11.5	13.2	16.5	6.5	25.6	8.5
Emilia-Romagna	74.4	10.0	13.3	15.2	6.8	26.4	13.7
Toscana	71.3	12.7	15.5	17.1	8.2	25.4	15.4
Umbria	67.7	14.6	14.4	13.7	8.6	31.0	17.9
Marche	69.4	13.5	15.4	14.1	7.6	28.4	17.5
Lazio	65.3	18.1	15.0	21.5	10.2	27.9	7.5
Abruzzo	62.2	20.0	13.7	19.9	10.7	31.6	15.9
Molise	57.4	26.0	11.5	15.9	10.6	26.2	10.9
Campania	45.3	37.4	10.3	21.9	19.4	24.5	9.8
Puglia	49.4	30.9	10.8	24.6	18.3	24.1	13.1
Basilicata	53.3	28.9	13.4	21.4	14.3	28.4	23.5
Calabria	45.6	38.5	9.3	26.6	22.8	27.5	19.0
Sicilia	44.1	40.7	9.2	35.0	16.8	22.9	13.5
Sardegna	56.1	27.7	16.6	10.5	14.6	23.3	15.7
North	72.2	10.9	17.6	12.6	6.7	23.4	10.2
Centre	67.8	15.6	15.1	18.5	9.1	27.4	12.0
South and Islands	48.2	34.7	10.9	24.9	17.4	24.9	13.5
Italy	**63.0**	**19.7**	**15.0**	**17.7**	**10.0**	**24.6**	**11.4**

(a) Per 100 persons aged 20-64.
(b) Per 100 workforce and part of the potential workforce aged 15-74.
(c) Per 100 persons employed in unstable jobs at time t0.
(d) Per 100 temporary employees and collaborators.
(e) Per 100 employees.
(f) Per 100 employed.
(g) Per 10,000 employed.

Share of employed persons not in regular occupation (f) (*) 2016	Ratio of employment rate for women aged 25-49 with at least one child aged 0-5 to the employment rate of women 25-49 years without children, multiplied by 100 (h) 2018	Share of employed people aged 15-64 years working over 60 hours per week (including paid work and household work) (i) 2013/2014	Share of household work time carried out by women in a couple on the total of the household work time (h) 2013/2014	Share of employed persons who feel satisfied with their work (l) 2018	Share of employed persons who feel their work unsecure (f) 2018	Involuntary part time (f) 2018
10.8	86.0	51.3	....	7.5	5.2	11.0
10.4	88.0	47.0	....	7.7	5.5	10.0
12.1	81.2	51.7	....	7.3	6.6	13.5
10.3	78.6	51.8	....	7.5	4.7	10.0
9.6	73.5	53.7	....	7.9	3.8	7.3
9.1	*65.9*	*54.6*	....	*8.0*	*2.4*	*4.6*
10.2	*81.7*	*52.7*	....	*7.8*	*5.2*	*10.2*
8.9	76.9	51.9	....	7.5	5.0	9.6
10.6	80.9	51.7	....	7.5	6.7	11.2
10.0	84.5	49.4	....	7.5	5.6	10.6
10.9	83.0	52.1	....	7.4	5.6	12.4
12.9	80.4	52.8	....	7.5	6.4	12.1
10.3	83.7	53.1	....	7.4	6.1	11.0
15.6	80.2	48.0	....	7.4	5.3	13.5
15.9	78.6	47.1	....	7.3	7.4	13.1
15.6	89.0	50.6	....	7.6	6.0	11.4
20.1	57.4	47.8	....	7.1	7.8	13.2
16.7	75.1	45.1	....	7.3	7.5	14.0
14.4	71.6	48.6	....	7.2	9.3	12.7
22.3	59.4	49.4	....	7.2	9.1	15.5
19.8	63.4	38.7	....	7.2	7.6	15.3
15.2	78.6	49.8	....	7.4	9.0	16.8
10.2	80.5	51.4	64.8	7.5	5.1	10.3
13.3	81.6	50.3	66.5	7.4	5.6	12.7
18.6	65.3	45.6	74.4	7.2	7.9	14.3
13.1	**73.8**	**49.6**	**67.0**	**7.4**	**6.0**	**11.9**

(h) Per 100.
(i) Per 100 employed aged 15-64.
(l) Average satisfaction on a scale from 0 to 10.
(*) Provisional data.

4. Economic well-being[1]

Over the past year, economic well-being indicators[2] have mostly improved, with some setback. Severe material deprivation has fallen (-1.6 percentage points), and so has the very low work intensity and the severe housing deprivation (-0.5 percentage points both). Average disposable income per capita (in nominal terms as of 2017) and financial vulnerability (as of 2016) also show favourable trends. At the same time, there are signs of deterioration for the indicator on the assessment of economic distress while average net wealth per capita is decreasing. Poverty measures are stable: the share of the population in absolute poverty stands at 8.4% and those at risk of poverty at 20.3%.
The mid-term comparison is still unfavourable, with most indicators showing lower levels comparing to 2010 (Table 1).

Table 1. Economic well-being indicators: value for the latest available year. Percentage variations on previous year and on 2010

INDICATOR	Latest available year value	% variation (compared with the previous year)	% variation (compared with 2010)
1. Per capita disposable income *(euro, 2017)*	18,505		
2. Disposable income inequality *(ratio of income shares, 2017)*	6.1		
3. People at risk of poverty *(%, 2017)*	20.3		
4. Per capita net wealth *(euro, 2016) (a)*	87,451		
5. People living in financially vulnerable households *(% households 2016) (a)*	2.7		
6. People living in absolute poverty *(%, 2018)*	8.4		
7. Severe material deprivation rat *(%, 2018)*	8.5		
8. Severe housing deprivation *(%, 2018)*	5.0		
9. Index of economic distress *(%, 2018)*	9.7		
10. Very low work intensity *(%, 2018)*	11.3		

— Comparison not available Improvement Stability Deterioration

(a) Previous year = 2014

Note: variations between two points in time above 1% are considered positive (in green), below -1% are considered negative (in red). Variations between -1 and +1% refer to stability (in grey).

The indicators show a strong heterogeneity by region. The average disposable income per capita, a measure that does not take into account territorial differentials in price levels, in 2017 amounted to €24,968 per capita in Bolzano, almost double the average per capita income received in Calabria (€12,656). Compared to the national average (€18,505) the two regions differ by +34.9% (Bolzano) and -31.6% (Calabria) respectively.
The southern and northern regions show wider disparities for indicators of severe material deprivation, index of economic distress, very low work intensity and risk of poverty. Campania and Sicilia are often in the most disadvantaged positions and significantly far from the

1 This chapter was edited by Barbara Baldazzi with contributions from: Stefania Cuicchio, Valeria de Martino, Daniela Lo Castro, Isabella Siciliani.
2 See definitions at the end of this chapter.

Italian average. Severe material deprivation is about 20% in Campania and Sicilia, more than double the Italian average (8.5%); 26.7% of people in Campania report difficulties in reaching the end of the month, almost three times the national average (9.7%). One out of every four people aged 0 - 59 in Sicilia and one out of every five in Campania live in households with a very low work intensity compared to 11.3% of the Italian average; about 40% of the population in Campania and Sicilia is at risk of income poverty compared to the average 20.3%. The regions in the Centre-North are usually above the national average, with the province of Bolzano, Veneto and Friuli-Venezia Giulia recording the highest values.

Figure 1. Percentage variation for Economic well-being indicators comparing to the value for Italy by region. Latest available year (a)

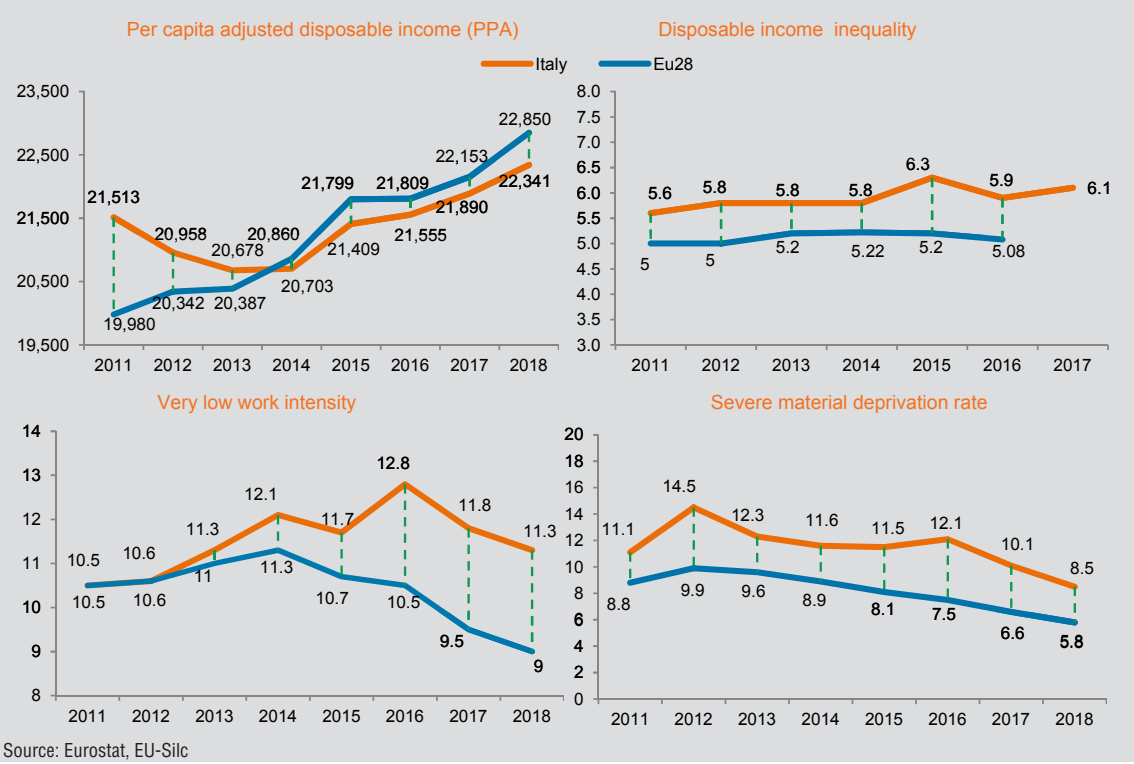
(a) Values above zero correspond to better well-being conditions comparing to the Italian average; on the contrary, values below zero correspond to worse well-being conditions. The calculation took into account the polarity of indicators.

International comparison

In 2018, the adjusted gross disposable income per capita of total households amounted to €22,658; if expressed in Purchasing Power Equality (PPP), so as to eliminate the effect of price level differences, it amounts to 22,341 PPPs, a value 2.2% lower than the European average (22,850 PPPs) and 7.7% lower than the euro area average (24,204 PPPs).
Between 2012 and 2017, the ratio between the total income held by the 20% of the population with the highest incomes and that held by the 20% of the population with the lowest incomes ranges between 5.8 and 6.3, higher than the European average (which ranges between 5 and 5.2). With regard to individual countries, inequality is highest in Bulgaria, Lithuania and Romania. In 2017, income inequality in Italy increased compared to the previous year (from 5.9 to 6.1).
In 2018, the share of people experiencing severe material deprivation, which according to Eurostat methodology occurs when four or more symptoms of economic distress occur

over the list of nine considered, drops to 8.5% (it was 10.1% in 2017), still about 2.7 percentage points above the European average. The highest values are observed in Bulgaria (20.9%), Romania (16.8%) and Greece (16.7%).
The very low work intensity indicator, which describes the difficulty of entering and remaining in the labour market, continues to decrease. In 2017, 11.3% of people aged 0-59 live in households with members who worked for less than 20% of their potential in the previous year. Higher shares are recorded only in Greece (14.6%) and Belgium (12.1%).

Figure 2. Selected indicators of Economic well-being in Italy and in the Eu28. Years 2011-2018 (Euro, income ratio, percentage values)



Source: Eurostat, EU-Silc

Analysis of national data

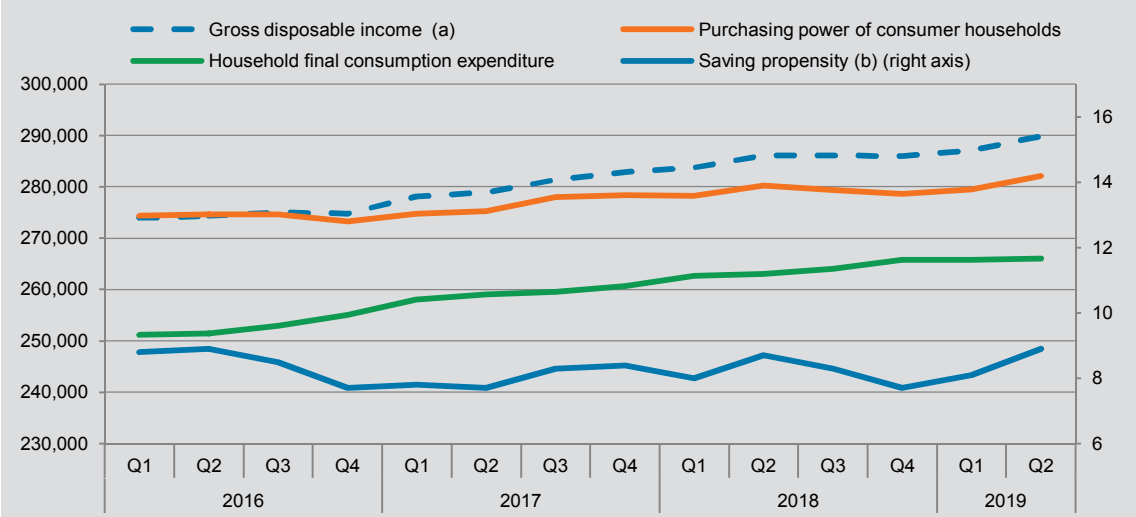
Nominal income, purchasing power and final consumption expenditure are increasing

In 2018 in Italy, the gross disposable income of consumer households increased by 1.9% compared to the previous year: in per capita terms, taking into account the resident population, the growth was 1.7% (€19,298[3] per capita in 2018). Purchasing power also increased, i.e. disposable income in real terms (+0.9% compared to 2017). The nominal trend in consumers' expenditures (+1.8%) is in line with that of disposable income, with a propensity to save equal to 8.2% (it was 8.1% in 2017, Figure 3).

3 Gross disposable income per capita is calculated as the ratio between the sum of income of consumer households (which amounts to 1,142,093 million euros in 2018) and income of producer households (which amounts to 23,914 million euros in 2018) divided by the resident population.

In the first half of 2019, the positive signals continue but the intensity is attenuating: income grows by 1.2% compared to the first half of 2018, purchasing power by 0.6%, and final consumers expenditures by 1.2%, with a stable propensity to save (8.5%, it was 8.4%).

Figure 3. Gross disposable income, purchasing power, final consumption expenditure and propensity to save of consumer households. Years 2016-2019. Seasonally adjusted quarterly values in millions of euros and percentages

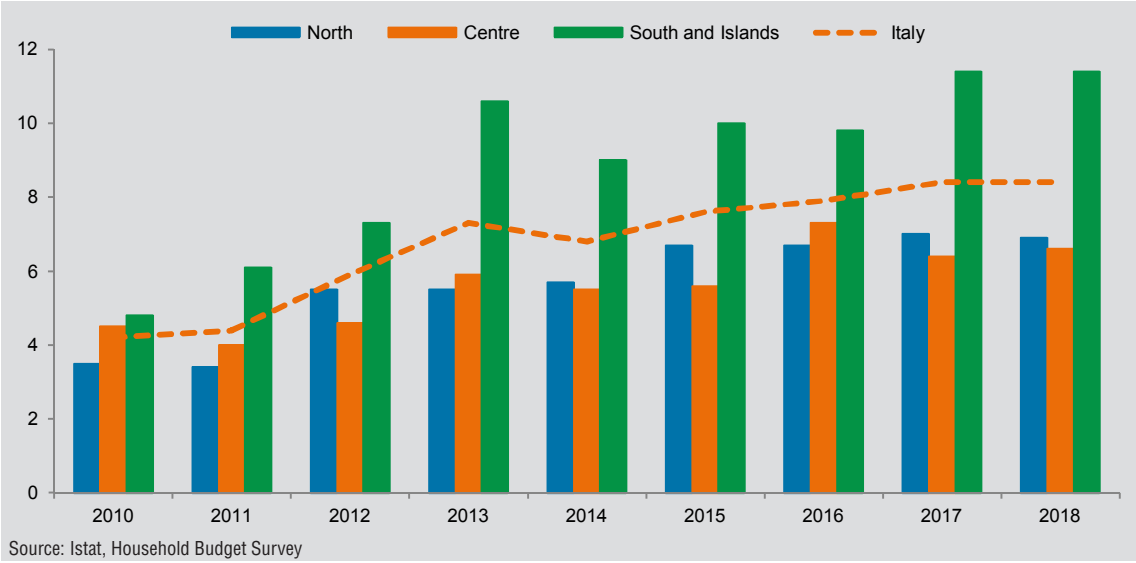


Source: Istat, National Accounts
(a) Gross disposable income of consumers household in real terms, obtained using the deflator of household final consumption expenditure (chain-linked values with reference year 2010).
(b) Share of gross savings in gross disposable income of consumers household corrected to account the change in net equity of households in pension funds' technical provisions.

Stable the share of population in absolute poverty

In 2018, it is estimated that more than 1.8 million households are in absolute poverty, with an incidence of 7.0%, for a total number of 5 million individuals (8.4% of the total). After three years, the growth in the number and share of households in absolute poverty in all geographic areas halted. The incidence of individual poverty is 11.4% in the South and

Figure 4. People living in absolute poverty by geographic area. Years 2012-2018. Percentage values



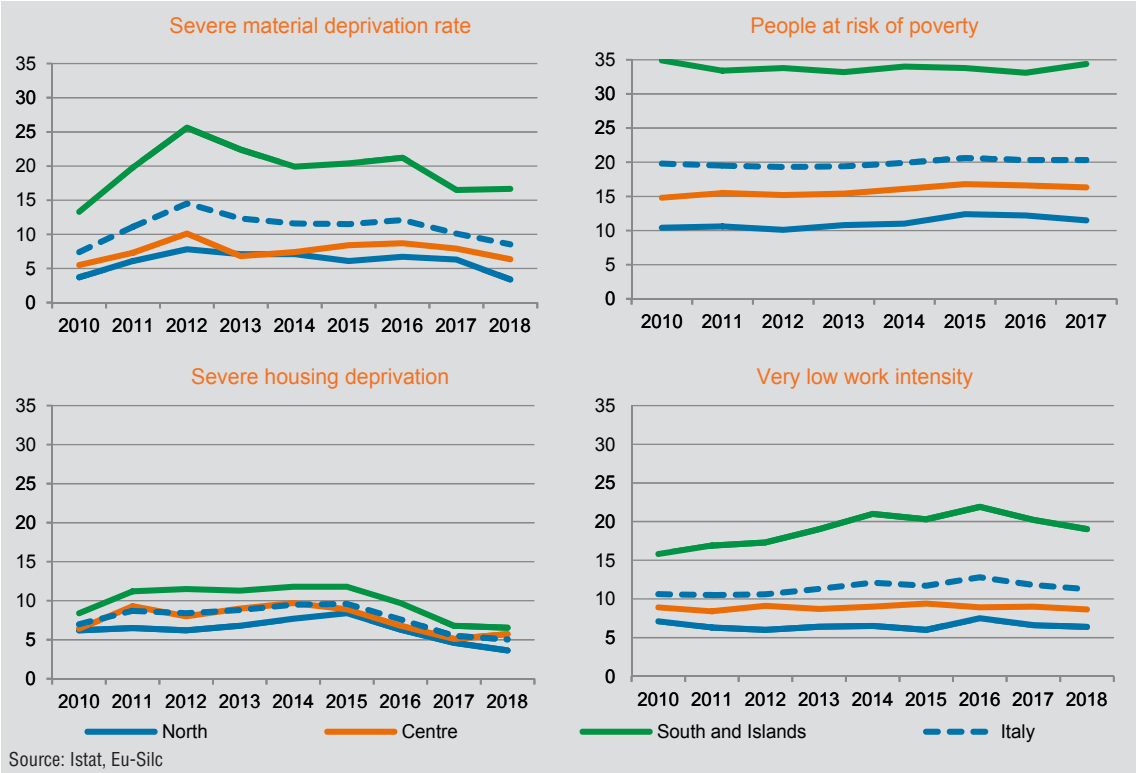
Source: Istat, Household Budget Survey

Islands, while in northern and central Italy it is significantly lower and equal to 6.9 and 6.6% respectively. The largest number of poor people, over 2.350 thousand, live in the regions of the South and Islands (46.7%), while 37.6% live in the regions of the North, about 1.900 thousand individuals.

The disadvantage for the South and Islands of Italy remains and in some cases widens

Income data, referring to 2017, show a substantial stability in the share of Italian residents at risk of poverty (20.3% as in the previous year). While in the North 11.5% of individuals are at risk of poverty (-0.7 percentage points compared to 2016), in the Centre the share is 16.3% (-0.3 compared to 2016) and in the South and Islands it reaches the highest incidence, 34.4%, with a further increase compared to 2016 (+1.3 percentage points).
The indicators referring to severe material and housing deprivation and very low work intensity improve. The share of people in severe material deprivation in the North (3.4%, almost halved compared to 2017) and in the Centre decreases (6.4%, -1.5 percentage points) while it remains at the same levels as the previous year in the South and Islands (around 16%).
The difference by territorial areas is large also for the proportion of people living in households where people of working age have worked less than 20% of their potential: in 2018, in the South and Islands they are 19% (-1.2 percentage points); in the Centre 8.6% and in the North 6.4% with no significant variation.
The territorial divide is less marked for the indicator of severe housing deprivation, which concerns 3.6% of the population in the North (it was 4.6% in 2017); 5.7% in the Centre (slightly up, +0.6 points) and 6.5% in the South and Islands (-0.3 points).

Figure 5. Selected Economic well-being indicators by geographic area. Years 2010-2018. Percentage values

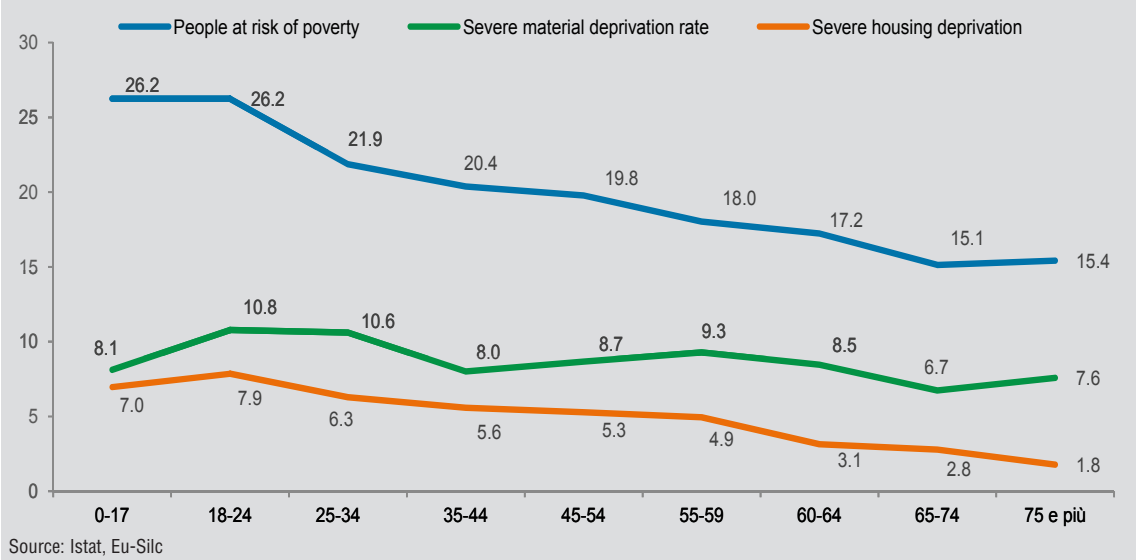


Source: Istat, Eu-Silc

Increased risk of poverty and deprivation for young people and children

All indicators of poverty and deprivation are worse for the younger age groups: 26.2% of children and young people aged 0-24 are at risk of income poverty, compared to 15% among the elderly aged 65 and over; severe housing deprivation affects about 8% of young people aged 18-24, just under 2% of the elderly aged 75 and over. Severe material deprivation is more homogeneous (just over 10% between 18 and 34 years and 7.6% among those aged 75 and over). Although the risk of poverty and severe housing deprivation show a decreasing trend with age, severe material deprivation is also high in the age groups which should be matched by stable and remunerative employment (35-65 year-olds).

Figure 6. Selected indicators of Economic well-being by age group. Year 2018. Percentage values



Source: Istat, Eu-Silc

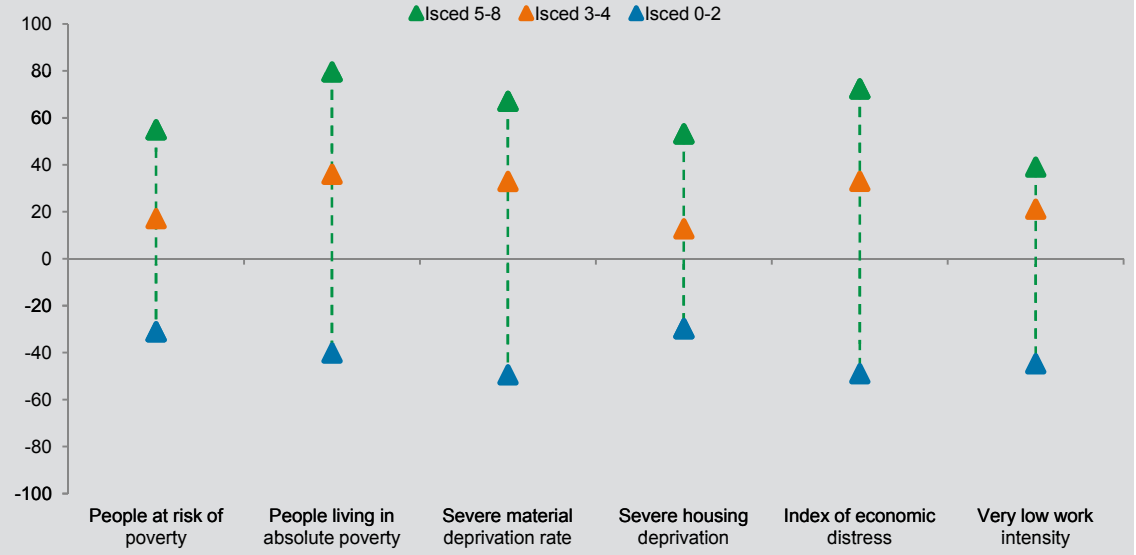
High levels of education reduce the risk of poverty

A higher level of education is an element of protection against poverty, disadvantage or deprivation. All indicators of poverty and deprivation get worse among those with the lowest educational attainment: one out of four people with low educational attainment (Isced 0-2) is at risk of income poverty, 11.8% are in absolute poverty, 12.7% live in severe material deprivation and 6.1% in severe housing deprivation, 17.8% live in very low work intensity households and 14% have great difficulty reaching the end of the month.

Compared to the Italian average, the mere achievement of an upper secondary school diploma is also protective: 16% are at risk of poverty, 5.4% are in absolute poverty, 5.7% live in conditions of severe material deprivation and 4.1% in severe housing deprivation, 9.7% live in families with very low work intensity and 6.3% say they reach the end of the month with great difficulty.

Levels of poverty and deprivation are even lower among those who have a higher education qualification with percentages of people living in poverty well below 10%. In fact, only 1.7% are in absolute poverty, 9.7% at risk of income poverty, 2.8% in severe material deprivation and 2.2% in severe housing deprivation; consequently, the great economic difficulty concerns only 2.6%, while the very low work intensity is 7.5%.

Figure 7. Percentage variation for some Economic well-being indicators comparing to the value for Italy by level of education. Latest available year (a) (b)



Source: Istat, Eu-Silc
(a) Low level of education: Isced 0-2; Medium level of education: Isced 3-4; High level of education: Isced 5-8.
(b) Values above zero correspond to better well-being conditions comparing to the Italian average; on the contrary, values below zero correspond to worse well-being conditions. The calculation took into account the polarity of indicators.

Indicators

1. **Per capita disposable income:** Ratio between disposable income of consumer households and the total number of residents (in euros).
   Source: Istat, National Accounts
2. **Disposable income inequality:** Ratio of total equivalised income received by the 20% of the population with the highest income to that received by the 20% of the population with the lowest income.
   Source: Istat, Eu-Silc
3. **People at risk of poverty:** Percentage of persons at risk of poverty, with an equivalised income less than or equal to 60% of the median equivalised income.
   Source: Istat, Eu-Silc
4. **Per capita net wealth:** Ratio of total net wealth of households to the total number of residents.
   Source: Bank of Italy, Financial accounts and household wealth (SHIW)
5. **People living in financially vulnerable households:** Percentage of households with debt service greater than 30% of disposable income on total resident households.
   Source: Bank of Italy, Financial accounts and household wealth (SHIW)
6. **People living in absolute poverty:** Proportion of individuals belonging to households with an overall consumption expenditure equal or below the threshold of absolute poverty.
   Source: Istat, Household Budget Survey
7. **Severe material deprivation rate:** Share of population living in households lacking at least 4 items out of the following 9 items: i) to pay rent or utility bills, ii) keep home adequately warm, iii) face unexpected expenses (of 800 euros, iv) eat meat, fish or a protein equivalent every second day, v) a week holiday away from home, or could not afford) vi) a car, vii) a washing machine, viii) a colour TV, or ix) a telephone.
   Source: Istat, Eu-Silc
8. **Severe housing deprivation:** Share of population living in a dwelling which is considered as overcrowded, while also exhibiting at least one of the housing deprivation measures. Housing deprivation is calculated by reference to households with a leaking roof, neither a bath, nor a shower, nor an indoor flushing toilet, or a dwelling considered too dark.
   Source: Istat, Eu-Silc
9. **Index of economic distress:** Share of individuals in households that, considering all the available income, declare to get to the end of the month with great difficulty.
   Source: Istat, Eu-Silc
10. **Very low work intensity:** Proportion of people 0-59 living in households in which, in the previous year, household members of working age (person aged 18–59 years, excluding students aged 18–24) worked less than 20% of the number of months that could theoretically have been worked by the same household members (excluding households with only minors, students aged less than 25 and persons aged 60 and over).
    Source: Istat, Eu-Silc

Indicators by region and geographic area

REGIONS AND GEOGRAPHIC AREAS	Per capita disposable income (a) 2017	Disposable income inequality 2017 (*)	People at risk of poverty (b) 2017 (*)	Per capita net wealth (a) 2016
Piemonte	20,727	4.9	14.2	....
Valle d'Aosta/Vallée d'Aoste	20,901	4.2	12.0	....
Liguria	21,639	5.6	14.0	....
Lombardia	22,419	5.0	11.1	....
Trentino-Alto Adige/Südtirol	23,193	4.9	12.3	....
Bolzano/Bozen	*24,968*	*4.2*	*9.2*	....
Trento	*21,463*	*5.4*	*15.3*	....
Veneto	20,350	4.6	11.0	....
Friuli-Venezia Giulia	20,563	3.8	8.2	....
Emilia-Romagna	22,463	4.5	10.1	....
Toscana	20,275	5.0	14.4	....
Umbria	18,038	4.4	12.5	....
Marche	18,722	4.4	11.7	....
Lazio	19,366	6.4	19.3	....
Abruzzo	16,284	4.6	18.7	....
Molise	14,416	5.1	23.5	....
Campania	13,153	7.5	41.4	....
Puglia	13,932	5.6	26.8	....
Basilicata	13,483	6.4	30.1	....
Calabria	12,656	7.6	32.7	....
Sicilia	13,286	8.2	40.7	....
Sardegna	15,240	6.4	27.1	....
North	21,690	4.9	11.5	104,892
Centre	19,468	5.5	16.3	102,924
South and Islands	13,684	7.0	34.4	55,603
Italy	**18,505**	**6.1**	**20.3**	**87,451**

(a) In Euro;
(b) Per 100 persons;
(c) Per 100 households;
(d) For Valle d'Aosta, Trentino Alto Adige, Bolzano and Molise statistically not very significant data, because it corresponds to a sample size between 20 and 49 units;
(e) For Bolzano, Trento, Molise and Basilicata, statistically not very significant data because it corresponds to a sample size between 20 and 49 units;
(f) Percentage of people in families who manage to reach the end of the month with great difficulty;
(g) For Bolzano and Molise, statistically not very significant data, because it corresponds to a sample size between 20 and 49 units;
(h) For Bolzano, Valle d'Aosta and Molise, statistically not very significant data, because it corresponds to a sample number between 20 and 49 units;
(*) The indicator refers to the year of achievement of income (t) and not to the survey year (t+1).

People living in financially vulnerable households (c)	People living in absolute poverty (b)	Severe material deprivation rate (b) (d)	Severe housing deprivation (b) (e)	Index of economic distress (f) (g)	Very low work intensity (b) (h)
2016	2018	2018	2018	2018	2018
....	....	4.2	3.3	8.5	8.9
....	....	3.2	..	6.9	5.6
....	....	4.4	3.1	4.5	7.3
....	....	3.1	4.1	7.8	6.2
....	....	2.2	6.2	3.6	5.3
....	....	*2.8*	*7.3*	*6.0*	*3.1*
....	....	..	*5.2*	..	*7.7*
....	....	3.6	2.8	4.0	4.8
....	....	3.6	3.2	11.7	5.7
....	....	2.9	3.6	5.2	6.2
....	....	5.3	2.8	4.8	6.0
....	....	4.2	5.8	7.4	8.8
....	....	4.8	5.2	5.2	5.8
....	....	7.8	7.7	7.3	10.9
....	....	11.3	9.1	7.9	10.7
....	....	4.7	2.0	5.4	9.8
....	....	20.2	7.3	26.7	20.9
....	....	12.8	5.9	11.7	13.4
....	....	12.2	4.6	13.4	17.3
....	....	15.3	6.2	8.1	14.2
....	....	20.9	5.3	11.5	25.8
....	....	10.3	9.2	19.3	19.3
3.1	6.9	3.4	3.6	6.6	6.4
2.3	6.6	6.4	5.7	6.2	8.6
2.3	11.4	16.7	6.5	15.8	19.0
2.7	**8.4**	**8.5**	**5.0**	**9.7**	**11.3**

Social relationships[1]

In the last year, domain's indicators have shown substantial stability with some signs of improvement. There were no variations in satisfaction with family and friends and voluntary activity.
The share of population referring to have relatives, friends or neighbours to rely on stabilizes after the decrease registered in 2017.
Among the signs of improvement, the number of nonprofit institutions, social participation, the financing of associations and the generalized trust increase. Furthermore, civic and political participation interrupts the negative trend started in 2014.
The longer-term analysis, however, shows a different picture, with most of the indicators in decline and one stable (the share of people who declare to have relatives, friends or neighbours to rely on). The indicator on nonprofit institutions shows the most positive trend, going from 50.7 to 57.9 institutions for 10,000 inhabitants between 2011 and 2017 (Table 1).

Table 1.Social relationships indicators: value for the latest available year. Percentage variations on the previous year and on 2010

INDICATOR	Latest available year value	% variation (compared with the previous year)	% variation (compared with 2010)
1. Satisfaction with family relations (%, 2018)	33.2		
2. Satisfaction with friends relations (%, 2018)	23.2		
3. People to rely on (%, 2018) (a)	80.8		
4. Social participation (%, 2018)	23.9		
5. Civic and political participation (%, 2018) (b)	58.8		
6. Voluntary activity (%, 2018)	10.5		
7. Association funding (%, 2018)	14.5		
8. Nonprofit organizations (per 10,000 ab., 2017) (b)	57.9		
9. Generalized trust (%, 2018)	21.0		

— Comparison not available; Improvement; Stability; Deterioration

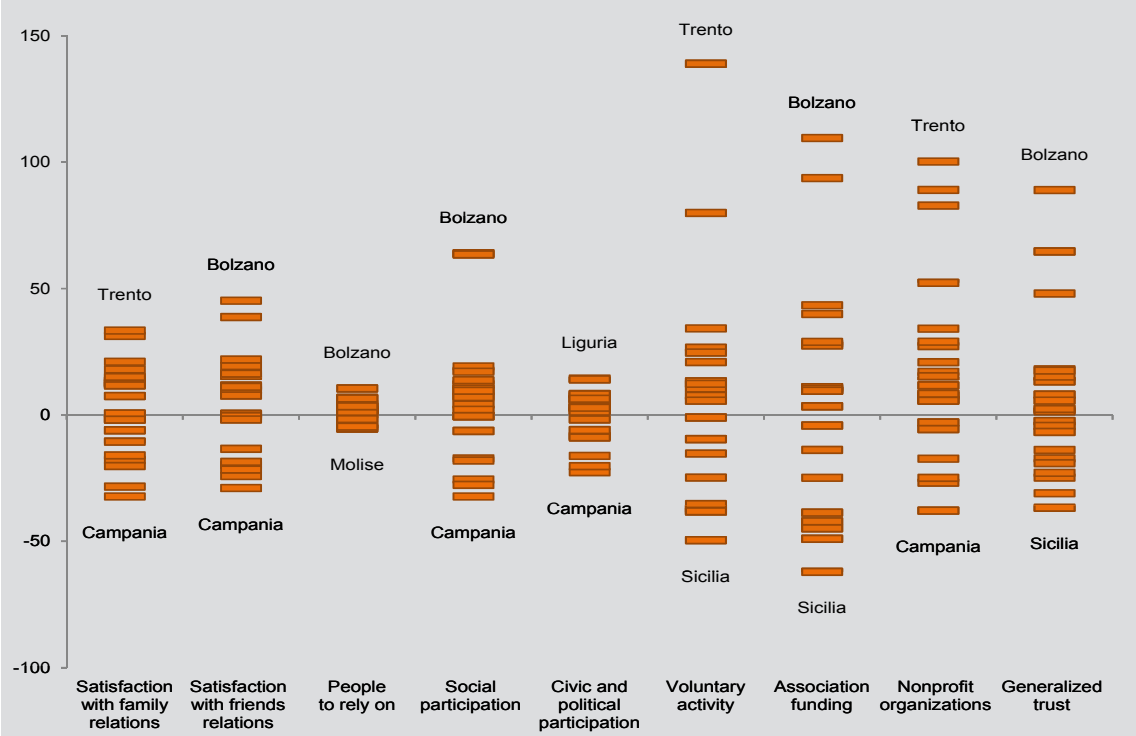
(a) 2010 data not available, variation based on 2013 data;
(b) 2010 data not available, variation based on 2011 data.

Note: variations between two points in time above 1% are considered positive (in green), below -1% are considered negative (in red). Variations between -1 and +1% refer to stability (in grey).

The analysis by region shows a highly differentiated situation (Figure 1).
The share of population reporting trust towards others is close to 40% in the province of Bolzano (+ 89% compared to the average), and it is three times higher than that recorded in Sicilia (13.3%). The territorial gap is even greater for voluntary activity, associations funding and the presence of nonprofit institutions.

1 This chapter was edited by Miria Savioli with contributions from: Massimo Lori and Sabrina Stoppiello.

Figure 1. Percentage variation for Social relationships indicators comparing to the value for Italy by region. Latest available year (a)



(a) Values above zero correspond to better well-being conditions comparing to the Italian average; on the contrary, values below zero correspond to worse well-being conditions. The calculation took into account the polarity of indicators.

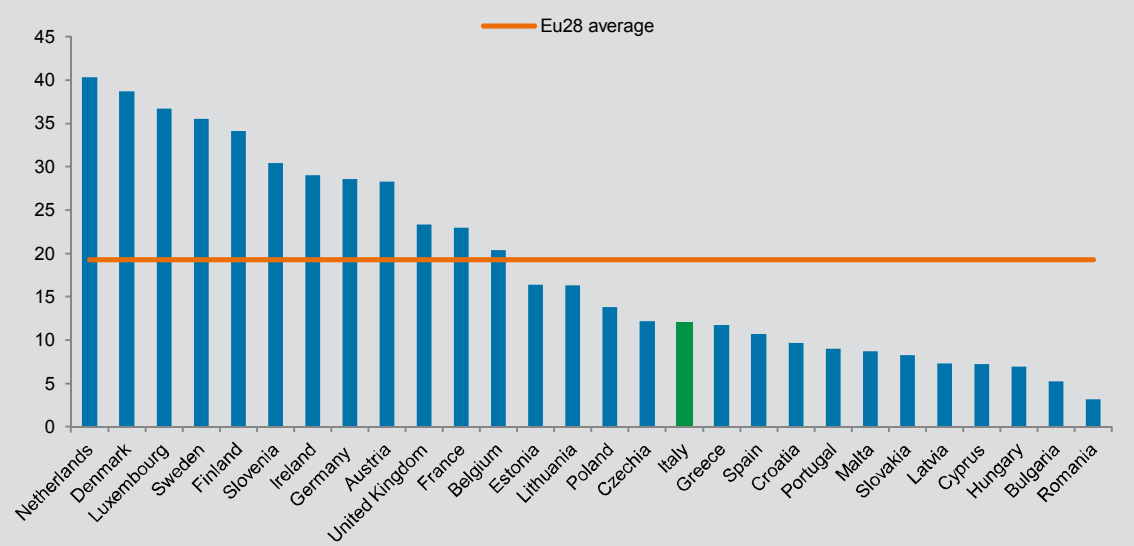
In the province of Trento, the share of the population aged 14 and over who carries out voluntary activities (25.1%) is 139% higher than the average and almost five times higher than that recorded in Sicilia (5.3%).
The share of population funding associations exceeds 30% in the province of Bolzano (+ 110% compared to the average) and is minimum in Sicily (-62% compared to the average). The most homogeneous indicator is the potential help network: in Bolzano the proportion of population referring to have people to rely on reaches 89.3%, compared to the 76.5% in Molise. The indicator on civic and political participation shows also a substantial homogeneity among regions, with the maximum value in Liguria (+ 14.5% compared to the average) and the minimum in Campania (-22% compared to the average, Figure 1).
The provinces of Bolzano and Trento reach the best values for most of the indicators, with the only exception of Liguria that, together with Emilia-Romagna, reaches the highest level of civic and political participation. On the other hand, the worst values for all domain's indicators are recorded in Campania and Sicilia.

International comparison

In Europe, the measurement of social relations is based on non-harmonized reference systems. However, the indicator on participation in voluntary activities, developed by Eurostat, and the indicator on the potential help network, calculated by the OECD, are here used to compare information on social relationships, even though the indicators are not identical to those included in the Italian Bes framework.

Based on the results of the 2015 Eu-Silc survey, almost one-fifth (19.3%) of the Eu28's adult population participated in formal voluntary activities, a slightly higher share (22.2%) participated in informal voluntary activities while 12.8% participated in active citizenship activities.[2] Northern European countries show the highest levels of participation: the Netherlands, Finland, Sweden and Denmark, while in Portugal, Spain, Greece and Italy, where the habit of activating relationships outside the family or the circle of friends is less widespread, the proportions are much lower than the Eu28 average.
The participation in formal voluntary activities reached more than one third of the adult population in the Netherlands, Denmark, Luxembourg, Sweden and Finland. By contrast, there were Member States where less than 1 in 10 adults participated in formal voluntary activities, with the lowest share in Romania (3.2%).
Italy ranks 17th (12%) near countries such as the Czech Republic (12.2%) and Greece (11.7%) (Figure 2).

Figure 2. Persons aged 16 and over who participated in formal voluntary activities in the Eu28 countries. Year 2015. Percentage values

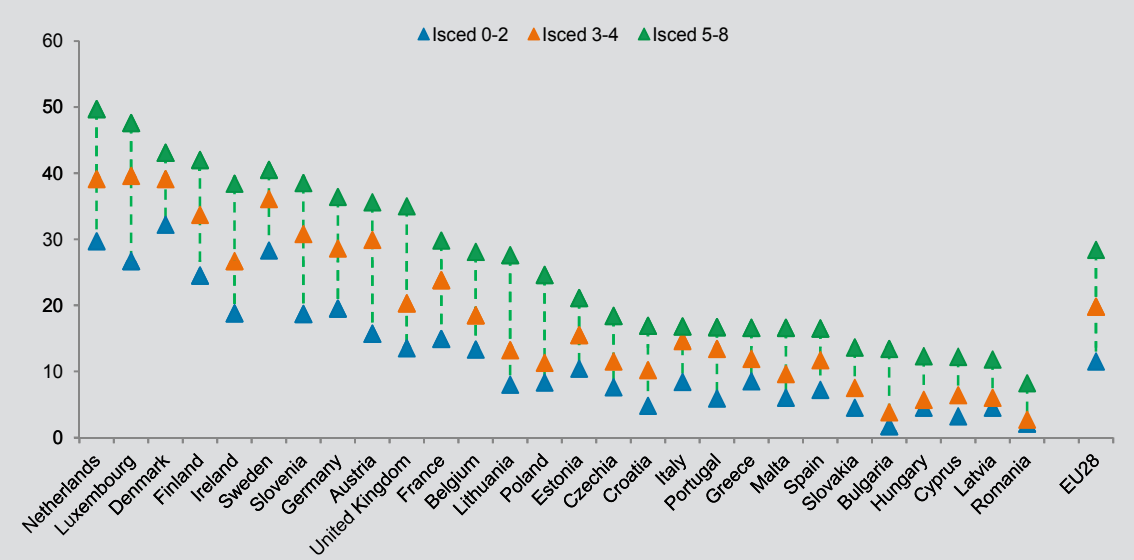


Source: Eurostat, Eu-Silc

An analysis by educational attainment level shows that in the Eu28 countries there is a gap of almost 17 percentage points in the levels of participation between people with high and low educational level.
The share of the population who participated in formal voluntary activities exceeds 28% among people with a high level of education (degree or more), while it reaches the minimum among people with a low educational level (11.5%). The positive association between education level and voluntary activities is recorded in all countries (Figure 3).

2 In 2015, an ad hoc module on social and cultural participation was included in the Eu-Silc survey; it included some questions on the intensity of family and friendship relationships, voluntary activity (formal and informal) and social engagement. According to the definition used in the Eu-Silc survey, with "formal volunteering" is meant doing activities in an organisation, group or association in the 12 months preceding the interview for free; "informal volunteering" means free activities carried out on one's own account, such as providing help to non-cohabiting people (cooking, shopping, etc.), taking care of abandoned animals, cleaning forests or beaches. Active citizenship" means attending a party, trade union or civil rights association, signing petitions, sending letters of protest to a politician or newspaper, participating in a demonstration.

Figure 3. Persons aged 16 and over who participated in formal voluntary activities by level of education. Eu28 countries. Year 2015. Percentage values



Source: Eurostat, Eu-Silc.

Italy has a low gap in participation levels compared to the Eu28 average (8.4 percentage points). The share of the population participating in formal voluntary activities is 16.8% among people with high educational levels, twice that of the population with a low educational level (8.4%).
As in almost all European Union countries, even in Italy the great majority of the population can count on the help of friends or relatives. The indicator used by the Oecd, from the Gallup survey, estimates that in 2015-2017 the 89% of people aged 15 and over can count on the help of friends or relatives in case of need.
The northern European countries, together with Luxembourg and Spain, are at the top of the ranking, while Greece, Portugal, Latvia, Poland and Hungary are at the bottom.
Italy is above the Oecd average (92%).[3]

Analysis of national data

Satisfaction with family and friends relations is stable

In 2018, satisfaction with family and friends relations remains stable: the share of people aged 14 and over who are very satisfied with family relations is 33.2% and satisfaction with friends relations is 23.2%.
After the drop recorded in 2017, also the share of the population that have relatives, friends or neighbours to rely on is stable (80.8%).

3 The values estimated by the Gallup survey and the Istat survey Aspects of daily life with which the indicator of this domain "People to rely on" is calculated are not comparable for several reasons: in the Gallup survey neighbours are excluded but cohabiting partners are included while in the Istat survey neighbours are included; the Gallup survey targets people aged 15 years and over, while the Istat survey targets people aged 14 years and over; finally, survey techniques differ in terms of sampling, administration and data processing.

High generational differences in satisfaction with friends relations

Satisfaction with family and friends relations and the availability of relatives, friends or neighbours to rely on do not show gender differences, but they show age differences.
Satisfaction with family relations is higher among young people aged 14-19 (40%) and adults up to 44 years (around 36%). Satisfaction with friends relations is also higher among young people, for whom the network of friendship is particularly important.
The levels of satisfaction with the friends' network decrease evidently with increasing age, to reach the lowest value among older population (14.3% in the population aged 75 and over).
Also the availability of relatives, friends or neighbours to rely on decreases with age: it is higher among young people aged 14-34 (over 86%), then it drops and reaches the lowest value among the population aged 75 and over (71.2%). Generational differences, however, are less marked than those observed for the satisfaction with friends.

Voluntary activity is stable

In 2018, the share of people that have funded associations is 14.5%, while 10.5% of population have performed free activities for voluntary associations or groups in the last 12 months (it was 10.4% in 2017).
In Italy, as we have seen, voluntary activity involves a lower share of population than the Eu28 average (Figure 2). In particular, studies show that employed people and people with young children have greater difficulties in taking part in voluntary activity.[4]
Both indicators show no gender differences, while they show differences by age group.
Association funding is not widespread among young people, it reaches its maximum among people aged 45-74, with values between 18% and 19%.
For voluntary activity, the age differences are lower, with the highest percentages among young people aged 14-24 and adult aged 45-64 (Figure 4).

Still low, but improving the generalized trust

In Italy, the share of population feeling that most people are worthy of trust is very low: in 2018 only 21% of people aged 14 and over feels that most people are worthy of trust. The figure shows a slight growth compared to 2017 (when it was 19.8%).
The generalised trust is more widespread among males (22.5% against 19.6% for females) (Figure 4).
The age differences are small and the values drop significantly only among those aged 75 and over (15.2%) (Figure 4).

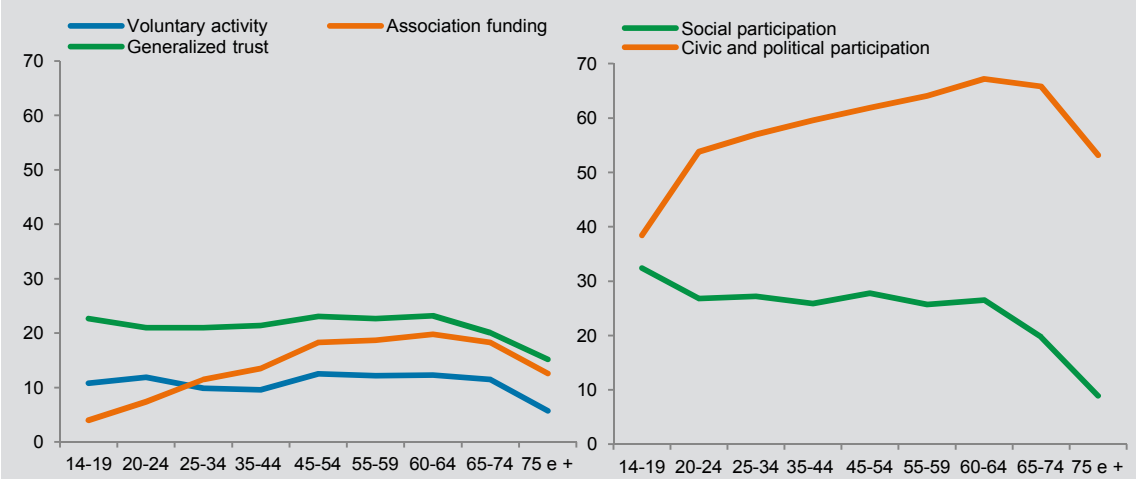
Social participation is slightly increasing, civic and political participation is stable

Between 2017 and 2018, the share of population that have performed at least one social participation activity (excluding volunteering) raised from 22.8% to 23.9%.
The negative trend started in 2014 for civic and political participation stops: in 2018 the percentage remains stable compared to the previous year (58.8% compared to 59.4% in 2017).

4 Istat, Rapporto Annuale 2018. La situazione nel Paese, Roma, Istat, 2018, pp. 289-290.

Social participation is higher among young people aged 14-19 (32.4%) and remains above the average up to 64 years of age, to reach the lowest value among the population aged 75 and over (8.9%).
Civic and political participation, on the other hand, reaches its peak in the middle ages, between 45 and 74 years of age (over 60%), while it is lower in the 14-24 age group and among the population aged 75 and over. (Figure 4).
Civic and political participation reaches its maximum between 45 and 74 years of age (over 60%), while it is lower in the 14-24 age group and among the population aged 75 and over (Figure 4).

Figure 4. Social relationships indicators by age group. Year 2018. Percentage values

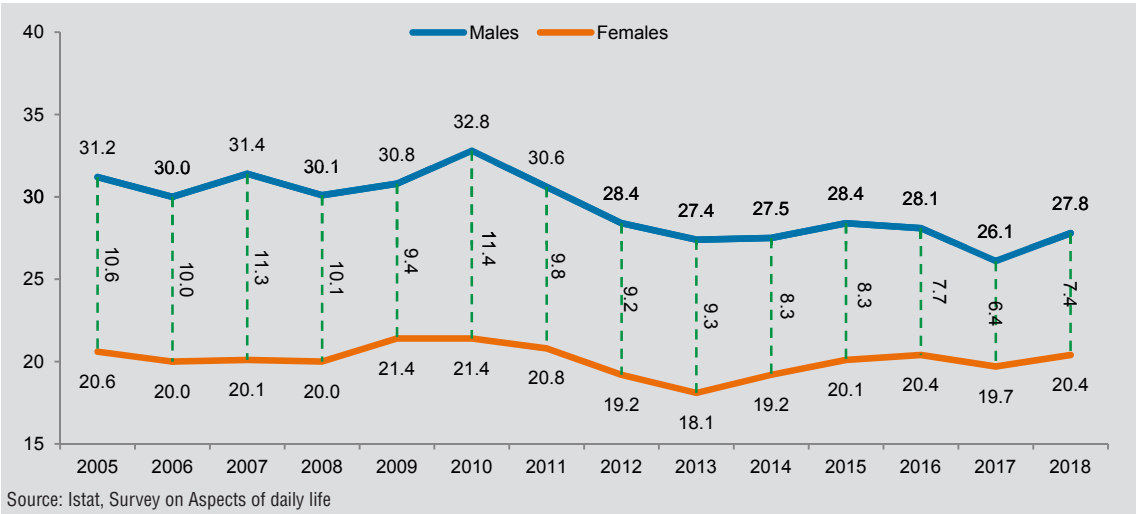


Source: Istat, Survey on Aspects of daily life

Social, civic and political participation is higher among men

Both for social participation and for civic and political participation, there are also strong gender differences in favour of men. The gender gap is greater and constant over time for civic and political participation (13.9 percentage points more for men) while it is more contained and slightly decreased over time for social participation (7.4 points in 2018) (Figure 5).

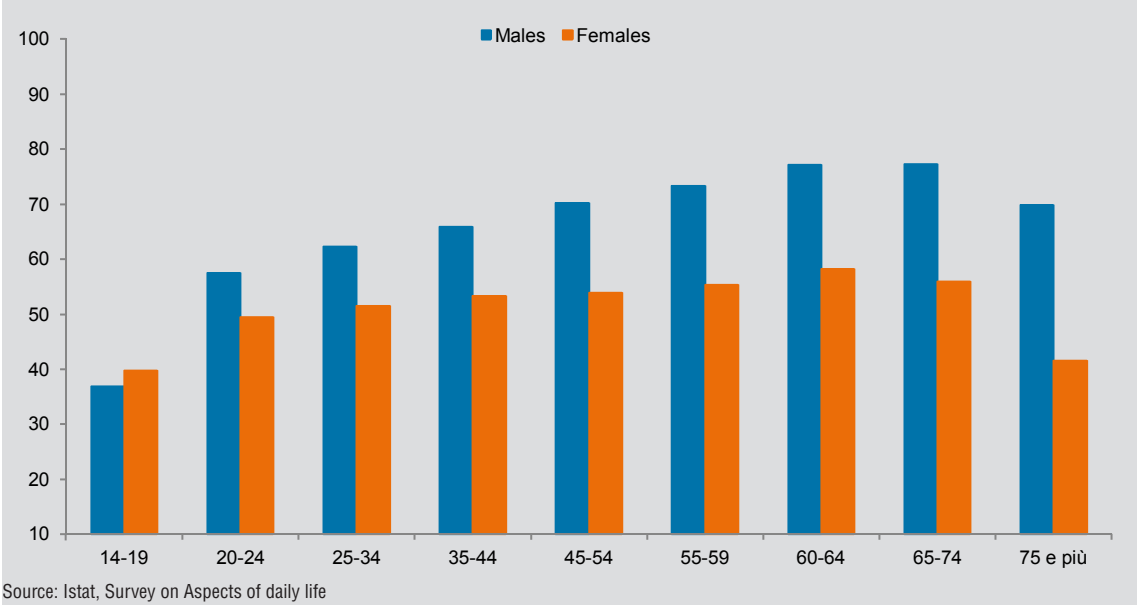
Figure 5. Persons aged 14 and over hat have performed at least one social participation activity in the last 12 months by gender. Years 2005-2018. Percentage values



Source: Istat, Survey on Aspects of daily life

The gap between men and women is small among young people and grows with increasing age, with greater distances for the older generations.
In particular, for civic and political participation, the gender gap is zero among young people aged 14-19, it is 8-12 percentage points in favour of men in the 20-44 age group and it exceeds 28 percentage points in the population aged 75 years and older (Figure 6).

Figure 6. Persons aged 14 and over who perform at least one of the activities of civic and political participation by gender and age group. Year 2018. Percentage values

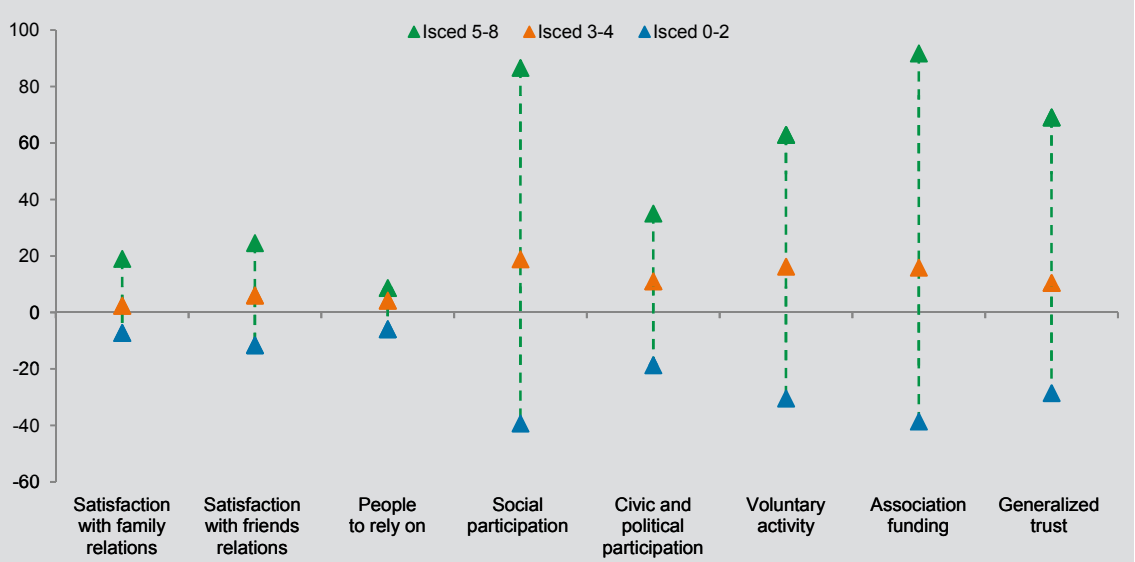


Source: Istat, Survey on Aspects of daily life

Significant differences by educational level

The analysis of the indicators' domain for which it is possible to analyse the differences by educational level shows a positive impact of the level of education on social relations.
In fact, all the indicators of the domain show more positive values among those with the highest levels of education.
In particular, the indicator that differs most by level of education is social participation: the share of the most educated active people exceeds 45% (+ 88.8% compared to the average population), a value that is almost 4 times higher than that found among the least educated population.
Also voluntary activity is more widespread among people with high educational level, reaching a value (17.2%) is almost 60% more than the average.
People with a high level of education also express greater generalized trust: almost 36% feel that most people are worthy of trust, a value that is 66% higher than the average population.
Less marked differences are found with respect to satisfaction with family relationships and the possibility to have people to rely on (Figure 7).

Figure 7. Percentage variation for Social relationships indicators comparing to the value for Italy by level of education. Latest available year (a) (b)

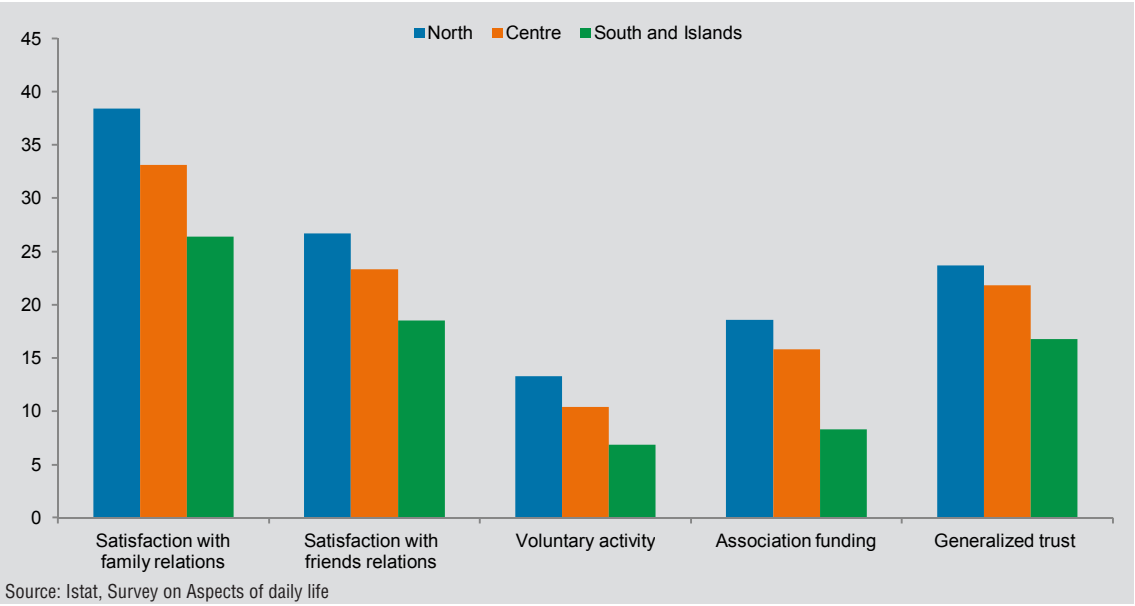


Source: Istat, Survey on Aspects of daily life
(a) Low level of education: Isced 0-2; Medium level of education: Isced 3-4; High level of education: Isced 5-8.
(b) Values above zero correspond to better well-being conditions comparing to the Italian average; on the contrary, values below zero correspond to worse well-being conditions. The calculation took into account the polarity of indicators.

The disadvantage of the South and Islands is confirmed

For all the indicators, the territorial differences are particularly marked and the area of the South and Islands is more disadvantaged.
Satisfaction with friends' relations, which in the South and Islands is 18.5%, in the North is almost 27%. The gap is wider for satisfaction with family relations: 26.4% in the South and Islands, while it exceeds 38% in the North. Furthermore, in the South and Islands there is a lower share of the population that have relatives, friends or neighbours they can rely on.

Figure 8. Social relationships indicators by geographic area. Year 2018. Percentage values



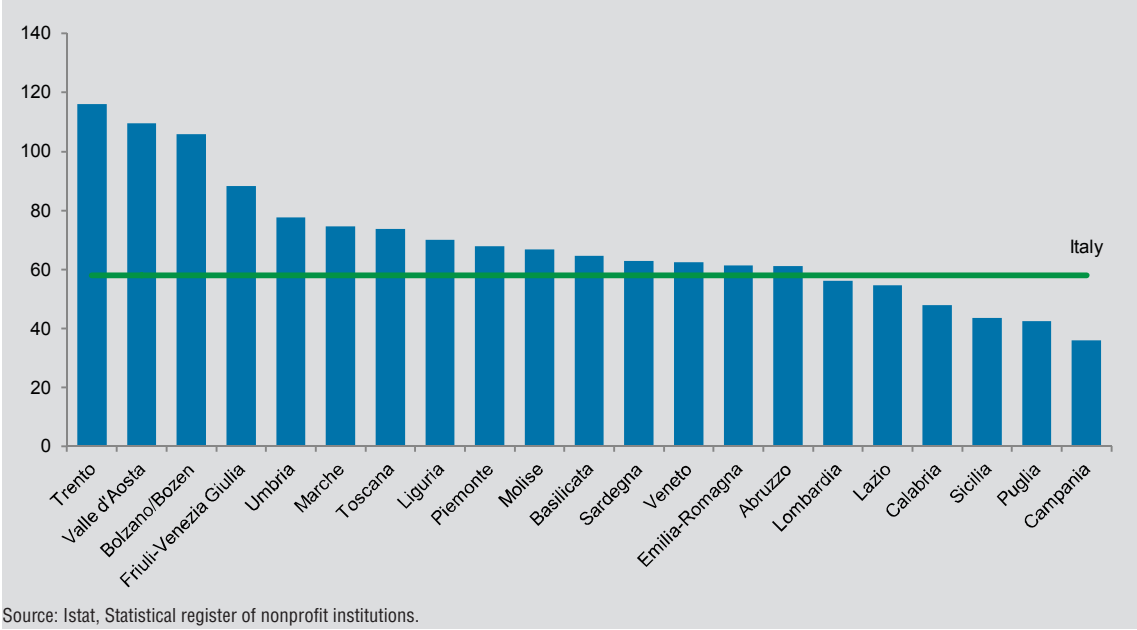
Source: Istat, Survey on Aspects of daily life

The generalized trust, the association funding and voluntary activity are also lower in the South and Islands, where only 16.8% of the population aged 14 and over feel that most people are worthy of trust (22% in the Centre-North) and the share of the population that have funded associations is 8.3%, compared to 18.6% in the North (Figure 8).
In the Centre-North more than a quarter of the population aged 14 and over have performed at least one social participation activity (excluding volunteering), against 18.6% in the South and Islands.
The territorial differences are wider for civic and political participation, which is 13.6 percentage points higher in the northern regions than in the South and Islands (63.9% compared to 50.3%).

The nonprofit institutions are growing and more widespread in the Centre-North

In 2017, there are 350,492 nonprofit institutions active in Italy (57.9 per 10 thousand inhabitants), with a total of 844,775 employees. The sector is growing compared to 2016: institutions increased by 2.1% and employees by 3.9%.
In the Centre-North, there are 64 nonprofit institutions per 10 thousand inhabitants (over 109 in the province of Trento and in Valle d'Aosta), in the South there are 45.2 institutions per 10 thousand inhabitants (the lowest value in Campania: 36 nonprofit institutions per 10,000 inhabitants, Figure 9).
In 2017, the regions with more employees than the national value (140 per 10 thousand inhabitants) are the province of Trento (244 employees per 10 thousand inhabitants), Lombardia (189), Lazio (188), the province of Bolzano (178) and Emilia-Romagna (176 employees per 10 thousand inhabitants).
The culture, sport and recreation sector brings together almost two thirds of the nonprofit institutions in Italy in 2017 (64.5%), followed by the sectors of social services and emergency prevention (9.2%), business and professional associations, trade unions (6.5%), religion (4.8%), education and research (4.0%) and health (3.5%). Over half of the emplo-

Figure 9. Number of nonprofit institutions per 10,000 inhabitants by region. Year 2017



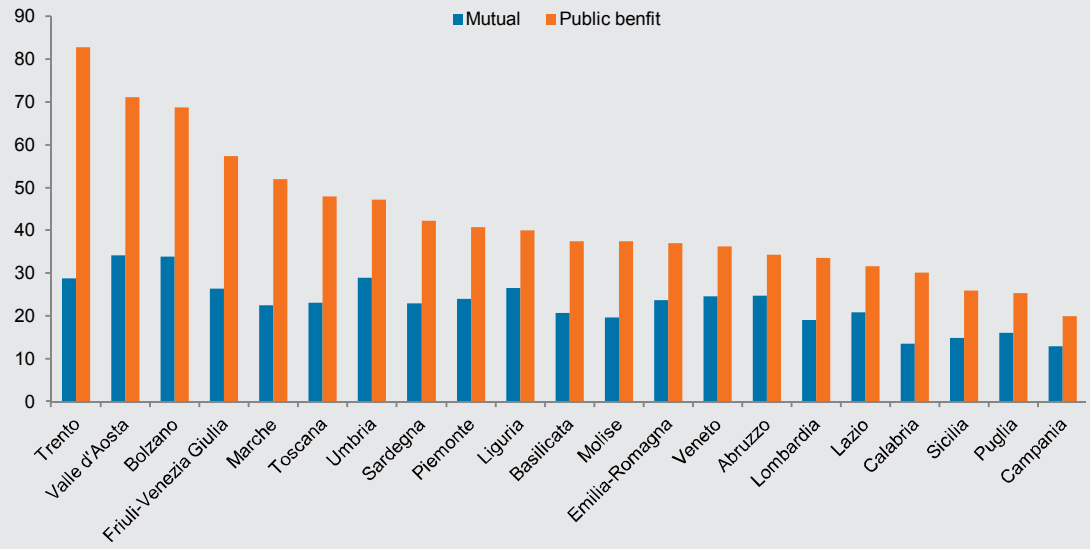
Source: Istat, Statistical register of nonprofit institutions.

yees are concentrated in the social services (36.9%) and health (21.9%) sectors, followed by education and research (14.9%) and development and housing (11.7%).
An indicator useful for measuring the territorial roots of the nonprofit sector is obtained by comparing the number of taxpayers who have made a pre-tax donation to a nonprofit institution without employees on the resident population.
The highest values of the indicator are observed in some northern regions, such as Valle d'Aosta (106.8 compared to 63.5 taxpayers per 1,000 inhabitants of Italy), the provinces of Bolzano (85.1) and Trento (78.9) and Emilia-Romagna (68.4), but also in Umbria (71.1), Puglia (70.1), Basilicata (65.3) and Molise (64.1). The indicator assumes the lowest values in Campania (47.7) and Abruzzo (49.5).

ORIENTATION AND MISSION OF NONPROFIT INSTITUTIONS

The Census of nonprofit institutions (last update available 2015) collects useful information to define more accurately the activities that characterize nonprofit institutions. It is possible to distinguish between mutual (institutions that are oriented to the interests and needs of the members only), and public benefit institutions (institutions aimed at the well-being of the community in general). The other relevant element is the mission, that is the purposes that nonprofit institutions pursue.
In 2015, nonprofit institutions were of public benefit in 63.3% of cases (213 thousand units) and mutual for the remaining 36.7%. In relation to the present population, every 10,000 inhabitants there are 35 nonprofit institutions of public benefit and 20 mutual nonprofit institutions. Public benefit nonprofit institutions are mostly present in the Northeast (42 institutions per 10 thousand inhabitants) and in the Centre (40 institutions per 10 thousand inhabitants). The most significant presence of public utility institutions is found in the province of Trento (83 institutions per 10 thousand inhabitants), in Valle d'Aosta (71), in the province of Bolzano (69) and in Friuli-Venezia Giulia (57).
Nonprofit institutions are also more widespread in the Northeast (with 25 institutions per 10,000 inhabitants), in the provinces of Trento and Bolzano (respectively 29 and 34 institutions per 10,000 inhabitants) and in Valle d'Aosta (34).
At national level, 34.4% of nonprofit institutions are aimed at supporting people in difficulty (with 19 institutions per 10 thousand inhabitants), 20.4% are for the promotion and protection of rights (11 institutions per 10 thousand inhabitants) and 13.8% for taking care of collective goods (8 institutions per 10,000 inhabitants).
Nonprofit institutions with the aim of supporting people in difficulty are prevalent in the Centre (23 institutions per 10 thousand inhabitants) and in the Northeast (22 institutions per 10 thousand inhabitants). Institutions whose purpose is the promotion and protection of rights are more concentrated in the Centre (14 institutions per 10 thousand inhabitants) while those oriented towards the care of collective assets are more present in the Northeast (10 institutions per 10 thousand inhabitants) and in the Centre (9 institutions per 10,000 inhabitants).

Figure 1. Number of nonprofit institutions per 10,000 inhabitants by region and scope mutual or public benefit. Year 2015



Source: Istat, Census of nonprofit institutions.

Indicators

1. **Satisfaction with family relations:** Percentage of people aged 14 and over that are very satisfied with family relations on total population aged 14 and over.
   Source: Istat, Survey on Aspects of daily life
2. **Satisfaction with friends relations:** Percentage of people aged 14 and over that are very satisfied with relations with friends on total population aged 14 and over.
   Source: Istat, Survey on Aspects of daily life.
3. **People to rely on:** Percentage of people aged 14 and over that have relatives, friends or neighbors (besides parents, sons, siblings, grandparents, nephews) they can rely on, on total population aged 14 and over.
   Source: Istat, Survey on Aspects of daily life
4. **Social participation:** People aged 14 and over that have performed at least one social participation activity in the last 12 months on total population aged 14 and over. The activities in question are: participation in meetings of associations (cultural/recreational, ecological, civil rights, peace); participation in meetings of trade union organizations, professional or trade associations; meetings of political parties and/or performance of free activities for a party; payment of a monthly or quarterly fee for a sports club.
   Source: Istat, Survey on Aspects of daily life
5. **Civic and political participation:** People aged 14 and over who perform at least one of the activities of civic and political participation on total population aged 14 and over. The activities in question are: The activities in question are: to speak about politics at least once a week; to inform of the facts of Italian politics at least once a week; to attend online consultation or voting on social issues (civic) or political (e.g. urban planning, sign a petition) at least once in the 3 months prior to the interview, to read and to post opinions on social or political issues on the web at least once in the 3 months preceding the interview.
   Source: Istat, Survey on Aspects of daily life
6. **Voluntary activity:** Percentage of people aged 14 and over that have performed free activities for voluntary associations or groups in the last 12 months on total population aged 14 and over.
   Source: Istat, Survey on Aspects of daily life
7. **Association funding:** Percentage of people aged 14 and over that have funded associations in the last 12 months on total population aged 14 and over.
   Source: Istat, Survey on Aspects of daily life
8. **Nonprofit organizations:** Number of nonprofit organizations per 10,000 inhabitants
   Source: Statistical register and Census of nonprofit institutions
9. **Generalized trust:** Percentage of people aged 14 and over that feel that most people are worthy of trust on the total population aged 14 and over.
   Source: Istat, Survey on Aspects of daily life

Indicators by region and geographic area

REGIONS AND GEOGRAPHIC AREAS	Satisfaction with family relations (a)	Satisfaction with friends relations (a)	People to rely on (a)	Social participation (a)
	2018	2018	2018	2018
Piemonte	37.3	25.5	82.0	24.9
Valle d'Aosta/Vallée d'Aoste	32.7	25.0	86.3	25.7
Liguria	40.2	27.7	84.3	25.6
Lombardia	38.2	27.0	80.1	26.8
Trentino-Alto Adige/Südtirol	44.0	32.9	87.7	39.2
Bolzano/Bozen	*43.6*	*33.7*	*89.3*	*39.2*
Trento	*44.3*	*32.2*	*86.1*	*39.1*
Veneto	37.5	25.9	81.7	28.1
Friuli-Venezia Giulia	38.2	25.8	82.1	28.5
Emilia-Romagna	39.2	26.8	82.4	28.0
Toscana	37.3	27.0	83.4	27.2
Umbria	37.1	28.3	83.9	26.4
Marche	33.4	23.3	81.0	24.4
Lazio	29.7	20.1	82.6	23.8
Abruzzo	35.7	23.3	81.8	22.4
Molise	27.3	18.6	76.5	19.8
Campania	22.5	16.5	76.6	16.2
Puglia	23.8	17.6	77.8	19.6
Basilicata	31.2	23.1	83.7	26.2
Calabria	26.5	18.9	79.5	17.8
Sicilia	27.9	18.2	77.1	17.3
Sardegna	32.6	22.8	83.6	23.8
North	38.4	26.7	81.7	27.4
Centre	33.1	23.3	82.7	25.2
South and Islands	26.4	18.5	78.3	18.6
Italy	**33.2**	**23.2**	**80.8**	**23.9**

(a) Per 100 persons aged 14 and over;
(b) Per 10,000 inhabitants.

Civic and political participation (a)	Voluntary activity (a)	Association funding (a)	Nonprofit organizations (b)	Generalized trust (a)
2018	2018	2018	2017	2018
62.5	11.6	15.9	67.8	21.3
59.8	13.1	18.6	109.5	31.1
67.3	11.3	15.0	70.0	21.5
63.7	13.3	18.5	56.2	23.8
59.6	22.0	29.2	111.0	37.1
57.8	*18.9*	*30.4*	*105.9*	*39.7*
61.4	*25.1*	*28.1*	*116.0*	*34.6*
63.2	14.1	18.5	62.4	24.2
62.5	11.9	18.7	88.2	24.8
67.1	13.1	20.3	61.4	22.7
63.6	12.7	20.8	73.7	24.7
62.6	11.8	16.1	77.7	20.5
60.8	9.5	16.0	74.7	22.2
60.5	8.9	12.5	54.7	20.1
59.6	6.6	10.9	61.2	18.1
53.9	6.5	8.9	66.8	15.8
45.5	6.5	7.4	36.0	19.6
53.6	6.8	8.4	42.4	17.4
55.3	10.4	13.9	64.7	14.5
49.3	7.9	8.0	47.9	16.2
46.9	5.3	5.5	43.5	13.3
60.5	11.1	15.9	62.8	17.0
63.9	13.3	18.6	64.5	23.7
61.7	10.4	15.8	64.8	21.8
50.3	6.9	8.3	45.2	16.8
58.8	**10.5**	**14.5**	**57.9**	**21.0**

6. Politics and institutions[1]

In the Politics and Institutions domain, there has been a widespread improvement in indicators, both in the last year and compared to 2010 (Table 1).
Trust in Italian Parliament, in judicial system and in political parties is improving, although the level remains very low; trust in police and fire brigade remains high, but stable in the last year. Progress continues, but at a low rate, regarding the presence of women in top positions: in Parliament, in Regional Councils and in boards of companies. The few negative signs concern participation in the European Parliament elections, which has been declining since 2004. The 56.1% of the population aged 18 years and over voted in the 2019 European elections, compared to 58.7% in 2014 and 66.5% in 2009. The prisons' density is also worsening, and has been growing again since 2016.

Table 1. Politics and institutions indicators: value for the latest available year. Percentage variations on the previous year and on 2010

INDICATOR	Latest available year value	% variation (compared with the previous year)	% variation (compared with 2010)
1. Voter turnout *(%, 2019) (a)*	56.1		
2. Trust in the parliament *(average rating, 2018) (b)*	3.8		
3. Trust in judicial system *(average rating, 2018) (b)*	4.4		
4. Trust in political parties *(average rating, 2018) (b)*	2.7		
5. Trust in police and fire brigade *(average rating, 2018) (c)*	7.3		
6. Women and political representation in Parliament *(%, 2018) (d)*	35.4		
7. Women and political representation at regional level *(%, 2019) (c)*	21.1		
8. Women in decision-making bodies *(%, 2019) (e)*	16.8		
9. Women in the boards of companies listed in stock exchange *(%, 2019)*	36.4		
10. Mean age of members of Parliament *(years, 2018) (f)*	47.6		—
11. Length of civil proceedings *(days, 2018) (c)*	429.0		
12. Prison density *(prisoners per 100 places, 2018)*	117.9		

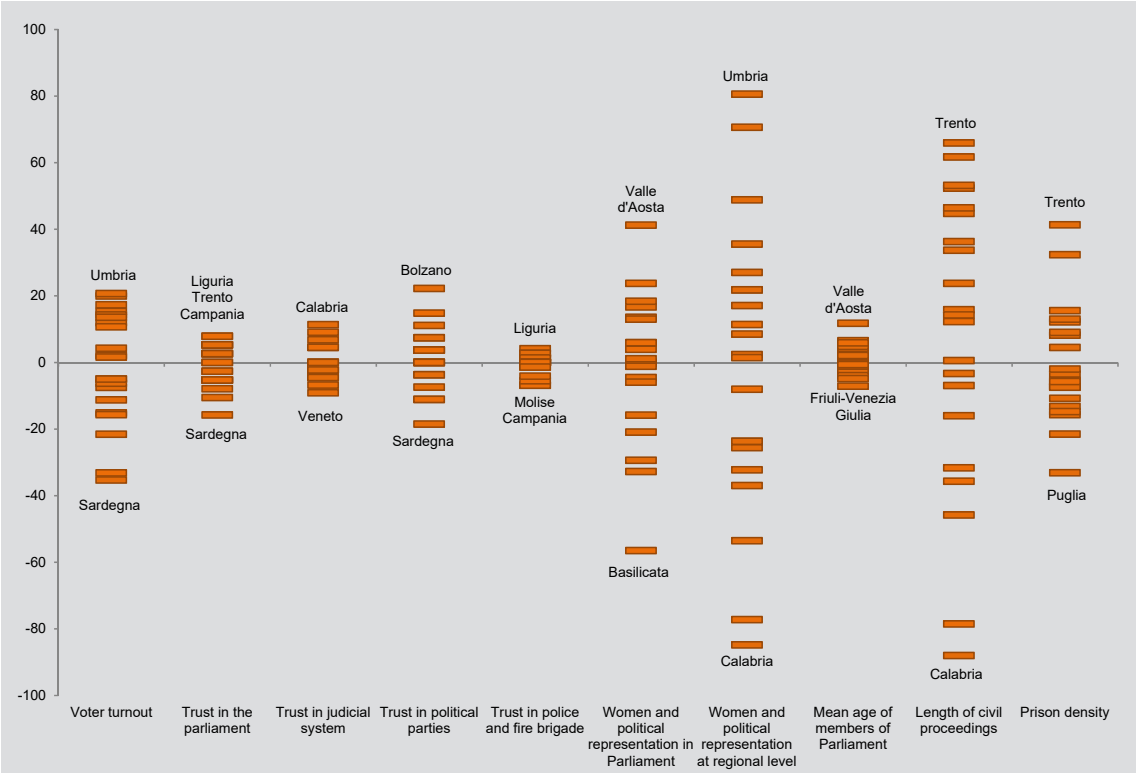
Improvement | Stability | Deterioration | — Comparison not

(a) 2010 data not available, variation based on 2009; previous year = 20
(b) 2010 data not available, variation based on 20
(c) 2010 data not available, variation based on 20
(d) 2010 data not available, variation based on 2008, previous year = 20
(e) 2010 data not available, variation based on 20
(f) Previous year = 2014;

Note: Variations between two points in time above 1% are considered positive (in green), below -1% are considered negative (in red). Variations between -1 and +1% refer to stability (in grey).

1 This chapter was edited by Barbara Baldazzi with contributions from Miria Savioli.

Figure 1. Percentage variation for Politics and institutions indicators comparing to the value for Italy by region. Latest available year (a)



(a) Values above zero correspond to better well-being conditions comparing to the Italian average; on the contrary, values below zero correspond to worse well-being conditions. The calculation took into account the polarity of indicators.

The indicators show heterogeneity between regions (Figure 1).

The most homogeneous indicators on the territory are those on trust, calculated as an average of the declared score between 0 and 10, which record low values, for trust in both political parties and Italian Parliament (Italian average equal, respectively, to 2.7 and 3.8), and in judicial system (4.4). The indicator on the average age of the elected to the Italian Parliament in the regional constituencies also shows modest variations between regions, with the lowest average age in Valle d'Aosta (42 years) and the highest in Friuli-Venezia Giulia (51 years).

A greater dispersion is recorded for the participation in the elections to the European Parliament: in Sardegna and Sicilia the turnout was, respectively, 36.3% and 37.5%, while in Umbria and Emilia-Romagna over 67%.

There is an even greater dispersion with respect to the presence of women in Parliament (only 15.4% of women elected in Basilicata while the percentage is over 40% in Valle d'Aosta, Trentino-Alto Adige, Sicilia, Calabria, Puglia and Lazio) and, even more clearly, with respect to the presence of women in Regional Councils. Comparing to the national average of elected women (21.1%) Calabria, Basilicata e Puglia records the lowest proportions of women in Regional Councils (3.2%, 4.8% and 9.8% respectively). The share of women in the Regional Councils in Umbria, Emilia-Romagna and Lazio, on the other hand, exceeds 30% (38.1%, 36% and 31.4% respectively).

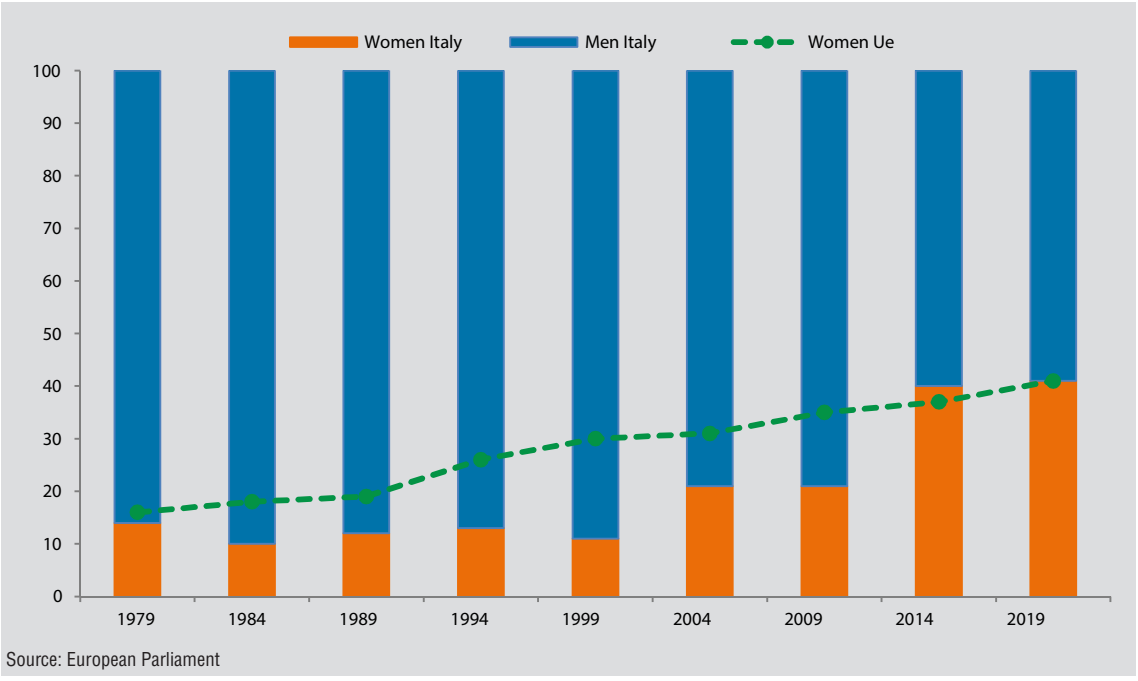
The effective average duration of civil proceedings varies greatly in the territory: while in Italy the average duration is 429 days, in Calabria it is almost twice as long (806 days), while in Valle d'Aosta and in the province of Trento it is less than half as much (164 and 146 days).

The analysis of the indicators as a whole shows that Sardegna and Calabria have fallen back significantly, having the lowest values in almost all indicators.

International comparison

The 2019 European elections were characterised by an increase in electoral participation in the total number of Eu countries: the average European turnout increased by 8 percentage points, from 42.6% to 50.6%. Among the 6 founding countries of the EU, participation in Belgium and Luxembourg remained high (88.5% and 84.2%), while significant increases were recorded in Germany (61.4%, 13 points higher than in previous elections), France (50.1%, +8 percentage points) and the Netherlands (41.9%, +4 percentage points). In Italy, on the other hand, the turnout decreased from 58.7% in 2014 to 56.1% in 2019 (58% of males and 54.3% of females voted). In Denmark, Spain and Malta, over 60% of eligible voters went to vote; in Greece, Sweden, Austria, Lithuania and Romania over 50%. In Czech Republic, Slovenia, Slovakia and Croatia the voter turnout was less than 30%.
The representation of women in the European Parliament is stable: in 2019, 40.7% of those elected were women. The Italian female representation in the European Parliament is, instead, growing: 41.7%, almost twice as much as ten years before (it was 21% in 2009 - Figure 2).

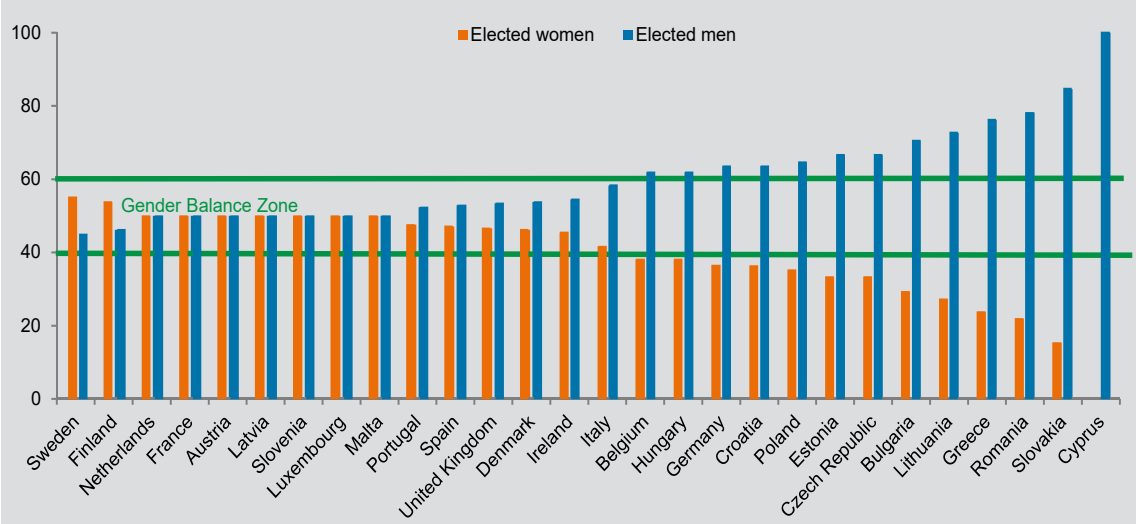
Figure 2. Percentage of women and men elected to the European Parliament out of the total elected in Italy and the Eu28. Years 1979-2019



Source: European Parliament

In 15 European nations the proportion of women elected in the European Parliament was over 40%, reaching the Gender Balance Zone, set as a percentage of women elected between 40% and 60%. In Sweden and Finland, women account for more than 50% of those elected; in the Netherlands, France, Austria, Latvia, Slovenia, Luxembourg and Malta, gender equality is 50%; and finally, in Portugal, Spain, the United Kingdom, Denmark, Ireland and Italy, the proportion of women varies between 41.7% and 47.6% (Figure 3).

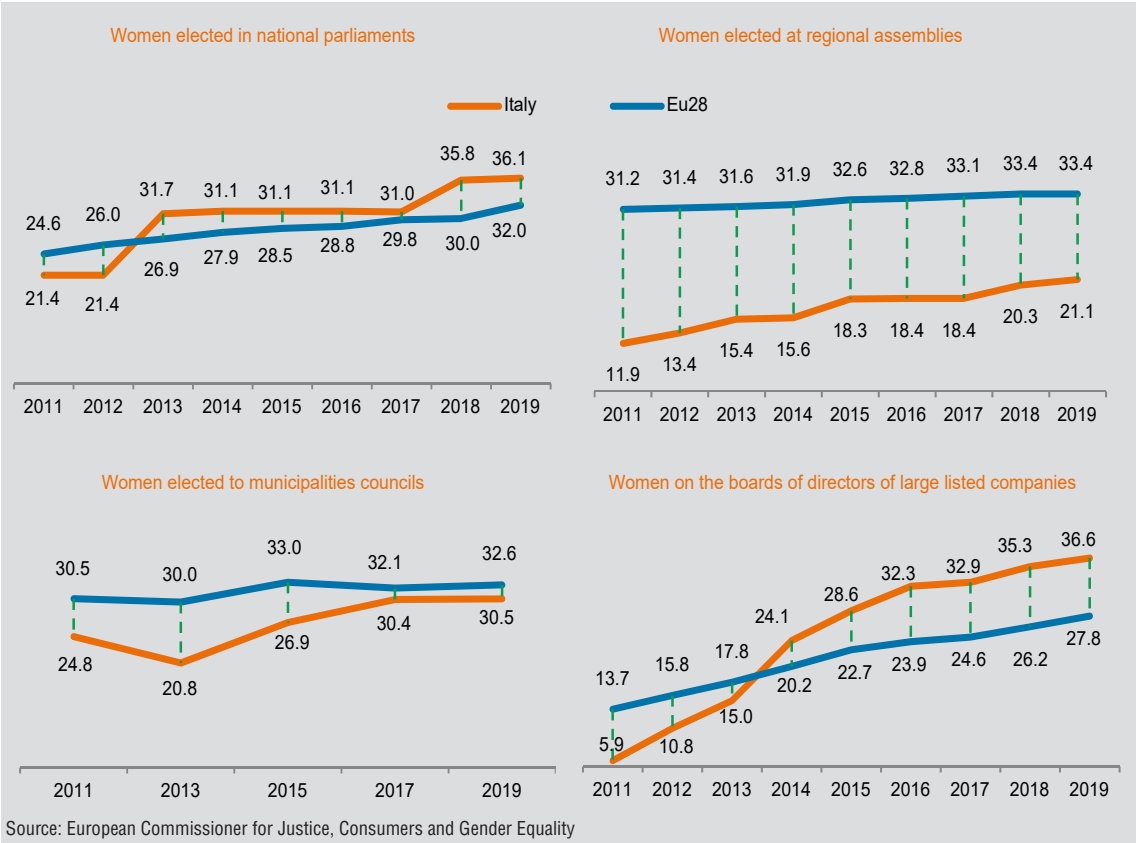
Figura 3. Percentage of women and men elected to the European Parliament out of the total number of elected members per country. Year 2019



Source: European Commissioner for Justice, Consumers and Gender Equality

Examining other decisional and political institutions at national and European level, a slow but steady increase in the presence of women in Italy, as in Europe, emerges, even if the pace of the increase does not seem to be enough to reach, in a short time, the Gender Balance Zone (Figure 4).

Figure 4. Percentage of women elected in National Parliaments, Regional Assemblies, European Parliament and large listed companies in Italy and the Eu28. Years 2011-2019



Source: European Commissioner for Justice, Consumers and Gender Equality

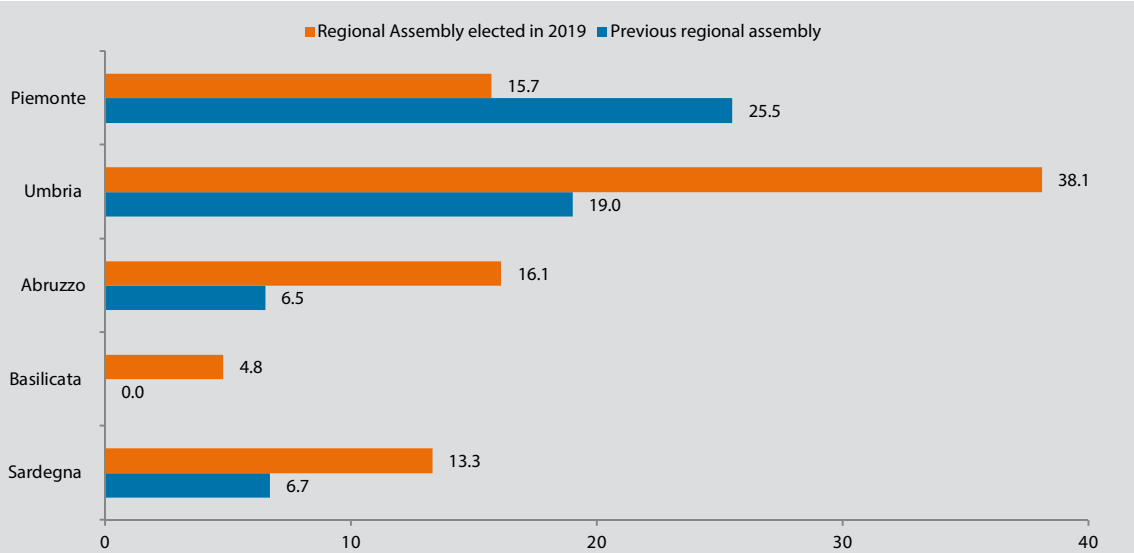
The 2018 general elections saw an increase in the presence of women in the Italian Parliament (35.8%, against 31% in the previous legislature). In the boards of directors of large listed companies, the positive trend that started in 2013-2014 is strengthening: for Italy in 2019, in the boards of directors, 1 every 3 members is a woman, compared to 27.8% of the European average. In the Municipal Councils, the 30.5% of those elected is a woman. The presence of women in regional assemblies remains low, although it shows a continuous trend of increase.

Analysis of national data

The presence of women in Regional Councils is increasing, but not in all regions

Five regional elections were held in 2019. In 4 out of 5 regions, the percentage of women elected increased: in Basilicata, 1 female regional councillor (4.8% of the total number of councillors); in Sardegna the percentage of women doubled, from 6.7% to 13.3%; in Abruzzo it went from 6.5% to 16.1% and in Umbria from 19% to 38.1%. The share of elected members decreased only in Piemonte, from 25.5% to 15.7% (Figure 5).

Figure 5. Percentage distribution of women elected to the Regional Councils established in 2019 and comparison with the previous Council



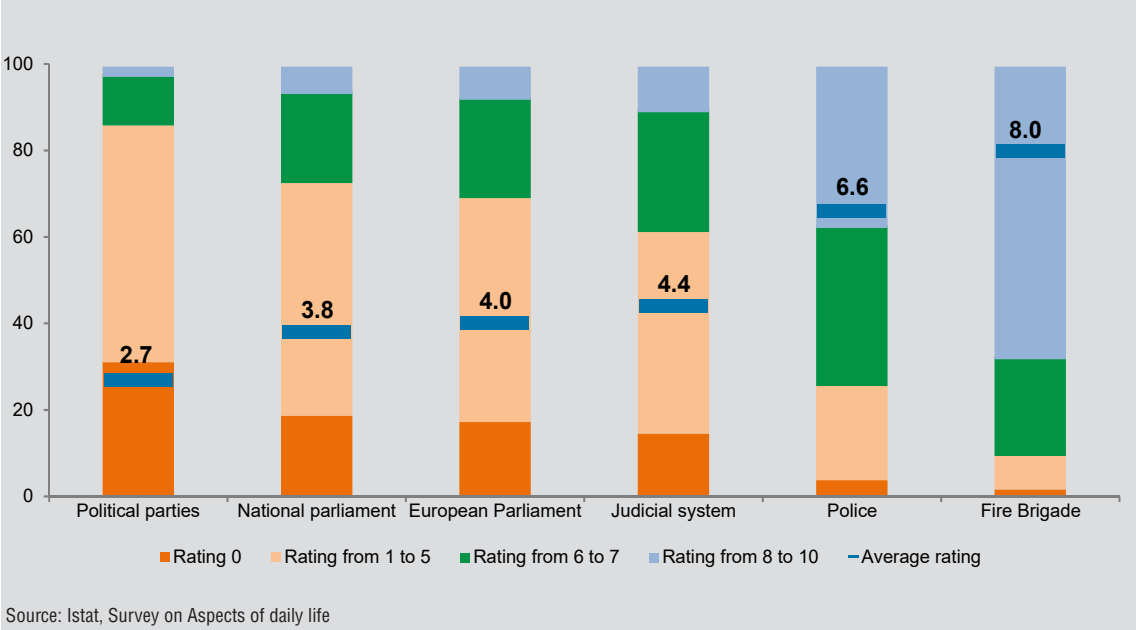
Source: Regional Councils

For the total of the Regional Councils, the percentage of women continues to grow, albeit very slowly, from 12.9% in 2012 to 20.3% in 2018 and 21.1% in 2019. In 2019, the proportion of women in position of high responsibility in the Constitutional court, Magistrates' Governing Council, Italian Regulatory authorities (for Communications, Antitrust, Data protection), Embassies, is on average, just over 16%.

Trust in the institutions increases; trust in the political parties is still very low

In 2018, trust in some institutions improved: 38% citizens aged 14 and over gave a score of at least 6 out of 10 to the system of justice (35.6% in 2017); 27% to the national Parliament (compared to 22.2% in 2017) and only 14% to the political parties (10.9% in 2017). The average vote, therefore, remains below 6: 4.4 for the system of justice, 3.8 for the national parliament and 2.7 for the political parties. In 2018, the year preceding the European elections, the European Parliament received a positive assessment from 30.4% of citizens, with an average vote of trust of 4 out of 10.
Higher levels of trust were expressed for the police, with 73.1% of sufficient ratings and an average vote of 6.6, and for the fire brigade, with 89% of sufficient ratings and an average vote of 8.

Figure 6. People aged 14 and over by vote of trust in different institutions. Year 2018



Source: Istat, Survey on Aspects of daily life

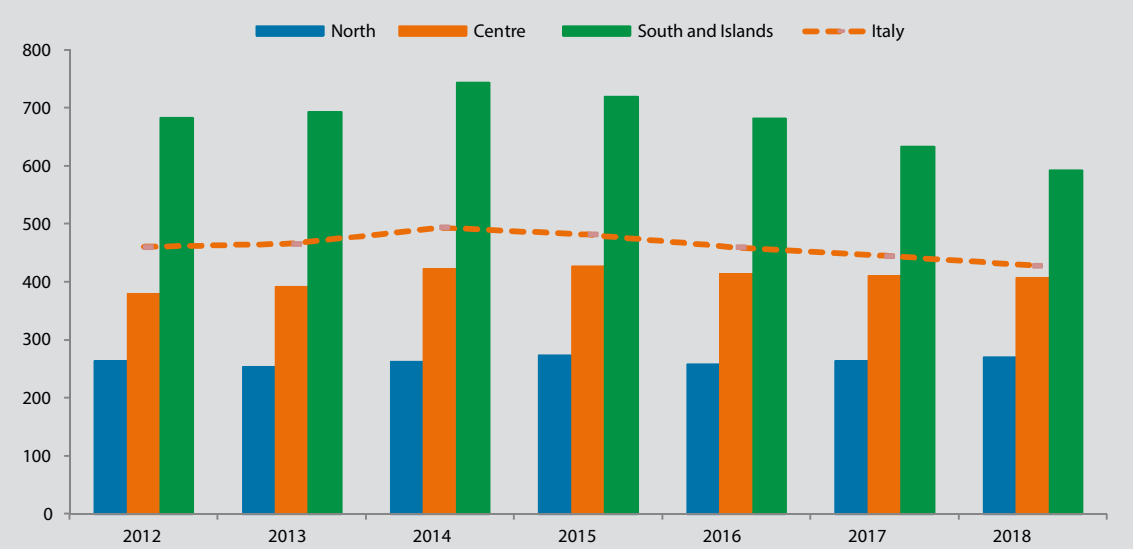
Constant reduction in the average effective duration of civil proceedings

In 2018, the average effective duration of civil proceedings was 429 days. In the South, where the backlog is higher, the duration of civil proceedings is on average 592 days (a clear decrease, however, compared to 2017: 40 days less), in the North 270 days, in the Centre 407 days (Figure 7).
The regions where proceedings last less on average are the province of Trento (146 days), followed by Valle d'Aosta (164) and Friuli-Venezia Giulia (201); on the other hand, proceedings exceed 700 days in Basilicata (765) and Calabria (806).

Prison population density is still increasing

The important progress made between 2012 and 2015 in prison overcrowding has been partially eroded by the worsening occurred in the last three years. In 2018 the overcrowding index reached the level of 117.9 prisoners on the total capacity (it was 105.2 per 100 available places in 2015, Figure 8).

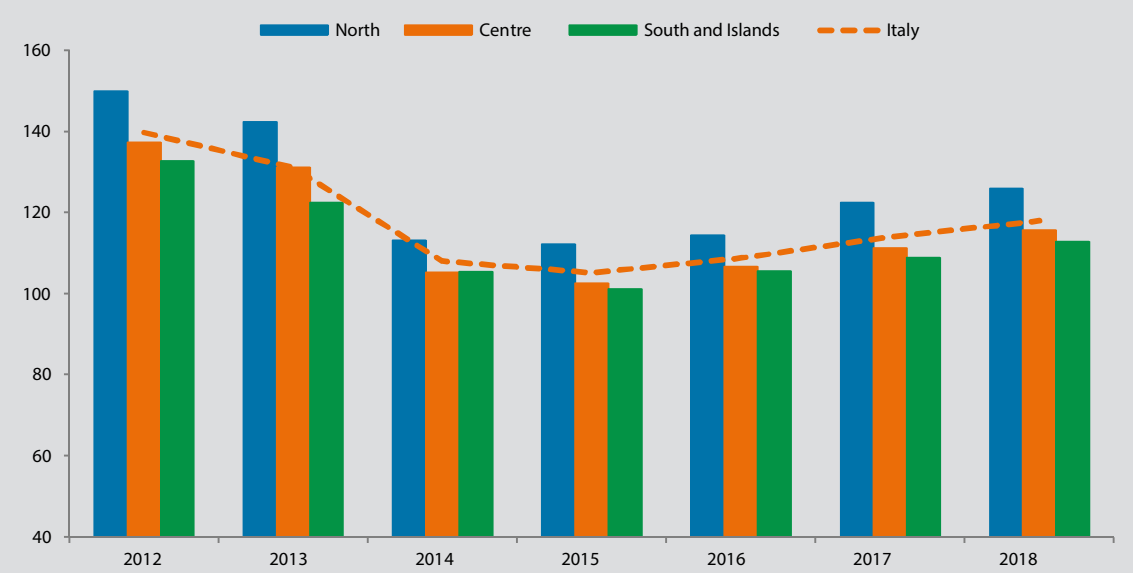
Figure 7. Average effective duration in days of proceedings defined in ordinary courts by geographic area. Years 2012-2018



Source: Ministry of Justice, Judicial organization department

The situation continues to be more serious in the North (126 prisoners per 100 available places), compared to the Centre (115.7) and the South and Islands (112.9).
Only the province of Trento, Sicilia and Sardegna have indexes below 100 prisoners per 100 available places, while Molise and Puglia have values above 140.

Figure 8. Prison population density by geographic area. Years 2012-2018



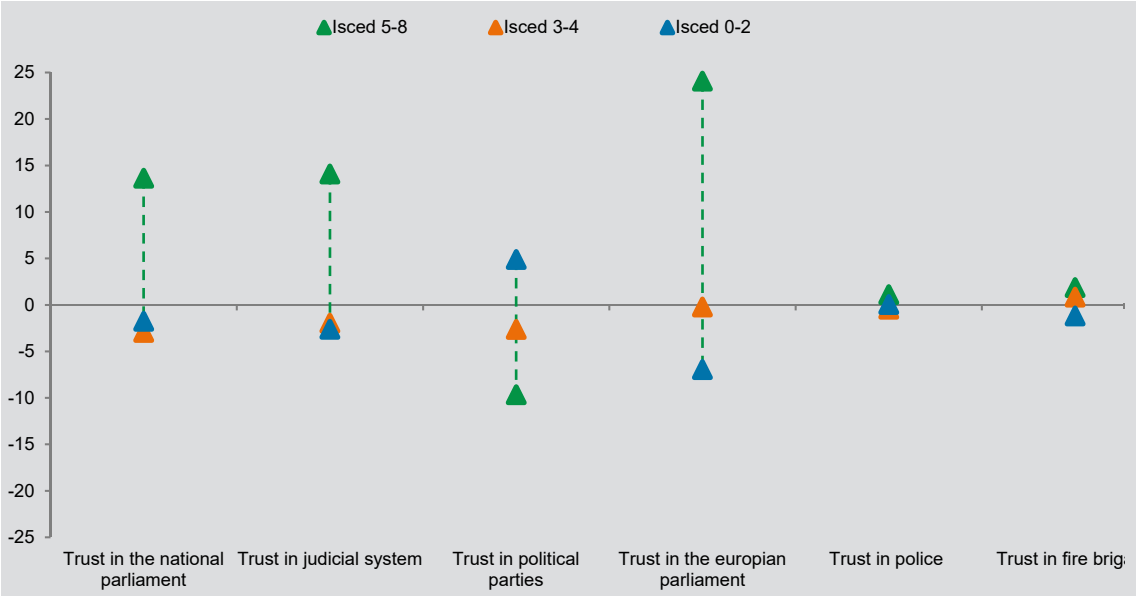
Source: Istat, Processing of data from the Ministry of Justice, Penitentiary Administration Department

Trust in the institutions is not affected by the educational qualification

Levels of trust do not seem to be affected by the educational attainment. The level of education does not affect the feeling of trust for police and fire brigade. The most educated population shows only marginally higher levels of trust in national and European institutions.

The most marked difference is for trust in the European Parliament: 37.7% of those with a high educational qualification give a mark of at least 6 out of 10 for the European Parliament, compared to 28.3% of those with a low educational qualification. For the political parties, even if no substantial differences emerge, the phenomenon is reversed: 14.6% of the less educated express a positive feeling, against 12.6% of the more educated (Figure 9).

Figure 9. Percentage variation for some Politics and institutions indicators comparing to the value for Italy by level of education. Latest available year (a) (b)



Source: Istat, Survey on Aspects of daily life
(a) Low level of education: Isced 0-2; Medium level of education: Isced 3-4; High level of education: Isced 5-8.
(b) Values above zero correspond to better well-being conditions comparing to the Italian average; on the contrary, values below zero correspond to worse well-being conditions. The calculation took into account the polarity of indicators.

Indicators

1. **Voter turnout:** Percentage of eligible voter who cast a ballot in the last election for the European Parliament.
   Source: Ministry of the Interior.
2. **Trust in the parliament:** Average score of trust in the Italian Parliament (on a scale from 0 to 10) expressed by people aged 14 and over.
   Source: Istat, Survey on Aspects of daily life.
3. **Trust in judicial system:** Average score of trust in the judicial system (on a scale from 0 to 10) expressed by people aged 14 and over.
   Source: Istat, Survey on Aspects of daily life.
4. **Trust in political parties:** Average score of trust in political parties (on a scale from 0 to 10) expressed by people aged 14 and over.
   Source: Istat, Survey on Aspects of daily life.
5. **Trust in police and fire brigade:** Average score of trust in the police and the fire brigade (on a scale from 0 to 10) expressed by people aged 14 and over.
   Source: Istat, Survey on Aspects of daily life.
6. **Women and political representation in Parliament:** Percentage of women elected in Parliament on total number of MPs.
   Source: Istat, processing of data from the Chamber of Deputies and the Senate.
7. **Women and political representation at regional level:** Percentage of women elected in regional councils on total number of elected people.
   Source: Individual regional councils.
8. **Women in decision-making bodies:** Percentage of women in position of high responsibility within the following bodies: Constitutional court, Magistrates' Governing Council, Italian Regulatory authorities (for Communications, Antitrust, Data protection), Embassies.
   Source: Various.
9. **Women in the boards of companies listed in stock exchange:** Percentage of women in the board of companies listed in stock exchange.
   Source: Consob.
10. **Mean age of members of Parliament:** Average age of MPs.
    Source: Istat, Processing of data from the Chamber of Deputies and the Senate.
11. **Length of civil proceedings:** Effective average duration in days of proceedings set up in ordinary courts.
    Source: Ministry of Justice, Judicial organization department.
12. **Prison density:** Percentage of prisoners in penal institutions on the total capacity of penal institutions.
    Source: Istat, Processing of data from the Ministry of Justice, Penitentiary Administration Department.

Indicators by region and geographic area

REGIONS AND GEOGRAPHIC AREAS	Voter turnout (a)	Trust in the parliament (b)	Trust in judicial system (b)	Trust in political parties (b)	Trust in police and fire brigade (b)	Women and political representation in Parliament (c)
	2019	2018	2018	2018	2018	2018
Piemonte	64.7	3.7	4.4	2.6	7.3	35.3
Valle d'Aosta/Vallée d'Aoste	51.9	3.4	4.2	2.4	7.3	50.0
Liguria	58.5	4.1	4.6	2.8	7.6	25.0
Lombardia	64.1	3.9	4.3	2.8	7.3	29.8
Trentino-Alto Adige/Südtirol	59.9	3.5	4.4	2.9	7.5	44.4
Bolzano/Bozen	*62.8*	*3.6*	*4.6*	*3.3*	*7.4*	-
Trento	*57.3*	*3.5*	*4.2*	*2.5*	*7.5*	-
Veneto	63.7	3.6	4.0	2.7	7.4	33.8
Friuli-Venezia Giulia	57.0	3.9	4.4	2.8	7.5	35.0
Emilia-Romagna	67.3	3.7	4.2	2.7	7.4	35.8
Toscana	65.8	3.9	4.3	2.8	7.4	33.3
Umbria	67.7	4.0	4.3	2.7	7.3	37.5
Marche	62.1	3.8	4.1	2.8	7.3	37.5
Lazio	53.3	4.0	4.4	2.7	7.3	40.2
Abruzzo	52.6	3.6	4.3	2.6	7.3	23.8
Molise	53.3	4.0	4.4	2.9	6.8	40.0
Campania	47.6	4.1	4.8	3.1	6.8	36.8
Puglia	49.8	3.9	4.7	2.9	7.2	41.3
Basilicata	47.3	3.8	4.3	2.7	6.9	15.4
Calabria	44.0	4.0	4.9	3.0	7.0	41.9
Sicilia	37.5	3.6	4.6	2.4	7.3	43.8
Sardegna	36.3	3.2	4.3	2.2	7.2	28.0
North	63.7	3.8	4.3	2.7	7.4	33.0
Centre	59.3	3.9	4.4	2.7	7.3	37.5
South and Islands	44.7	3.8	4.6	2.8	7.1	37.4
Italy	**56.1**	**3.8**	**4.4**	**2.7**	**7.3**	**35.4**

(a) Per 100 eligible persons;
(b) Average trust on a 0-10 scale expressed by persons 14 and over;
(c) Per 100 elected persons;
(d) Percentage of women in the total membership;
(e) Excluding senators and deputies elected in foreign constituencies and senators for life;
(f) Duration in days.
(g) Number of prisoners per 100 available seats as defined by the regulatory capacity.

	Women and political representation at regional level (c)	Women in decision-making bodies (d)	Women in the boards of companies listed in stock exchange (d)	Mean age of members of Parliament (e)	Length of civil proceedings (f)	Prison density (g)
	2019	2019	2019	2018	2018	2018
	15.7	-	-	47.8	204	112.6
	22.9	-	-	42.0	164	122.1
	16.1	-	-	47.3	237	130.7
	24.7	-	-	48.6	284	136.4
	25.7	-	-	48.2	183	79.1
	25.7	-	-	....	*230*	*126.4*
	25.7	-	-	....	*146*	*69.2*
	21.6	-	-	47.9	361	126.7
	14.3	-	-	51.0	201	133.5
	36.0	-	-	49.0	273	126.7
	26.8	-	-	47.7	368	108.3
	38.1	-	-	46.3	458	107.3
	19.4	-	-	45.6	376	103.6
	31.4	-	-	49.5	426	124.3
	16.1	-	-	46.5	327	120.3
	28.6	-	-	46.6	443	143.3
	23.5	-	-	47.7	582	124.7
	9.8	-	-	44.5	625	157.0
	4.8	-	-	47.9	765	135.4
	3.2	-	-	45.3	806	102.6
	21.4	-	-	44.8	564	99.6
	13.3	-	-	49.9	497	79.8
	22.8	-	-	48.4	270	126.0
	28.5	-	-	48.2	407	115.7
	15.8	-	-	46.2	592	112.9
	21.1	**16.8**	**36.4**	**47.6**	**429**	**117.9**

7. Safety[1]

In 2018 the homicide rate continues to decline. In the same period, indicators measuring predatory crimes (burglary, pickpocketing and robbery) slightly improved[2].
The comparison with 2010 shows an overall positive picture, with improvements in seven out of eleven indicators. The perception of social and environmental degradation in the area where people live is decreasing and the share of people who feel safe walking in the dark alone in the area in which they live increases, albeit slightly. Positive signs also emerge with respect to gender-based violence: the share of women who have suffered physical or sexual violence decreases, and the share of people who are worried, for themselves or for someone in their family, to suffer sexual violence also decreases.
Compared to 2010, homicide rate decreased, but the indicators on predatory crimes show a worsening which is accompanied by the albeit slight increase in the share of the population declaring to have had concrete fear of suffering a crime (Table 1).

Table 1. Safety indicators: value for the latest available year. Percentage variations compared to the previous year and compared to 2010

INDICATOR	Latest available year value	% variation (compared with the previous year)	% variation (compared with 2010)
1. Homicide rate (per 100,000, 2018)	0.57		
2.Burglary rate (per 1,000 household, 2018)	11.9		
3.Pick-pocketing rate (per 1,000, 2018)	5.7		
4. Robbery rate (per 1,000, 2018)	1.2		
5. Physical violence against women (%, 2014) (a)	7.0	—	
6. Sexual violence against women (%, 2014) (a)	6.4	—	
7. Intimate partnership violence against women (%, 2014) (a)	4.9	—	
8. Worries of being victim of a sexual violence (%, 2016) (b)	28.7	—	
9. Feelings of safety when walking alone at night (%, 2016) (b)	60.6	—	
10. Concrete fear of crime (%, 2016) (b)	6.4	—	
11. Social decay (or incivilities) (%, 2016) (b)	12.1	—	

— Comparison not available Improvement Stability Deterioration

(a) 2010 data not available, variation based on 2006 data;
(b) 2010 data not available, variation based on 2009 data.

Note: Variations between two points in time above 1% are considered positive (in green), below -1% are considered negative (in red). In the range -1% and + 1% the variation is considered stable (in grey).

The regional profile presents a territorial diversification of the objective indicators (homicide and predatory crimes) which is wider than that observed for the measures on violence against women and the subjective perception of safety.

1 This chapter was edited by Miria Savioli with contributions from: Isabella Corazziari, Manuela Michelini, Maria Giuseppina Muratore and Franco Turetta.
2 The positive changes in predatory crimes compared to the previous year are within the confidence interval identifying the area of stationarity.

This is particularly evident for the homicide rate, which in Calabria is 1.8 per 100,000 inhabitants, three times higher than the Italian average (0.6 per 100,000) (Figure 1).
For predatory crimes, the situation is critical in Lazio for pick-pocketing (with 10.3 victims per 1,000 inhabitants, 80% more than the Italian average) and in Campania for robberies (2.6 victims per 1,000, 117% in more than the Italian average). Basilicata is the region with the lowest rate of pick-pocketing (0.8 per 1,000) and robberies (0.2 per 1,000).

Figure 1. Percentage variation for Safety indicators comparing to the value for Italy by region. Latest available year (a)

(a) Values above zero correspond to better well-being conditions comparing to the Italian average; on the contrary, values below zero correspond to worse well-being conditions. The calculation took into account the polarity of indicators.

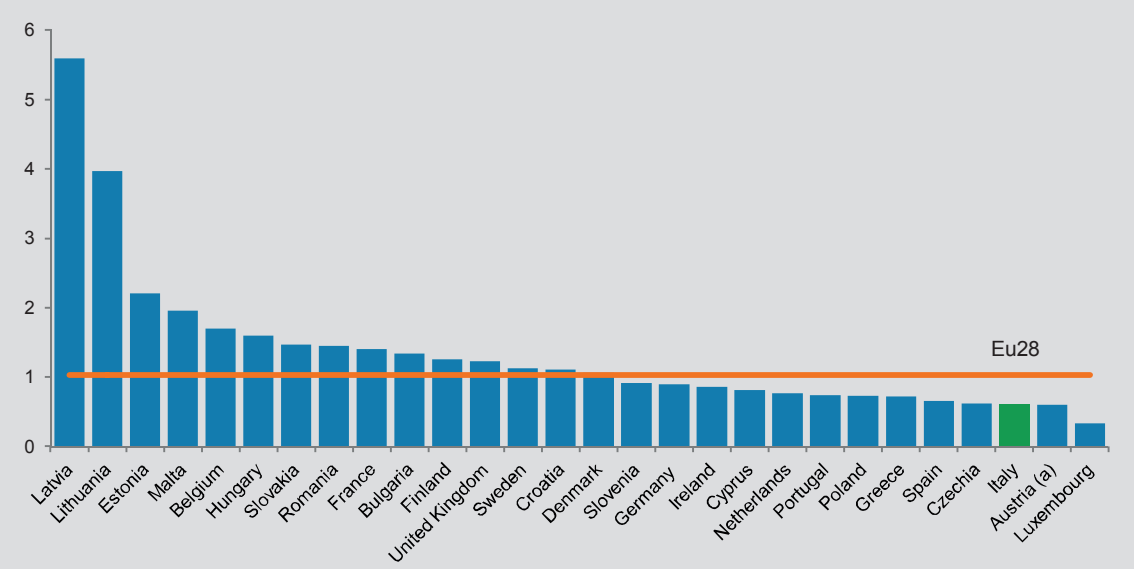
The analysis of the dispersion of indicators on gender-based violence shows the disadvantage of Abruzzo for all types of violence considered. The best values are recorded in Basilicata for physical violence, in Valle d'Aosta for sexual violence and in Calabria for intimate partnership violence.[3]
The subjective indicators show smaller territorial variations. The variation to the Italian average for population feeling safe walking alone in the dark is minimal in Lombardy (9% less than the average in Italy) and maximum in the province of Bolzano (34% more than the average). In Lombardia the percentage of people who are afraid of becoming concretely a victim of crime is also higher (+48% compared to the Italian average). Among those who are resident in Lazio, both the share of the population worried about suffering sexual violence (+32% compared to the average) and the perception of the degradation of the area in which they live (+102%) are higher. For the same indicators, Valle d'Aosta and Friuli-Venezia Giulia present the most favourable situation.

3 It should be considered, however, that these differences may be due to different degrees of willingness to declare the violence of which people suffered.

International comparison

In Europe, in 2017 the homicide rate per 100 thousand inhabitants was 1.34[4], with higher levels in the Baltic countries, in particular in Latvia and Lithuania (5.6 and 4.0 homicides per 100 thousand inhabitants), while Estonia, with a value of 2.2, the rate is closer to that registered for Malta (2.0), Belgium (1.7) and Hungary (1.6).
The other countries of the European Union have lower rates, ranging from 1.5 in Slovakia to 0.3 in Luxembourg. Italy, with a rate of 0.6 homicides per 100,000 inhabitants, is far below the Eu28 average (1.03). More favourable situations compared to Italy are encountered only in Austria and Luxembourg (Figure 2).

Figure 2. Voluntary homicide rate in Eu28 countries. Year 2017. Per 100,000 inhabitants

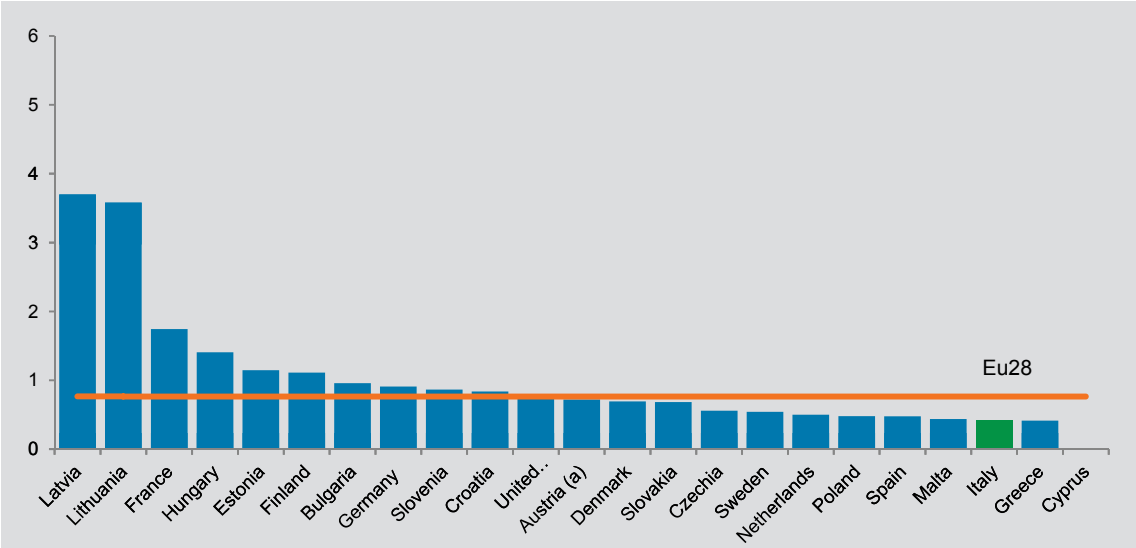


Source: Eurostat, databases [crim_off_cat] and for Netherlands [crim_hom_soff].
(a) Year 2016

Also with regard to the homicide rate of women, Italy is at the bottom of the ranking, with a much lower rate than the European average (0.4 compared to 0.8 per 100 thousand women). Of the 22 Eu countries for which data on the murders of women are available, the highest levels are in the Baltic countries, particularly Latvia and Lithuania (3.7 and 3.6 murders per 100,000 women). In the other countries, the values vary from 1.7 in France to 0.4 in Greece. In 2017, no women were killed in Cyprus.
For predatory crimes reported to the police, Italy's position compared to other European countries is completely different. [5]
In 2017, with 323 home burglaries per 100,000 inhabitants, Italy ranks sixth in the Eu, after Denmark (703), Belgium (591), Sweden, Luxembourg and France (all with a value of about 370). The lowest levels are recorded in Slovakia (30.3 per 100,000 inhabitants), Poland (56) and Bulgaria (62).

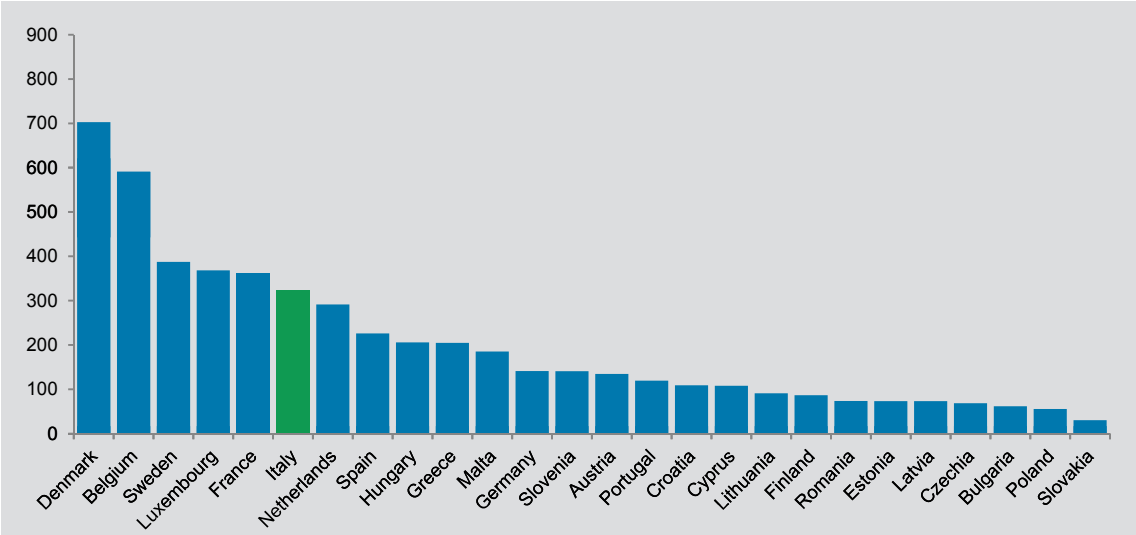
4 It is complicated to compare internationally the types of crimes. For this reason, in this paragraph, only police statistics on homicides, burglaries and robberies have been considered.
5 Data for each country could also reflect differences in citizens' willingness to report to the police, regulatory peculiarities and the procedural and organisational rules of individual Countries.

Figure 3. Voluntary homicide rate of women in some Eu28 countries. Year 2017. Per 100,000 women



Source: Eurostat, databases [crim_off_cat] and for Netherlands [crim_hom_soff].
(a) Year 2016

Figure 4. Burglary of private residential premises rate in some Eu28 countries. Year 2017 (a). Per 100,000 inhabitants

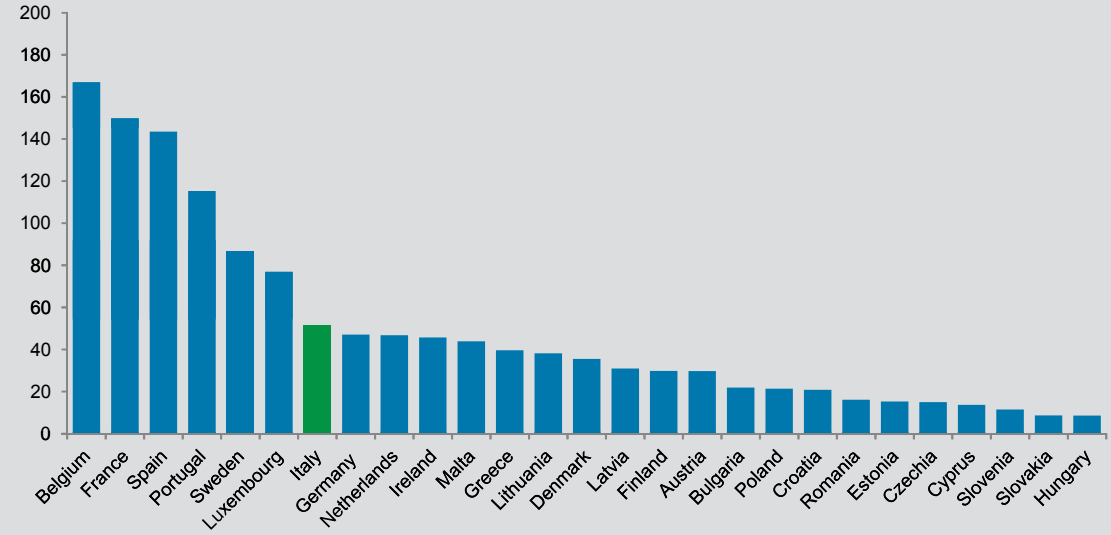


Source: Eurostat, databases [crim_off_cat] .
(a) For Belgium, Bulgaria and Hungary the latest available year is 2015, for France and Luxembourg 2016.

Italy ranks seventh in the 2017 ranking for number of robberies[6] (51 per 100 thousand inhabitants), with levels significantly lower than those found in Belgium, France, Spain and Portugal. Slovakia and Hungary are the safest countries in terms of robberies (9 robberies per 100 thousand inhabitants).

6 The figure refers to the sum of robberies and pick-pocketing.

Figure 5. Robbery rate in Eu28 countries. Year 2017. Per 100,000 inhabitants



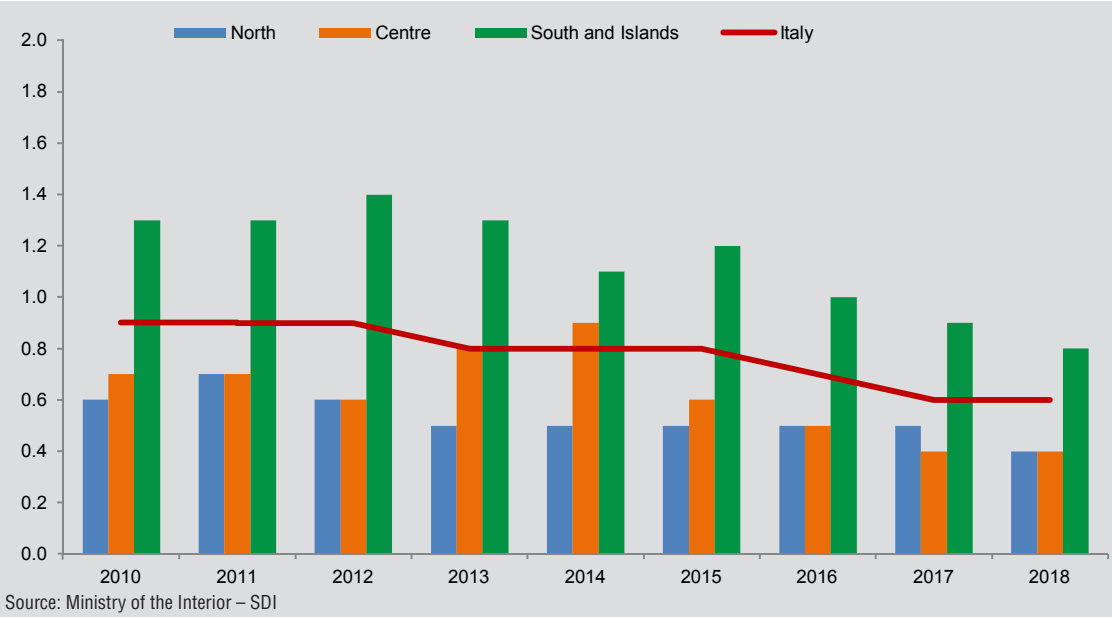
Source: Eurostat, databases [crim_off_cat] .

Analysis of national data

Homicides are still decreasing

In 2018, 345 homicides were committed in Italy (0.57 per 100 thousand inhabitants). The homicide rate decreased further compared to 2017 when it was 0.59 per 100 thousand inhabitants (Figure 6). This decrease concerns the areas of the North and the South and Islands, while in the Centre the rate is stable.
The highest homicide rate is recorded in the South and Islands (0.8 per 100 thousand inhabitants), twice as high as in the Centre and in the North (0.4 per 100 thousand inhabitants).

Figure 6. Homicide rate by geographic area. Years 2010-2018 Per 100,000 inhabitants

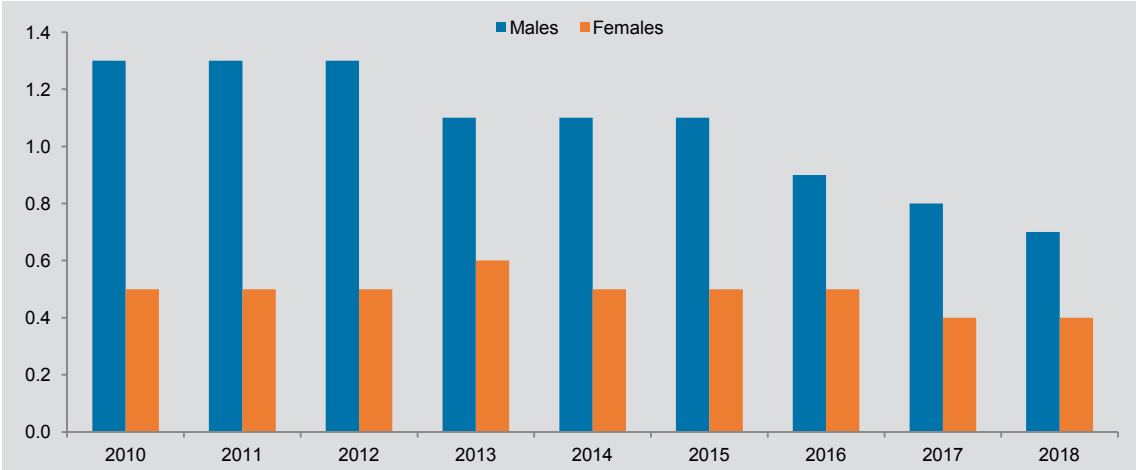


Source: Ministry of the Interior – SDI

The homicide rate of women did not decrease

In 2018, 212 men and 133 women were killed (0.7 and 0.4 homicides per 100,000 inhabitants respectively), with a confirmed decreasing trend for men (it was 0.8 in 2017), while the homicide rate of women remains stable (0.4 in 2017).
Even when considering the evolution over the past decade, the overall decrease in homicides has mainly affect male victims, while the number of women killed has remained substantially stable (Figure 7).

Figure 7. Homicide rate by sex. Years 2010-2018 Per 100,000 inhabitants

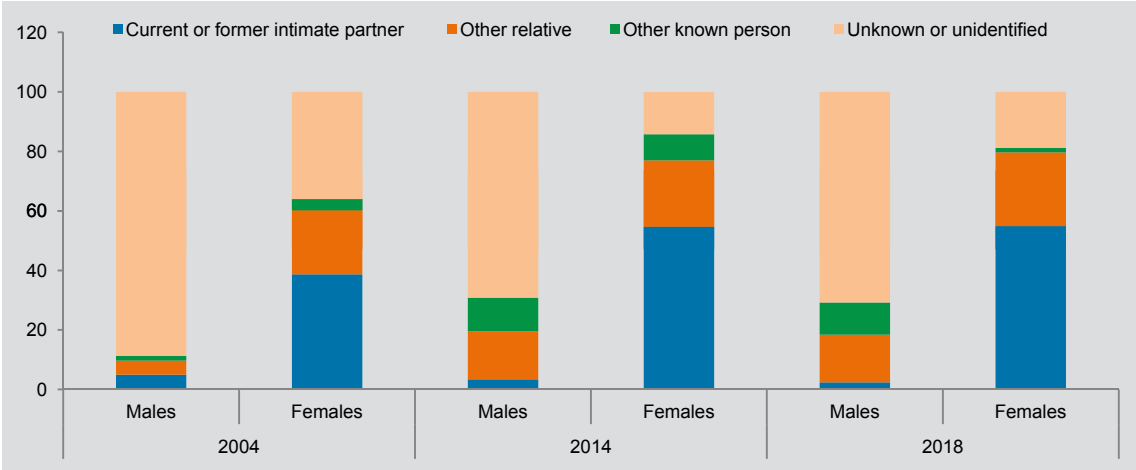


Source: Ministry of the Interior – SDI

The share of women killed by someone they know increases

If we examine the relationship between the perpetrator and the victim of the homicide, there are still strong gender differences.
In 2018, 81.2% of women were killed by someone they know. The share is increasing compared to 2004 when it was 64%. In particular, in 2018 in 54.9% of cases women were

Figure 8. Victims of homicide by relationship with the murderer and sex. Years 2004, 2014 and 2018 (a). Per 100 inhabitants



Source: Ministry of the Interior (DCPC), homicide database
(a) Figures related to the homicide victim and perpetrator relationship are extracted from the homicide database of the Ministry of the Interior (DCPC). Since this data is used for operational purposes, it is subject to changes that may emerge in subsequent extractions.

killed by their current or former intimate partner (47.4% by current partner and 7.5% by their former partner); in the 24.8% of cases by a family member (including children and parents) and in the 1.5% of cases by another person they know (friends, colleagues, etc.). The situation is different for men: only 29.2% were killed by a known person (of which only 2.4% by a partner or former partner), while 70.8% were killed by someone unknown or by an author not identified by law enforcement.

In 2017, there are 253 anti-violence centres in Italy

There are 253 anti-violence centres in Italy (0.04 per 10,000 inhabitants)[7].
43,467 women have turned to the anti-violence centres and 67.2% of them have started a path out of violence. Of the women who have taken this path, 63.7% have children, in 72.8% of these cases they are minors.
In addition to the anti-violence centres, in Italy there are 211 refuge houses (0.03 for every 10,000 inhabitants) where 1,786 women have found hospitality.
Women can get in touch with anti-violence centres in several ways: 97.6% of centres guarantee 24-hour telephone availability and 95.3% of centres provide a telephone number for help and support. Women can physically go to centres, which on average are open 5 days a week, for about 7 hours a day.
The services offered are: reception (99.6%), legal support (96.8%), psychological support (94.9%), accompaniment on the path to work autonomy (79.1%) and housing (58.1%).
The centres also carry out formative activities: in 2017, 91.7% carried out these activities at schools and 81% organized training for social and health workers, law enforcement and lawyers.

Continuous decrease of predatory crimes

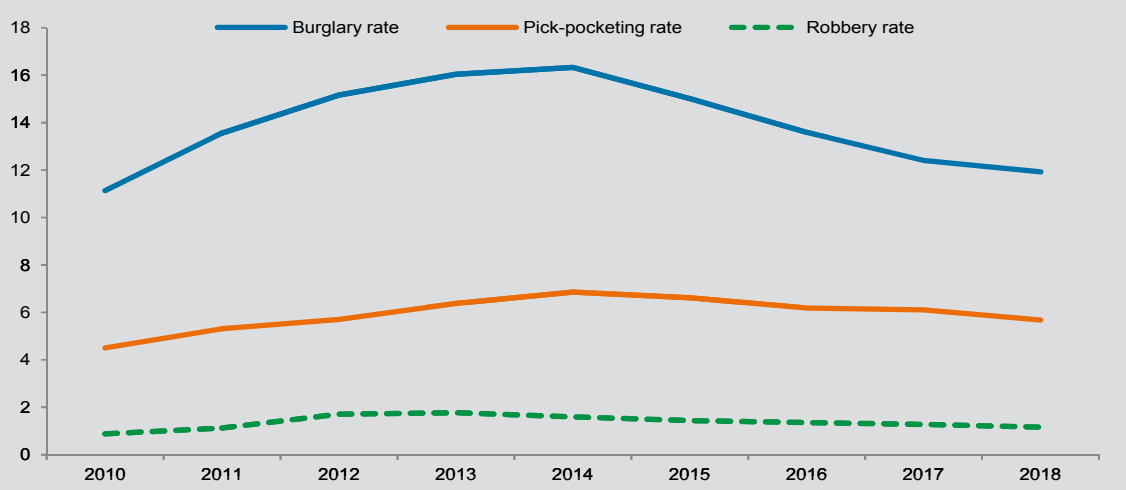
In 2018, the burglary rate decreased (11.9 per 1,000 households), confirming the positive trend that started after 2014, when the peak was recorded (16.3 per 1,000 households) (Figure 9).
The decrease continues also for individual predatory crimes: in 2018, in fact, pickpocketing, which affected 6.9 people per 1,000 inhabitants in 2014, fell to 5.7. Robberies, which in 2013 affected 1.8 people per 1,000 inhabitants, decreased to 1.2 victims in 2018.

The population with higher levels od education feels less safe

The analysis of safety perception indicators shows a relationship with the educational attainment: almost all the indicators show, in fact, a perception of greater vulnerability among the most educated population.
In particular, among those with a high level of education the share of those who were afraid of suffering a crime is higher (9.7% against 4.7%), and the same happens for those who declared themselves worried, for themselves or for someone in their family, to suffer sexual violence (31.9% against 23.7%) and for those who have often noticed elements of social and environmental decay in the area where they live (16.8% against 9.5%).

7 The ratification law of the Istanbul Convention of 2013 (Law 27 June 2013, n.77) identifies the objective of having an anti-violence center for every 10,000 inhabitants.

Figure 9. Burglary rate (households), pick-pocketing and robbery rate (persons). Years 2010-2018. Per 1,000 households or per 1,000 inhabitants.



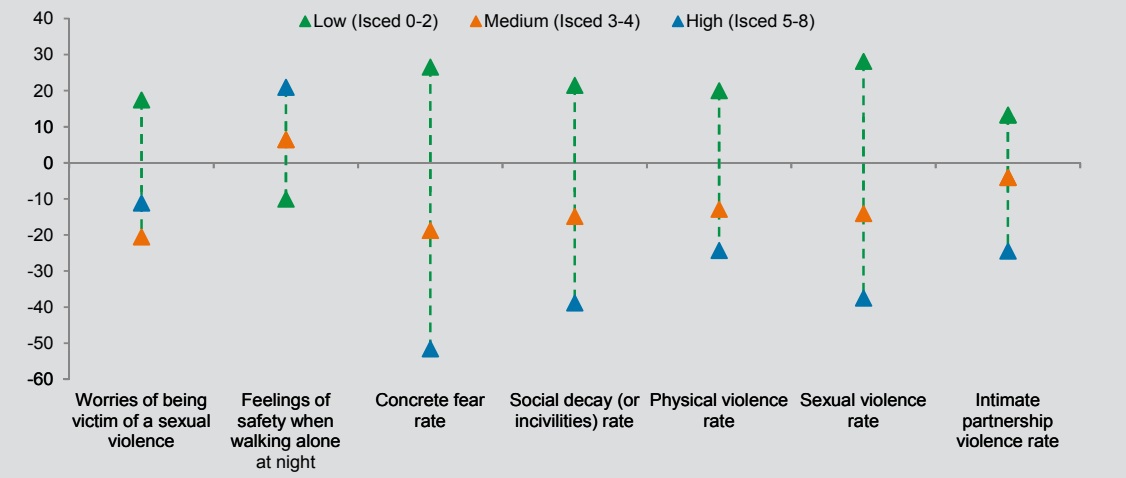
Source: Istat, Processing on data on crimes reported to Police Forces (Ministry of Internal affairs) and data on Citizens' Safety Survey (Istat)

The greater sense of insecurity of the more educated population is also accompanied by a more frequent victimization of women with a high level of education.

The most educated women declare, in fact, to have suffered physical violence (8.7%) or sexual violence (8.8%) in the 5 years prior to the interview in greater proportion than women with a low educational qualification (respectively 5.6% and 4.6%), while the proportion of women who declare to have suffered intimate partnership violence shows no variation with educational qualification.

The population with higher qualifications, on the other hand, express less discomfort than the average when they are asked about their perception of safety in the area where they live: 73.3% of them, in fact, feel very or quite safe to walk in the dark in the area where they live (+21% compared to the average population), while among the less educated people the share drops to 54.5%.

Figure 10. Percentage variation for some Safety indicators comparing to the value for Italy by level of education. Latest available year (a) (b)



Source: Istat, Citizens' Safety Survey; Women Safety Survey.
(a) Low level of education: Isced 0-2; Medium level of education: Isced 3-4; High level of education: Isced 5-8.
(b) Values above zero correspond to better well-being conditions comparing to the Italian average; on the contrary, values below zero correspond to worse well-being conditions. The calculation took into account the polarity of indicators.

Indicators

1. **Homicide rate:** Number of homicide on total population per 100,000.
   Source: Ministry of the Interior - SDI
2. **Burglary rate:** Victims of burglaries per 1,000 households, adjusted for non-reporting by means of geographical area specific correction factors.
   Source: Istat, Processing on data on crimes reported to Police Forces (Ministry of Interiors) and data on Citizens' Safety Survey.
3. **Pick-pocketing rate:** Number of pick-pocketing on total population per 1,000, adjusted for non-reporting by means of geographical area and age specific correction factors.
   Source: Istat, Processing on data on crimes reported to Police Forces (Ministry of Interiors) and data on Citizens' Safety Survey.
4. **Robbery rate:** Number of robberies on total population per 1,000, adjusted for non-reporting by means of geographical area and age specific correction factors.
   Source: Istat, Processing on data on crimes reported to Police Forces (Ministry of Interiors) and data on Citizens' Safety Survey.
5. **Physical violence rate:** Percentage of women aged 16-70 victim of physical violence in the last 5 years before the interview on total women aged 16-70.
   Source: Istat, Women Safety Survey.
6. **Sexual violence rate:** Percentage of women aged 16-70 victim of sexual violence, including physical sexual harassment, in the last 5 years before the interview on total women aged 16-70.
   Source: Istat, Women Safety Survey.
7. **Intimate partnership violence rate:** Percentage of women aged 16-70 victim of physical or sexual violence by the partner or ex-partner in the last 5 years before the interview on total women aged 16-70 who have or had a partner.
   Source: Istat, Women Safety Survey.
8. **Worries of being victim of a sexual violence:** Percentage of people aged 14 years and over who are very or quite worried of being victim of a sexual violence.
   Source: Istat, Citizens' Safety Survey.
9. **Feelings of safety when walking alone at night:** Percentage of people aged 14 and over feeling unsafe walking alone when it is dark in the area where they live.
   Source: Istat, Citizens' Safety Survey.
10. **Concrete fear rate:** Percentage of people aged 14 and over who are afraid of becoming concretely a victim of crime in the last 3 months.
    Source: Istat, Citizens' Safety Survey.
11. **Social decay (or incivilities) rate:** Percentage of people aged 14 and over who often see elements of social and environmental decay in the area where they live.
    Source: Istat, Citizens' Safety Survey.

Indicators by region and geographic area

REGIONS AND GEOGRAPHIC AREAS	Homicide rate (a) 2018	Burglary rate (b) 2018	Pick-pocketing rate (c) 2018	Robbery rate (c) 2018	Physical violence rate (d) 2014
Piemonte	0.4	14.1	6.9	1.3	6.3
Valle d'Aosta/Vallée d'Aoste	1.6	8.2	1.2	0.2	7.0
Liguria	0.8	10.7	8.1	1.1	7.8
Lombardia	0.4	14.1	7.1	1.2	6.1
Trentino-Alto Adige/Südtirol	0.7	9.0	3.8	0.7	6.8
Bolzano/Bozen	*0.9*	*7.6*	*4.5*	*0.9*	*6.9*
Trento	*0.4*	*10.3*	*3.0*	*0.5*	*6.7*
Veneto	0.3	12.7	5.2	0.7	5.0
Friuli-Venezia Giulia	0.5	10.2	2.5	0.5	5.9
Emilia-Romagna	0.4	17.2	8.7	1.2	8.2
Toscana	0.4	19.1	9.4	1.2	8.9
Umbria	0.3	16.0	4.4	0.7	8.0
Marche	0.7	11.0	2.4	0.5	7.8
Lazio	0.4	10.2	10.3	1.6	9.1
Abruzzo	0.4	9.1	2.1	0.5	9.3
Molise	0.0	7.0	1.6	0.3	7.7
Campania	0.8	7.3	4.4	2.6	8.4
Puglia	0.8	10.6	2.4	0.9	6.8
Basilicata	0.9	5.1	0.8	0.2	4.3
Calabria	1.8	5.7	0.9	0.4	4.6
Sicilia	0.7	9.1	2.4	0.8	5.7
Sardegna	0.8	6.0	1.0	0.4	6.6
North	0.4	13.8	6.7	1.1	6.4
Centre	0.4	13.5	8.6	1.2	8.8
South and Islands	0.8	8.2	2.6	1.2	6.9
Italy	**0.6**	**11.9**	**5.7**	**1.2**	**7.0**

(a) Per 100,000 inhabitants;
(b) Per 1,000 households;
(c) Per 1,000 inhabitants;
(d) Per 100 women aged 16-70;
(e) Per 100 women aged 16-70 who have or have had an intimate relationship with a partner;
(f) Per 100 persons aged 14 and over.

Sexual violence rate (d) 2014	Intimate partnership violence rate (e) 2014	Worries of being victim of a sexual violence (f) 2016	Feelings of safety when walking alone at night(f) 2016	Concrete fear rate (f) 2016	Social decay (or incivilities) rate (f) 2016
6.2	4.7	33.7	65.2	2.6	12.0
3.9	3.6	16.3	78.2	4.7	6.6
7.6	6.2	26.1	68.7	5.0	11.7
6.6	4.6	32.4	55.1	9.5	12.6
5.1	4.5	19.5	79.4	4.6	8.8
5.9	4.9	20.3	81.2	5.0	6.8
4.3	4.2	18.6	77.7	4.3	10.7
6.2	4.4	29.9	60.0	7.6	6.9
5.9	3.0	26.0	69.5	4.3	4.2
6.7	5.9	28.5	56.6	8.5	10.9
4.5	4.9	29.1	62.0	6.4	14.5
6.9	5.2	26.5	61.9	5.0	10.1
5.0	4.3	19.7	68.4	6.5	5.9
6.8	5.7	37.8	57.5	7.9	24.5
9.1	7.6	28.5	59.7	4.9	12.7
7.1	6.9	23.1	67.3	4.6	7.0
8.8	5.8	23.1	55.5	5.2	12.9
5.3	4.6	22.2	59.8	5.8	7.5
6.5	4.4	24.6	75.0	6.9	4.7
4.7	2.4	34.4	64.7	4.7	13.8
5.2	4.6	24.1	60.4	4.3	9.8
5.2	4.4	23.0	75.5	3.8	9.6
6.4	4.8	30.3	60.3	7.2	10.6
5.9	5.2	31.9	60.6	7.0	17.9
6.5	4.9	24.6	61.0	4.9	10.6
6.4	**4.9**	**28.7**	**60.6**	**6.4**	**12.1**

8. Subjective well-being[1]

Subjective Well-being has improved compared to 2017 (Table 1): the proportion of those who express a high level of satisfaction with their lives has increased among people aged 14 and over, while the proportion of optimists has increased and the proportion of those who express a pessimistic attitude has decreased. On the other hand, there are no significant changes in satisfaction with leisure time after the drop observed in 2017.

Table 1. Subjective well-being indicators: value for the latest available year. Percentage variations on the previous year and on 2010

INDICATOR	Latest available year value	% variation (compared with the previous year)	% variation (compared with 2010)
1. Life satisfaction (%, 2018)	41.4		
2. Leisure time satisfaction (%, 2018)	66.2		
3. Positive judgement future prespectives* (%, 2018)	29.0		
4. Negative judgement future prespectives* (%, 2018)	13.4		

— Comparison not available Improvement Stability Deterioration

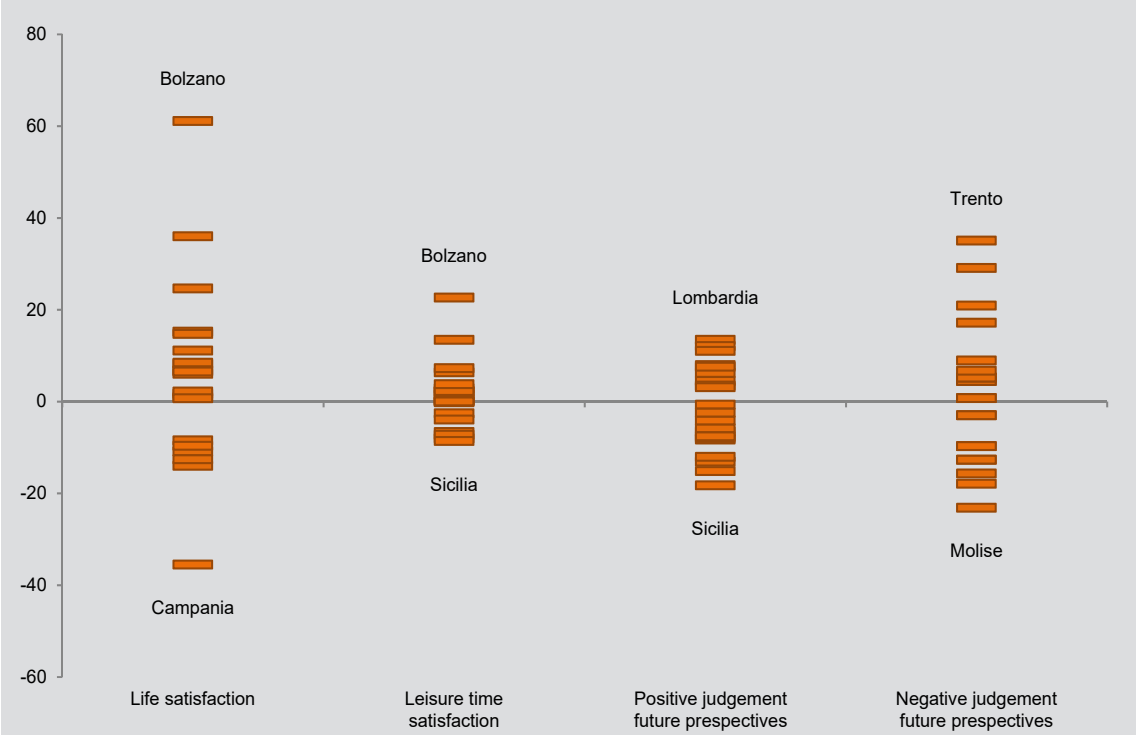
(*) 2010 data not available, variation based on 2012 data.

Note: variations between two points in time above 1% are considered positive (in green), below -1% are considered negative (in red). Variations between -1 and +1% refer to stability (in grey).

The analysis by region shows some differences: positive judgements on future perspectives and leisure satisfaction are the most homogeneous indicators in the territory, while there is more variability for life satisfaction levels and, to a lesser extent, for negative judgements on future perspectives (Figure 1).
In particular, in the province of Bolzano the percentage of individuals aged 14 years and over who score high life satisfaction rates is the highest: 61.1% more than the Italian average regarding life in general and 22.7% more with respect to leisure time.
Judgements on future perspectives are more positive than the Italian average in the province of Trento, where the share of people who believe their situation will get worse in the next 5 years is 35.1% lower than in Italy, and in Lombardia, where there is the lower share of people who believe it will improve. In Molise and Sicilia live the most pessimistic (-23.1% and -18.3%).
Although the territorial gradient against Southern Italy seems to be consolidated with respect to life satisfaction, the picture is more variegated if we analyze the evaluations on future perspectives: the population seems less optimistic than the rest of the country in Sicilia, as already mentioned, but also in Liguria, Piemonte and Umbria.

1 This chapter was edited by Rita De Carli with contributions from: Daniela Lo Castro and Silvia Montecolle.

Figure 1. Percentage variation for Subjective well-being indicators comparing to the value for Italy by region. Latest available year (a)



(a) Values above zero correspond to better well-being conditions comparing to the Italian average; on the contrary, values below zero correspond to worse well-being conditions. The calculation took into account the polarity of indicators.

International comparison

This issue of the Report was also based on life satisfaction data collected in the 2018 ad hoc module of the EU-Silc survey on people aged 16 and over[2]. About a quarter of the European population (24.7%) give an extremely high life satisfaction score (grade 9 or 10 on a scale from 0 to 10)[3].

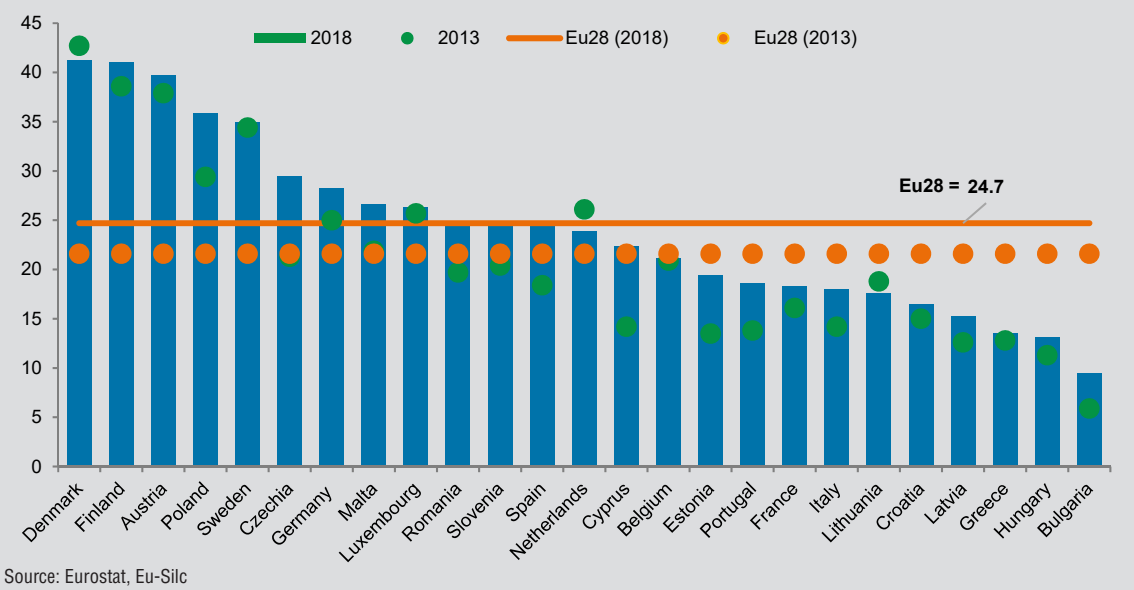
Country distribution shows strong heterogeneity, with more than 2 out of 5 individuals defining themselves as very or very satisfied with their lives in Denmark (41.3%) and Finland (41.1%) and about 1 out of 10 individuals in Bulgaria (9.5%) (Figure 2).

Italy (18.0%) is below the European average, in line with the results recorded in France (18.3%) and Portugal (18.6%).

2 *Ad-hoc* European module on *Material deprivation, well-being and housing difficulties*.

3 Unlike the survey Aspects of Daily Life (Avq), whose reference population are individuals aged 14 years and over, the Eu-Silc survey data refer to the population aged 15 years and over. In addition, the proportion of very satisfied people is calculated by Eurostat considering marks 9 and 10 only, while for the Bes indicator from Avq a wider range is used (8-10).

Figure 2. Persons expressing a very high score (9-10) of life satisfaction in EU 28. Years 2013 and 2018. Percentage of population aged 16 and over

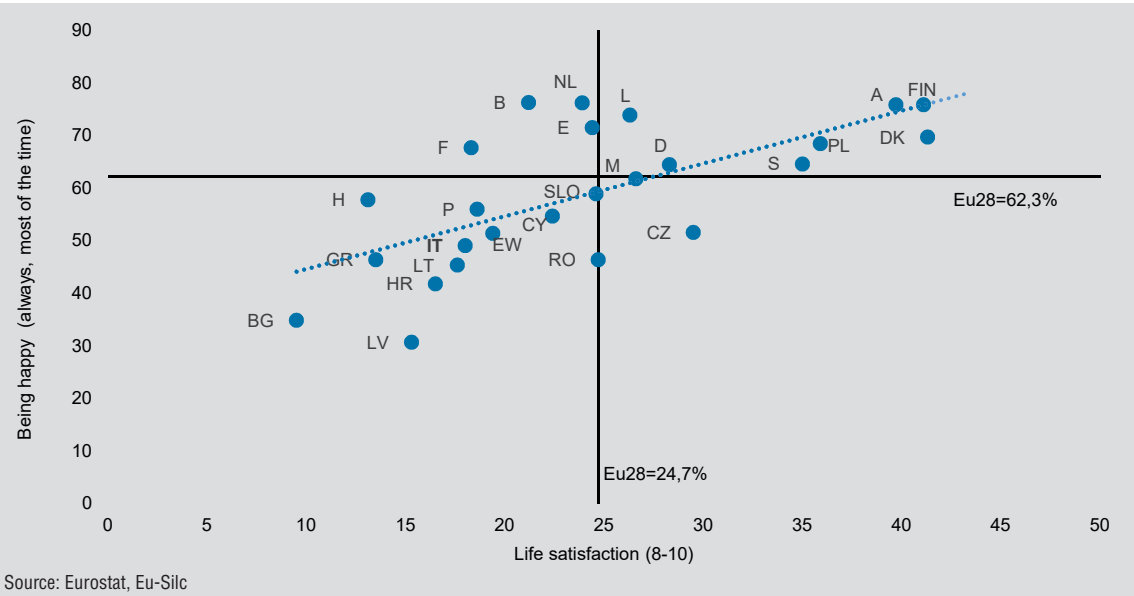


Source: Eurostat, Eu-Silc

In the Eu-Silc survey ad hoc module, those interviewed were also asked to give an opinion on some very specific aspects of their lives, such as the frequency with which they felt happy in the last 4 weeks before the interview.

In Europe, most people believe that they were always or most of the time happy in the reference period (62.3%), with a linear relationship between this indicator and life satisfaction (Figure 3). A joint analysis of the two indicators shows some differences between groups of countries: Italy (18% and 49.1% respectively for satisfaction and happiness) is in the lower left quadrant of the Cartesian representation, with both indicators below the European average (equal to 24.7% and 62.3%). A small number of countries have significantly

Figure 3. People aged 16 and over expressing a very high score (9-10) of life satisfaction and reporting feeling happy most of the time in Eu countries28. Year 2018. Percentage values



Source: Eurostat, Eu-Silc

above average values in both indicators: Finland (41.1% and 75.9%), Austria (39.7% and 75.9%) and Denmark (41.3% and 69.7%). A wider number of countries show below average values, including Bulgaria (9.5% and 34.9%), Latvia (15.3% and 30.7%) and Greece (13.5% and 46.4%). In some countries the two indicators appear to be less convergent than on average, such as in France (18.3% and 67.7%), Belgium (21.2% and 76.3%) and the Netherlands (23.9% and 76.2%) where lower shares of life satisfaction correspond to higher shares of people who report feeling happy most of the time. In the Czech Republic, the above-average life satisfaction rate is associated with lower figures for the happiness indicator (29.5% and 51.6%).

Proportion of those who declare themselves to be very satisfied with their lives is clearly linked to their level of qualification. Considering the Eu28 total, those with high qualifications are significantly more satisfied with their lives than those with low qualifications (30.8% and 18.7% respectively) (Figure 4).

This gap is particularly high in Romania (44.1% among the most educated against 16% among the least educated) and in Croatia (25.6% against 7.6%). On the other hand, with reference to educational attainment the gap is extremely small in northern European countries (e.g. Estonia and the Netherlands) or even reversed, as in Sweden (33.8% compared with 37.8%). In this framework, with a gap of 11 points (24.5% vs 13.4%) Italy is close to the European average and shows a profile similar to Portugal (27% vs 14.8%).

Figure 4. People aged 16 and over expressing a very high score (9-10) of life satisfaction, by level of education. Eu28 countries. Year 2018. Percentage values

Source: Eurostat, Eu-Silc

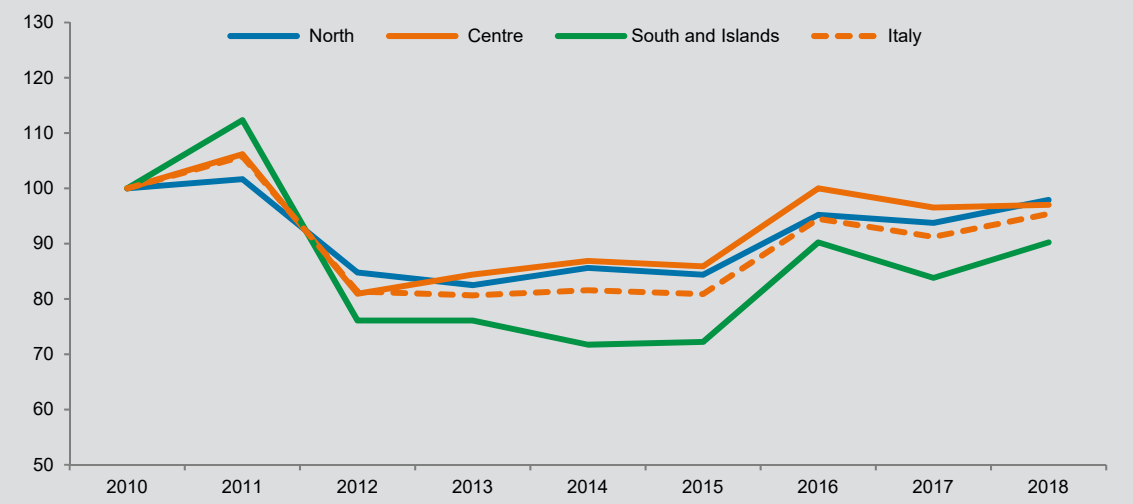
Analysis of national data

Better life and leisure time satisfaction

According to the Aspects of Daily Life survey data, in 2018 41.4% of people aged 14 years and over were very satisfied (8-10) with their lives (it was 39.6% in 2017). Although rising, the level reached this year is still lower than in 2010 (43.4%).

Compared to 2017, the share of those who express satisfaction with leisure time was substantially stable (66.2%), confirming a level that is higher than one of 2010 (+1.8 percentage points) but with relatively small changes over the time considered.
In the last year, the improvement in life satisfaction has affected all macro areas of the country, although with different intensities, more contained in the Centre (Figure 5).

Figure 5. Trend of life satisfaction indicators (2010=100). Years 2010-2018. People aged 14 and over

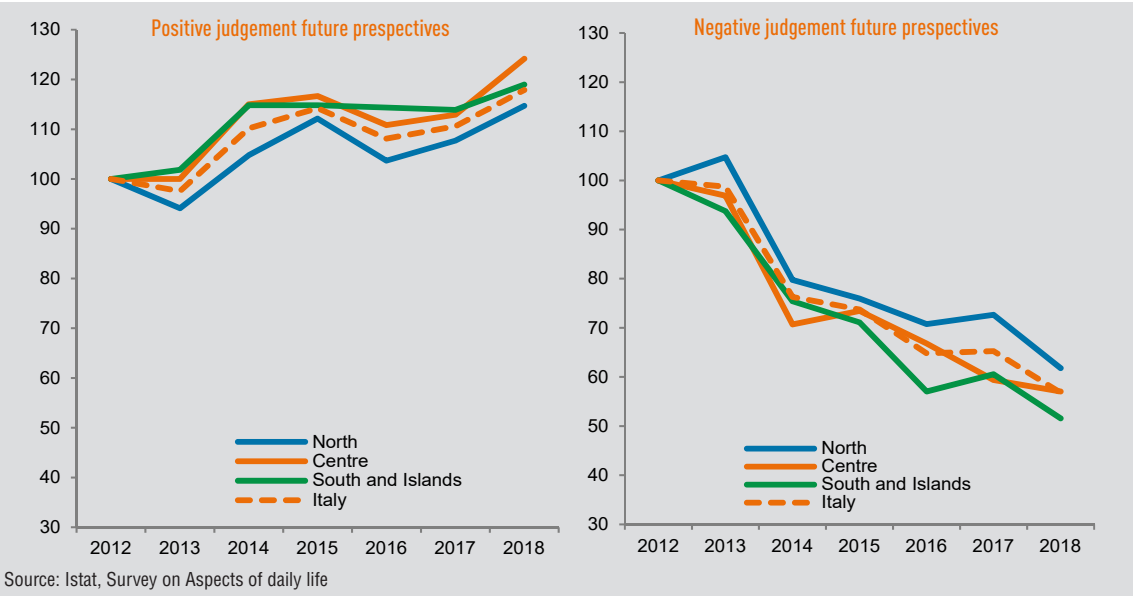


Source: Istat, Survey on Aspects of daily life

Better perspectives for the future

The number of those who believe that their personal situation will improve over the next 5 years keeps growing. In 2018, the indicator stands at 29%, up 1.8 percentage points compared to 2017 and with a very positive change in the Centre (Figure 6).

Figure 6. Trend of judgment indicators on future prospects (2012=100). Years 2012-2018. People aged 14 and over



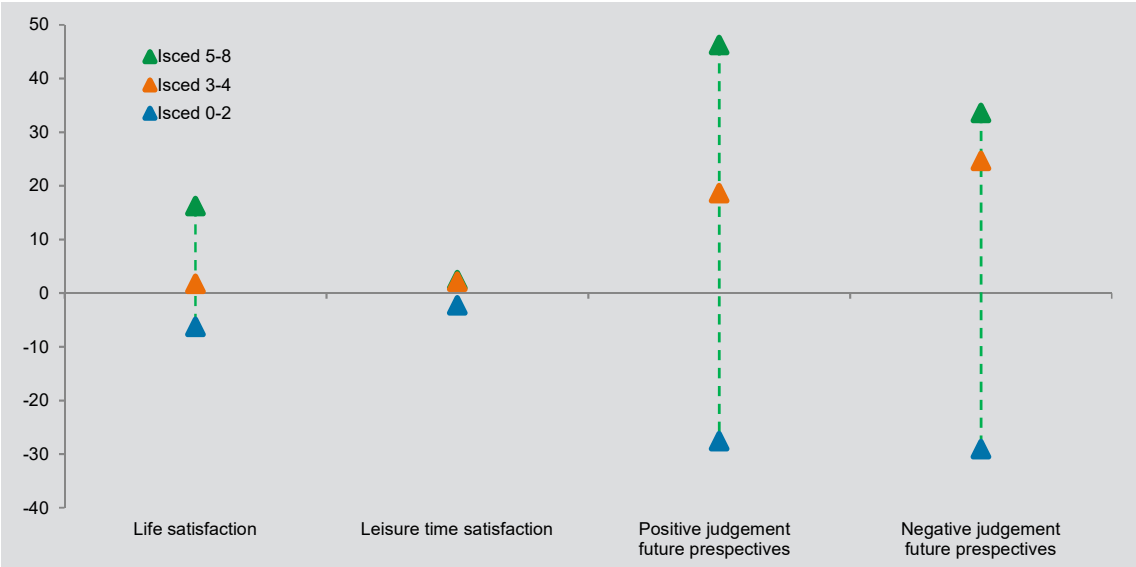
Source: Istat, Survey on Aspects of daily life

This trend is combined with the progressive reduction of those who believe that their personal situation will worsen over the next 5 years, 13.4% in 2018 (it was 15.4% in 2017) lower than in 2012, when perspectives for future were much more pessimistic (23.6%).

Better perspectives for the most educated

The qualification significantly influences both life satisfaction and, with more intensity, judgements about future perspectives. In 2018, the life satisfaction indicator is 16.2% higher for individuals with a high level of education than in Italy (Figure 7).
People with a high educational qualification express a positive opinion on the perspectives with respect to their condition in the five years following the interview with a frequency of more than a third higher than that recorded in the reference population as a whole. On the other hand, those with a lower level of education express positive expectations with a significantly lower frequency (-27.6%). Similarly, the percentage of those who express a negative opinion on future perspectives is significantly higher among those with a low level of education (17.3%) than high (8.9%).
There are no significant changes of the leisure satisfaction indicator in relation to the qualification.

Figure 7. Percentage variation for some Subjective well-being indicators comparing to the value for Italy by level of education. Latest available year (a) (b)



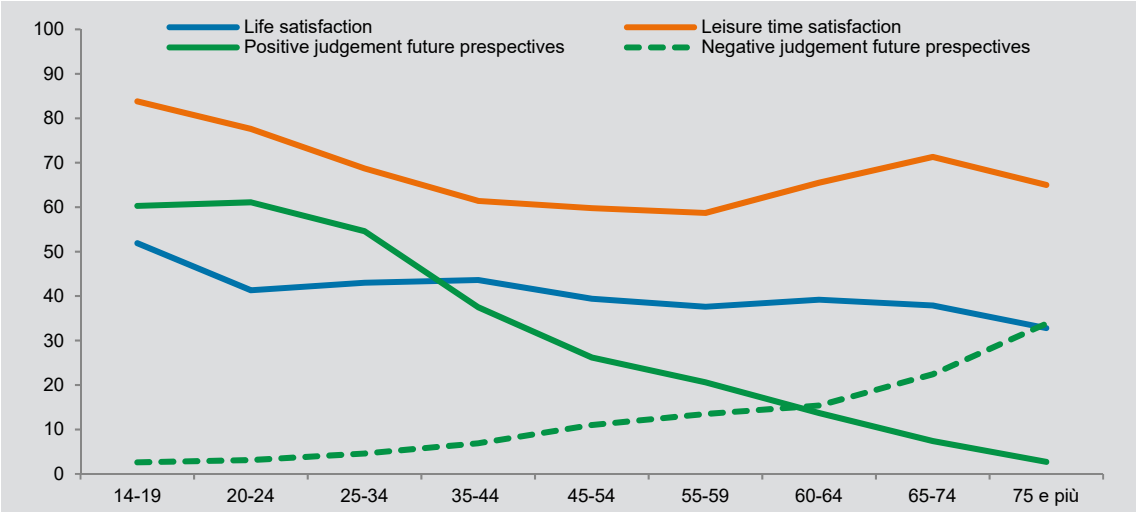
Source: Istat, Survey on Aspects of daily life
(a) Low level of education: Isced 0-2; Medium level of education: Isced 3-4; High level of education: Isced 5-8.
(b) Values above zero correspond to better well-being conditions comparing to the Italian average; on the contrary, values below zero correspond to worse well-being conditions. The calculation took into account the polarity of indicators.

Leisure satisfaction tracks the lifecycle

Leisure time satisfaction is at its peak in adolescence (83.8% very or quite satisfied among 14-19 year olds), decreasing as age increases and reaching its minimum between 55 and 59 years (58.7%), then climbing by 6.8 points between 60 and 64 years, and decreasing again after 75 years. Life satisfaction indicator shows very small fluctuations in the 25-74 age group and then decreases more sharply.

Frequency of those who make positive judgements about the prospects for future is dropping steadily from 20 years onwards. In particular, from the age of 60 the values of these frequencies are lower than those of negative judgements. Overall, these indicators are not immediately comparable to those for life satisfaction, indicating a general negative orientation for future prospects that worsens with age (Figure 8).
The observed improvement in future perspectives in comparison to 2012 is especially evident for younger people, in especially the share of pessimists which falls by more than 70% among people aged 20-24. Significant improvements are also observed among older people (the indicator is 50% compared to 2012 for people aged 45-64).

Figure 8. Subjective well-being indicators by age group. Year 2018. Percentage of people aged 14 and over



Source: Istat, Survey on Aspects of daily life

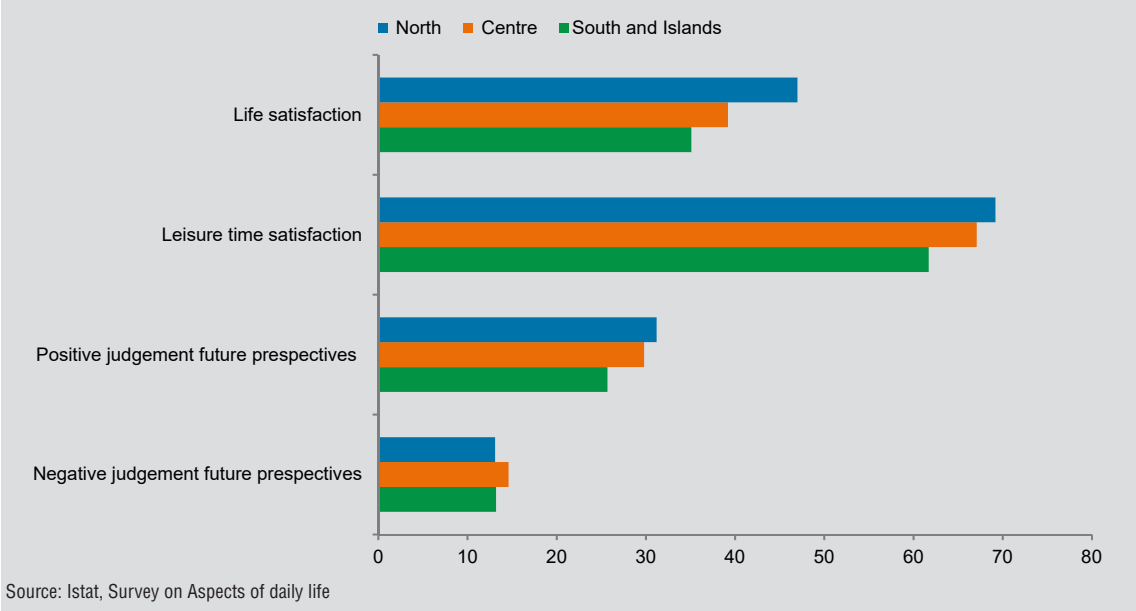
Higher subjective well-being among men

Men give more often positive evaluations for all the indicators. On average, the frequency with which men aged 14 and over report high life satisfaction scores is 2.7 points higher than for women. This gap is even greater if one considers the frequency of leisure satisfaction (+3.4 points) or the frequency of positive judgments about the future (+3.8). Also compared to the frequency with which negative opinions are expressed, men show lower levels than women (12.8% vs. 14%).
However, the picture of gender differences changes slightly when one considers the age-related development of the indicators. Between 20 and 34 in age, women are more satisfied with their leisure time than men. In adulthood, after the age of 35, women are always more likely to make positive life judgements, at least 1 point ahead of men, and to be less pessimistic about the future. From the age of 60 negative judgements about future perspectives, prevail over positive judgements in both sexes.

Higher subjective well-being in the North

Northern regions are higher in the ranking with respect to most of the domain indicators (Figure 9). Territorial differences are more pronounced especially with reference to life satisfaction, where the disadvantage of the South is more evident (-11.9 percentage points in the South compared to the North). Differences in leisure satisfaction (-7.5 percentage points) and in judgements about the future follow are shown, for which there is a territorial differential of -5.5 percentage points among the most optimistic. There is a substantial homogeneity in the share of pessimists.

Figure 9. Subjective well-being indicators by geographic area. Year 2018. Percentage of people aged 14 and over living in the same geographic area

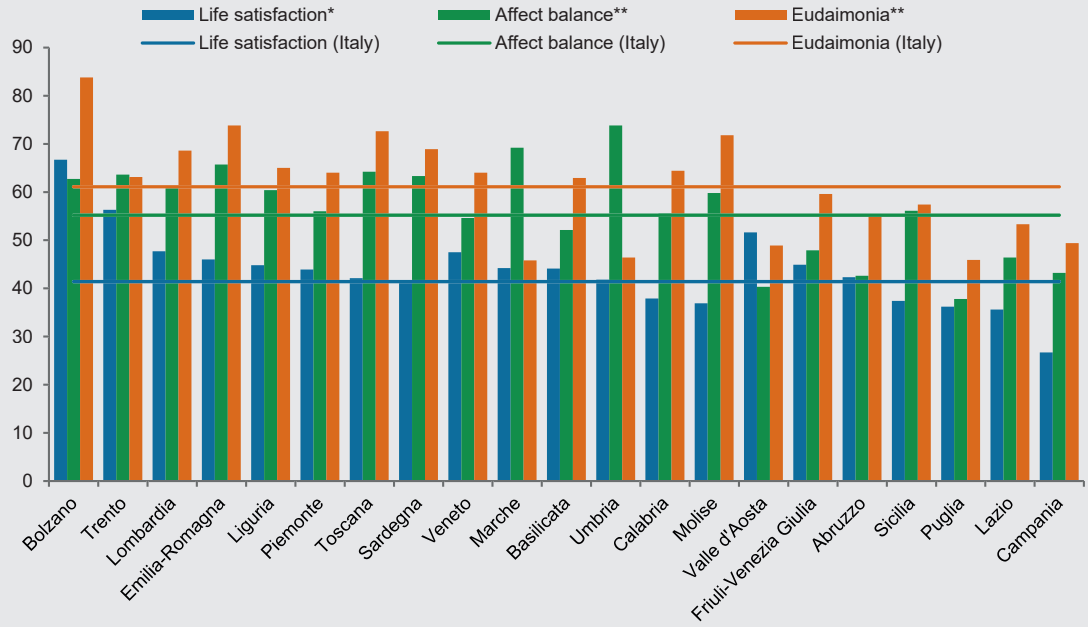


Source: Istat, Survey on Aspects of daily life

DIMENSIONS OF SUBJECTIVE WELL-BEING

Among the dimensions chosen to measure well-being, those related to the estimation of subjective indicators have always been the greatest challenge, having to deal with the difficulties related to quantifying concepts that are difficult to measure. The efforts made so far in the theoretical debate have led to a convergence of opinions on defining subjective well-being as "*Good mental states, including all the various evaluations, positive and negative, that people make of their lives and the affective reactions of people to their experiences*" (Oecd, 2013, Oecd Guidelines on Measuring Subjective Well-being, Oecd Publishing). This theoretical definition has therefore been brought back in more operational terms to the cognitive (life satisfaction) and emotional (affect balance) structure that each individual expresses with respect to the chance of achieving their goals (meaning of life).
The inclusion in the 2018 European Survey on Income and Living Conditions (Eu-Silc) of a specific ad hoc module on well-being has made it possible to investigate this issue in more detail, providing insights into the trend of subjective and objective perceptions of well-being as the socio-demographic characteristics of the population vary.
It was possible to integrate the information acquired on the life satisfaction indicator, already monitored by the Bes, with these two other mentioned dimensions. In particular, the Affect Balance indicator was obtained as an average of the frequency with which the interviewed subjects report having experienced positive moods in the 4 weeks preceding the interview (having felt calm and serene; happy) minus the frequency with which they report having experienced negative emotions (having felt very nervous; down in the mood; discouraged or depressed). The result of this balance led to grouping the subjects who experienced more frequently positive moods (always; nearly always; part of the time) net of reported for negative moods (part of the time; nearly never; never), and comparing them to the reference population as a whole.
In addition to this information, from the Eu-Silc survey the indicator of meaning for life was calculated as a percentage of individuals aged 16 years and over who scored higher or equal to 8, on a scale from 0 to 10, in response to the question: "to what extent do you believe that your current life has a meaning?".
According to this type of approach, the data collected report a significant difference in the levels of subjective well-being assumed by the two additional dimensions, which are affected unevenly by the structure of the reference population. In particular, more than half of the adult population (55.2%) report having experienced positive moods more frequently, while more than 3 individuals out of 5 (61.1%) give a score that is equal to or greater than 8 to the meaning of their lives. The Affect Balance indicator shows unfavorable scores especially for women (-5.5 points compared to men), while the attribution of meaning to life does not vary significantly according to gender (62% in men, 61% in women). The dimensions of subjective well-being seem to be adversely affected by ageing: starting from the age of 45, the Affect Balance indicator is below average, while from age 55 this happens with reference to the judgement that each individual gives to the meaning of his or her own existence.
Overall, it is mainly the northern regions that the three dimensions of subjective well-being shown simultaneously high values, together with Toscana for the Centre and Sardegna for the South, where values of these three indicators are higher than the Italian average (Figure 1).

Figure 1. Life satisfaction, Affect Balance and Eudaimonia in the Italian regions. Year 2018. Percentage values on people aged 16 and over



Source: Istat, Aspects of daily life, AVQ (*), Eu-Silc (**)

Indicators

1. **Life satisfaction:** Percentage of people aged 14 and over with a level of life satisfaction from 8 to 10 on total population aged 14 and over.
   Source: Istat, Survey on Aspects of daily life.
2. **Leisure time satisfaction:** Percentage of people aged 14 and over very or quite satisfied with their leisure time on total population aged 14 and over.
   Source: Istat, Survey on Aspects of daily life.
3. **Positive judgement of future perspectives:** Percentage of people aged 14 and over which believe their personal situation will improve in the next 5 years on total population aged 14 and over.
   Source: Istat, Survey on Aspects of daily life.
4. **Negative judgement of future perspectives:** Percentage of people aged 14 and over which believe their personal situation will worsen in the next 5 years on total population aged 14 and over.
   Source: Istat, Survey on Aspects of daily life.

Indicators by region and geographic area

REGIONS AND GEOGRAPHIC AREAS	Life satisfaction (a)	Leisure time satisfaction (a)
	2018	2018
Piemonte	43.9	67.6
Valle d'Aosta/Vallée d'Aoste	51.6	67.7
Liguria	44.8	70.4
Lombardia	47.7	71.0
Trentino-Alto Adige/Südtirol	61.4	78.1
Bolzano/Bozen	*66.7*	*81.2*
Trento	*56.3*	*75.1*
Veneto	47.5	66.1
Friuli-Venezia Giulia	44.9	67.2
Emilia-Romagna	46.0	68.1
Toscana	42.1	67.7
Umbria	41.8	66.3
Marche	44.2	68.7
Lazio	35.6	66.5
Abruzzo	42.3	66.3
Molise	36.9	66.2
Campania	26.7	60.9
Puglia	36.2	61.8
Basilicata	44.1	64.5
Calabria	37.9	61.4
Sicilia	37.4	60.5
Sardegna	41.7	63.6
North	47.0	69.2
Centre	39.2	67.1
South and Islands	35.1	61.7
Italy	41.4	66.2

(a) Per 100 persons aged 14 years and over.

Positive judgement future prespectives (a)	Negative judgement future prespectives (a)
2018	2018
27.1	14.7
30.3	13.3
27.3	15.5
32.9	12.8
29.0	9.1
26.6	*9.5*
31.3	*8.7*
32.5	12.8
30.0	13.3
32.2	12.7
30.8	13.8
26.7	15.1
28.8	14.7
29.9	15.1
26.8	13.8
25.2	16.5
24.6	12.2
25.5	12.7
27.8	10.6
28.3	11.1
23.7	15.8
31.2	12.5
31.2	13.1
29.8	14.6
25.7	13.2
29.0	**13.4**

9. Landscape and cultural heritage[1]

Signals of improvement tend to prevail, in the most recent data, for all the dimensions considered by the Bes framework to represent the different aspects of well-being linked to this domain. The main pressures of the economic system on the landscape decrease: the illegal building rate is lowering after a long phase of growth interrupted in 2015, as well as the pressure of mining and quarrying activities. In 2018, the forest fires had also a limited impact, and the practice of rural tourism continued spreading all over the Country, consolidating its role in the conservation of rural landscapes. The indicator of density and importance of the museum heritage remains stable (the facilities open to the public decrease slightly, but visitors are significantly increasing), and there are no significant variations in the expenditure of the Municipalities on culture (whereas the central Government expenditure is back on the rise). As regards the perceptions, however, the combination of a decreasing concern for the deterioration of landscape with a growing dissatisfaction for the landscape of the place of living can be seen as a worrying signal, warning on a loss of social attention to the quality and value of the landscape. Moreover, large structural imbalances and inequalities remain, demonstrating how the constitutional principle of the protection of landscape and cultural heritage is not yet fully implemented over the entire national territory, and in particular in the southern regions.

Table 1. Landscape and cultural heritage indicators: value for the latest available year. Percentage variations on previous year and on 2010

INDICATOR	Latest available year value	% variation (compared to the previous year)	% variation (compared to 2010)
1. Current expenditure of Municipalities for culture (*euro per capita*, 2017)	18.8		
2. Density and importance of museums' heritage (*per 100 sq.km*, 2017) (a)	1.6		—
3. Illegal building rate (*per 100 building permits issued*, 2018)	18.9		
4. Erosion of farmland from urban sprawl (*percentage values*, 2011) (b)	22.2	—	—
5. Erosion of farmland from abandonment (*percentage values*, 2011) (b)	36.1	—	—
6. Pressures of mining and quarrying activities (*cubic meters per sq.km*, 2017) (c)	254		
7. Impact of forest fires (*per 1,000 sq.km*, 2018)	0.6		
8. Spread of rural tourism facilities (*per 100 sq.km*, 2018)	7.8		
9. Presence of Historic Parks/Gardens and other Urban Parks recognised of significant public interest (*per 100 sq.m*, 2018) (d)	1.8		
10. People that are not satisfied with the quality of landscape of the place where they live (*percentage values*, 2018) (e)	21.4		
11. Concern about landscape deterioration (*percentage values*, 2017) (c)	14.1		

— Comparison not available Improvement Stability Deterioration

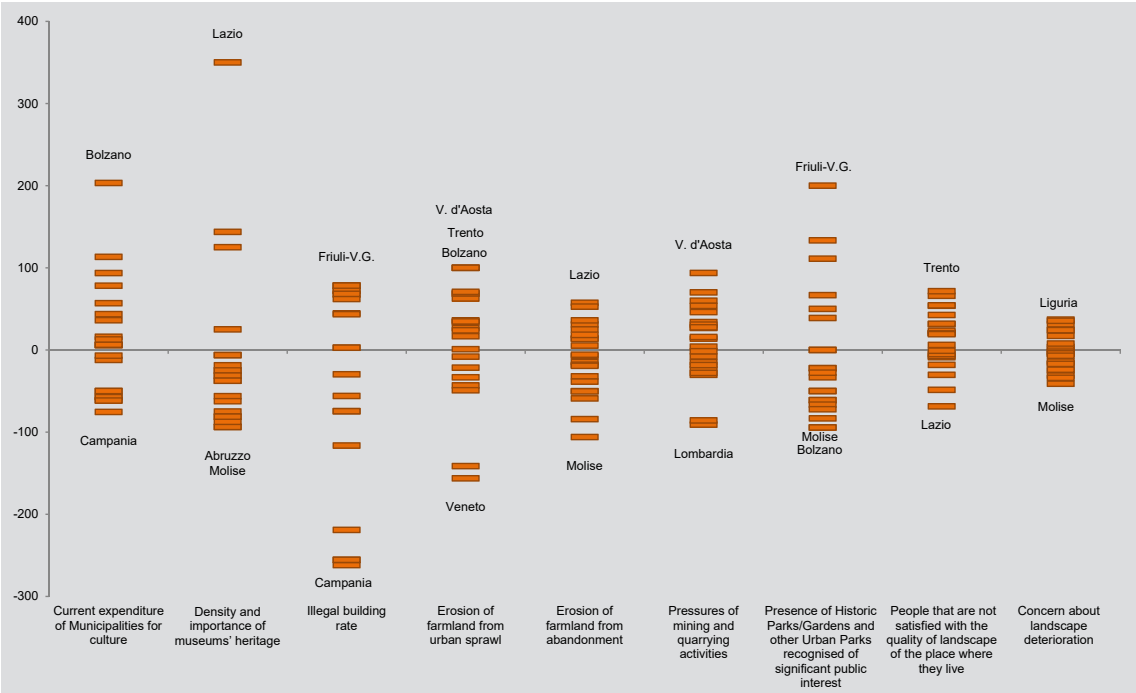
(a) Data 2016 not available, variation based on 2015;
(b) Indicator sourced by Census data (previous value referred to 2001);
(c) Data 2010 not available, variation based on 2013;
(d) Data 2010 not available, variation based on 2011;
(e) Data 2010 not available, variation based on 2012.

Note: variations between two points in time above 1% are considered positive (in green), below -1% are considered negative (in red). Variations between -1 and +1% refer to stability (in grey).

1 This chapter was edited by Luigi Costanzo and Alessandra Ferrara, with contributions from: Elisabetta Del Bufalo, Antonino Laganà, Maria R. Prisco, Stefano Tersigni, Francesco G. Truglia, and Donatella Vignani.

The medium-term analysis shows off a more problematic picture, in which some positive signs combine with very worrying others, such as a significant reduction in the resources allocated by the local administrations to the protection and promotion of cultural heritage, an increase of illegal building, and a marked deterioration of the indicators of perception (Table 1).

Figure 1. Percentage variation for Landscape and cultural heritage indicators comparing to the value for Italy by region. Latest available year (a) (b)



(a) Values above zero correspond to better well-being conditions comparing to the Italian average; on the contrary, values below zero correspond to worse well-being conditions. The calculation took into account the polarity of indicators.
(b) The following indicators are not shown due to the excessive presence of outliers: Spread of rural tourism facilities (the province of Bolzano is 6 times higher than the average for Italy, Toscana 3 times higher than the average); Impact of forest fires (Sicilia is 6 times higher than the average, Calabria 3 times higher than the average).

For all the components being observed in this domain, the indicators show a considerable territorial variability: even putting the outliers aside, regional values span over very wide ranges, and only in three cases the difference between the extremes and the Italian average is less than 100%.

Among the pressure factors, illegal building activity concentrates in Campania, Calabria, Basilicata and Sicilia (where values are more than 3 times the Italian average), while the rest of the distribution ranges from a minimum of a fifth of the average (Friuli-Venezia Giulia, and the provinces of Trento and Bolzano) to a maximum of over 2 times the average (Puglia). Similarly, the impact of forest fires – quite modest overall in 2018 – highly concentrates in two regions: Calabria and Sicilia (2.7 and 6.4 times the average, respectively). The indicators of farmland erosion – measuring the incidence of two main forms of rural landscape degradation: the spreading of the urban sprawl, and the abandonment of rural areas – appear more homogeneous. The impact of the urban sprawl is most severe in Veneto and Lazio (about 2.5 times the average), and nearly null in Valle d'Aosta and in the provinces of Trentino-Alto Adige. Erosion from abandonment, instead, reaches its maximum in Molise and Valle d'Aosta (about 2 times the average), and its minimum in Lazio and Puglia (about half the average). The pressure of mining and quarrying activities is highest in Lombardia and Umbria (almost 2 times the average), and lowest in Valle d'Aosta, Calabria, and in the

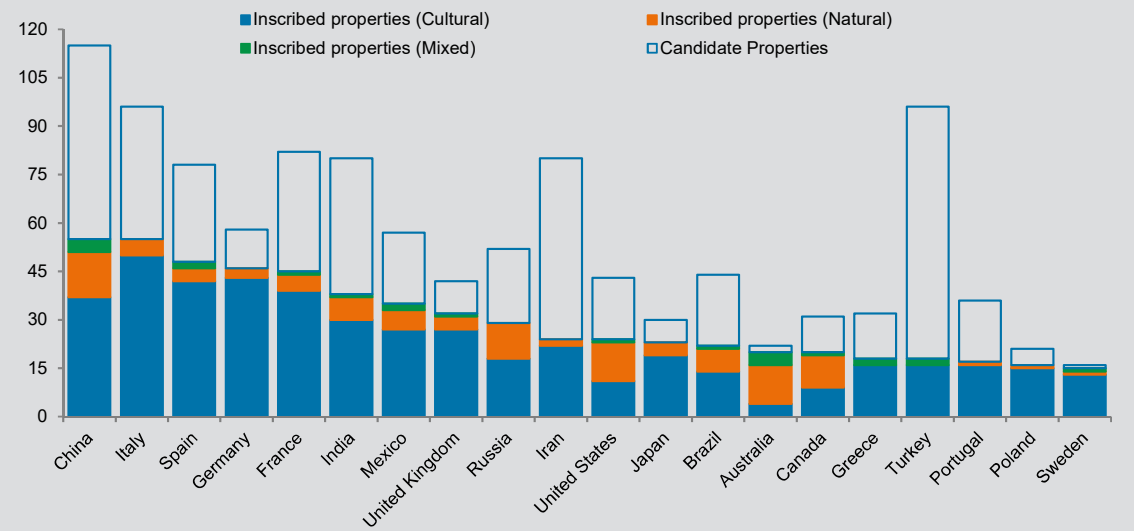
province of Trento (less than half the average), while among the other regions it varies within a relatively narrow range.
The distances between regions are very wide also for the endowment indicators. The density and relevance of museum heritage exceeds in Lazio the national average by 4.5 times, while it is only one tenth of the average in Abruzzo, Molise and Basilicata. As for the density of urban parks and gardens of historical interest, the highest value (in Friuli-Venezia Giulia) is 3 times the average, while, at the other end of the ranking, Molise and the province of Bolzano reach only one tenth of the average. The density of farms that practice rural tourism also shows a great territorial variability: apart from the extreme value of the province of Bolzano (5.5 times the average), the range here spans from about one fifth of the average (the lowest values, found in Valle d'Aosta and Basilicata) to over 2 times the average (in Toscana and Umbria). The province of Bolzano is also in the first place by far for the municipal expenditure on culture per capita (3 times the average), whose distribution, for the rest of the country, is comprised between the lower bound of Campania (one fifth of the average) and the value of the province of Trento (about 2 times the average). In South and Islands, only Sardegna exceeds the national average, while all the other regions reach at most half of that value.
Variability is significantly more limited for the two perception indicators: the dissatisfaction about the landscape of the place of living, and the concern for the landscape's deterioration – which reflects a greater uniformity in the people's judgements about the quality of the landscape and its protection. The dissatisfaction for the landscape, a measure of the perception of degradation, ranges from 0.3 times the average in the provinces of Trento and Bolzano to 1.7 times in Lazio. The range of the indicator of concern, a measure of the social attention to the protection of the landscape, is even narrower: from a minimum of 0.6 times the average in Molise to a maximum of 1.4 times in Liguria and in the province of Bolzano.

International comparison

Since July 2019, Italy is sharing with China the first place in the UNESCO World Heritage List for the number of properties inscribed. After the inscription of the *Prosecco Hills of Conegliano and Valdobbiadene*, the number of Italian properties rose to 55, equal to 4.9% of the total.[2] Italy and China are followed by Spain (48 properties), Germany (46) and France (45). Of the Italian properties, 50 are classified as cultural sites (of which 27 belong to the category of "cities", and eight to that of "cultural landscapes") and five as natural sites (of which one belongs to the category of "forests"). Currently, the Italian candidate properties, proposed for inscription, are 41: 28 cultural sites (of which eight "cultural landscapes"), 11 natural, and 2 mixed[3] (Figure 2).
Italy's public expenditure on Cultural services (which include the protection and valorization of heritage) remains, in 2017, among the lowest in the EU, in terms of percentage of the GPD: 0.30%, same value of the previous year. This ranks Italy in the 23rd place among the 28 member States, significantly beneath the EU average (also stable at 0.44%).[4] Among the

2 Including six transboundary properties; source: UNESCO, *World Heritage List*. The properties inscribed in the World Heritage List are 1,121, of which 39 transboundary, located in two or more States (data referred to July 2019).
3 Source: UNESCO, *World Heritage Tentative Lists* (data referred to July 2019).
4 Source: Eurostat, *Government Finance Statistics*. General public expenditure on the class 08.2.1 of the International classification of public spending by function (Cofog).

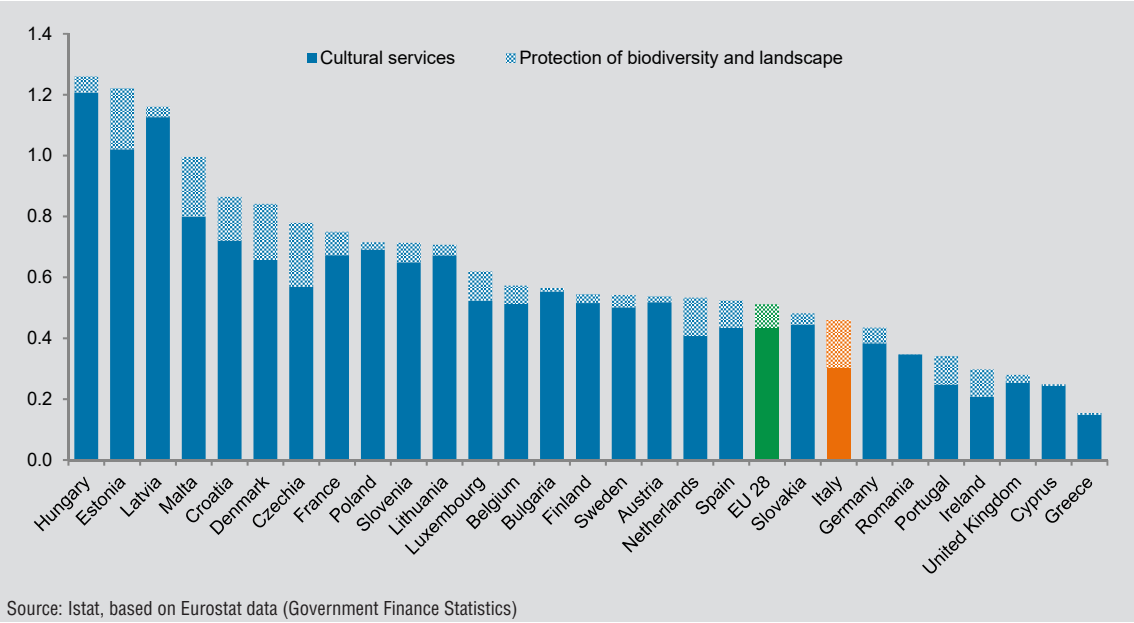
Figure 2. Properties inscribed in the Unesco World Heritage List by criterion and candidate properties, by country (first 20 countries by number of inscribed properties). Year 2019. Absolute values



Source: Istat, based on Unesco data (World Heritage List, World Heritage Tentative Lists)

other European countries comparable in size, only the United Kingdom spends on culture a lower share of its GDP (0.25%), while Spain and Germany are close to the EU average (0.43 and 0.38%), and France and Poland place far above it (0.67 and 0.69%). Italy ranks best in the expenditure for the protection of biodiversity and landscape (which includes the naturalistic protection of the landscape), that is equal to 0.16% of the GDP against 0.07% of the EU average.[5] Considering the whole of both items, Italy therefore reaches 0.46% of its GDP, not so far from the EU average (0.51%) (Figure 3).

Figure 3. Public expenditure on Cultural services and Protection of biodiversity and landscape in the EU countries. Year 2017. Percentage of GDP

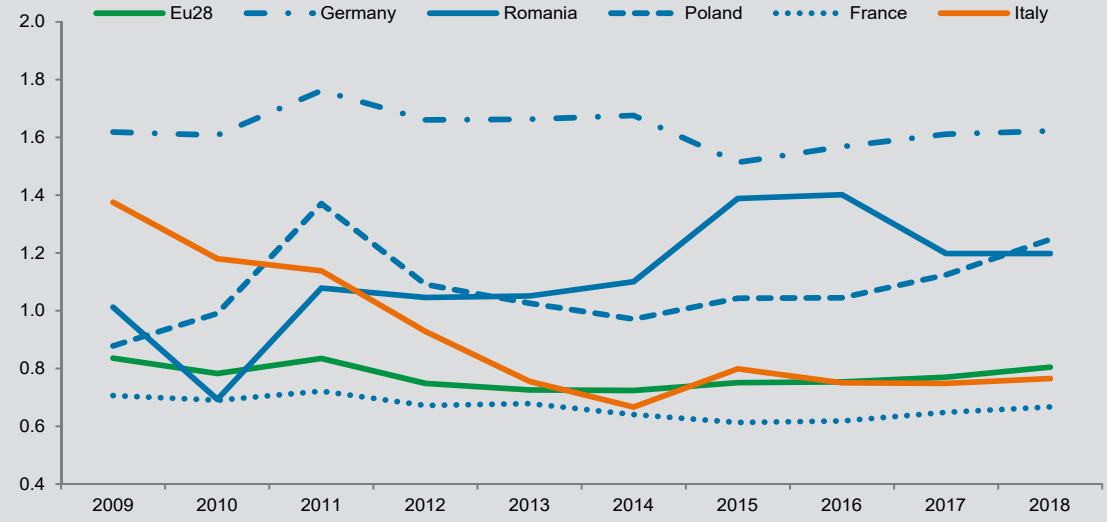


Source: Istat, based on Eurostat data (Government Finance Statistics)

5 Source: Eurostat, *Government Finance Statistics*. General public expenditure on the class 05.4.1 of the Cofog.

The extraction intensity of mineral resources – a measure of the pressure on the landscape exerted by the activity of mines and quarries – is one of the few indicators of this domain that allow to compare the Italian situation to that of other countries.[6] In 2018, it is estimated that 765 tonnes of non-energy minerals per sq.km were extracted in Italy, less than the EU average (805).[7] The lowering of the extraction intensity in Italy, probably linked to the lasting crisis of the construction sector, led to a gradual alignment of our Country to the EU average in the period 2009-2014, followed by a stabilization in the subsequent years (Figure 4).

Figure 4. Intensity of extraction of non-energy minerals (a) **(EU and first 5 EU countries by quantity extracted). Years 2009-2018** (b)**. Thousands tonnes per km²**



Source: Istat, based on Eurostat data (Environmental Statistics: Material Flow Accounts)
(a) Domestic extraction of metal ores and non-metallic minerals.
(b) Data 2017-2018 provvisional (except for Poland 2017).

National data

Public spending of the State on culture is back on the rise

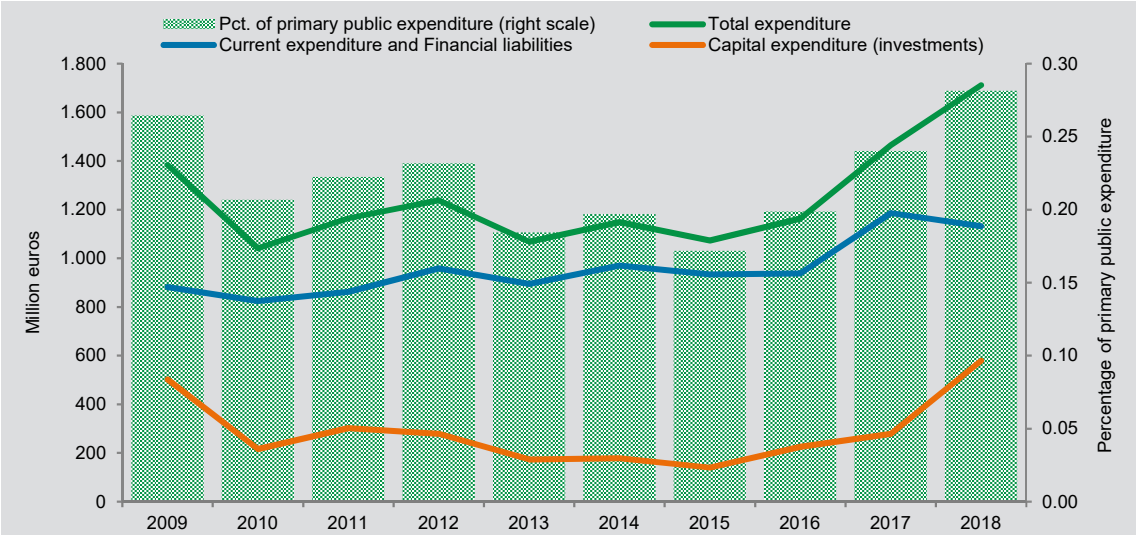
The expenditure of the central Government on the protection and valorization of heritage and landscape (including the funding of cultural activities) is consolidating a positive trend: in 2018, the payments of the central administrations on this item of the State balance reached 1.71 billion euros (1.66 net of financial liabilities, equal to 0.28% of the primary public expenditure).[8] The most encouraging signal is the growth, for the third year in a row, of the spending in capital account, which brings the public investments back to the levels of 2009, face to a slight decrease of the current spending (-4.5%) (Figure 5).

6 The intensity of extraction is the quantity of material extracted per surface unit. The international comparison, based on the material flow accounts, is possible by measuring this quantity in tonnes, while the Bes indicator measures it in m³, because it is believed that a volume measure is more relevant in relation to the landscape.

7 Source: Eurostat, *Environmental Statistics: Material Flow Accounts*. This indicator takes into account the domestic extraction of non-energy minerals (both metal ores and non-metallic minerals).

8 Source: Ragioneria generale dello Stato, *La spesa delle Amministrazioni centrali dello Stato*. Primary public expenditure is net of the refunding of public debt.

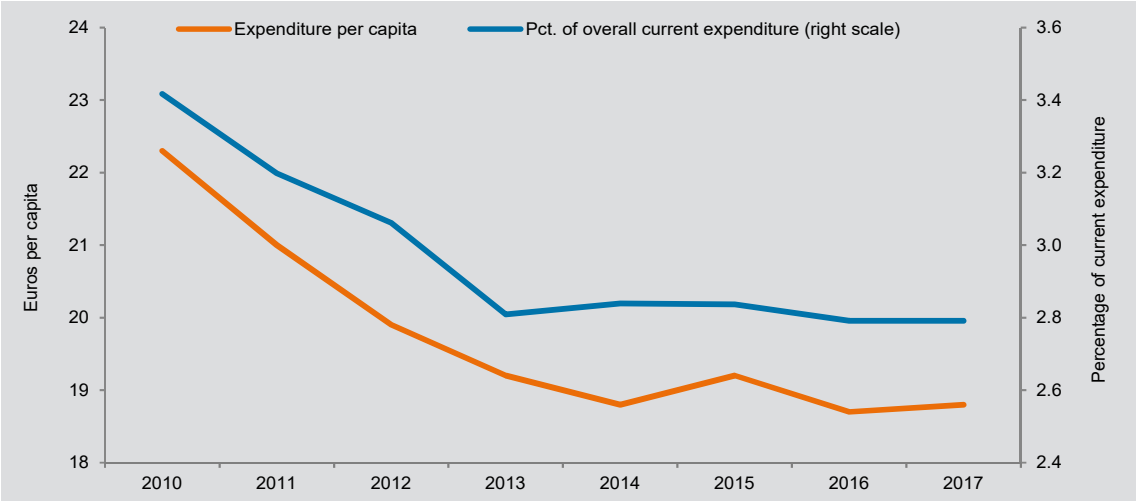
Figure 5. Central government expenditure on Protection and valorization of cultural heritage, cultural activities and landscape (a), by category. Years 2009-2018. Million euros and percentage values



Source: Istat, based on RGS data (La spesa delle Amministrazioni centrali dello Stato)
(a) Mission 021 of the Balance of the State (overall payments made by the Central administrations), net of the funding of performing arts.

In 2017, Italian Municipalities spent 18.8 euros per capita on the management of heritage and cultural activities: 10 cents more than the previous year, but 3.5 euros less than 2010. Since 2010, the current expenditure of Municipalities on culture decreased, on average, by 2% a year, despite of a growth of the overall spending (+ 0.8% a year). Consequently, the share of culture in the municipal balance sheets decreased, from 3.4% of 2010 to 2.8% of 2013, and remained substantially stable since then (Figure 6).

Figure 6. Current expenditure of Municipalities on Protection and valorization of cultural heritage, cultural activities and landscape (a). Years 2010-2017. Euros per capita and percentage values

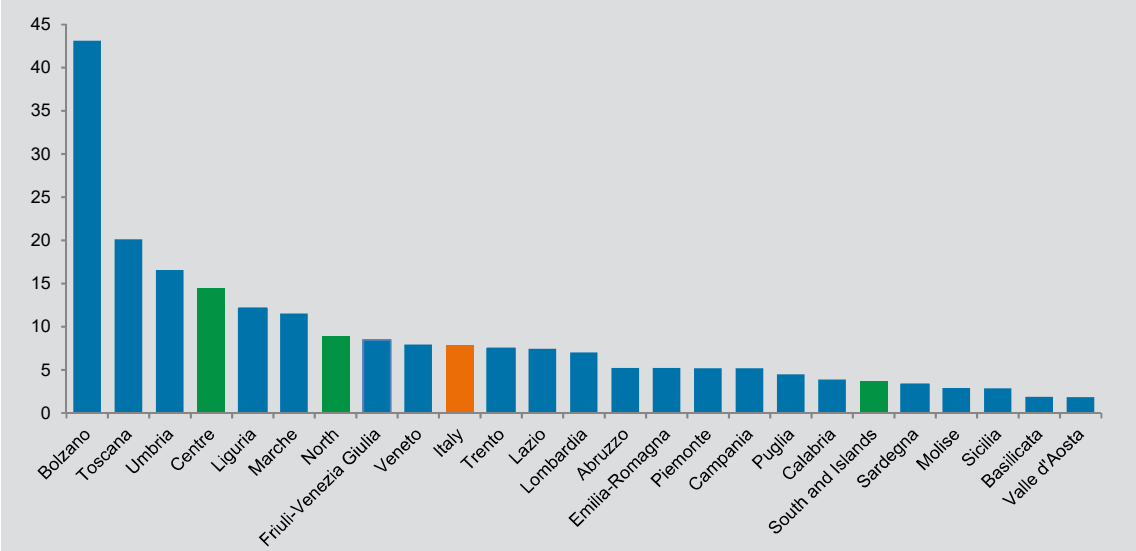


Source: Istat, Finanza locale: entrate e spese dei bilanci consuntivi di Comuni, Province e Città metropolitane
(a) Payments made by municipal Administrations.

Farms that practice agritourism are increasing also in South and Islands

Agritourism has become one of the main engines of rural development in Italy, being also encouraged by regional laws for the strategic role it can play in safeguarding the environment, the landscape and the cultural heritage of rural areas. In 2018, the number of farms that host agritourism facilities keeps growing (+0.9% nationwide), and is equal to nearly eight units per 100 km^2. In the last year, the number of these farms has grown all over the Country, albeit at a slower pace than in recent past. In the Centre, where this kind of facilities is more widespread (14.4 farms per 100 km^2), the leading regions are Toscana and Umbria (20.1 and 16.6 farms per 100 km^2, respectively). The highest density in Italy, however, is by far that of the province of Bolzano, which is 43 farms per 100 km^2 (about 5 times the Italian average) (Figure 7).

Figure 7. Farms that practice agritourism by region and geographical area. Year 2018. Values per 100 km^2



Source: Istat, Survey on farmhouses

In 2019, 10 new applications were submitted for the *National register of historic rural landscapes and traditional agricultural practices*, but no new registrations were made.[9] The presence of historic parks and gardens is a qualifying element of the urban landscape in Italian cities: only three of the 109 provincial capitals do not have at least one green area recognized of considerable public interest, based on its cultural or historical value.[10] The overall surface of these historic green areas sums up to over 74 million m^2, equal to 1.8% of the built-up area of the provincial capitals, but in seven cities (among which Turin, Venice and Florence), the ratio is equal or higher to 5 m^2 every 100 m^2.

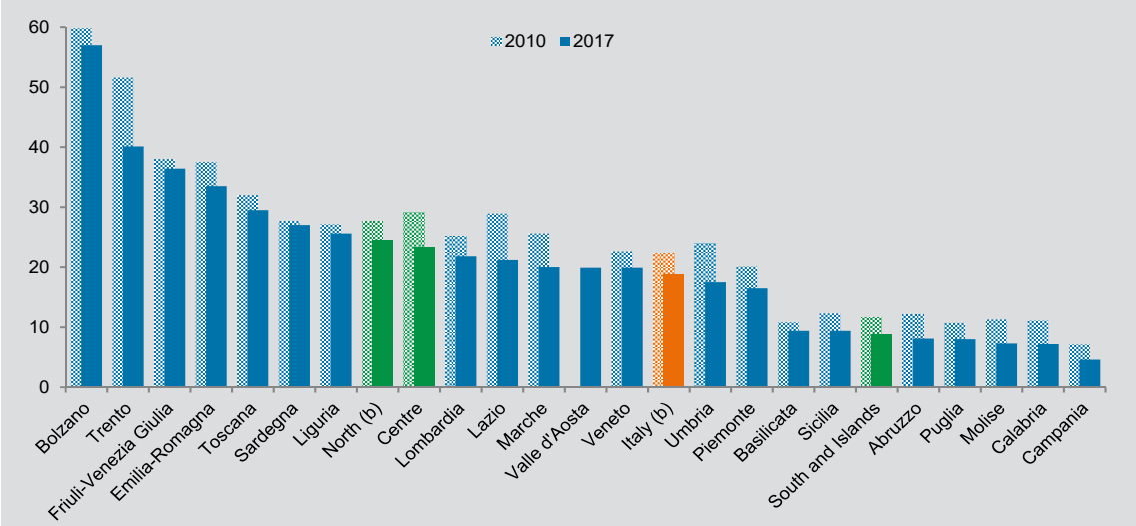
9 The implementation of the *National register of rural landscapes of historical interest, agricultural practices and traditional knowledge*, established by the Ministry of agriculture in 2012, actually started in 2014. Registrations are made by the Ministry after an assessment of the nominations proposed by local stakeholders. Currently, the Register holds 12 landscapes and 2 agricultural practices of historical interest, of which six located in the South and Islands, five in the Centre, and three in the North. Source: Rete rurale nazionale, *Registro nazionale dei paesaggi rurali storici.*

10 According to the Code of cultural heritage and landscape (Legislative Decree n. 42 of 2004).

A huge territorial gap in the expenditure of Municipalities for culture

The expenditure of municipal administrations for the management of cultural heritage and activities provides a clear example of the widening gap that separates South and Islands from the rest of the Country. In 2017, the Municipalities of the North spent on average 24.4 euros per capita on culture: slightly more than those of the Centre (23.3), but almost three times those of South and Islands (8.8).[11] Of course, at regional level the inequality is even greater, as the values range from 4.6 euros per capita (Campania) to 57 (province of Bolzano). In the period 2010-2017 inequality increased, in the context of a generalized shrinking of the local public spending on culture. In fact, per capita values decreased in all regions, but in 2010 the top value of Bolzano was about 8 times that of Campania, while in 2017 the ratio is about 12 to 1 (Figure 8).

Figure 8. Current expenditure of Municipalities on Protection and valorization of cultural heritage, cultural activities and landscape (a)**. Years 2010 and 2017** (b)**. Euros per capita**



Source: Istat, Final balance sheets of municipal governments
(a) Payments made by municipal Administrations.
(b) Data 2010 not available for Valle d'Aosta.

Visitors to museums, monuments and archaeological sites are sharply increasing

In 2017, the permanent exhibition sites open to public throughout Italy were 4,889:[12] 1.62 every 100 km^2. Compared to 2015, there are a bit less sites open (-1.7%), but much more visitors (119.1 million, +7.7%). Much of the museum heritage is managed by local institutions, public or private. The sites managed by the State are 478, just under 10%, but they welcome 44.3% of visitors. Almost a third of the visitor flow is concentrated in 15 sites, which exceed one million entrances.[13] In the State sites, for which the Ministry of culture

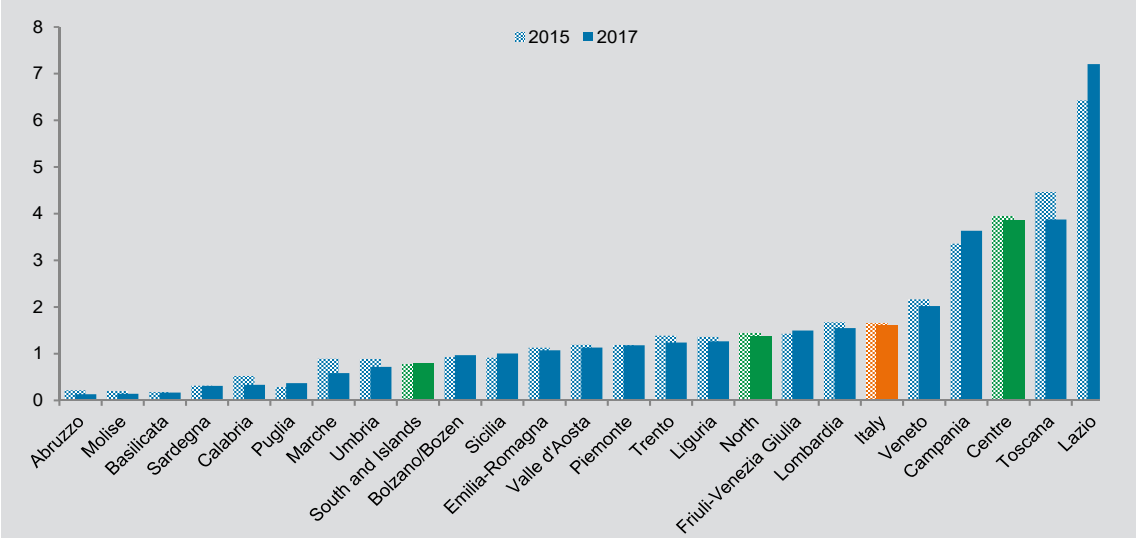
11 This indicator considers the current expenditure (payments) on the "mission" *Tutela e valorizzazione di beni e attività culturali* (protection and valorization of cultural heritage and activities).

12 Of which: 4,026 museums and galleries, 293 archaeological sites and parks, 570 monuments and monumental complexes.

13 One in Piemonte (*Venaria Reale*), one in Veneto (*Palazzo Ducale*), six in Toscana (*Galleria degli Uffizi e Corridoio vasariano, Galleria dell'Accademia e Museo degli strumenti musicali, Giardino di Boboli, Grande museo del Duomo, Cattedrale di Santa Maria; Museo dell'Opera della Metropolitana di Siena*), five in Lazio (*Monumento a Vittorio Emanuele II, Pantheon, Colosseo, Museo Nazionale di Castel Sant'Angelo, Foro Romano e Palatino*), two in Campania (*Parco di Capodimonte, Parco archeologico di Pompei*).

provides time series, the number of visitors, boosted by national and international tourism, is continuously growing (by more than 10%, both in 2017 and 2018).[14]
The indicator of density and importance of the museum heritage is calculated as the number of permanent exhibition sites open to public per 100 km^2, where each site is weighted according to the number of visitors.[15] The result shows a high concentration of the heritage (and its attractive capacity) in the regions of Centre (3.87 weighted units per 100 km^2) compared to those of North (1.37) and of South and Islands (0.80). Only four regions, home to the great magnets of cultural tourism, exceed the national average: Lazio (7.20), Toscana (3.87), Campania (3.63) and Veneto (2.02). In the North, Lombardia (1.55) and Friuli-Venezia Giulia (1.49) are quite close to the average, while most of the Southern regions are disadvantaged by lesser flows of visitors (Figure 9).

Figure 9. Density and importance of the museum heritage by region and geographical area. Years 2015 and 2017. Museums and similar facilities weighted by the number of visitors per 100 km^2



Source: Istat, Survey on museums and similar cultural institutions

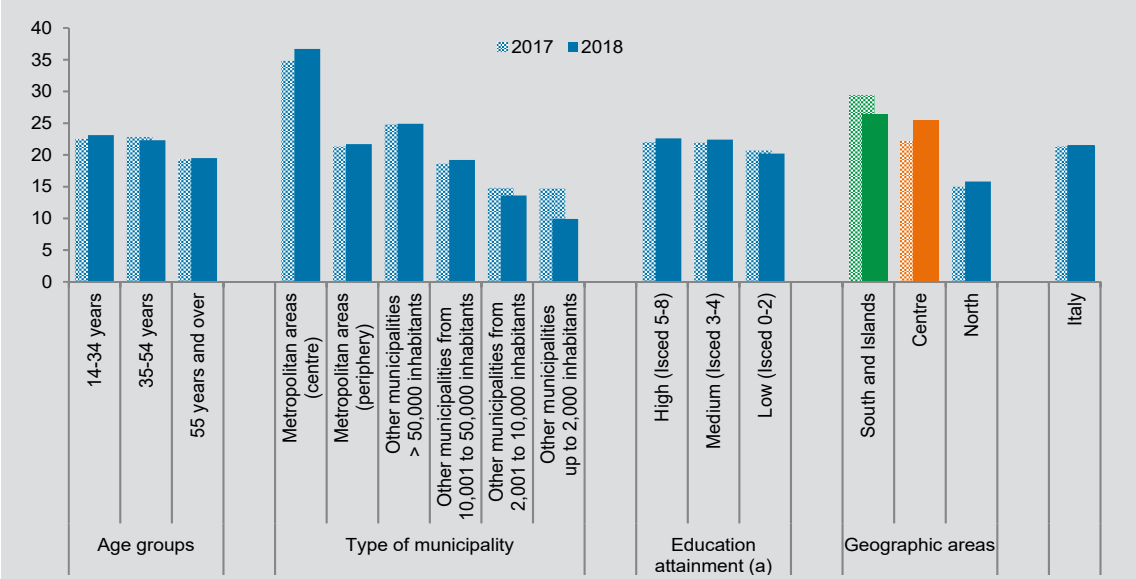
Perception indicators on landscape depict wide regional diversity

In 2018, 21.4% of Italians consider the landscape of the place they live in affected by "evident degradation". While the share is quite stable nationwide, significant variations can be observed over the last years at the regional level. In the Centre, dissatisfaction for the quality of landscape is clearly on the raise (3.4 pct. points more than in 2017), and is expressed by over a quarter of the population. In the North, the share of dissatisfied people is far smaller (15.8%), and growing only by 0.8 points. In South and Islands, on the contrary, the perception of degradation remains higher (26.4%), but decreases significantly (nearly 3 points less than 2017). This convergent trend can be seen as a positive sign for the southern regions, where a lowering dissatisfaction combines with an increasing concern for the deterioration of the landscape (expressed by 12% of people: 0.7 points more than in 2016), in contrast with the national trend (14.1%, but decreasing by 1 point from 2017). In South

14 Source: Ministero dei beni e delle attività culturali e del turismo, *Visitatori e introiti di musei, monumenti e aree archeologiche statali.*
15 For the formula of this indicator, see the Methodological Note.

and Islands, therefore, a growing attention to the quality of landscape seems to go with the perception of some improvement in the state of urban landscapes, while in the Centre-North the feeling of a lesser pressure on the landscape (at least in the opinion of the public) may result into a loss of attention to its protection. The perception of landscape degradation is more felt (and increasing) in larger cities, among the younger and the more educated people, and – at the territorial level – among those living in the Centre-South (Figure 10).

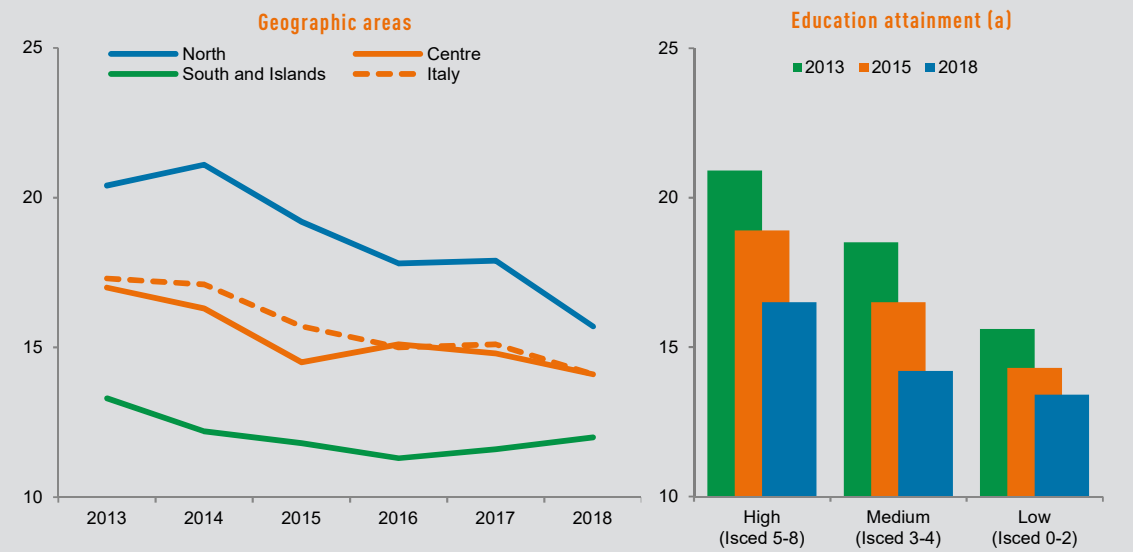
Figure 10. Dissatisfaction for the landscape of the place of living by age group, type of municipality, education attainment and geographical area. Years 2017 and 2018. Per 100 people of 14 years and over



Source: Istat, Aspects of daily life
(a) Low level of education: Isced 0-2; Medium level of education: Isced 3-4; High level of education: Isced 5-8.

The indicator of concern for the deterioration of landscape, a measure of the social attention paid to landscape protection, has been declining throughout Italy in recent years, except in South and Islands – where its figures, however, are lower (12%). Compared to the dissatisfaction indicator, the correlation with the education attainment appears more evident (Figure 11), while in relation to the age of respondents, the highest values are observed among the younger (14-19 years) and the elderly (60 years and over).

Figure 11. Concern for the deterioration of landscape by geographical area and by education attainment. Years 2013-2018. Per 100 people aged 14 years and over

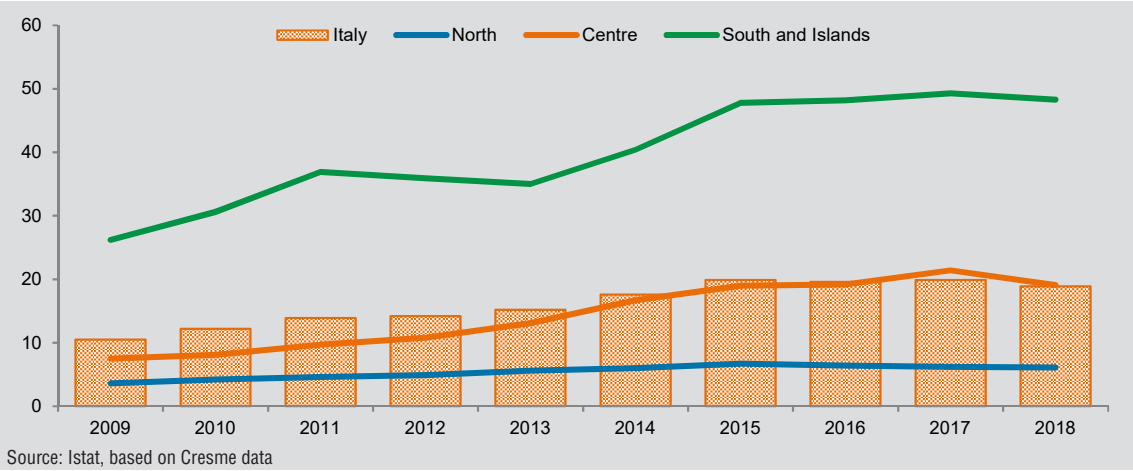


Source: Istat, Survey on Aspects of daily life

Illegal building rate decreasing

After three years of relative stability, the illegal building rate recorded a slight decrease in 2018 (19 unauthorized constructions per 100 authorized, compared to 19.8 of the previous year).[16] This confirms the exhaustion of a phase of growth for this phenomenon, which lasted from 2008 to 2015, in conjunction with the economic crisis and the stall of the construction sector (Figure 12). Nevertheless, in some regions illegal building still shows no signs of regressing, and has reached alarming proportions: in 2017 it is estimated that two new illegal constructions were built every three authorized in Campania, and one every two in South and Islands.

Figura 12. Illegal building rate by geographical area. Years 2009-2018. Newbuilt illegal constructions for residential use every 100 authorized



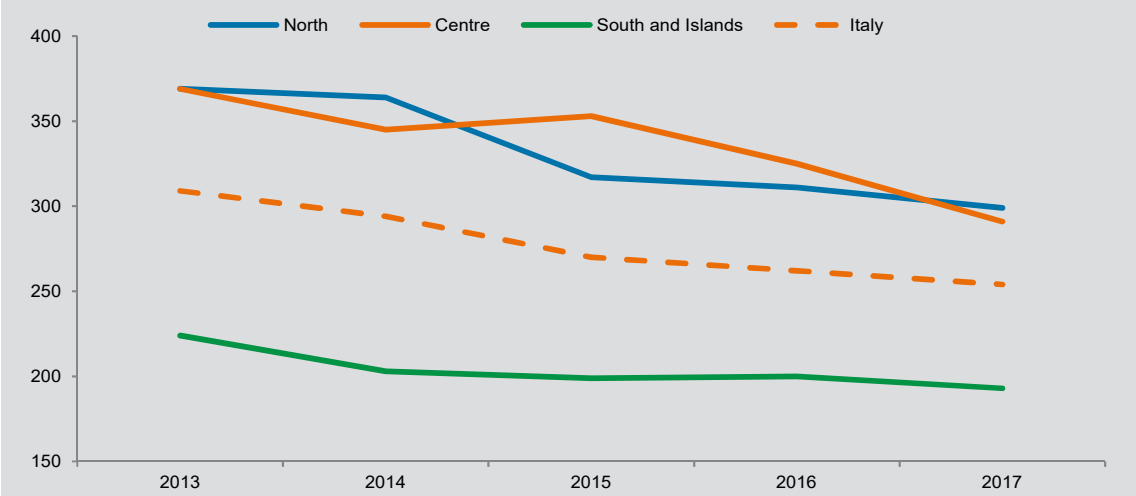
Source: Istat, based on Cresme data

16 This indicator estimates, for each year, the proportion of the unauthorized constructions to those authorized by the Municipalities – not the stock of unauthorized constructions that lay on a given territory.

Pressure of quarrying and mining activities continues to drop

The pressure of quarrying and mining activities on environment and landscape keeps decreasing: in 2017, 254 m^3 of mineral resources per km^2 were extracted in Italy, compared to 262 of the previous year. Since 2013, this value has recorded, on average, a drop of 4.8% per year[17] (Figure 13). The most significant reductions are observed in North and Centre (-19% and -21.1% respectively, since 2013), where the extraction intensity is higher (299 and 291 m^3 per km^2, compared to 193 in South and Islands). Despite the decreasing trend, the extraction activities continue to exert a considerable pressure on the landscape: in 2017, over 5,000 extraction sites were authorized nationwide, of which almost 4,500 were actually in operation (quarries, in large prevalence): about 15 per 100 km^2. Furthermore, in the period 2013-2017, approximately 420 million m^3 of mineral resources were extracted in Italy (1,388 per km^2, with a maximum of almost 3,000 in Lombardia, and values between 1,900 and 2,400 in Umbria, Lazio and Puglia).

Figure 13. Pressure of mining and quarrying activities by geographical area. Years 2013-2017. m^3 of mineral resources extracted per km^2



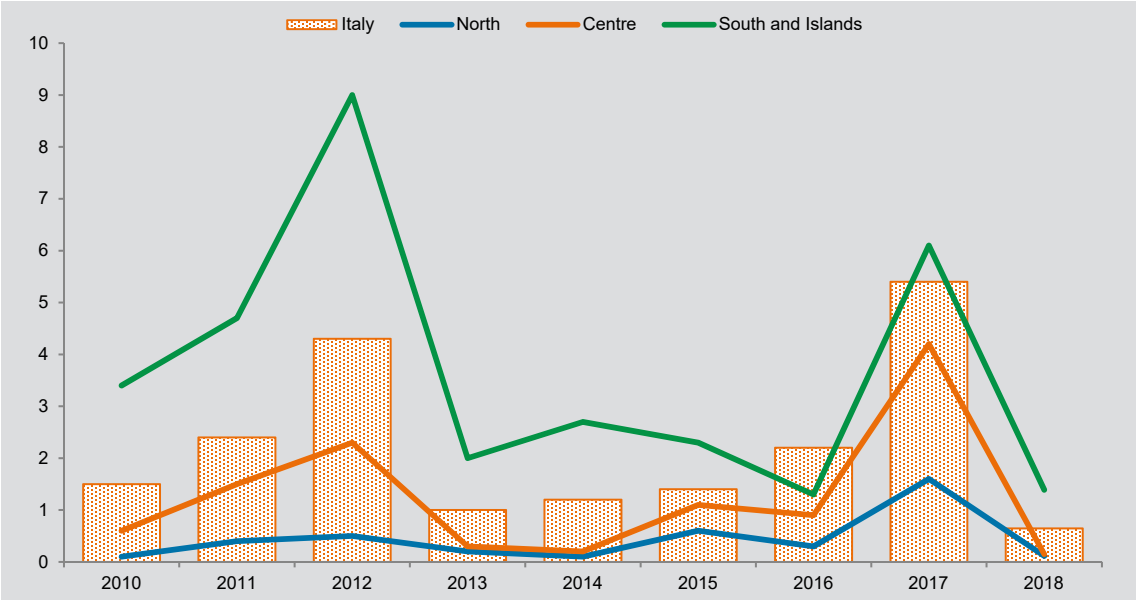
Source: Istat, Anthropic pressure and natural hazards. Mining and quarrying extraction activities

Limited impact of forest fires in 2018

In 2018, the forest area affected by fires decreased significantly (0.6 km^2 of surface covered by fire per 1,000 km^2), after reaching a peak of 5.4 per 1,000 in the previous year. The variability is strongly influenced by meteo-climatic conditions (in particular, by rainfall and temperature), but part of this reduction can also be attributed to the adoption of more effective prevention measures. The extent of impacted areas, although lesser than the previous year, remains comparatively high in Calabria and Sicilia: 1.8 and 4.2 km^2 per 1,000, respectively – equal to 3 and 7 times the national average (Figure 14).

17 2013 is the first year of a new Istat survey on the extraction of non-renewable natural resources, whose data are used to calculate the intensity of extraction.

Figure 14. Impact of forest fires by geographical area. Years 2010-2018. Hectares of forest area covered by fires per 1,000 hectares of land area



Source: Istat, based on data provided by State Forestry Corps and Civil Protection (2005-2015), Carabinieri Corps (2016-2018)

Indicators

1. **Current expenditure of Municipalities for culture:** Current expenditure for protection and valorisation of cultural properties and activities in euro per capita.
   Source: Istat, Processing of data from Istat, Final balance sheets of municipal governments.
2. **Density and importance of musems' heritage:** Number of permanent exhibition facilities per 100 sq.km (museums, archaeological sites and monuments open to public), weighted by the number of visitors. The weight for each facility is set at (Vi / V x M), where Vi is the number of visitors, M the total number of facilities and V the total of visitors.
   Source: Istat, Survey on museums and other cultural institutions.
3. **Illegal building rate:** Ratio of the number of unauthorised buildings to the number of building permits issued by the Municipalities.
   Source: Center for social, economic and market research for building and the territory (Cresme).
4. **Erosion of farmland from urban sprawl:** Percentage ratio of rural areas affected by urban sprawl to the total of rural areas ("rural areas affected by urban sprawl": rural areas with increasing population and decreasing agricultural land).
   Source: Istat, Processing of data from General Census on Agriculture, General Census on Popoluation and Housing, Census Mapping.
5. **Erosion of farmland from abandonment:** Percentage ratio of abandoned rural areas to the total of rural areas ("abandoned rural areas": rural areas with decreasing population and decreasing agricultural land).
   Source: Istat, Processing of data from General Census on Agriculture, General Census on Popoluation and Housing, Census Mapping.
6. **Pressures of mining and quarrying activities:** Volume of mineral resources extracted (cubic metres) per sq.km.
   Source: Istat, Anthropic pressure and natural hazards. Mining and quarrying extraction activities.
7. **Impact of forest fires:** Burnt forest area (wooded and non-wooded) per 1,000 sq.km.
   Source: Istat, Processing of data from the State Forestry Corps.
8. **Spread of rural tourism facilities:** Number of farmhouses per 100 sq.km.
   Source: Istat, Survey on farmhouses.
9. **Presence of Historic Parks/Gardens and other Urban Parks recognised of significant public interest:** Percentage ratio of the area of parks and gardens classified as "historic" and/or "of a significant public interest" by the Legislative Decree no. 42/2004 to the total area of the provincial capital Municipalities.
   Source: Istat, Processing of data from Survey on urban environmental data and Census Mapping.
10. **People that are not satisfied with the quality of landscape of the place where they live:** Proportion of regional population reporting that the landscape of the place where they live is affected by evident deterioration.
    Source: Istat, Survey on Aspects of daily life.
11. **Concern about landscape deterioration:** Proportion of population reporting, among the environmental problems for which they express more concern, the decay of landscape due to overbuilding.
    Source: Istat, Survey on Aspects of daily life.

Indicators by region and geographic area

REGIONS AND GEOGRAPHIC AREAS	Current expenditure of Municipalities for culture (a)	Density and importance of museums' heritage (b)	Illegal building rate (c)	Erosion of farmland from urban sprawl (d)	Erosion of farmland from abandonment (d)	Pressures of mining and quarrying activities (e)
	2017	2017	2018	2011	2011	2017
Piemonte	16.5	1.2	5.3	18.5	41.4	331
Valle d'Aosta/Vallée d'Aoste	19.9	1.1	5.3	-	66.5	16
Liguria	25.6	1.3	10.5	31.8	57.4	186
Lombardia	21.8	1.5	6.2	24.0	31.0	485
Trentino-Alto Adige/Südtirol	48.4	1.1	4.1	-	28.4	138
Bolzano/Bozen	*57.0*	*1.0*	....	-	*31.3*	*168*
Trento	*40.1*	*1.2*	....	-	*24.9*	*102*
Veneto	19.9	2.0	7.2	56.9	23.1	292
Friuli-Venezia Giulia	36.4	1.5	4.1	7.0	54.2	274
Emilia-Romagna	33.5	1.1	6.0	27.0	42.6	244
Toscana	29.5	3.9	10.7	14.2	47.7	312
Umbria	17.5	0.7	18.4	8.3	50.0	472
Marche	20.0	0.6	18.4	14.7	38.8	137
Lazio	21.2	7.2	24.5	53.6	15.4	258
Abruzzo	8.1	0.1	33.0	16.3	43.1	118
Molise	7.3	0.1	33.0	6.9	74.4	325
Campania	4.6	3.6	68.4	29.6	34.2	219
Puglia	8.0	0.4	40.9	33.1	17.1	301
Basilicata	9.4	0.2	67.2	14.5	38.2	214
Calabria	7.2	0.3	67.2	22.0	54.3	76
Sicilia	9.4	1.0	60.3	16.9	29.5	176
Sardegna	27.0	0.3	29.5	6.5	27.1	184
North	24.4	1.4	6.1	24.3	37.5	299
Centre	23.3	3.9	19.1	25.1	37.0	291
South and Islands	8.8	0.8	48.3	18.8	34.2	193
Italy	18.8	1.6	18.9	22.2	36.1	254

(a) Euro per capita.
(b) Number of museums and similar structures per 100 sq.km, weighed by the number of visitors.
(c) Illegal buildings per 100 authorized buildings. Values of Piemonte and Valle d'Aosta, Trentino-Alto Adige and Friuli-Venezia Giulia, Umbria and Marche, Abruzzo and Molise, Basilicata and Calabria refer to the two regions as a whole.
(d) Percentage of regional territory.
(e) Cubic metres extracted per sq.km of regional territory. The value of Lazio was calculated upon a provisional estimate.
(f) Area covered by fires, values per 1.000 sq.km.
(g) Number of farms per 100 sq.km.
(h) sq.m per 100 sq.m of built-up area.
(i) Per 100 people aged 14 and over.

	Impact of forest fires (f)	Spread of rural tourism facilities (g)	Presence of Historic Parks/ Gardens and other Urban Parks recognised of signifi-cant public interest (h)	People that are not satisfied with the quality of landscape of the place where they live (i)	Concern about landscape deterioration (i)
	2018	2018	2018	2018	2018
	0.2	5.2	3.8	17.0	13.4
	..	1.8	0.9	9.9	18.5
	0.2	12.1	0.9	23.3	19.3
	0.1	7.0	2.7	16.9	17.5
	..	26.8	0.9	6.7	17.8
	..	*43.1*	*0.1*	*7.3*	*19.1*
	..	*7.5*	*1.2*	*6.1*	*16.5*
	0.3	7.9	3.0	14.7	17.5
	..	8.5	5.4	9.8	14.6
	..	5.2	0.7	14.6	10.6
	0.1	20.1	1.8	16.4	14.2
	..	16.6	2.5	17.1	11.8
	..	11.5	1.4	12.3	10.7
	0.3	7.4	1.4	36.1	15.2
	0.2	5.2	0.7	17.3	12.1
	..	2.9	0.1	20.1	8.3
	0.4	5.2	1.8	31.8	9.7
	0.3	4.5	0.6	27.9	13.8
	0.3	1.9	4.2	23.0	9.3
	1.8	3.9	0.5	22.5	11.7
	4.1	2.9	1.3	25.3	13.5
	0.9	3.3	0.3	21.6	13.1
	0.1	8.9	2.4	15.8	15.7
	0.2	14.4	1.6	25.5	14.1
	1.4	3.7	1.1	26.4	12.0
	0.6	7.8	1.8	21.4	14.1

10. Environment[1]

In the comparison with the previous year (and, to a greater extent, in the mid-term analysis), indicators show a prevalence of positive signals (Table 1). In a decade marked by a sharp slowdown in economic growth, also the pressure on the environment exerted by the economic system has decreased in some of its fundamental components (greenhouse gas emissions, domestic material consumption). More interestingly, a divergence has been emerging, at the exit from the crisis, between the economic trend and the trends of the main pressure indicators – although there is no sufficient evidence yet of a real break of the linkage between economic growth and the pressure on environment (at least as the weakness of the economic cycle persists). Indicators on cities' air quality and waste management are also improving. However, the situation remains critical on these issues, especially in northern cities (as regards air pollution) and in South and Islands (where, in several regions, more than 50% of municipal waste is still landfilled). Important progress has been made also in the use of renewable energy, allowing Italy to reach in advance the 2020 target set by the EU. On the other hand, there are negative signals from the indicators related to land governance and water resources management: soil consumption continues to advance, especially in the North, at a worrying pace, while the population exposed to hydrogeological risk (landslides and floods) is increasing, and the efficiency of water supply networks is worsening. Both of perception indicators – the satisfaction with the state of the environment in the place of living, and the concern about the loss of biodiversity – remain stable, compared to the previous year, but improve in the medium term. The first is higher in the North, but growing in South and Islands, while the second is considerably more widespread among the youngest, and the people with higher education attainment.
Although the indicators' trends are generally uniform at the territorial level, the differences in level between regions are, in most cases, very large. Only for 8 of the 16 indicators that are comparable at regional level[2], the difference between the extremes and the Italian average is less than 100%, while for three others the outliers are so numerous and so distant from the average to make the comparison between regional distributions not significant[3] (Figure 1).
Among the measures considered, the widest dispersions of regional values are observed in the two indicators of exposure to hydrogeological risk. The share of population exposed to flood risk varies between the minimum of Sicilia (nearly null) and the maximum of Emilia-Romagna (6 times the national average), while the share of population exposed to landslide risk has its minimum in Veneto (nearly null) and the maximum in Valle d'Aosta (almost 6 times the average). The indicators of air quality in the cities (referred to pollution from PM_{10} particulate matter and Nitrogen dioxide) also present a high degree of heterogeneity, being much influenced, like those of hydrogeological risk, by the morphology of the territories. The values of Veneto and the Province of Trento are 4 times higher than the average, respectively, for the indicators of PM_{10} pollution and Nitrogen dioxide pollution, while, at the opposite end, are the (fortunately numerous) regions where the monitoring stations have not detected any exceedances of the legal limits in the concentrations of the two pollutants.

1 This chapter was edited by Luigi Costanzo, with contributions from: Domenico Adamo, Raffaella Chiocchini, Elisabetta Del Bufalo, Aldo M. Femia, Flora Fullone, Antonino Laganà, Stefano Tersigni, Irene Tommasi, Angelica Tudini.

2 Greenhouse gas emissions are not available at regional level, Domestic material consumption is expressed in absolute values.

3 Urban green, Contaminated sites, and Electricity from renewable sources (see the footnote in Figure 1)

Finally, the distribution of the landfill of waste indicator is also very dispersed, with Molise (in the worst condition, with a value 4 times higher than the average) being very far from the province of Bolzano (about one tenth of the average).

Table 1. Environment indicators: value for the latest available year. Percentage variations on previous year and on 2010

INDICATOR	Latest available year value	% variation (compared to the previous year)	% variation (compared to 2010)
1. Emissions of CO_2 and other greenhouse gases *(tonnes per capita, 2018)*	7.3		
2. Domestic material consumption *(million tonnes, 2017)*	481.6		
3. Water losses in urban supply system *(%, 2015)* (a)	41.4	–	
4. Landfill of waste *(%, 2018)*	21.5		
5. Quality of urban air - PM_{10} *(%, 2018)* (b)	22.0		
6. Quality of urban air - Nitrogen dioxide *(%, 2018)* (b)	11.9		
7. Coastal bathing waters *(%, 2018)* (b)	66.5		
8. Urban green *(sq.m per capita, 2018)* (c)	32.8		
9. Satisfaction for the environment *(%, 2018)*	70.1		
10. Contaminated sites *(per 1.000 sq.km, 2018)* (d)	12.2	–	–
11. Population at risk of landslides *(%, 2017)* (e)	2.2		–
12. Population at risk of flood *(%, 2017)* (e)	10.4		–
13. Sewage treatment *(%, 2015)* (a)	59.6	–	
14. Protected natural areas *(%, 2017)* (f)	21.6		
15. Concern for biodiversity loss *(%, 2018)* (f)	21.0		
16. Electricity from renewable sources *(%, 2017)*	34.3		
17. Separate collection of municipal waste *(%, 2018)*	58.1		
18. Soil sealing from artificial land cover *(%, 2018)* (f)	7.64		

— Comparison not available Improvement Stability Deterioration

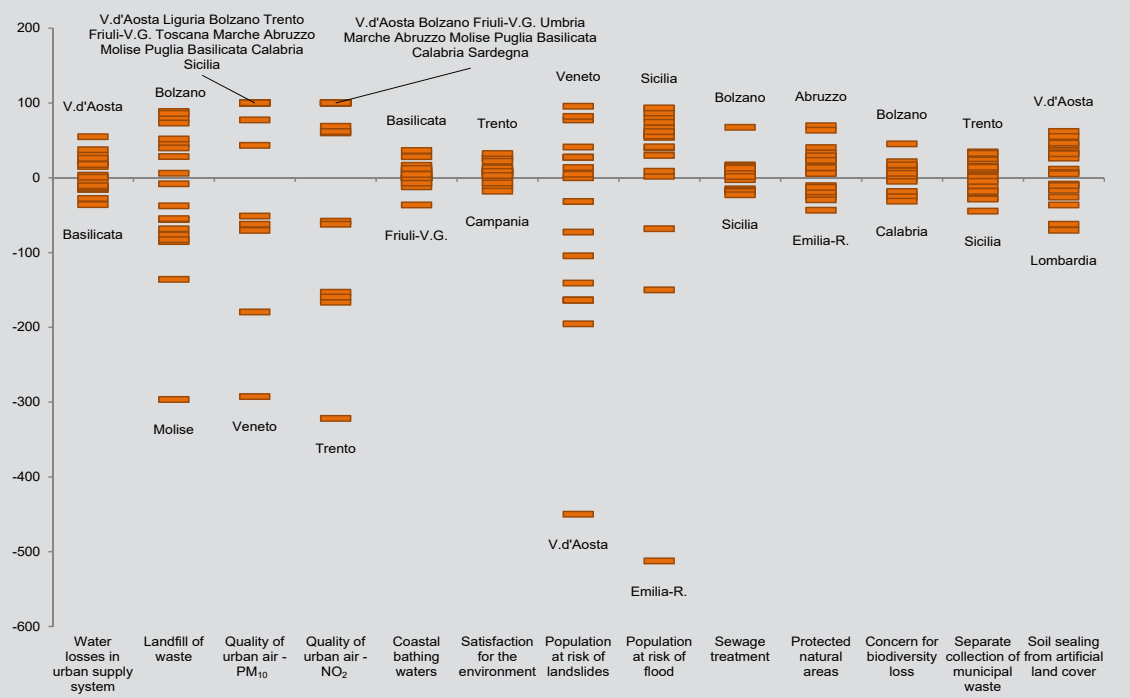
(a) Data 2010 not available, variation based on 2008;
(b) Data 2010 not available, variation based on 2013;
(c) Data 2010 not available, variation based on 2011;
(d) Time series not available;
(e) Data 2016 not available, variation based on 2015;
(f) Data 2010 not available, variation based on 2012.

Note: variations between two points in time above 1% are considered positive (in green), below -1% are considered negative (in red). Variations between -1 and +1% refer to stability (in grey).

The territorial variability of indicators referring to soil consumption and protected areas is relatively smaller. The coverage of artificial surfaces (soil sealing) varies between the minimum of Valle d'Aosta (0.4 times the average) and the maximum of Lombardia (1.7 times), while the coverage of protected areas has its minimum in Emilia-Romagna (0.6 times the average) and the maximum in Abruzzo (1.7 times). The distances between the extreme values are even smaller for the indicators referring to water services: the values of Valle d'Aosta and the province of Bolzano – in the best situations regarding the water network dispersion and wastewater treatment – are about 2 times higher than the national average; Sicilia and Basilicata, at the opposite, present values equal to 0.7 times the average. Similarly, the rates of separate waste collection range from the minimum of Sicilia (0.4 times the average) and the maximum of the province of Trento (1.3 times), and the percentages of bathing coasts between the minimum of Friuli-Venezia Giulia (0.6 times the average) and the maximum of Basilicata (1.4 times). Finally, the distributions of the two perception indicators are the most even – despite a clear polarization according to the usual North-South

pattern. The satisfaction with the environmental situation reaches the highest value in the province of Trento (1.3 times the average) and the lowest in Campania (0.8 times), while the concern about biodiversity loss has its maximum in the province of Bolzano (1.5 times the average) and the minimum in Calabria (0.7 times).

Figure 1. Percentage variation for Environment indicators comparing to the value for Italy by region. Latest available year (a) (b)



(a) The values of the following indicators are not shown due to the excessive presence of outliers: Urban green (Basilicata is 17 times higher than the Italian average, the province of Trento 12 times, Umbria 3 times, Friuli-Venezia Giulia and Calabria 2 times), Contaminated sites (Campania is 12 times higher than the average, Piemonte and Liguria 3 times) and Electricity from renewable sources (Valle d'Aosta is 9 times higher than the average, the province of Bolzano 5 times, the province of Trento, Molise and Basilicata 3 times, Calabria 2 times).
(b) Values above zero correspond to a better well-being conditions comparing to the Italian average; values below zero correspond to worse well-being conditions. The calculation took into account the polarity of indicators.

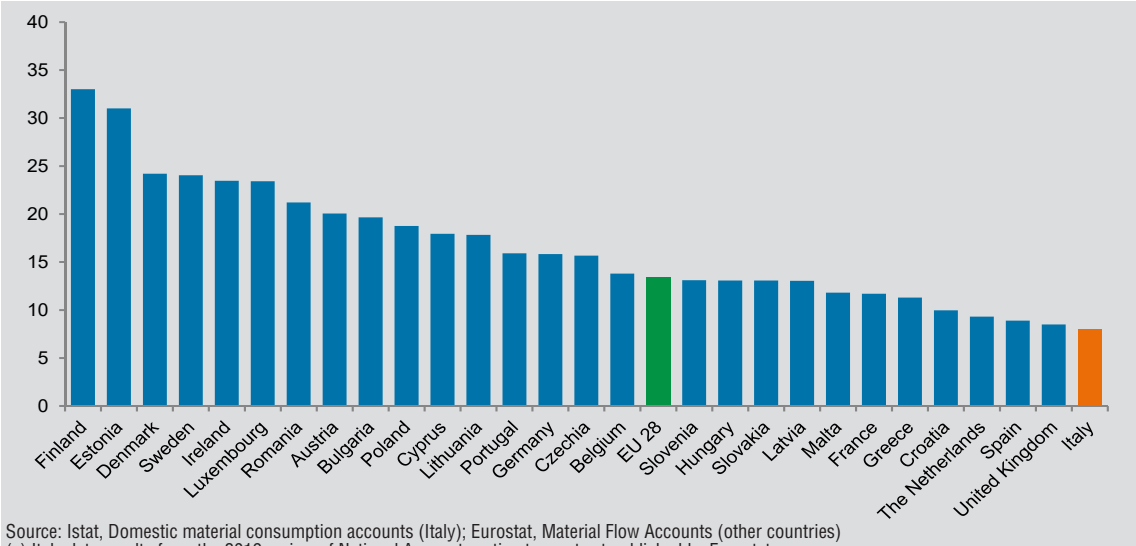
International comparison

Two general measures of the pressure exerted by the economic system on the environment – the Domestic material consumption (DMC), a quantitative estimate of the material resources transformed by the economic system, and the Emissions of greenhouse gases[4] – make possible to compare the situation of Italy to the other European countries. Given the size of its economy, Italy is among the EU countries that consume most resources in absolute terms

4 The DMC includes the domestic extraction of materials and the balance of trade in goods with foreign countries, taking into account all materials that have been incorporated into products in the reference year, and that, sooner or later, are to return to the environment in the form of air emissions, solids suspended in waste water, fertilizers and pesticides, waste, etc. The values of DMC commented in this chapter are those resulting from a general review of the National economic accounts, conducted in 2019. Both the DMC and the air emissions accounts refer only to the activities resident in Italy, according to the System of national accounts. These indicators thus represent only the environmental pressures generated directly in Italy by Italian residents, since they do not include what in the rest of the World needs to be extracted from (and returned to) the environment in order to make available to Italian residents what they consume. On the other hand, these indicators include the extractions and emissions generated in Italy "for the benefit" of the rest of the World. It is worth remarking that such limitation is all the more relevant, the more the chains of production and material consumption get global.

(after Germany, France, Poland, the United Kingdom and Spain), but it is the one that consumes the least in relation to its population: 7.9 tons per capita, just over half the average of the 28 Member States (13.4). In terms of material consumption, therefore, the pressure on the environment of the Italian economy can be considered, on the whole, relatively limited, and significantly lower than in other major European economies (15.8 t per capita in Germany, 11.7 in France, between 8.5 and 9 in Spain and the United Kingdom) (Figure 2).

Figure 2. Domestic material consumption in the EU by country. Year 2017 (a)**. Tonnes per capita**



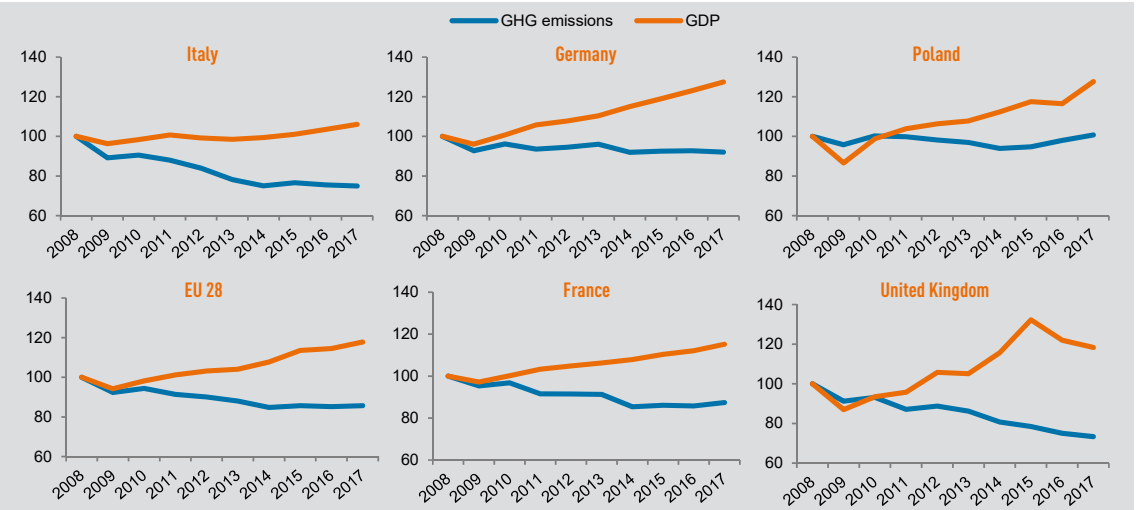
Source: Istat, Domestic material consumption accounts (Italy); Eurostat, Material Flow Accounts (other countries)
(a) Italy data results from the 2019 review of National Accounts estimates, not yet published by Eurostat.

As regards the greenhouse gases (GHG)[5], in 2017 more than 60% of the emissions of the entire EU was generated in five countries: Germany (21.4%), the United Kingdom (11.5%), France (10.3%), Italy (9.4%) and Poland (9.2%). In all these countries, as well as in the Union as a whole, the decade 2008-2017 – which was marked in its initial phase from a general economic crisis – has seen the emission trends to diverge from the GDP trends (Figure 3). Although this is a positive sign, indicating a tendency towards a desirable decoupling between the economic growth and the pressure on environment, in fact GHG emissions have been significantly reduced only in Italy and the United Kingdom (by 25 and 26.7% respectively, from 2008 to 2017) – and in Italy this occurred in conjunction with a very weak economic recovery. With the exception of the UK, the other major GHG producers, with a stronger economic growth, reduced their emissions much less (France by 12.6%, Germany by 8%) or not at all (Poland, +0.7%).
On the side of the responses that the economic system puts in place to counter the environment degradation, we can consider the use of renewable energy sources and the recycling of urban waste. The extent to which fossil energy sources are replaced by renewable energy sources[6] can be seen, in several respects, as a sustainability index of the economic system. A wider use of renewable sources can contribute to the reduction of GHG emissions, and improve the security of energy provision, by reducing the reliance on oil and natural gas imports. In

5 The Eurostat indicator considers Carbon dioxide (CO_2), Nitrous oxide (N_2O) and Methane (CH_4) – the latter in tonnes of CO_2 equivalent. The BES indicator "Emissions of CO_2 and other greenhouse gases" considers, instead, a broader set of elements (see below).

6 Wind, solar, hydroelectric, tidal, geothermal, heat pumps and bioenergy are considered renewable sources. Bioenergy includes the energy produced from biomass (the biodegradable fraction of products, waste and residues of biological origin), bio-liquids (liquid fuels obtained from biomass, of vegetable or animal origin), and biogas (generated by anaerobic fermentation of organic material).

Figure 3. GHG emissions and GDP at market prices in Italy, compared to other major EU economies and to the EU as a whole. Years 2008-2017. Indexes, year 2008 = 100



Source: Istat, based on Eurostat, Air Emissions Accounts and Annual National Accounts

the EU, from 2008 to 2017, the share of the gross final energy consumption[7] that is covered by renewable energy sources increased from 11.3 to 17.5%, so approaching the 20% target set for 2020. In the same years, Italy increased its share at a slightly faster pace, from 11.5% to 18.3%, thus achieving its national target (17%) in advance.[8] The position of Italy, however, is still far from those of the Countries most advanced in this field: Sweden, Finland, Latvia and Denmark, whose shares of renewable energy range between 35% and 55% (Figure 4).

Figure 4. Share of renewable energy in gross final energy consumption. Years 2008 and 2017. Percentage values

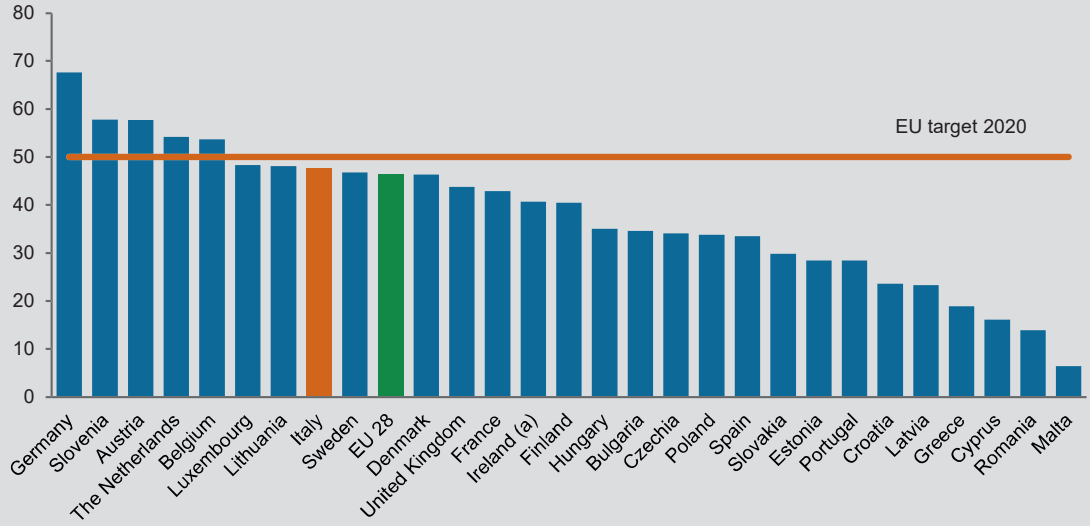
Source: Eurostat, Renewable energy statistics

7 Total energy products supplied to industry, transport, households, services (including public services), agriculture, forestry and fisheries – including electricity and heat consumption by the electricity sector for electricity and heat production, and electricity and heat losses through distribution and transmission.

8 Directive 2009/28/CE sets a target of 20% of energy consumption from renewable sources to be achieved by 2020 for the EU as a whole, and national targets that take into account the starting point and the development potential of renewable energy sources in each Country: from a minimum of 10% (Malta) to a maximum of 49% (Sweden).

In Italy, the relative quantity of waste generated by the entire economic system (business activities and households) is well under the EU average: 2,705 kg per capita against 4,968 (2016). Italian households, however, produce more waste than the EU average (almost 500 kg per capita compared to 420): the highest value among the Member States after Luxembourg, The Netherlands and Denmark. The recycling rate of municipal waste, which is considered to be a good indicator for assessing the quality of the entire waste management system, measures how much of the waste flow generated by the final consumers (thus, mainly by the households) is reused as a resource in the circular economy. In 2017, Italy's recycling rate is 47.7%, a little higher than the EU average (46.4%), and close to the 50% target set for 2020[9], but still far from the rates achieved by the most virtuous countries: Germany (67.6%), Slovenia and Austria (just under 58%) (Figure 5).

Figure 5. Recycling rate of municipal waste in the EU by country. Year 2017. Percentage values



Source: Eurostat, Waste Streams: Recycling rate of municipal waste
(a) 2016 data.

National data

Improvements of air quality in the cities

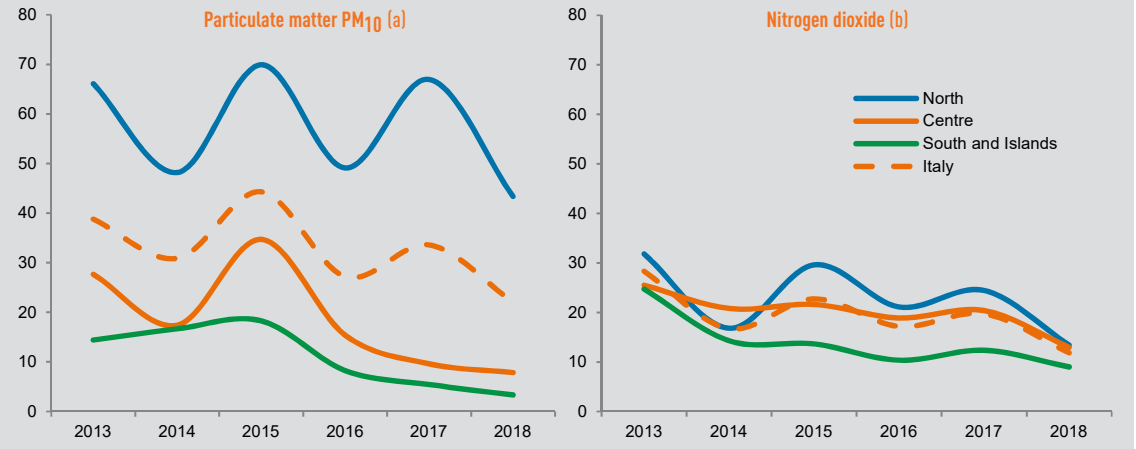
Among the pressure indicators referring to the urban environment, the two measures for air quality are based on the air concentrations of PM_{10} particulate matter and Nitrogen dioxide (NO_2) detected in Italian cities.[10] The emission of these pollutants derives mainly from the use of fossil fuels (in transport, residential heating, production activities), but their concentration over given thresholds, considered harmful to human health, also depends

9 This target was set by the Framework Directive 2008/98/CE, with regard to the preparation for re-use and recycling of household and similar waste. The following Directive 2018/851/EU set further targets, to be achieved by 2025 (55%), 2030 (60%) and 2035 (65%).

10 The indicators are based on data collected in the 109 provincial capital municipalities by the air quality monitoring stations, managed by the Regional environmental protection agencies (Arpa and Appa). High concentrations of PM_{10}, more frequent in the cold months, can represent an immediate risk for public health, while the Nitrogen dioxide tends to persist longer in atmosphere, and is associated with a higher risk in the medium period for the population exposed.

on a combination of meteorological and geomorphological factors, which can mitigate or aggravate the effects of primary pollution. In recent years, both indicators show a positive background trend, which can be associated to an actual reduction in pollutant emissions. The influence of weather and climate factors, however, determines a rather wide fluctuation of the concentration values in the short term – especially for particulate matter, which is more sensitive to changes in rainfall (Figure 6). The 2018 data show, for both indicators, a clear improvement over the less rainy previous year.[11] The monitoring stations that have detected exceedances of the legal concentration thresholds during the year are 22% for PM_{10} (33.6% in 2017) and 11.9% for NO_2 (19.6% in 2017).[12]

Figure 6. Monitoring stations that have detected exceedances of the legal limits in the concentrations of particulate matter (PM_{10}) and Nitrogen dioxide (NO_2) in the provincial capitals, by geographical area. Years 2013-2018. Per 100 stations with valid measurements



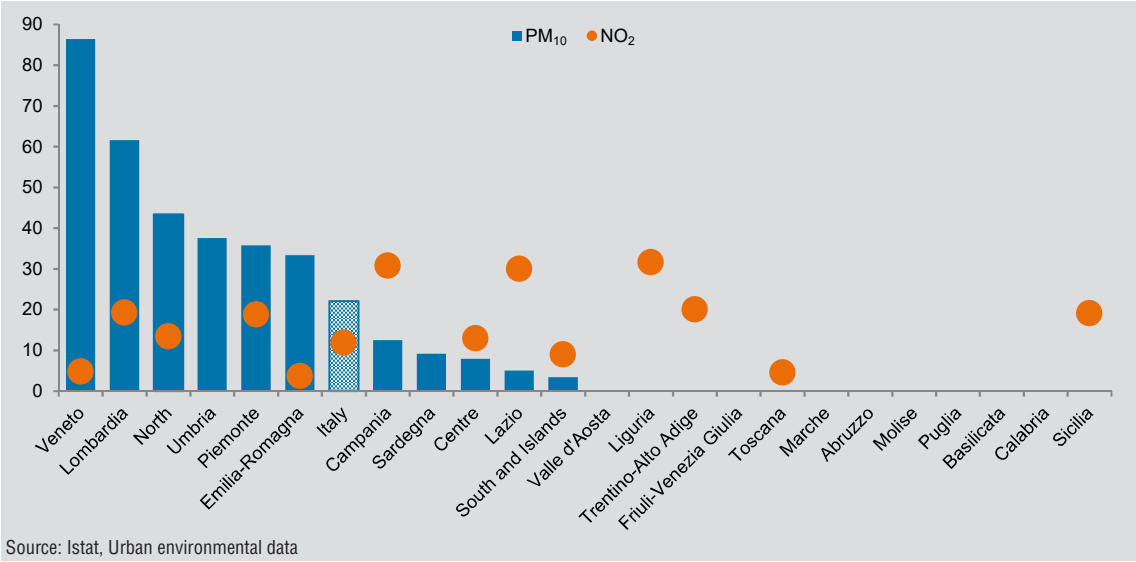
Source: Istat, Urban environmental data
(a) Monitoring stations that have exceeded the daily limit of 50 µg/m³ for more than 35 days in the reference year.
(b) Monitoring stations that have exceeded the yearly limit of 40 µg/m³ in the reference year.

Pollution from particulate matter mainly affects the cities of the North – where, during 2018, 43.4% of monitoring stations detected exceedances of the legal thresholds, with peaks of 86.4% in Veneto and 61.5% in Lombardia – while the average values in Central and Southern Italy are far lower (7.8 and 3.3%, respectively). The geography of Nitrogen dioxide pollution appears more homogeneous: also in this case, however, the cities of South and Islands are found in the best situation (as only 9% of the stations detected exceedances of the legal thresholds), while the cities of the Centre and the North recorded quite similar average values (13% and 13.4%, respectively) (Figure 7).

11 In 2017 (as in 2015) there was a drop of over 20% in precipitation in Italy, compared to the previous year (source: Mipaaf, *Statistiche meteoclimatiche*). Rainfall reduces the air concentration of pollutants.

12 The reference norm is the Legislative Decree no. 155 of 13/8/2010, implementing the Directive 2008/50/CE, according to which the concentration of PM_{10} shall not exceed a daily average of 50 µg/m³ for more than 35 days a year, and that of NO_2 the annual average of 40 µg/m³. These thresholds were identified, "based on the scientific knowledge and the best available technologies, in order to avoid, prevent or reduce harmful effects on human health or the environment in its complex". Exceeding those limits therefore denotes the occurrence of an actual risk for human health.

Figure 7. Monitoring stations that have detected exceedances of the legal limits in the concentrations of particulate matter (PM_{10}) and Nitrogen dioxide (NO_2) in the provincial capitals, by region and geographic area. Year 2018. Per 100 stations with valid measurements



Source: Istat, Urban environmental data

Greenhouse gas emissions and the consumption of material resources remain stable

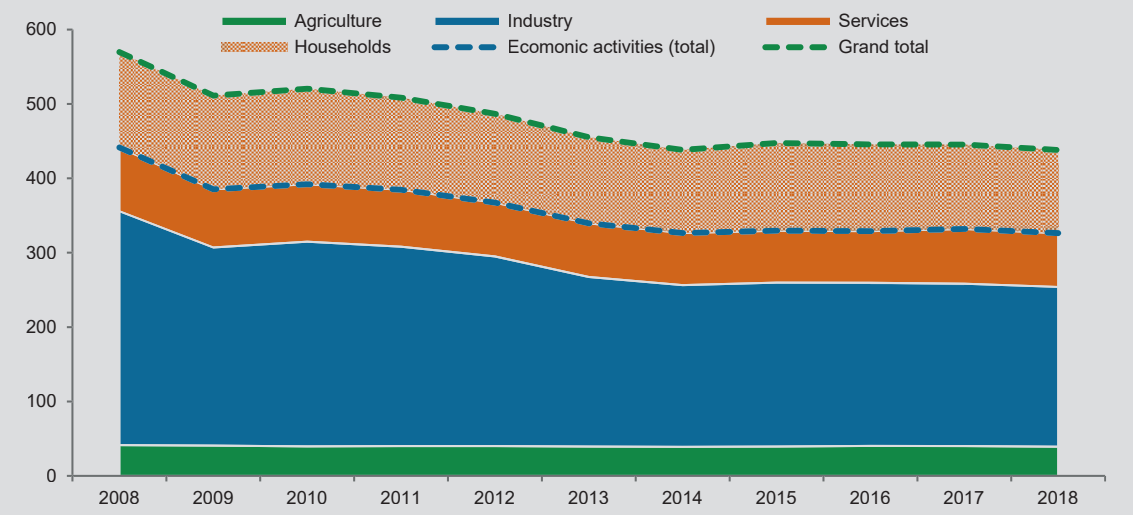
In 2018 it is estimated that the emissions per capita of CO_2 and other greenhouse gases were slightly lower than in recent years: 7.3 tonnes, after having remained stable at 7.4 from 2015 to 2017.[13] It is a small change, which does not interrupt a stabilization phase that had started in 2015, after the significant progress made from 2006 (in 2003-2005 emissions were over 10 tonnes per capita). Besides, the composition of sources keeps changing: compared to 2008, the share of emissions generated by households – mainly due to fuel consumption for private transport and heating – raises from 22.5% to 25.5%. As a result, the share of economic activities, in particular industry, is decreasing, but still accounts for almost half of the total emissions (49%, compared to 55.2% of 2008) (Figure 8).

A phase of stability continues also for the DMC, the more general measure of the pressure exerted on the environment by the economic system through the consumption of material resources, for which only small variations are observed since 2013. According to the new estimates, the DMC in 2017 was equal to 481.6 million tonnes, 0.6% less than the previous year.[14] A comparison between the trends of the two main pressure indicators (DMC and GHG emissions) and the GDP curve shows how our economic system (even though in a phase of weak growth) has been able to make some progress towards sustainability, by reducing both the direct extraction of resources and the direct emission of greenhouse gases per unit of economic output (Figure 9).

13 This indicator takes into account the emissions of Carbon dioxide (CO_2, excluding those from biomass), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulphur hexafluorides (SF_6), Methane (CH_4), Nitrous oxide (N_2O) and Nitrogen trifluoride (NF_3), measured in tonnes of CO_2 equivalent (calculated on the basis of the heating potential of the different gases compared to CO_2).

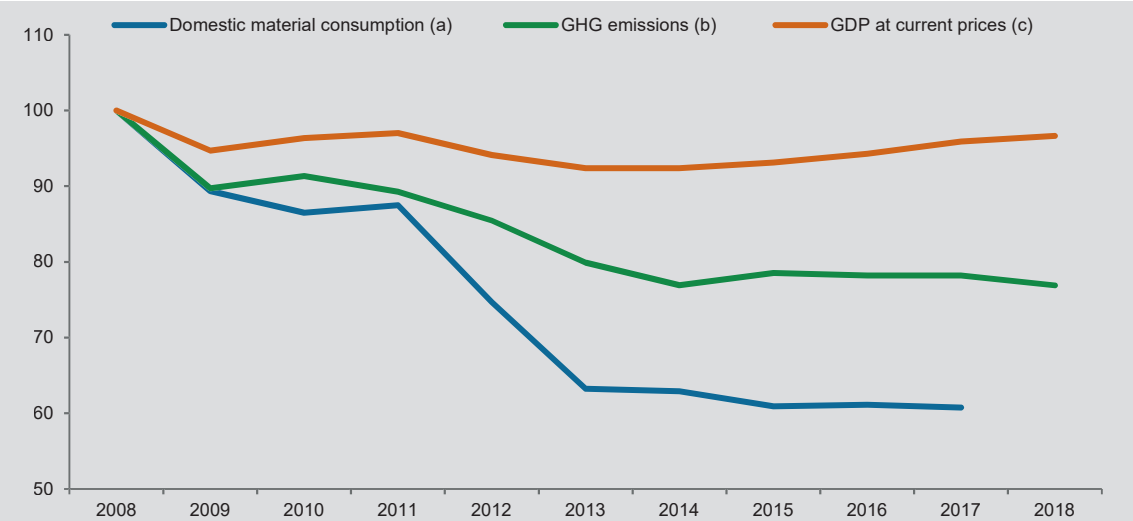
14 Comparison based on the data resulting from a general review of National accounting estimates, conducted in 2019.

Figure 8. Emissions of CO_2 and other greenhouse gases from economic activities by sector, and from households. Years 2008-2018 (a). Tonnes of CO_2 equivalent



Source: Istat, Ispra, Emissions Inventory and Accounts
(a) 2018 data are provisional.

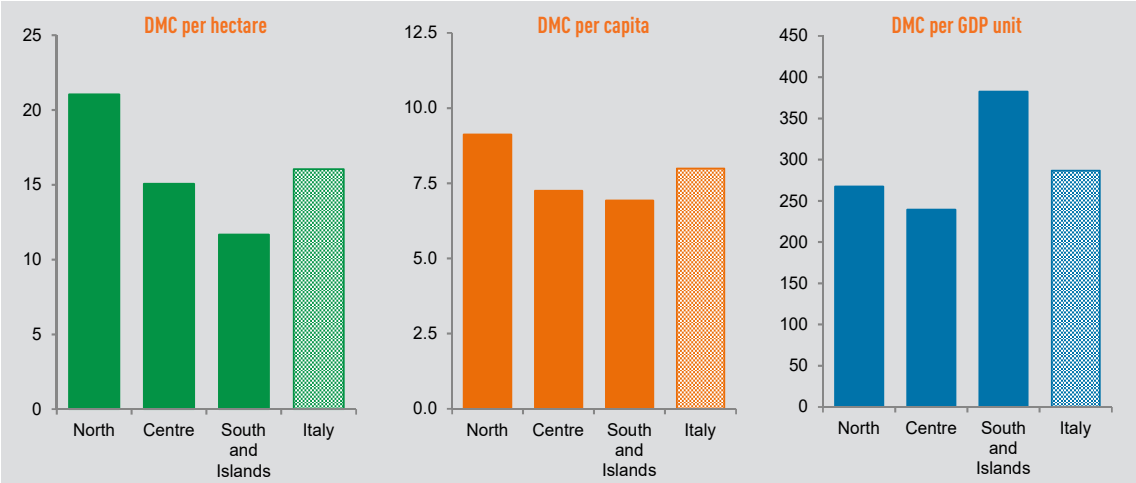
Figure 9. Domestic material consumption, GHG emissions and GDP. Years 2008-2018 (a). Indexes, year 2008 = 100



Source: Istat, Ispra, Emissions Inventory and Accounts; Istat, National economic accounts
(a) (a) 2018 data is provisional.
(b) 2018 data is not available.
(c) Chain index, reference year 2015.

However, also from the point of view of environmental sustainability, spatial data highlight important differences between Centre, North, and South and Islands. According to the DMC regional estimates, in 2016 more than 50% of the national consumption was concentrated in the North, where in fact the pressure of the system over the territory is higher (21 tonnes per hectare, compared to 16 of the Italian average). Territorial differences reduce in terms of consumption per capita (9.1 tonnes in the North, compared to 8.3 of the Italian average), but become significantly larger in terms of consumption per unit of GDP. In South and Islands, the consumption is 382.5 tonnes per million euros (over 40% more than the North, and almost 60% more than the Centre): a divide that indicates a substantial diversity of economic structure between the Southern regions and the rest of the country (Figure 10).

Figure 10. Domestic material consumption (DMC) per hectare, per capita and per GDP unit, by geographical area. Year 2016. Tonnes per hectare, per capita and per million Euros



Source: Istat, Domestic material consumption accounts

Contaminated sites over 1% of national territory, bathing allowed along 2/3 of the coastline

In 2018, the total area of contaminated sites, subject to decontamination procedures[15] was almost 370,000 hectares, equal to 12.2 per thousand of the national territory, with a maximum of 142.1 per thousand in Campania.[16]
In 2018, bathing is allowed along 66.5% of the national coastline. This percentage is slightly dropping down for the second year in a row (it was 67.2% in 2016).[17] In the last two years, there were no improvements in any Region, while the most remarkable reductions were recorded in Marche (from 75.4 to 73.2%) and Sicilia (from 57.1 to 55.4%). Basilicata and Calabria boast the highest percentages of bathing coastline (90.6 and 85.2%, respectively), while the lowest one is in Friuli-Venezia Giulia, where bathing is allowed only along 42.2% of the coastline.

Soil consumption keeps forwarding

The open surfaces that are being paved or built-up for urban development and the realization of infrastructures seal the underlying soil, so to prevent it from producing vegetal biomass[18], and performing other important ecosystem functions (regulation of climate, water and the cycles of essential life elements such as phosphorus and nitrogen). Soil

15 "Contaminated sites" are defined as areas where it was ascertained that, due to past or ongoing human activities, the qualitative features of environmental matrices (soil, subsoil, groundwater) have been altered in such a way as to pose a risk to human health. The reference norm is the Legislative Decree no.152 of 3/4/2006.

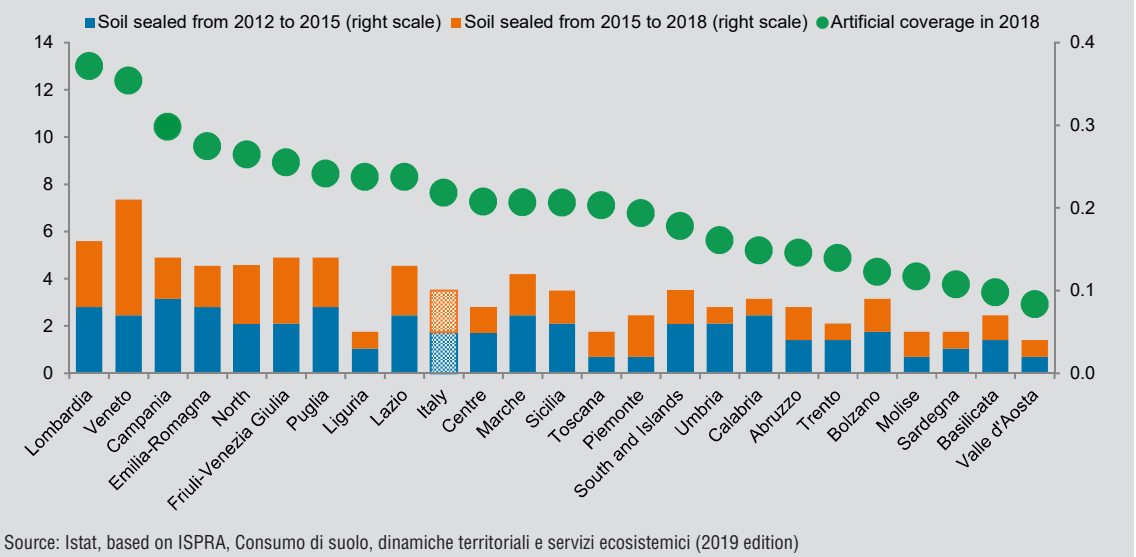
16 This indicator considers both the Contaminated sites of national interest (SIN), referred to in Legislative Decree no.152 of 3/4/2006 (which are in charge to the Ministry of environment), and those in charge to the Regions, according to the Ministerial Decree (Environment) of 11/1/2013. SINs and regional sites include industrial areas (abandoned, under conversion, or in activity); former asbestos extraction sites and processing plants; harbors; areas affected by accidents involving the release of chemical pollutants; former mines, quarries and landfills found illegal or no longer complying with the regulations in force.

17 The criteria for issuing a bathing prohibition are defined by the Ministerial Decree (Health) of 30/3/2010, implementing the Legislative Decree no. 116 of 30/5/2008, which enacted the Directive 2006/7/CE.

18 Vegetal biomass includes agri-food products, timber and, in general, all plant organisms and the material they produce during their life cycle.

sealing is also connected to the loss of biodiversity, hydrogeological instability, and the degradation of urban and rural landscapes. Therefore, a measure of the pressure exerted on the environment by the expansion of soil sealing due to artificial land cover can be seen as an indicator of the soil consumption – a phenomenon virtually irreversible in the short run, which can be assimilated to other forms of consumption of non-renewable resources. In Italy, soil consumption has slowed down in recent years, mostly because of the slowdown of building production, which is its main driving force. Nevertheless, the goal proposed by the European Commission since 2006 – to bring the soil consumption to zero by 2050 – still seems very ambitious.[19] According to Ispra's estimates, 48.2 sq.kms of land were sealed during 2018, so bringing artificial land cover to 7.6% of the national territory (9.3% in the North, 7.3% in the Centre, 6.2% in South and Islands).[20] Artificial cover exceeds 10% in Lombardia, Veneto and Campania, while it is less than 5% in Valle d'Aosta, Molise, Basilicata, Sardegna, and in the provinces of Trento and Bolzano (Figure 11). In recent years, the most significant increases were recorded in Veneto (+0.21 percentage points since 2012, with an acceleration in the period 2015-2018) and in Lombardia (+0.16 points, with constant intensity in 2012-2015 and 2015-2018). The halt in population growth and the crisis of the construction sector are likely to have contributed to curbing the expansion of sealed surfaces, which in 2018 increased at a speed of 13.2 hectares a day (compared to 15.4 of 2012-2015). Besides, such dynamics are not uniform over the territory. The Centre, where soil consumption is more limited and continues to slow down since 2012, is in the

Figure 11. Soil sealing from artificial land cover by region and geographical area. Year 2018. Percentage values: total coverage (2018) and progress made in the periods 2012-2015 and 2015-2018 (right scale)



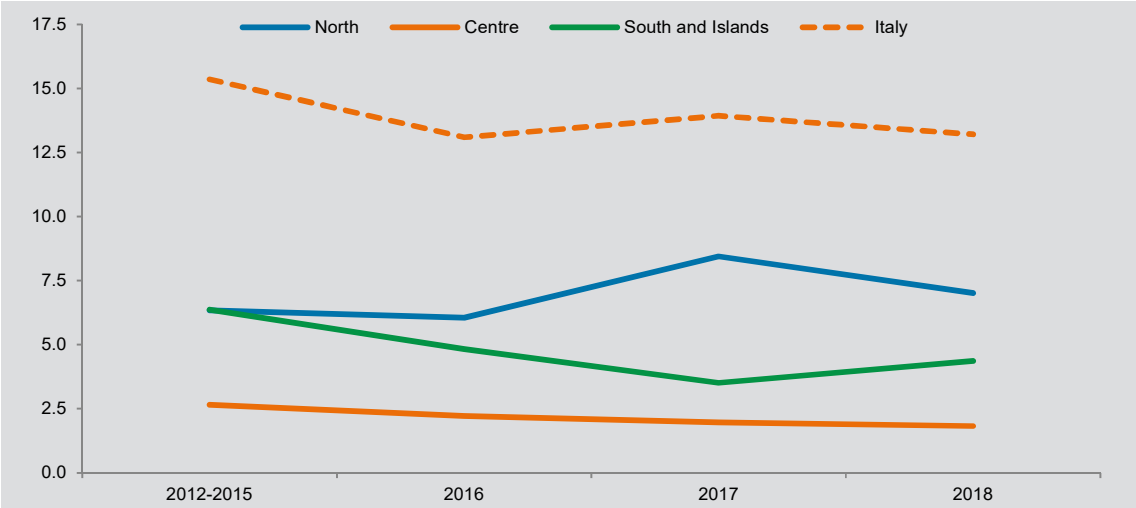
Source: Istat, based on ISPRA, Consumo di suolo, dinamiche territoriali e servizi ecosistemici (2019 edition)

19 This objective is part of the Thematic Strategy for Soil Protection (2006). It was reaffirmed by the 7th Environment Action Programme, adopted in 2013 by the Decision no.1386/2013/EU of the European Parliament and of the Council (General Union Environment Action Programme to 2020 "Living well, within the limits of our planet"). In Italy, the National Strategy for Sustainable Development (2017), anticipates to 2030 the commitment to stop the soil consumption and combat desertification (Strategic objective II.2).

20 This indicator is calculated by Ispra, based on the cartography produced by the monitoring network of the National Environmental Protection System (Snpa), using the satellite imagery made available by the European Programme "Copernicus". With the 2019 edition of the Ispra Report on soil consumption, new estimates were released, together with a revision of the time series starting from 2012.

best situation, and a similar trend is observed in South and Islands (with an acceleration, however, in the last year). In the North, although the situation has been improving in 2018, soil consumption remains much higher, and there is no clear downward trend (Figure 12).

Figure 12. Soil sealing from artificial land cover by geographical area. Years 2012-2018. Average daily increase in hectares



Source: Istat, based on ISPRA, Consumo di suolo, dinamiche territoriali e servizi ecosistemici (2019 edition)

More than one Italian in ten lives in areas at risk of landslides or floods

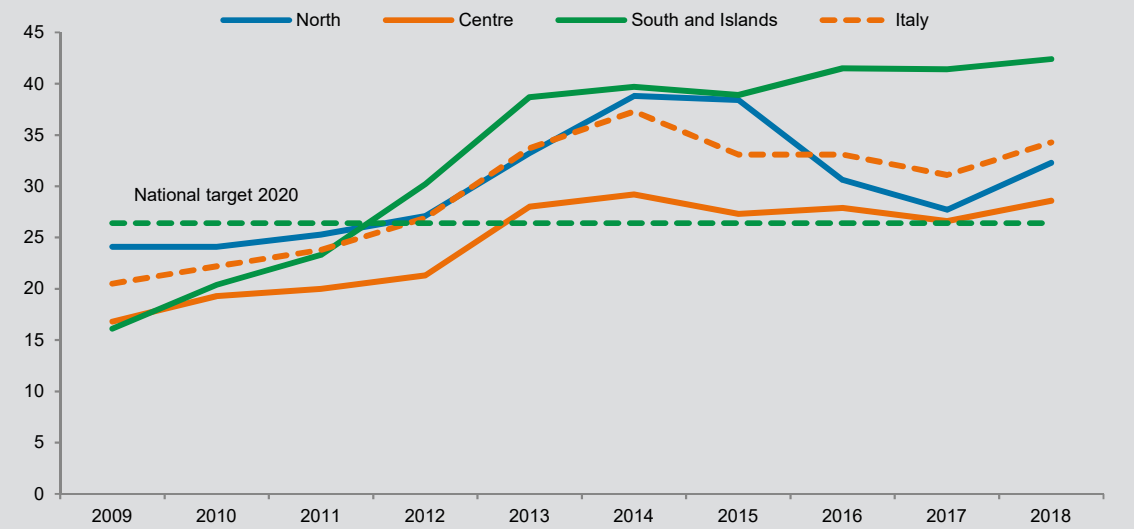
The increasing frequency of extreme climate events, in particular intense and localized precipitation, threatens to worsen the state of hydrogeological vulnerability affecting a large part of the Italian territory. In 2017, according to Ispra estimates, 2.2% of the Italian population live in areas classified at high or very high risk of landslide, and 10.4% in areas at medium risk of flood (i.e. periodically subject to flooding, with return times between 100 and 200 years).[21] Compared to the estimates based on the 2015 mapping, the indicators show a worsening on both fronts. The population exposed to the risk of landslides, whose proportion is higher in South and Islands (3.2%), has increased especially in Umbria, Calabria and the province of Bolzano (by 1.1 to 1.4 percentage points). On the other hand, the proportion of the population exposed to flood risk is higher in the North (15.6%), and has increased most in Lombardia, Liguria, Lazio and Sardegna (by 1.2 to 1.5 points).

21 In 2018, Ispra updated the National mappings of the hydrogeological risks. The areas at risk of landslides are identified by the Basin Authorities in the Hydrogeological Management Plans (PIA), and classified by 5 categories: P4 (very high risk), P3 (high risk), P2 (medium risk), P1 (moderate risk), and AA (attention areas). The same Authorities identify also the areas at risk of flood in the Flood Risk Management Plans (PGRA), which define 3 scenarios: P3 (high probability of occurrence), P2 (medium probability) and P1 (low probability). The indicator of landslide risk considers the population living in P3 and P4 areas, based on the results of the 2011 Census. The indicator of flood risk considers, on the same basis, the population living in the areas concerned by the P2 scenario. Unlike landslide risk classes, flood risk scenarios are overlapping: P1 areas are the wider ones (potentially concerned by the worst scenario, which is less likely to occur) and include P2 and P3 areas, smaller but potentially concerned by more likely events.

Renewable sources are growing, and account for more than a third of electricity consumption

As regards response indicators[22], the share of electricity consumption covered by renewable sources rose again, in 2018, to 34.3% – more than 3 points over the previous year. After reaching a peak of 37.3% in 2014, the renewables' share had fallen to 31.1% in 2017 (a figure, however, already well above the target of 26.4% set for 2020)[23]. The share of renewable sources is larger in South and Islands (42.4%, compared to 32.3% of the North and 28.6% of the Centre). South and Islands is also the area where most progress has been made in this field over the last decade: 26.3 points more compared to 2009, against 11.2 points more of the Centre and 8.2 of the North (Figure 13).

Figure 13. Share of renewable sources in electricity consumption by geographical area. Years 2009-2018. Percentage values



Source: Istat, based on Terna data

Insufficient progress in waste cycle management

An important contribution to reducing pressures on the environment also comes from an ecologically efficient management of the cycle of waste, integrated into a circular economy model. In 2018, the share of separate collection of municipal waste reached 58.1%, advancing by almost 3 percentage points compared to the previous year, but it is still far from the target of 65%, which should have been achieved by 2012 throughout the country.[24] Therefore, Italy is seriously behind schedule in the implementation of this programme, as the threshold of 65% has been reached so far only in seven regions (Lombardia, Veneto,

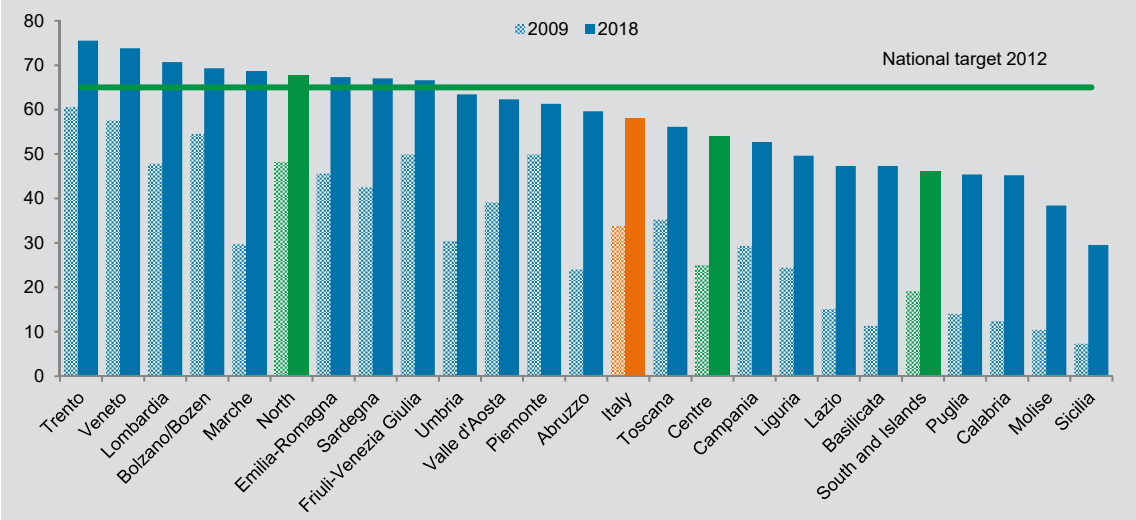
22 With reference to the DPSIR model (Driving forces-Pressure-State-Impact-Response), adopted for the classification of environmental indicators, response indicators are those referring to the policies (of contrast, mitigation or adaptation) implemented by individuals or institutions to reduce the pressures generated on the environment by the human system, and the negative effects (impacts) resulting from them.

23 This target was set by the National Renewable Energy Action Plan (PAN), which complies with the Directive 2009/28/CE.

24 Art. 205 of Legislative Decree 152/2006 establishes that in each Optimal Territorial Area (ATO) separate collection of urban waste must be ensured, in order to achieve the following objectives: 35% by 2006, 45% by 2008 and 65% by 2012. ATOs are identified by the Regions as catchment areas for integrated public utilities, such as water supply or waste collection.

Friuli-Venezia Giulia, Emilia-Romagna, Marche, Sardegna, and the provinces of Trento and Bolzano), while the average value in South and Islands still does not reach 50% (Figure 14). As a result, the share of urban waste disposed through landfill – the least efficient and potentially most dangerous form of waste management – remains very high, and in 2018 was still 21.5% of the total (10.7% in the North, 24.3% in the Centre and 36.2% in South and Islands).

Figure 14. Share of separate collection in municipal waste collection by region and geographical area. Years 2009 and 2018. Percentage values



Source: Istat, based on ISPRA data

In the South and Islands more natural protected areas, but less green areas in the cities

The Italian system of protected areas covers 21.6% of the national territory, a value unchanged since 2012. The widest coverage is found in South and Islands (more than a third of the territory in Abruzzo and Campania, more than a quarter in the whole area).[25]
In 2018, the availability of public green areas in Italian cities is 32.8 sq.m per capita, slightly increasing compared to the previous year. While this ratio shows only minimal fluctuations since 2011, the surface of green areas is growing slowly but steadily (by 0.6% per year, but only by 0.3% in South and Islands).[26] Public green areas, however, are not equally distributed among the 109 provincial capitals: about 50% of the total surface is concentrated in the first 10% (11 cities)[27], while one city out of ten (the last 10% of the distribution) does not reach the minimum standard of 9 sq.m per capita, required by law.[28] To point out territorial

25 This indicator considers, net of overlaps, the ground surfaces of the sites included in the Official List of Protected Natural Areas (EUAP) issued by the Ministry of Environment, and those of the sites belonging to the Natura 2000 Network. The latter include the Sites of Community Importance (SIC), identified by the Regions and subsequently designated as Special Conservation Zones (ZSC) according to Directive 92/43/CEE "Habitat", and Special Protection Zones (ZPS) according to Directive 2009/147/CE "Birds.

26 This indicator considers all the green areas held by public bodies in the provincial capitals' municipalities.

27 Torino, Milano, Trento, Trieste, Parma, Terni, Rieti, Roma, Matera, Reggio di Calabria and Napoli.

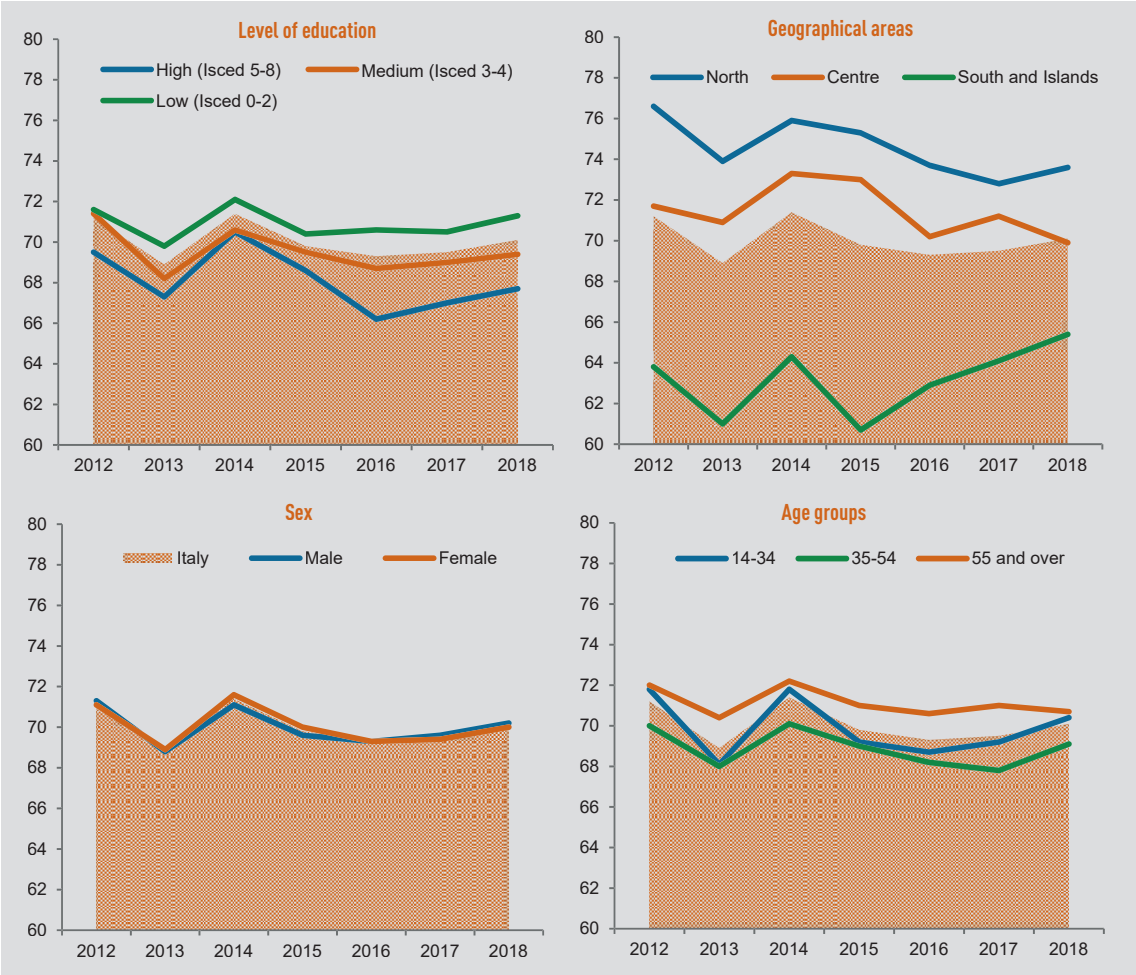
28 Ministerial Decree (Public Works) No. 1444 of 2/4/1968, which sets a minimum standard of 9 sq.m per capita of "public spaces equipped as parks and for play and sport, actually usable (...) with the exclusion of green areas along the roads". The cities that do not meet this standard are: Imperia, Genova, Chieti, Andria, Barletta, Trani, Bari, Crotone, Trapani, Caltanissetta and Siracusa.

differences, therefore, it is better to refer to median values, which are 25.8 sq.m per capita in the Northern cities, 25.3 in those of the Centre and 14.6 in those of the South and Islands (the national median value is 22.7).

Seven Italians in ten are satisfied with the state of the environment in the place of living

The satisfaction with the environmental situation remains substantially stable: in 2018, the Italians who state to be very or fairly satisfied with the state of the environment in the place where they live are 70.1% (the proportion was 69.4% in 2009). Variability depends mainly on the territory of residence: while in the North about three citizens out of four are satisfied, in the South the proportion drops to two out of three, but the gap tends to narrow in the last years. The differences related to age and educational attainment are smaller, but still significant: satisfaction is more widespread among the elderly (55 years and over) and those with lower educational attainment, while no difference emerges in relation to the sex of the interviewees (Figure 15).

Figure 15. Satisfaction for the state of environment in the place of living by sex, education level, age group and geographical area. Years 2012-2018. Per 100 people aged 14 and over

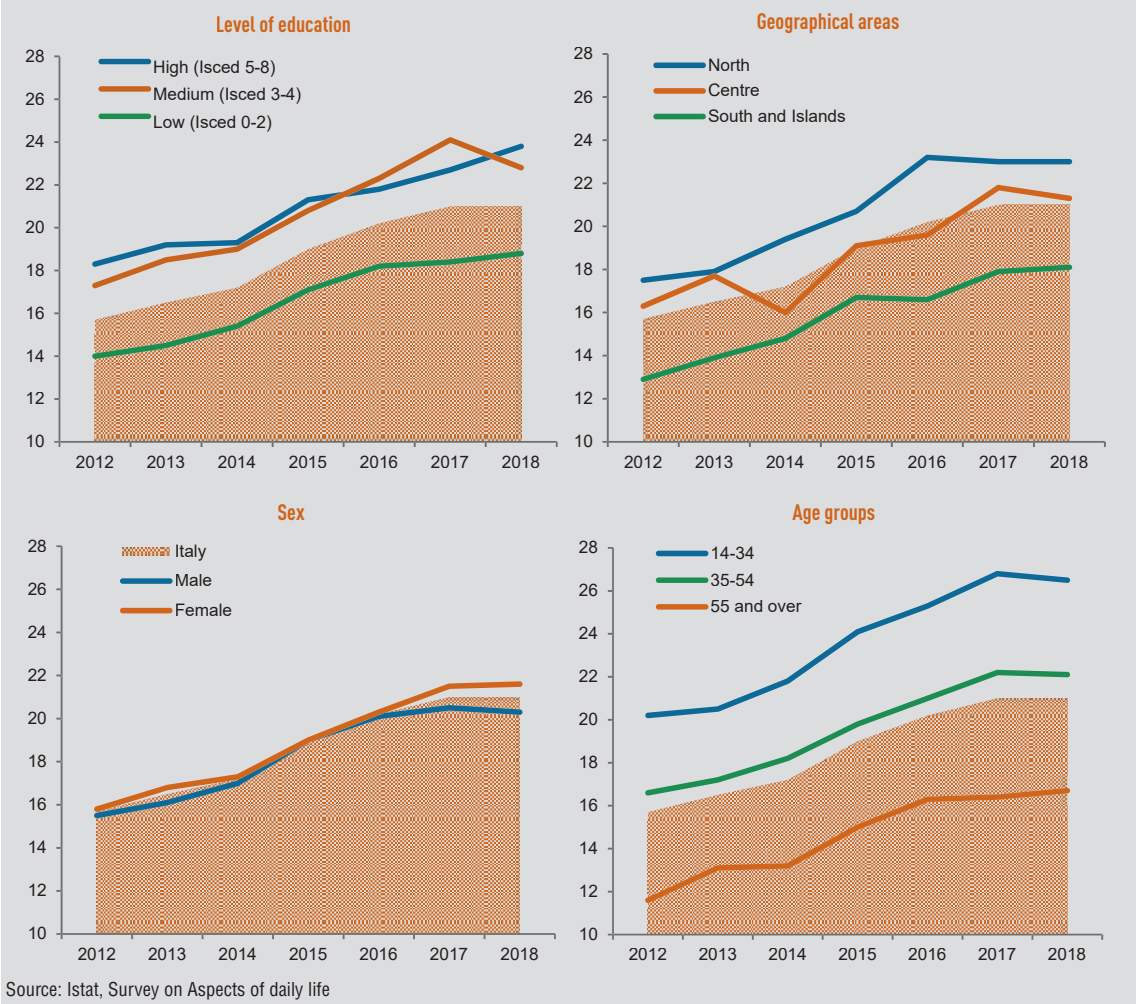


Source: Istat, Survey on Aspects of daily life

The concern for biodiversity loss is stable, and more prevalent among young people

In 2018, 21% of Italians expresses a concern about the loss of biodiversity – the same proportion of the previous year. After a systematic growth since 2012, observed all over the country and in all the sub-populations considered (genders, age groups, levels of education), this indicator marks a first setback: particularly among the men, the younger, the people with medium level of education, and those living in the North (Figure 16). The concern about biodiversity appears to be significantly linked to the educational attainment (the percentages are higher among people with a medium-high level of education), to the territory of residence (values are decreasing from North to South) and, most of all, to the age of respondents (26.5% among people aged 14-34, against 16.7% of people aged 55 and over). In brief, a more conscious attitude towards the protection of nature seems to be understandably more common among the younger and more educated people, even though these groups also show signs of a decreasing attention over the last year.

Figure 16. Concern for biodiversity loss by sex, education level, age groups and geographical area. Years 2012-2018. Per 100 people aged 14 and over



Source: Istat, Survey on Aspects of daily life

Indicators

1. **Emissions of CO_2 and other greenhouse gasses:** Tons of CO_2 equivalent per capita. Including emissions of carbon dioxide (CO_2, excluding emissions from biomass), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluorides (SF_6), the heating potential in relation to carbon dioxide: 1 for CO_2, 25 for CH_4, 298 for N_2O, 17200 for NF_3, 22800 for SF_6 and weights that vary according to specifications.
   Source: Istat, Ispra - Inventory and emissions accounts.
2. **Domestic material consumption:** Quantity of materials transformed in emissions, waste, or new stocks of the anthropic system.
   Source: Istat - Domestic material consumption accounts.
3. **Water losses in urban supply system:** Percentage of the total volume of water losses in municipal drinking water supply networks (difference between volumes fed into the network and supplied authorised volumes).
   Source: Istat - Urban Water Census.
4. **Landfill of waste:** Percentage of municipal waste sent to landfill (including municipal waste streams into and out of other regions) on total municipal waste collected.
   Source: Ispra - Waste statistics.
5. **Quality of urban air - PM_{10}:** Percentage of control units of provincial capitals with valid measurements that have exceeded the daily limit value for PM_{10} (50 micro g/m^3) for over 35 days in the year.
   Source: Istat - Survey on urban environmental data.
6. **Quality of urban air - nitrogen dioxide:** Percentage of control units of provincial capitals with valid measurements that exceeded the annual limit value for NO_2 (40 micro g/m^3).
   Source: Istat - Survey on urban environmental data.
7. **Coastal bathing waters:** Percentage of authorized coastal bathing waters on the total of the coastal line in accordance with the regulations in force. The indicator is calculated by subtracting from the bathing waters the stretches of coast forbidden for bathing during the entire bathing season due to levels of contaminants beyond the thresholds of health risk.
   Source: Istat - Processing on data from the Ministry of Health.
8. **Urban green:** Square meters of urban parks and gardens per inhabitants.
   Source: Istat - Survey on urban environmental data.
9. **Satisfaction for the environment:** Percentage of people aged 14 and over very or quite satisfied of the environmental situation (air, water, noise) of the area where they live.
   Source: Istat - Survey on Aspects of daily life.
10. **Contaminated sites:** Size of contaminated sites.
    Source: Ministry of Environment, Land and Sea.
11. **Population at risk of landslides:** Percentage of population living in areas subject to landslide on total population. The population considered is that of the 2011 Census. The Indicator is calculated on the basis of the ISPRA National Mosaicature of the Hydrogeological Plans (PAI). The areas considered also include the areas of possible evolution of current phenomena and those susceptible to new landslides.
    Source: Ispra - Hydrogeological instability in Italy: hazard and risk indicators.
12. **Population at risk of flood:** Population at flood risk resident in medium flood hazard zones (Return period 100-200 years; D. Lgs. 49/2010). The population considered is that of the 2011 Census. The Indicator is calculated on the basis of the ISPRA National Mosaicature of the Hydrogeological Plans (PAI), with reference to risk scenario P2.
    Source: Ispra - Hydrogeological instability in Italy: hazard and risk indicators.
13. **Sewage treatment:** Percentage of polluting loads collected in secondary or advanced plants, in equivalent inhabitants, compared to the total urban loads (Aetu) generated.
    Source: Istat - Water census.
14. **Protected natural areas:** Percentage share of terrestrial protected natural areas included in Italian Official List of Protected Areas (Euap) and Natura 2000 Network.
    Source: Istat - Processing of data from the Ministry of Environment, Land and Sea.
15. **Concern for biodiversity loss:** Percentage of people aged 14 and over who believe that biodiversity loss is among the five most important environmental problems.
    Source: Istat - Survey on Aspects of daily life.
16. **Electricity from renewable sources:** Percentage of energy consumptions provided by renewable sources on total internal consumptions.
    Source: Terna.
17. **Separate collection of municipal waste:** Percentage of municipal waste object of separate collection on total municipal waste.
    Source: Ispra - Waste statistics.
18. **Soil sealing from artificial land cover:** Percentage of soil sealed following a change from non-artificial to artificial coverage.
    Source: Ispra - Soil consumption, territorial dynamics and ecosystem services.

Indicators by region and geographic area

REGIONS AND GEOGRAPHIC AREAS	Emissions of CO_2 and other greenhouse gases (a) 2018	Domestic material consumption (b) 2016	Water losses in urban supply system (c) 2015	Landfill of waste (d) 2018	Quality of urban air - PM_{10} (e) 2018	Quality of urban air - Nitrogen dioxide (f) 2018	Coastal bathing waters (g) 2018	Urban green (h) 2018
Piemonte	....	35.3	35.2	14.9	35.7	18.8	-	25.7
Valle d'Aosta/Vallée d'Aoste	....	1.3	18.7	42.1	-	-	-	18.9
Liguria	....	3.3	32.8	31.0	-	31.6	58.4	7.2
Lombardia	....	88.2	28.7	4.3	61.5	19.2	-	28.2
Trentino-Alto Adige/Südtirol	....	17.1	29.8	8.6	-	20.0	-	222.9
Bolzano/Bozen	....	....	*25.9*	*1.3*	-	-	-	*21.5*
Trento	....	....	*32.4*	*15.5*	-	*50.0*	-	*406.2*
Veneto	....	39.3	40.0	13.5	86.4	4.8	64.2	30.1
Friuli-Venezia Giulia	....	13.7	47.8	6.7	-	-	42.2	67.3
Emilia-Romagna	....	54.5	30.7	10.7	33.3	3.7	61.7	43.1
Toscana	....	30.5	43.4	32.5	-	4.5	72.0	23.2
Umbria	....	8.9	46.8	39.7	37.5	-	-	98.6
Marche	....	8.2	34.1	38.4	-	-	73.2	31.4
Lazio	....	39.9	52.9	12.0	5.0	30.0	69.9	21.3
Abruzzo	....	9.3	47.9	37.7	-	-	77.5	27.2
Molise	....	3.0	47.4	101.8	-	-	71.9	12.4
Campania	....	25.7	46.7	2.8	12.5	30.8	69.3	13.4
Puglia	....	35.7	45.9	37.2	-	-	74.7	9.4
Basilicata	....	4.5	56.3	19.4	-	-	90.7	555.5
Calabria	....	10.7	41.1	52.4	-	-	85.2	60.7
Sicilia	....	33.3	50.0	69.1	-	19.0	55.4	15.9
Sardegna	....	22.1	55.6	25.4	9.1	-	64.7	40.5
North	....	252.9	33.2	10.7	43.4	13.4	57.5	36.7
Centre	....	87.4	48.2	24.3	7.8	13.0	71.5	26.7
South and Islands	....	144.2	47.9	36.2	3.3	9.0	67.0	32.9
Italy	**7.3**	**484.5**	**41.4**	**21.5**	**22.0**	**11.9**	**66.5**	**32.8**

(a) Tonnes of CO_2 equivalent per capita. Provisional data.
(b) Million tonnes. Istat estimate for Italy 2017 = 481.6.
(c) Percentage of volumes fed into the network.
(d) Percentage of total municipal waste collected.
(e) Percentage of monitoring stations located in the provincial capital municipalities with valid measurements that have detected exceedances of the daily limit set for PM_{10} (50 µg/m³) for more than 35 days.
(f) Percentage of monitoring stations located in the provincial capital municipalities with valid measurements that have detected exceedances of the yearly limit set for NO_2 (40 µg/m³).
(g) Percentage of authorized bathing waters on the total of the coastline.
(h) Sq.m per capita.
(i) Per 100 people aged 14 and over.
(l) Land area affected, values per 1,000.

Satisfaction for the environment (i)	Contaminated sites (l)	Population at risk of landslides (m)	Population at risk of flood (m)	Sewage treatment (n)	Protected natural areas (o)	Concern for biodiversity loss (i)	Electricity from renewable sources (p)	Separate collection of municipal waste (d)	Soil sealing from artificial land cover (o)
2018	2018	2017	2017	2015	2017	2018	2018	2018	2018
71.9	35.5	1.6	4.8	69.7	16.7	23.4	41.8	61.3	6.78
88.4	0.1	12.1	10.2	66.0	30.3	25.5	297.2	62.3	2.92
76.1	41.8	5.8	17.5	61.2	27.2	23.9	8.5	49.6	8.32
69.6	0.7	0.5	4.4	62.9	16.1	23.6	24.0	70.7	13.01
90.7	..	2.2	1.4	78.9	26.4	26.6	146.9	72.5	4.56
88.7	..	*1.6*	*2.0*	*99.7*	*24.5*	*30.5*	*180.7*	*69.3*	*4.29*
92.7	..	*2.9*	*0.8*	*63.6*	*28.7*	*22.9*	*113.2*	*75.5*	*4.88*
73.9	0.9	0.1	9.5	49.4	23.0	21.0	25.0	73.8	12.40
85.5	0.9	0.4	7.3	50.7	19.3	24.6	29.4	66.6	8.93
75.4	..	2.2	63.7	67.7	12.2	21.7	19.7	67.3	9.62
77.3	0.3	3.8	26.0	49.5	15.2	22.8	39.4	56.1	7.11
75.4	0.8	1.9	6.3	68.7	17.5	20.6	45.1	63.4	5.64
79.7	2.9	2.1	4.3	48.5	18.8	22.9	26.7	68.6	7.24
61.8	4.2	1.6	3.5	67.0	27.9	20.0	15.6	47.3	8.31
76.0	1.3	5.8	6.1	63.9	36.6	21.5	51.0	59.6	5.11
79.3	..	6.5	1.4	58.0	26.4	22.2	89.2	38.4	4.10
57.4	142.1	5.3	4.6	60.5	35.3	16.3	27.9	52.7	10.43
65.1	5.4	1.3	2.7	68.3	24.5	17.1	48.5	45.4	8.45
75.9	3.6	5.8	0.7	67.2	22.8	15.6	96.3	47.3	3.43
72.2	0.6	4.5	4.0	46.0	26.6	14.4	79.2	45.2	5.20
63.0	2.9	1.1	0.1	43.9	20.2	19.6	27.2	29.5	7.22
78.6	9.0	1.4	7.1	58.8	19.9	24.4	34.2	67.0	3.76
73.6	9.7	1.3	15.6	62.4	18.8	23.0	32.3	67.7	9.26
69.9	2.0	2.4	10.9	58.5	19.9	21.3	28.6	54.1	7.27
65.4	19.4	3.2	3.2	56.7	25.2	18.1	42.4	46.1	6.24
70.1	**12.2**	**2.2**	**10.4**	**59.6**	**21.6**	**21.0**	**34.3**	**58.1**	**7.64**

(m) Percentage of population living in areas classified at risk on total population.
(n) Percentage of the polluting loads generated.
(o) Percentage of land area.
(p) Percentage of total internal consumption.

11. Innovation, Research and Creativity[1]

In the last year, there has been a general improvement in the domain indicators (Table 1). The R&D expenditure as a percentage of GDP and intellectual property investment, which are the only two indicators that remain substantially stable compared to the previous year, are still higher than in 2010. In the last year, there are also positive signs for Cultural employment, Brain circulation, and Patent propensity. However, the comparison with 2010 remains unfavorable.

Table 1. Innovation, research and creativity: value for the latest available year. Percentage variations on previous year and on 2010

INDICATOR	Latest available year value	% variation (compared with the previous year)	% variation (compared with 2010)
1. R&D intensity *(%, 2017)*	**1.4**		
2. Patent propensity *(per Mil, 2016)*	**75.8**		
3. Impact of knowledge workers on employment *(%, 2018)*	**17.3**		
4. Innovation rate of the national productive system *(%, 2016)*	**48.7**	—	
5. Intellectual property products (as part of gross fixed capital formation) *(2007=100, 2018)*	**120.3**		
6. Cultural employment (% of total employment) *(%, 2018) (a)*	**3.7**		
7. Brain circulation (italians, 25-39 years old) *(‰, 2018) (b)*	**-4.0**		

Improvement | Stability | Deterioration | — Comparison not available

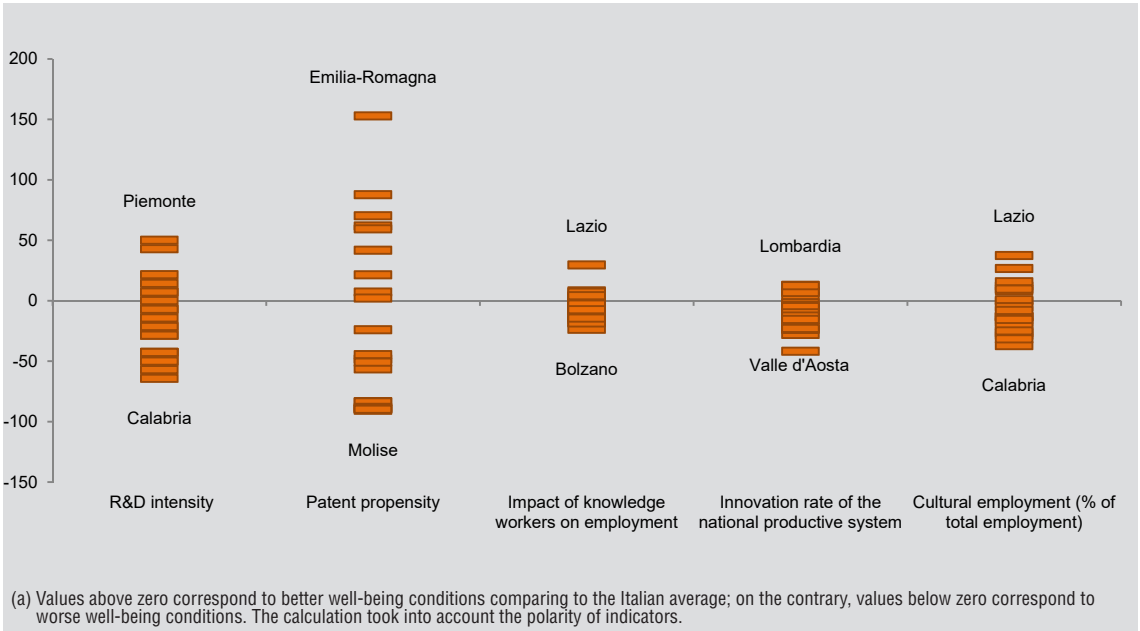
(a) 2010 data not available, variation based on 2011 data;
(b) 2010 data not available, variation based on 2012 data.

Note: Variations between two points in time above 1% are considered positive (in green), below -1% are considered negative (in red). Variations between -1 and +1% refer to stability (in grey).

1 This chapter was edited by Rita De Carli with contributions from: Francesca Licari and Valeria Mastrostefano.

Analysis of regional heterogeneity shows striking territorial differences, mainly due to the size of innovation, i.e. number of patent applications about resident population and R&D intensity (Figure 1). With some exceptions in smaller territorial areas, such as Valle D'Aosta or the autonomous province of Bolzano, it is mostly in the northern regions of the Country that values are higher than national average: in Emilia Romagna, the number of patents per million inhabitants is one and a half times higher than the national average, while in Piemonte R&D expenditure is 50% higher than the average. Lazio is also characterized by a higher number of cultural or high technology sectors employees.
There are also large differences between territories in the Brain circulation indicator, which is obtained as a balance. Emilia Romagna is the first region hosting young graduates from other countries or regions (+16.2 per 1000), while Calabria is the leading region for the net emigration of 25-39-year-old graduates (-31.1 per 1,000)[2].

Figure 1. Percentage variation for Innovation, research and creativity indicators comparing to the value for Italy by region. Latest available year (a)



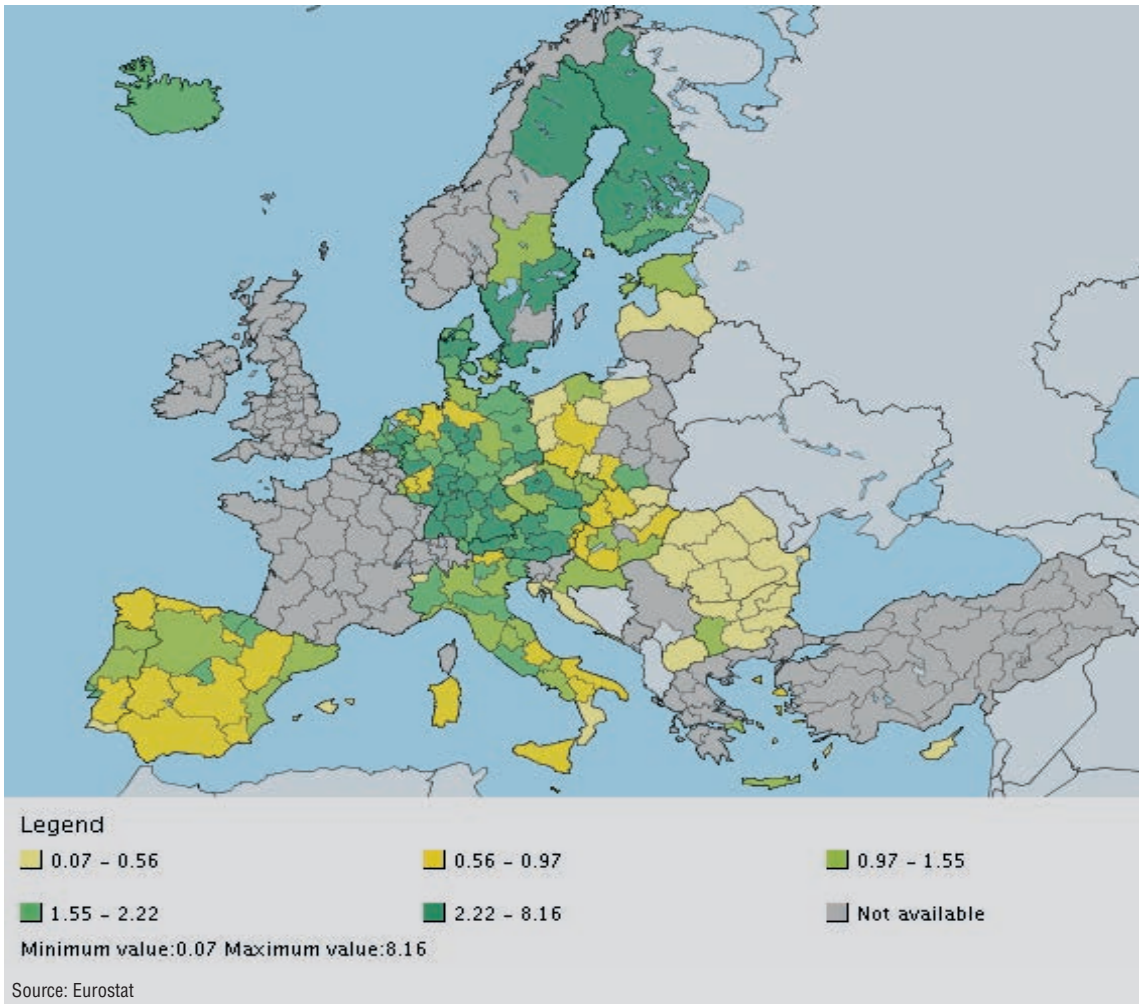
(a) Values above zero correspond to better well-being conditions comparing to the Italian average; on the contrary, values below zero correspond to worse well-being conditions. The calculation took into account the polarity of indicators.

International comparison

Compared to the rest of the European countries, Italy still has a low level of R&D expenditure rate, even if some Northern regions show more evidence of vitality.
In 2017, intra-muros expenditure on Research and Development (R&D) as a percentage of GDP in the Italian regions also shows significant variability compared to the rest of the European regions. northern regions' values are close to those of the Netherlands and Germany, while in the South and Islands area of Italy levels are close to those in Spain, Portugal or in some regions of eastern Europe (Figure 2).

2 Percentage change concerning the Italian value is not computed for this indicator since the average value is a balance between input and output flows.

Figure 2. Intramural R&D expenditure (GERD) by NUTS2. Year 2017. Percentage of GDP

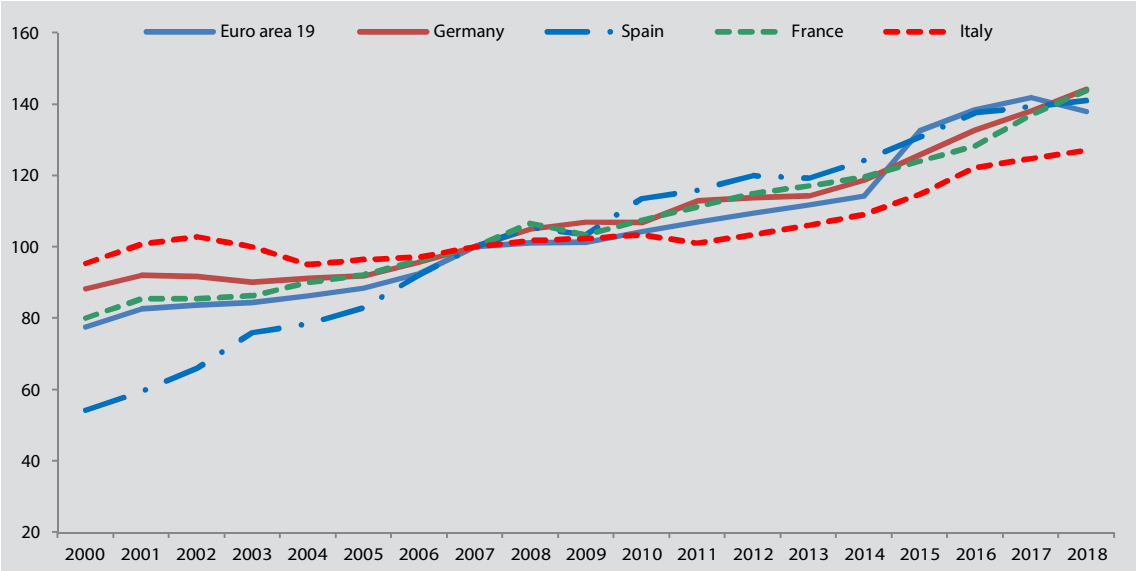


Source: Eurostat

During the last decade, Intellectual Property Products (IPR) investments, including Research and Development (R&D) and Software expenditure, has gradually increased in EU countries (+37.9 points from 2007 to 2018), compared to a slight fall in euro area countries (-3.9 points). Italy, lagging behind European countries (+27 points), however, shows an increase of 2.2 points compared to the Eurozone.

In 2018, the cultural employment share in Europe remains stable compared to the previous year (3.8%), with an increase in Luxembourg (+0.7 percentage points) and Malta (+0.5 percentage points), and a decrease in Latvia (-0.5 percentage points). Italy (3.6%) remains slightly below the European average, in line with France and just above Spain (3.5%) (Figure 4). The highest percentage of employment in these sectors is recorded in Estonia (5.6%), while the lowest is in Romania (1.6%).

Figure 3. Intellectual property products (as part of gross fixed capital formation) in major European countries - Years 2000-2018. Chain values, index numbers 2007=100

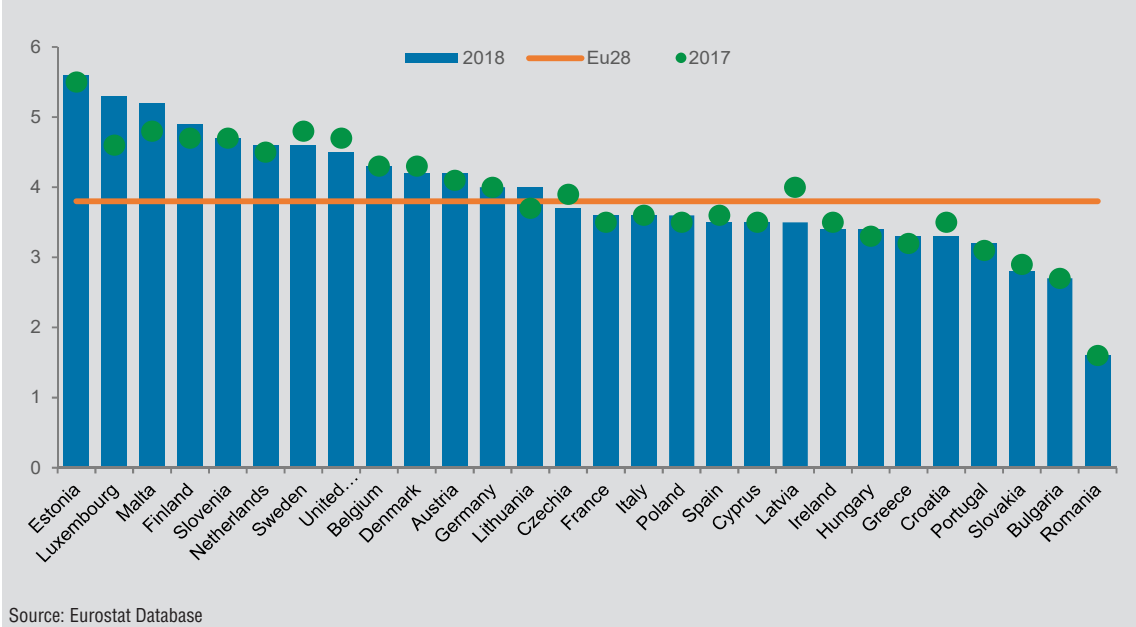


Source: Eurostat database

Also the patents propensity indicator calculated for Italy continues to be about one third lower than the European average (68.5 and 106.8 per million inhabitants respectively) (Figure 5).

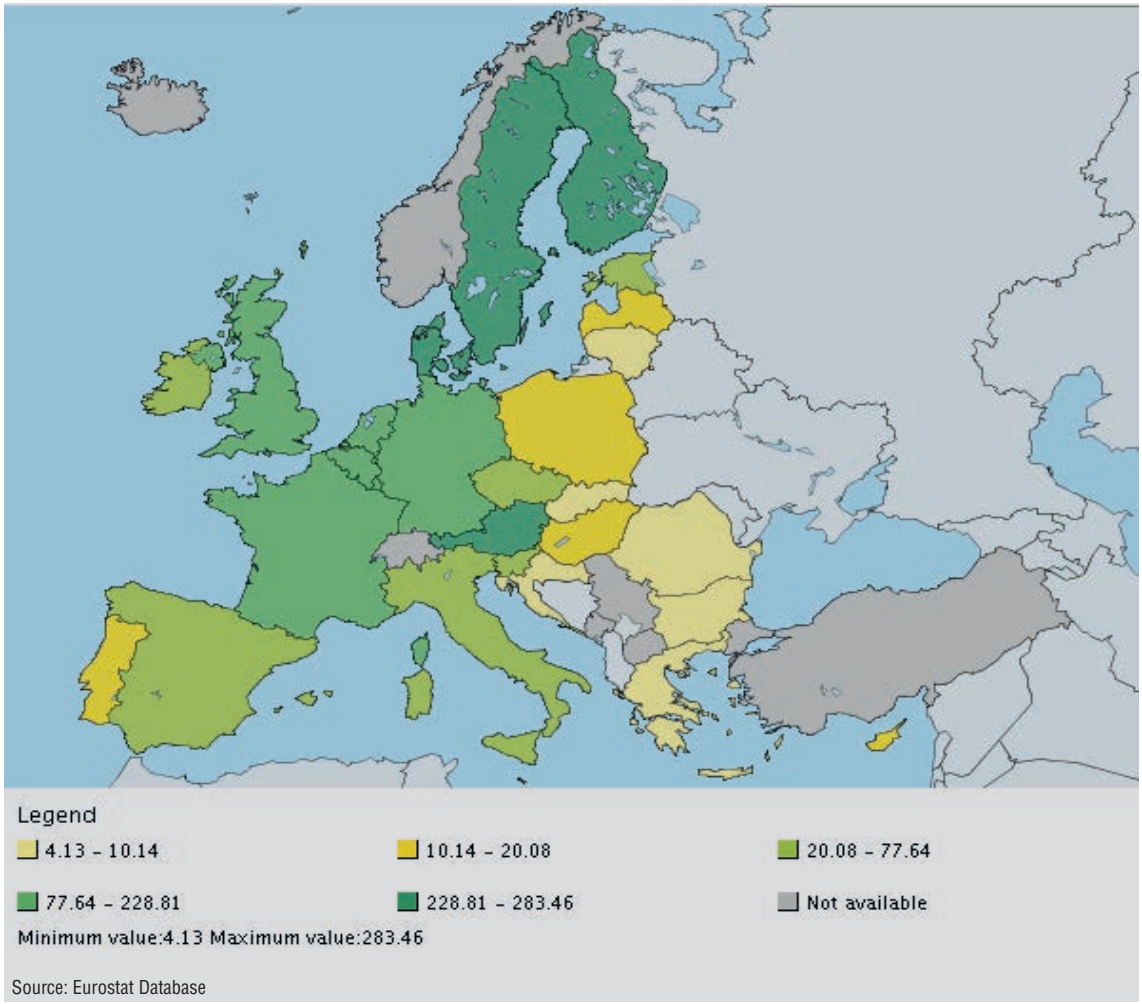
The most intense patent propensity intensities are found in Northern European countries, particularly in Sweden, Denmark, Finland, Austria, Germany, and the Netherlands, with figures ranging from 200 to about 300 patent applications submitted per million inhabitants. On the other hand, in Greece, Lithuania, Romania, Croatia, Bulgaria, and Iceland, the ratio does not exceed 10. In this framework, values recorded for Italy are close to those of Ireland (77.6) and Slovenia (55.3).

Figure 4. Cultural employment in Europe. Year 2018. Percentage of total employment



Source: Eurostat Database

Figure 5. Patent applications to the European Patent Office (EPO) by priority year. Year 2017. For millions of inhabitants



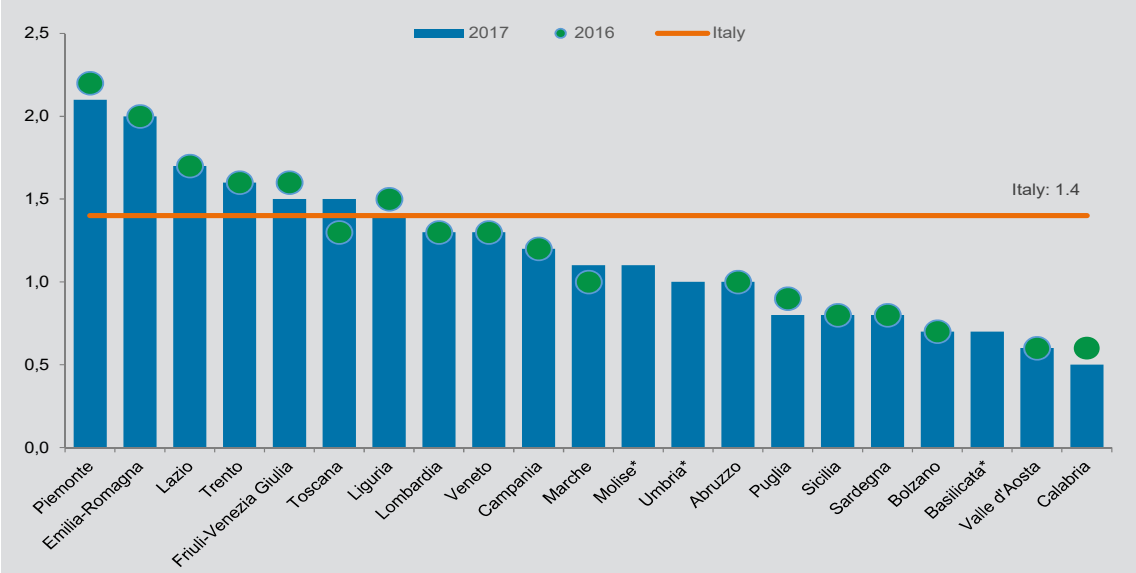
Source: Eurostat Database

Analysis of national data

Stable R&D spending

In 2017, R&D expenditure in proportion to GDP remains at the levels recorded in the previous year (1.4%) (Figure 6).
Piemonte and Emilia Romagna are the most research-intensive regions, with an incidence of R&D expenditure on the regional GDP greater than or equal to 2%. On the contrary, the indicator's value is still low and below the national average in southern Italy, particularly in Calabria, where the share is less than 1%.
In Toscana and Marche, there are small signs of improvement compared to 2016 (+0.2 and +0.1 percentage points respectively), while there is a decrease in Puglia, Calabria and Piemonte, Friuli-Venezia Giulia and Liguria (-0.1 points).

Figure 6. R&D intensity by region. Years 2016 and 2017. Percentage of expenditure on GDP

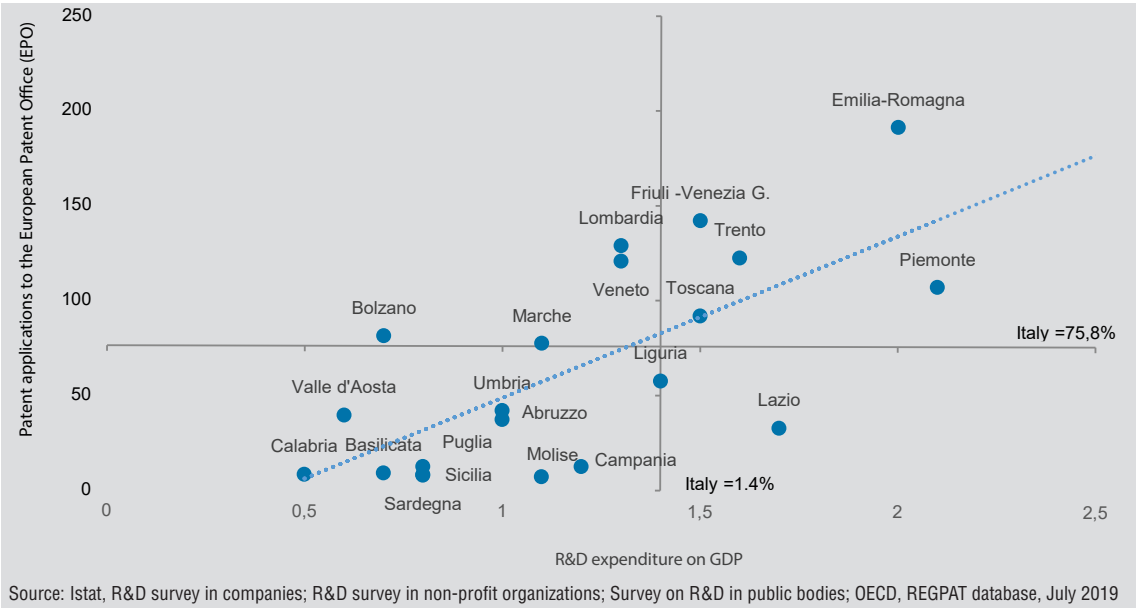


Source: Istat, R&D survey in companies; R&D survey in non-profit organizations; Survey on R&D in public bodies
(*) 2016 data not available.

More patents in Emilia Romagna

With regard to patent applications, the differences between territories are considerable. The highest values of this indicator occur in the North of the country while in the South and Islands is below the national average. In 2016, Emilia Romagna was the region with the highest number of patents submitted to the European Patent Office (EPO) (191.6 per million inhabitants) while all the regions of southern Italy are significantly below the Italian average (75.8). In Basilicata, Calabria, Sicilia and Sardegna patent applications are less than 10 per million inhabitants.

Figure 7. R&D expenditure on GDP (2017) and Patent applications to the European Patent Office (EPO) (2016) by priority year per million of inhabitants, by regions. Years 2017 and 2016



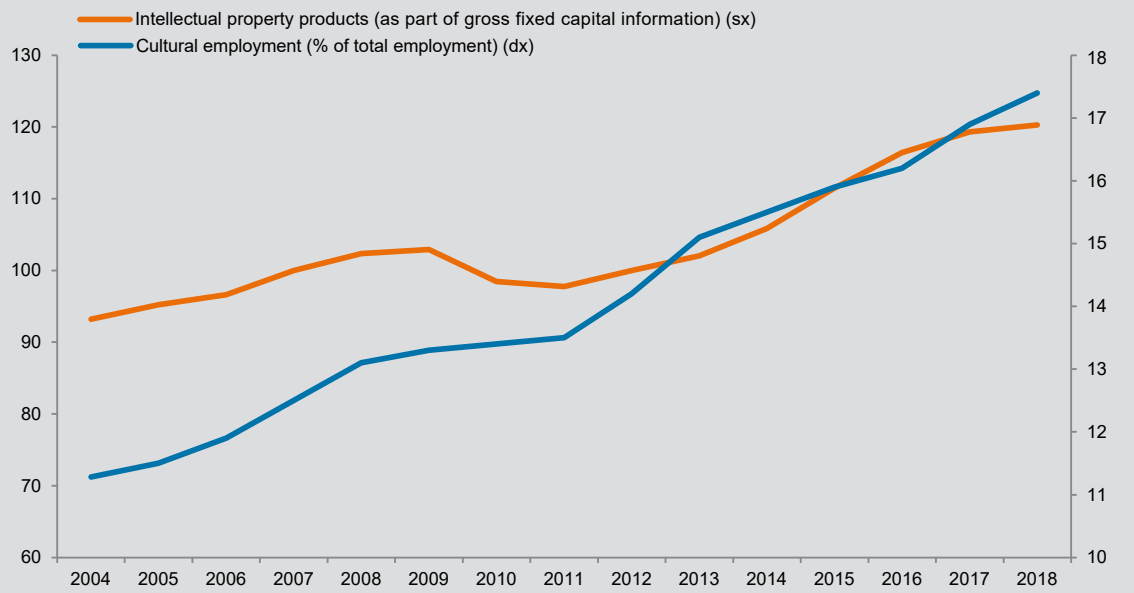
Source: Istat, R&D survey in companies; R&D survey in non-profit organizations; Survey on R&D in public bodies; OECD, REGPAT database, July 2019

As expected, there is a synergy between patents and the share of research and development. However, in some cases, there is a deviation, as for Lombardia and Veneto, where higher values in patent propensity are combined with lower R&D values, or for Lazio, where the higher R&D expenditure corresponds to patent propensity below the Italian average (Figure 7).

Improving employment in science and technology sectors

In terms of intellectual property products (PPI) investments, there are weak signs of improvement, with an indexed monetary expenditure of 120.3 in 2018, up by about one point compared to the previous year (119.3). Also concerning the dynamics of the percentage of workers employed in the Scientific and Technological sectors, there is a growing trend both in the last year and in the decade, with 17.3% of employees in these sectors in 2018 (it was 16.8% in 2017) (Figure 8).

Figure 8. Intellectual property products (as part of gross fixed capital formation) and Cultural employment (% of total employment). Years 2004-2018. Percentage and indexes 2007=100

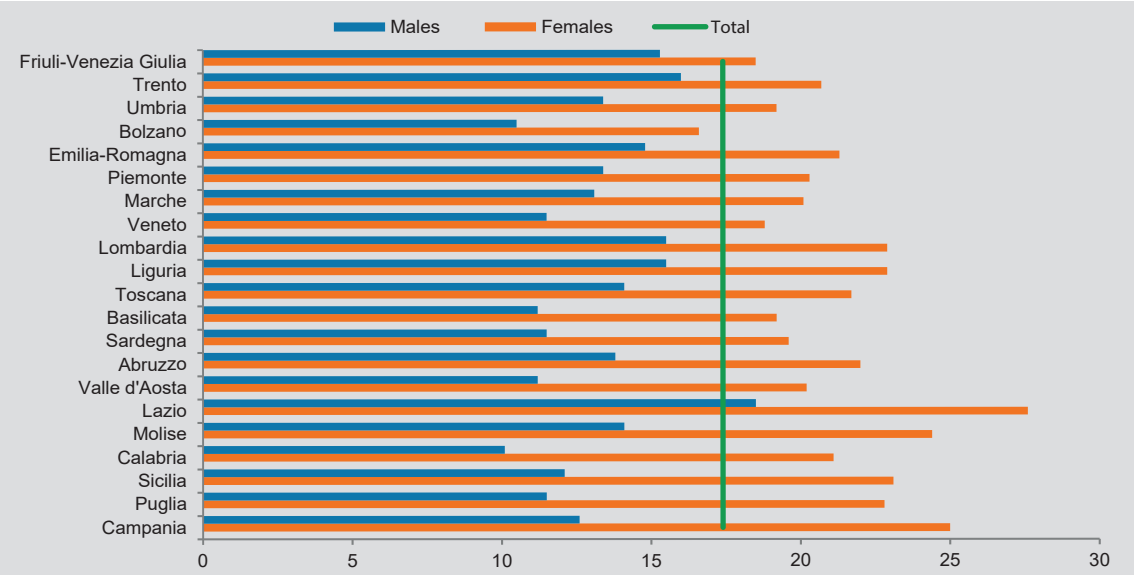


Source: Istat, Labour Force Survey and National Accounting

Women exceed men in the scientific and technological professions

In relative terms, the proportion of Italian graduated employees working in scientific-technological professions is still higher among women (22.0% compared to 13.8% among men), with shares significantly higher for those living in the Centre (23.9%) and the South and Island (22.6%) than in the North of the country (21.0%) (Figure 9). The gender gap is wider in the South and Islands reaching its maximum in Campania, Puglia, Sicilia, Calabria, and Molise, where there is a gender differential of more than 10 points, while in Friuli-Venezia Giulia and the province of Trento the gap is less than 5 points.

Figure 9. Employees with tertiary education (ISCED 5-6-7-8) in the scientific-technological occupations (ISCO 2-3) by gender and region. Year 2018. Percentage on total employees

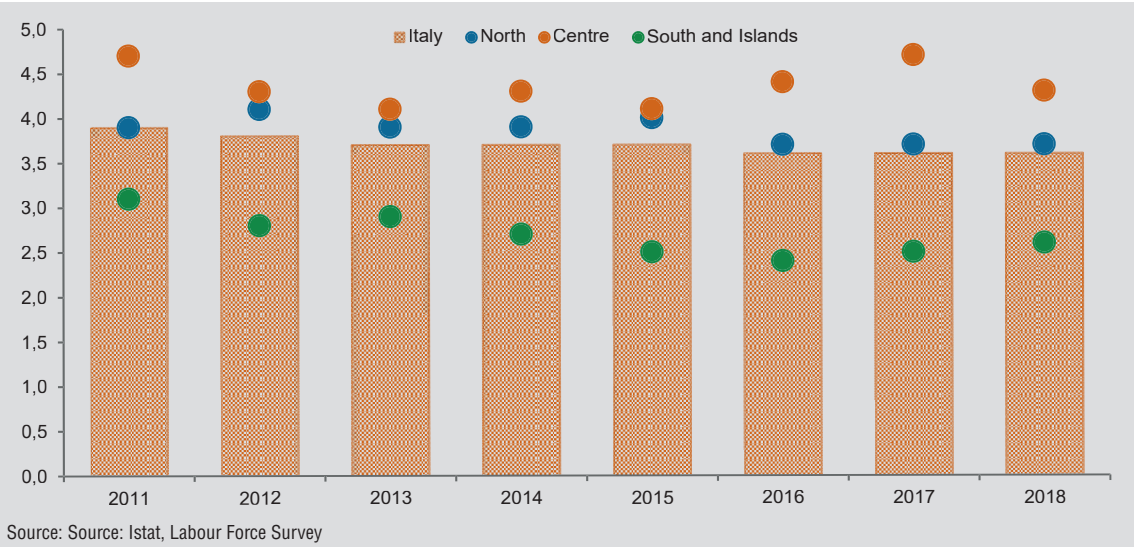


Source: Istat, Labour Force Survey

Percentage of cultural employment is rising

In 2018, the share of employees in Cultural and Creative Enterprises (CCI) is growing again, albeit only slightly (3.7%, it was 3.6% in 2017), after approaching 4% at the beginning of the decade[3]. In the central regions (particularly in Lazio) there are the highest percentages of employees in these sectors (4.6% and 5% respectively), while in the southern regions and Islands (particularly in Calabria and Sicilia) the values are lower than the Italian average (2.8% and 2.5% respectively) (Figure 10).

Figure 10. Cultural employment by geographic areas. Year 2018. Percentage of total employment



Source: Source: Istat, Labour Force Survey

3 Data on employment in the cultural and creative sectors in Italy presented here may differ slightly from those published by Eurostat, due to the selection of the employment categories pertaining to the ISCO 08 employment sectors based on Istat classification of professions.

The North is still more attractive among young graduates

The migration rate of young graduates, which was negative for the entire period considered (2012-2018), fell, albeit slightly in absolute terms, from -4.1 per thousand resident graduates in 2017 to -4.0 in 2018. The regions of southern Italy and in the Islands, in particular Calabria (-31.1 per thousand), remain at the top of the list for the number of young graduates migrated. The outflow of young graduates increases in these regions (from -23 per thousand in 2017 to -23.2 per thousand in 2018), but is reduced in the Centre (from -2.9 per thousand to -2.4 per thousand). However, the attractiveness of the North decreases, where incoming flows go from +7.7 per thousand in 2017 to +7.2 per thousand in 2018. Emilia Romagna shows the greatest capacity to retain or attract young graduates (+15.5 per thousand, constantly growing in the last five years).
All over the country, the migratory phenomenon involves mostly males (-4.7 per thousand compared to -3.1 of females). In Emilia Romagna, however, the gender gap is narrower, involving young graduates of both sexes equally (respectively +14.7 and +14.2 per thousand) (Figure 11).

Figure 11. Brain circulation (italians, 25-39 year olds) by regions. Year 2018. For 1,000 graduates in the same age group

Source: Istat, Registrations and cancellations from the registry for residence transfer and Labour Force Survey

Indicators

1. **R&D intensity:** Percentage of R&D expenditure on GDP.
   Source: Istat, R&D survey in companies; R&D survey in non-profit organizations; Survey on R&D in public bodies.
2. **Patent propensity:** Number of patent applications filed to the European Patent Office (EPO) per million of inhabitants.
   Source: Ocse, Database Regpat.
3. **Impact of knowledge workers on employment:** Percentage of employees with tertiary education (ISCED 5-6-7-8) in scientific-technological occupations (ISCO 2-3) on total employees.
   Source: Istat, Labour force survey.
4. **Innovation rate of the national productive system:** Percentage of firms that have introduced technological (product or process), organizational or marketing innovation in a three-year period on total number of firms with at least 10 persons employed.
   Source: Istat, Cis (Community Innovation Survey).
5. **Intellectual property products (as part of gross fixed capital formation):** The value of expenditure on research and development, mineral exploration and evaluation, computer software and database, entertaiment literary or artistic originals and other intellectual proprety procucts intended to be used for more than one year. Chained values, reference year 2010 (millions of euro), Indexed 2007 = 100.
   Source: Istat, National Accounts
6. **Cultural employment (% of total employment):** Percentage of employees in cultural and creative enterprises (ISCO-08, Nace rev.2) out of the total number of employees (15 years and over).
   Source: Istat, Labour force survey
7. **Brain circulation (italians, 25-39 year-olds):** Net migration rate of holders of a tertiary degree: (immigrants-emigrants) / total resident population * 1,000. Both numerator and denominator refer to italian holders of a tertiary degree, 25-39 year-olds.
   Source: Istat, Registrations and cancellations from the registry for residence transfer and Labour Force Survey

Indicators by region and geographic area

REGIONS AND GEOGRAPHIC AREAS	R&D intensity (a)	Patent propensity (b)	Impact of knowledge workers on employment (c)
	2017	2016	2018
Piemonte	2.1	107.4	16.3
Valle d'Aosta/Vallée d'Aoste	0.6	39.3	15.3
Liguria	1.4	57.5	18.7
Lombardia	1.3	128.9	18.5
Trentino-Alto Adige/Südtirol	1.1	102.3	15.5
Bolzano/Bozen	*0.7*	*81.2*	*13.2*
Trento	*1.6*	*122.6*	*17.9*
Veneto	1.3	120.8	14.5
Friuli-Venezia Giulia	1.5	142.2	16.6
Emilia-Romagna	2.0	191.6	17.6
Toscana	1.5	92.0	17.3
Umbria	1.0	42.0	15.8
Marche	1.1	77.3	16.1
Lazio	1.7	32.9	22.4
Abruzzo	1.0	37.2	17.0
Molise	1.1	7.1	18.0
Campania	1.2	12.4	16.8
Puglia	0.8	12.3	15.4
Basilicata	0.7	8.9	14.2
Calabria	0.5	8.1	14.1
Sicilia	0.8	8.0	16.0
Sardegna	0.8	7.7	14.8
North	1.5	129.2	17.1
Centre	1.5	57.6	19.5
South and Islands	0.9	12.0	15.9
Italy	**1.4**	**75.8**	**17.3**

(a) Percentage of R&D expenditure on GDP.
(b) Per million of inhabitants.
(c) Per 100 in employment.
(d) Percentage values.
(e) Chain linked values, reference year 2007.
(f) Per 1,000 resident graduates.

Innovation rate of the national productive system (d)	Intellectual property products (as part of gross fixed capital formation) (e)	Cultural employment (% of total employment) (c)	Brain circulation (italians, 25-39 year-olds) (f)
2016	2018	2018	2018
50.6	....	4.0	0.0
28.3	....	3.7	-10.1
47.8	....	3.0	2.7
54.9	....	4.1	12.1
44.6	....	3.7	7.2
43.8	....	*3.2*	*3.8*
45.7	....	*4.2*	*9.9*
52.5	....	3.7	-2.3
52.0	....	3.5	-3.4
54.7	....	3.2	16.2
44.1	....	4.6	0.8
46.8	....	4.0	-7.1
46.3	....	2.9	-6.7
43.3	....	5.0	-2.5
43.8	....	3.2	-14.1
38.0	....	3.4	-22.5
41.0	....	3.1	-20.2
42.5	....	2.6	-23.9
41.1	....	2.7	-27.2
35.1	....	2.3	-31.1
37.1	....	2.5	-28.6
37.5	....	2.8	-13.3
53.0	....	3.8	7.2
44.4	....	4.6	-2.4
40.2	....	2.8	-23.2
48.7	**120.3**	**3.7**	**-4.0**

12. Quality of services[1]

The indicators of the Quality of Services domain show a general slight improvement compared to the previous year, in particular the availability of social services for children and the elderly, accessibility to essential services and satisfaction with local transport system; indicators on infrastructure remain stable (Table 1). The indicator on irregularity in water supply continues to provide negative signals, with a steady increase since 2014.
The long-term analysis highlights more critical issues, with a deterioration for services for children, for the accessibility of basic services and the availability of urban public transport, while there is a slight reduction in irregularities in water supply and the electrical service. Local transport satisfaction is better than in 2010.
The indicators of this domain show a remarkable regional heterogeneity (Figure 1).

Table 1. Quality of Services indicators: value for the latest available year. Percentage variations on previous year and on 2010.

INDICATOR	Latest available year value	% variation (compared with the previous year)	% variation (compared with 2010)
1. Beds in residential health care facilies (‰, 2016) (a)	6.8		
2. Children who benefited of early childhood services (%, 2016-2017)	13.0		
3. Integrated home assistance service (%, 2018) (b)	2.7		—
4. Composite index of service accessibility (mean 3 yaers, 2016-2018) (c)	7.3		
5. Broadband coverage (%, 2015) (d)	26.4		—
6. Irregularities in water supply (%, 2018)	10.4		
7. Irregularities in electric power distribution (mean number, 2018)	2.1		
8. Seat-Km of public transport networks (valore per ab., 2017)	4587.0		
9. Time devoted to mobility (minutes, 2013-2014) (e)	76.0	—	
10. Satisfaction with means of transport (%, 2018)	17.8		

— Comparison not available Improvement Stability Deterioration

(a) 2010 data not available, variation based on 2011;
(b) 2010 data not available;
(c) Comparison with 2010 based on 2009-2011 average;
(d) Variation with previous year based on 2013 data; 2010 data not available;
(e) 2010 data not available, variation based on 2008-2009.

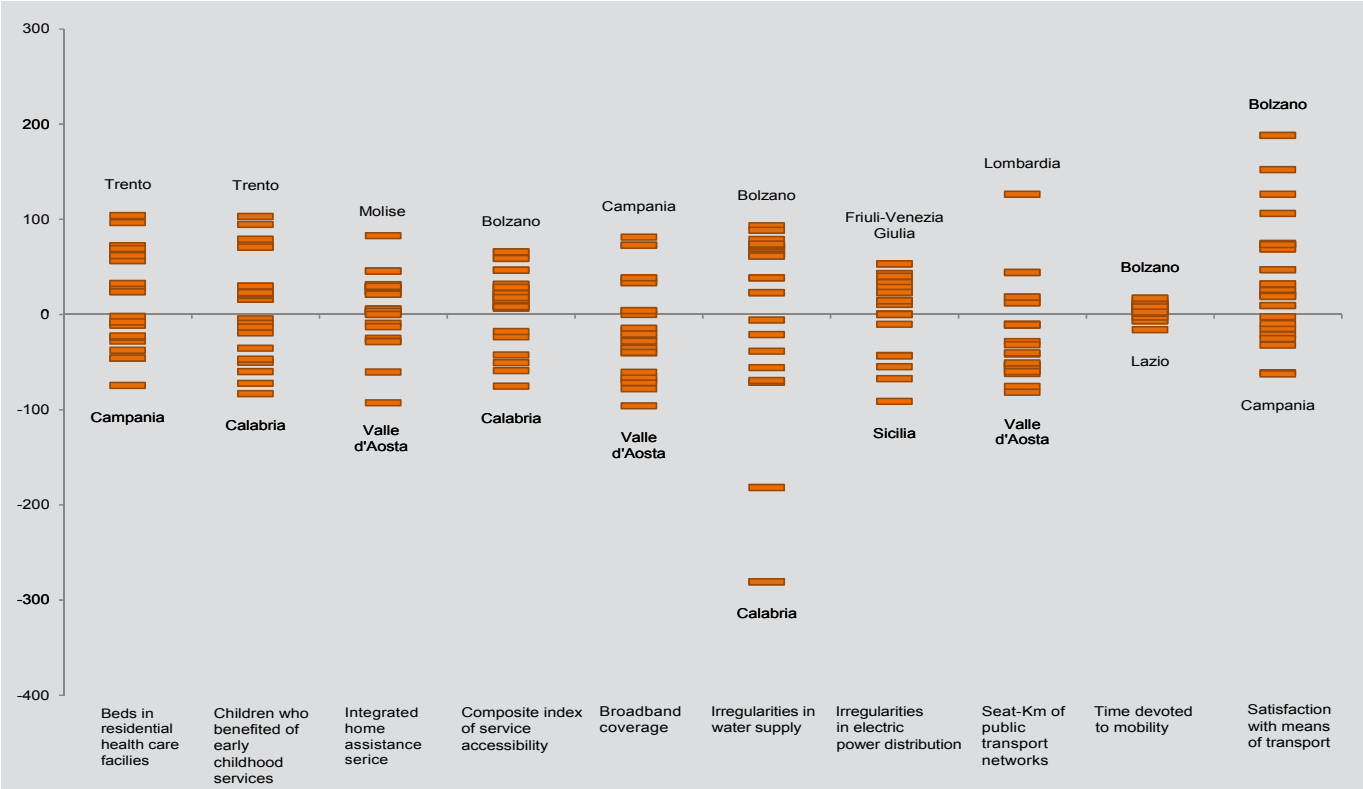
Note: Variations between two points in time above 1% are considered positive (in green), below -1% are considered negative (in red). Variations between -1 and +1% refer to stability (in grey).

There is a strong regional variability for all indicators, which confirms the traditional North-South gradient. Campania has the lowest number of beds in residential health care facilities with only 1.7 beds for every 1,000 inhabitants, while the provinces of Trento and Bolzano show levels that are more than twice as much the Italian average (13.9 and 13.4 respectively).

1 This chapter was edited by Manuela Michelini with contributions from: Alessandra Battisti, Luigi De Iaco, Marianna Mantuano, Giulia Milan.

A strong variability is also recorded for the indicator on children who benefited from early childhood services: in Calabria, they are 83% less than the average figure for Italy; in the province of Trento, the indicator doubles compared to the Italian average (26.4% versus 13%). Families living in Calabria register also the greatest difficulties in access to essential services (12.8%), with a proportion that is much higher than the average; furthermore, they

Figure 1. Percentage variation for Quality of Services indicators comparing to the value for Italy by region. Latest available year (a)**.**



(a) Values above zero correspond to better well-being conditions comparing to the Italian average; on the contrary, values below zero correspond to worse well-being conditions. The calculation took into account the polarity of indicators.

report the most irregularities in the water supply (39.6%) with a level which is 3 times higher than the Italian average. Electricity service interruptions happen 4.1 times a year per inhabitant in Sicilia while in Friuli-Venezia Giulia it happens only once a year per inhabitant. The indicator of integrated home assistance service shows the highest value (4.9%) in Molise.

Even the broadband coverage indicator does not follow the traditional North-South dichotomy assuming maximum values in Campania and Lazio.

For the local public transport services measured in the capital cities of the Italian provinces, there is a strong unbalance between Valle d'Aosta, which has only 843.3 seat-km per inhabitant, and Lombardia, which has more than 10,000 seat-km per inhabitant.

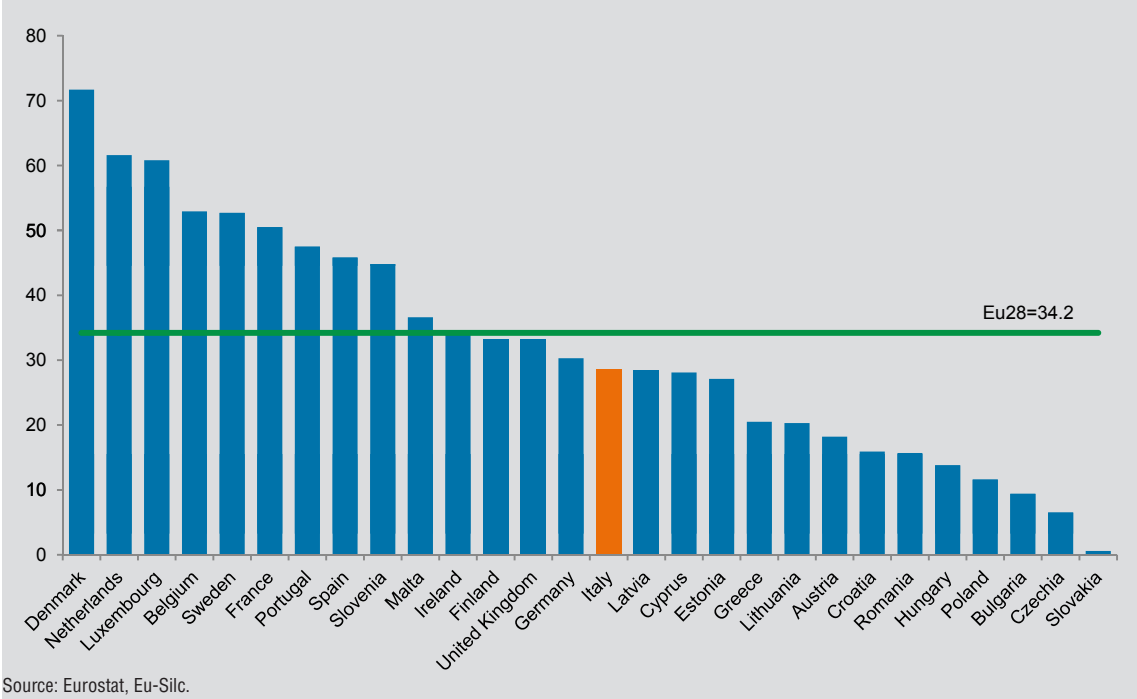
Lombardia has a much larger endowment than all the other regions: the number of seat-Km is more than double (2.3 times) the average number of seat-km in Italy and is one and a half times that of Lazio, which is the region occupying the second place in the ranking of seat-Km of public transport networks.

Territorial heterogeneity is even more accentuated for the satisfaction for local transport. In the province of Bolzano the satisfied users are 3 times more than the Italian average: the share of users who gave a mark of at least 8 is 51.3%, only 6.7% in Campania.
Only the time spent on daily trips indicator is quite homogeneous on the territory: on average, in a weekday, one person travels for 1 hour and 13 minutes, 1 hour and 23 minutes in Lazio, about 1 hour in the province of Bolzano.

International comparison

The indicators used to monitor developments in the quality of services are not immediately comparable at European level. The available measures considered in this paragraph refer to the type of services observed but are assessed differently. In particular, updated data are available for two indicators.
About the childcare services, in Italy, the percentage of children aged 0-3 years using these services in formal care facilities is 28.6% compared to 34.2% of the Eu28 average (Figure 2).

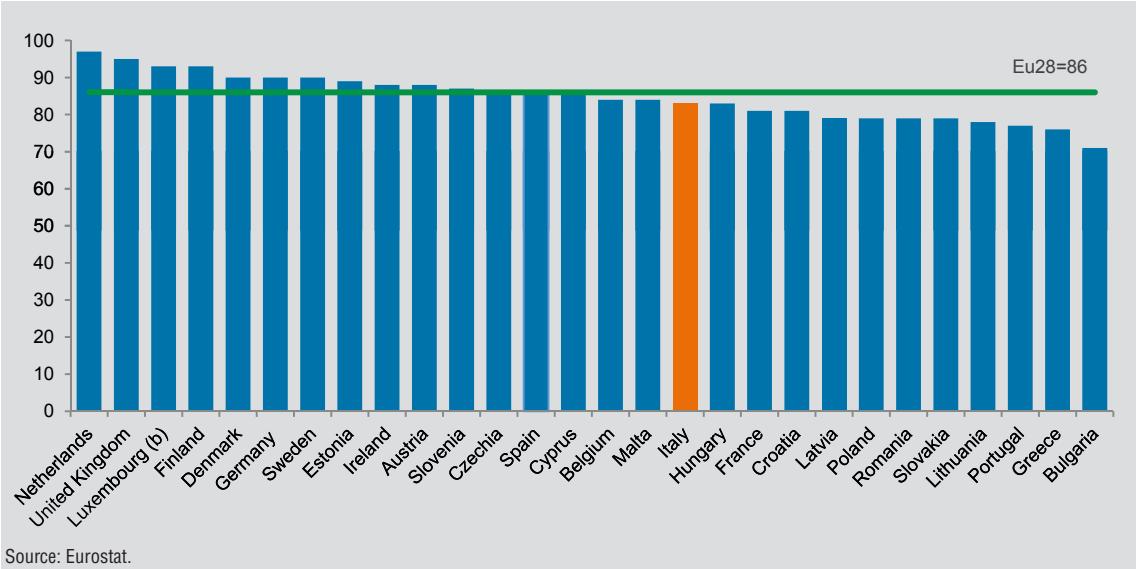
Figure 2. Children (under 3 years of age) cared for by formal arrangements other than by the family in the Eu28 countries. Year 2017. Percentage values



Source: Eurostat, Eu-Silc.

In Italy, the proportion of children using childcare services decreased significantly compared to 2016 when it was still above the European average (34.4% compared to 32.9% in the Eu28).
In the European comparison, the positive signals are linked to the percentage of household with a fast connection, an indication of the provision of infrastructure in the various European countries: in Italy, the diffusion of broadband is constantly increasing, reaching, in 2018, a level which is close to the European average (83% and 86% respectively, Figure 3).

Figure 3. Households that are connectable to an exchange that has been converted to support xDSL-technology, to a cable network upgraded for internet traffic, or to other broadband technologies in the Eu28 countries. Year 2018. Percentage values.



Source: Eurostat.

Analysis of national data

Despite the heterogeneity of the phenomena characterising the quality of services, the set of indicators analysed provides an articulated picture of social services, infrastructures, and mobility services, both from equipment and accessibility of the service provided points of view.

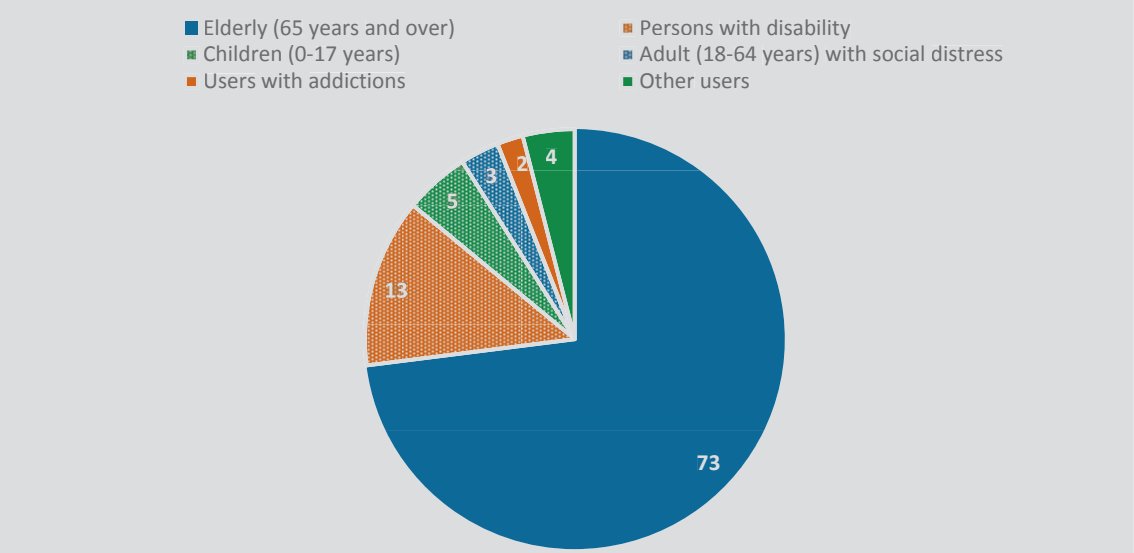
Significant territorial differences in residential health care facilities

In 2016, there were 12,501 social welfare and socio-medical residential care facilities operating in Italy, with a total of 412,971 beds, equal to 6.8 per 1,000 inhabitants. The beds are mainly in facilities dedicated to the elderly (73%), while significantly lower shares refer to facilities hosting people with disabilities or people with mental health problems (13%), children (5%), adults with social distress (3%), people with addictions (2%) or other types of distress (4%) (Figure 4).
Significant territorial differences remain: the supply reaches the highest levels in the northern regions with 9.6 beds per 1,000 inhabitants, while in the South this is 3.8.

Increasing children who benefited of early childhood services

The provision of early childhood services has been promoted for several years at both national and European level to support the reconciliation of family and working life and to promote greater participation of women in the labour market. Since 2002, the Barcelona European Council defined as a target for the Member States to reach by 2010 that available places in early childhood services should cover at least one-third of potential demand, i.e. 33% of children under 3 years of age.

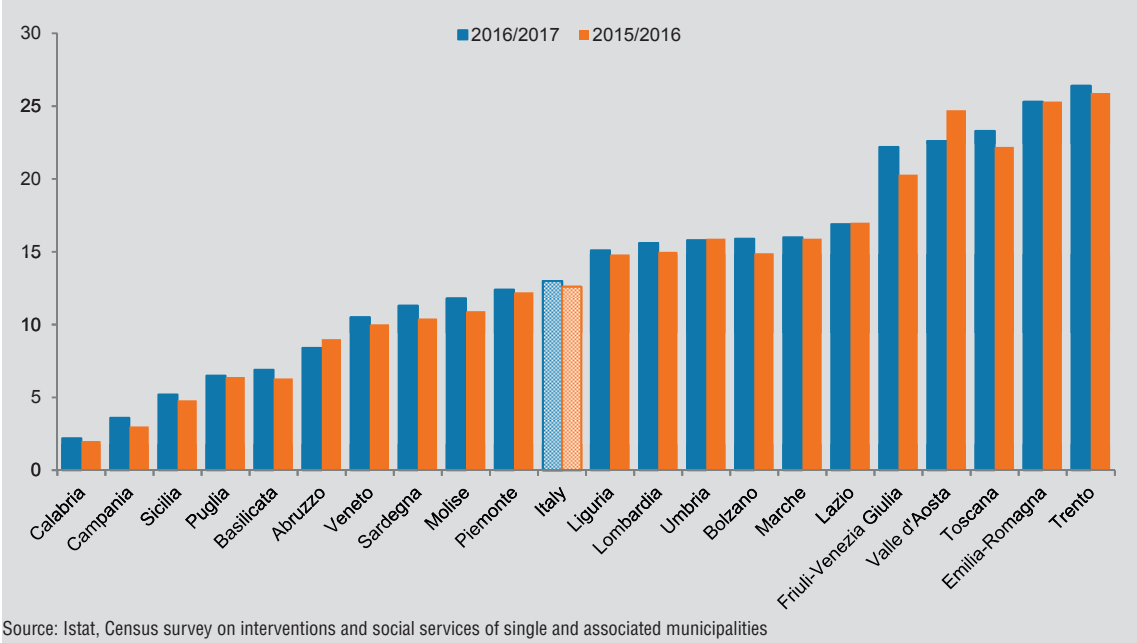
Figure 4. Beds in residential health care facilities by target users. Years 2016. Percentage values



Source: Istat, Survey on social and health residential care facilities

Children aged 0-2 who have benefited from early childhood services offered by the municipalities, both through municipal and contracted structures, have slightly increased compared to the previous available year (from 12.6% to 13.0% in 2016/17). The territorial differences are still very high: 16.3% in the North; 18.6% in the Centre and only 5.4% in the South and Islands.
The improvement compared to the previous year is generalized, but more consistent for the more virtuous regions such as Friuli-Venezia Giulia and Toscana (which increased respectively by 1.9 and 1.0 percentage points). The only regions where there is a worsening are Valle d'Aosta (-2 percentage points) and Abruzzo (-0.6 percentage points) (Figure 5).

Figure 5. Children aged 0-2 years who benefited from early childhood services by region. Years 2016/2017 and 2015/2016. Percentage value.

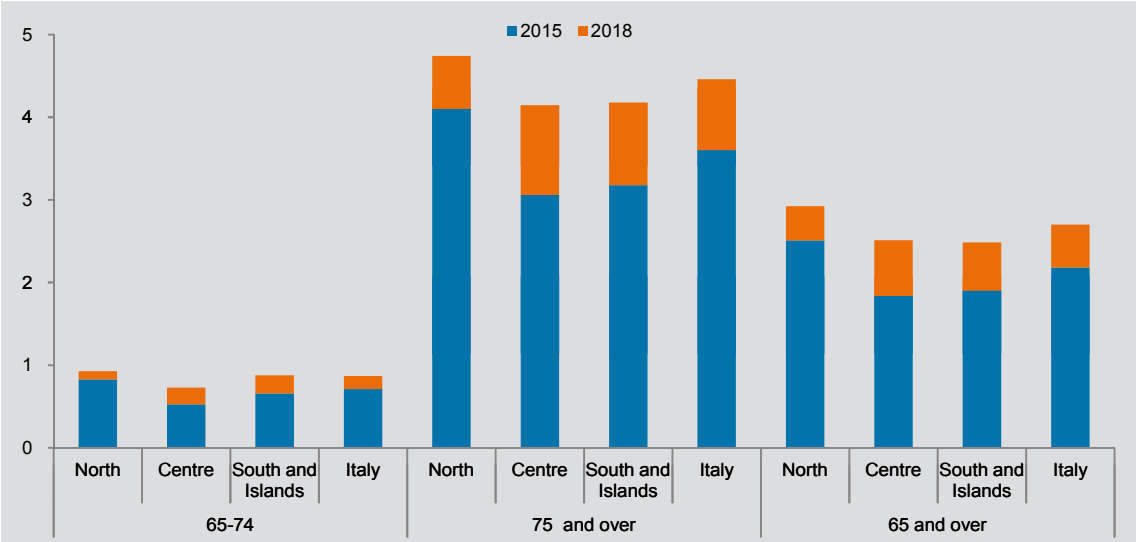


Source: Istat, Census survey on interventions and social services of single and associated municipalities

Decreases territorial differences in integrated home assistance service

Integrated home assistance service provides medical, nursing and rehabilitation treatments integrated with social welfare and family support services. In 2018, the number of elderly people aged 65 and over using this service is 2.7%: specifically, considering people aged 65-74, the incidence is only 0.9%, while for the over-65s the proportion rises to 4.5% (Figure 6). This service is provided throughout the territory with homogeneous intensity. This result is linked to the strong increases in home assistance service in the South and Islands: the territorial differences narrowed down especially among those aged 75 and over, going from one percentage point less in the South and Islands compared to the North in 2015, to half a point in 2018 (4.2% in the South and Islands compared to 4.7% in the North).

Figure 6. People aged 65 and over who benefited from integrated home assistance service by age and geographic area. Years 2015 and 2018. Percentage values.



Source: Istat, Processing of data from the Ministry of Health, Health information system

In the South and Islands the share of population finding it very difficult to reach basic services is double than in the North

In 2018, the accessibility of public utilities remains stable, with 7.3% of households finding it very difficult to reach three or more essential services (including pharmacies, first aid, post or municipal offices, armed forces and schools). Access to essential services presents strong territorial differences, with a higher percentage of households in difficulty in the South and Islands (10.5%), lower in the Centre and the North (7.4% and 5.1% respectively).

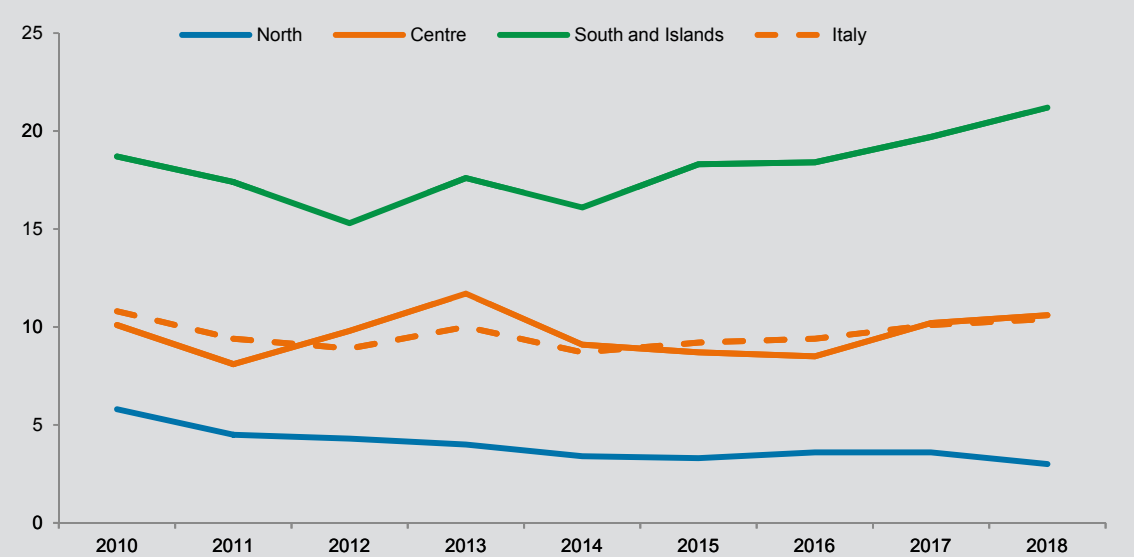
Population covered with ultra-broadband is low

The objectives of the "Italian strategy for ultra-broadband", which had to guarantee by 2020 to all citizens access to the Internet at a speed of at least 30 Mbps (fast broadband) and to 50% of users a speed of at least 100 Mbps, are still far from being achieved. In 2018, only 53.8% of households had a fixed broadband internet connection. The figure differs on the territory, with a share that exceeds 60% of households in Lombardia and Trentino Alto Adige, while it is about 40% in Calabria and Sicilia.

Critical the quality of services for water supply

In 2018, 10.4% of households reported irregularities in the water supply in their homes, a stable level compared to the previous year but steadily increasing over the last 5 years. The disservice affects almost 2 million 700 thousand households, about two out of three households live in southern regions. The most disadvantaged region is Calabria, where 39.6% of households complain about this inefficiency; the situation in Sicilia is also serious (29.3%), but significantly improved compared to the previous year (35.9%).
Overall, in the South and Islands, 21.4% of households declare irregularities, 3.0% in the North, while the inefficiency concerns little more than one family out of ten in the Centre (Figure 7). The worsening situation in the South and Islands has increased the North-South gap, from 11 percentage points in 2012 (minimum value reached in the period considered) to the current 18.2 percentage points.

Figure 7. Households who report irregularities in water supply by geographic areas. Years 2010 and 2018. Percentage values



Source: Istat, Survey on Aspects of daily life

Remain irregularities in electric power distribution

With regard to accidental long-lasting electric power cuts, the average number of cuts per user is stable at 2.1. Territorial differences remain, with an average number of interruptions equal to 3.3 for users in the South against 1.4 for those in the North.

Stable Seat-Km of public transport networks

In the capital cities of the Italian provinces, local public transport services (LPT) offer, on average, 4,587 seat-km per inhabitant. The size of the offer is, of course, influenced by the size of the cities and their ability to attract commuting or tourist flows. There is a more capillary diffusion in the North (6,008.8 seat-km) and in the Centre (5,083.4 seat-km).
On the demand side, local public transport services have been used at least once during the year by about a quarter of the population aged 14 and over (24.1%): buses, trolleybuses,

and trams are mainly used to travel in the Centre and the North and in particular in the municipalities in the centre of metropolitan areas, where users reach more than two-thirds of the resident population.

Slight improvement in satisfaction with means of transport

In 2018, satisfaction with mobility services increased: 17.8% of regular users were very satisfied with the service (compared to 16.4% the previous year).
Satisfaction levels are higher in the North and lower in the Centre and South and Islands. In particular, in Campania and Lazio only 6.7 and 6.9% of regular users of public transport declared a degree of satisfaction higher or equal to 8 (over 10).

Indicators

1. **Beds in residential health care facilities:** Beds in residential health care facilities per 1,000 inhabitants.
   Source: Istat, Survey on social and health residential care facilities
2. **Children who benefited of early childhood services:** Users of nurseries and other educational services for the first childhood managed or financed by municipalities, as a percentage of children aged 0-2 years
   Source: Istat, Census survey on interventions and social services of single and associated municipalities
3. **Integrated home assistance service:** Percentage of people aged 65 and over who benefited from integrated home assistance service.
   Source: Istat, Processing of data from the Ministry of Health, Health information system
4. **Composite index of service accessibility:** Percentage of households who find very difficult to reach some basic services (pharmacy, emergency room, post office, police, carabinieri, municipal offices, crèches, nursery, primary and secondary school, market and supermarket). The indicator is a three-year average.
   Source: Istat, Survey on Aspects of daily life
5. **Broadband coverage:** Population covered with ultra-broadband (at least 30 Mbps) as a percentage of resident population.
   Source: Istat, Processing of data from the Ministry of Economic Development
6. **Irregularities in water supply:** Percentage of households who report irregularities in water supply on total number of households.
   Source: Istat, Survey on Aspects of daily life
7. **Irregularities in electric power distribution:** Frequency of accidental long lasting electric power cuts (cuts without notice longer than 3 minutes) (average number per consumer).
   Source: Istat, Processing of data from the Italian Regulatory Authority for Energy, Networks and Environment (Arera)
8. **Seat-Km of public transport networks:** Seat-Km of public transport networks per capita.
   Source: Istat, Survey on urban environmental data
9. **Time devoted to mobility:** Minutes devoted to mobility on an average weekday by people aged 15 and over.
   Source: Istat, Time use survey
10. **Satisfaction with means of transport:** Percentage of users aged 14 and over who rated 8 or more (over 10) for all means of transport used regularly (more than once a week), over the total number of regular users aged 14 and over.
    Source: Istat, Survey on Aspects of daily life

Indicators by region and geographic area

REGIONS AND GEOGRAPHIC AREAS	Beds in residential health care facilies (a)	Children who benefited of early childhood services (b)	Integrated home assistance service (c)	Composite index of service accessibility (d)	Broadband coverage (e)
	2016	2016/2017	2018	2016-2018	2015
Piemonte	11.7	12.4	2.8	5.5	26.4
Valle d'Aosta/Vallée d'Aoste	10.7	22.6	0.2	6.6	1.1
Liguria	11.5	15.1	3.3	5.7	35.3
Lombardia	8.6	15.6	2.5	3.9	22.2
Trentino-Alto Adige/Südtirol	13.7	20.9	....	2.7	....
Bolzano/Bozen	*13.4*	*15.9*	....	*2.5*	*17.7*
Trento	*13.9*	*26.4*	*2.9*	*3.0*	*8.3*
Veneto	8.8	10.5	3.5	6.1	20.1
Friuli-Venezia Giulia	11.0	22.2	3.4	5.0	22.6
Emilia-Romagna	8.4	25.3	3.5	6.8	36.6
Toscana	6.2	23.3	3.3	6.2	27.5
Umbria	6.7	15.8	2.0	5.7	17.1
Marche	9.0	16.0	2.8	5.2	15.8
Lazio	4.3	16.9	1.9	9.0	45.6
Abruzzo	4.9	8.4	3.5	6.6	7.5
Molise	6.0	11.8	4.9	6.0	5.8
Campania	1.7	3.6	2.4	11.6	47.9
Puglia	3.7	6.5	1.9	10.4	15.9
Basilicata	6.3	6.9	3.5	8.6	9.0
Calabria	3.7	2.2	1.1	12.8	19.0
Sicilia	5.2	5.2	3.9	11.0	21.0
Sardegna	5.3	11.3	....	6.7	10.4
North	9.6	16.3	2.9	5.1	....
Centre	5.6	18.6	2.5	7.4	....
South and Islands	3.8	5.4	2.5	10.4	....
Italy	**6.8**	**13.0**	**2.7**	**7.3**	**26.4**

(a) Per 1,000 inhabitants;
(b) Per 100 children aged0-2;
(c) Per 100 persons aged 65 and over;
(d) Per 100 household;
(e) percentage of resident population;
(f) average number per user;
(g) Seat-Km per inhabitant. Data measured in the capital cities of the Italian provinces;
(h) minutes devoted to mobility in weekday;
(i) percentage of regular users aged 14 and over.

	Irregularities in water supply (d)	Irregularities in electric power distribution (f)	Seat-Km of public transport networks (g)	Time devoted to mobility (h)	Satisfaction with means of transport (i)
	2018	2018	2017	2013-2014	2018
	3.9	1.6	5,151.5	77.0	14.0
	3.5	1.6	843.3	66.0	40.3
	3.2	1.4	4,132.3	81.0	12.1
	3.0	1.2	10,390.9	81.0	23.5
	1.5	1.4	3,698.7	70.0	48.9
	0.7	,,,,	3,287.0	*63.0*	*51.3*
	2.2	,,,,	4,073.4	*78.0*	*44.9*
	2.8	1.6	5,429.4	73.0	22.3
	1.2	1.0	4,097.1	70.0	36.7
	2.7	1.3	2,683.4	75.0	21.4
	8.0	1.9	2,741.6	72.0	15.2
	6.4	1.8	2,079.7	69.0	30.1
	4.0	1.5	2,166.8	71.0	31.1
	14.4	2.4	6,614.4	88.0	6.9
	16.2	2.1	2,211.1	69.0	19.5
	17.8	1.8	1,883.6	68.0	26.2
	17.8	3.1	2,116.6	74.0	6.7
	11.0	3.3	2,250.4	75.0	17.4
	12.6	1.6	1,122.2	71.0	21.2
	39.6	3.6	1,741.2	73.0	13.3
	29.3	4.1	1,838.5	70.0	16.1
	17.6	3.1	3,134.7	74.0	30.9
	3.0	1.4	6,008.8	77.0	22.2
	10.6	2.1	5,083.4	79.0	11.5
	21.2	3.3	2,079.1	73.0	14.2
	10.4	**2.1**	**4,587.0**	**76.0**	**17.8**

A MULTIDIMENSIONAL ANALYSIS OF YOUTH WELL-BEING[1]

Young people experience a stage of the life cycle characterized by a series of opportunities and challenges: continuing to study, entering the labor market, defining the relationships with the territory, the social and relational context of daily life (friends and peers), the belonging community and the institutions.
These transitions are full of potential risks that can affect individuals' well-being during their lifetime.
As shown by various recent studies, in the last decades demographic trends, the life cycle stages postponing, precariousness spreading and career paths fragmentation, socio-economic inequalities increasing, accompanied by reduced social mobility, have compromised the opportunities of a large part of young people and discouraged their participation at various levels (political, social, cultural)[2].
Since this group seems particularly fragile, it becomes essential to be able to better understand its condition today in terms of well-being and monitor its dynamics over time. The conditions, both material and non-material, experienced in the transition to adulthood can indeed profoundly affect current and future levels of well-being.
At the international level, various frameworks for measuring well-being or, more precisely, youth conditions can be traced: the more distant in time is the World Program of Action for Youth, adopted since 1995 by the United Nations, which provides a list of priorities, practical actions and useful indicators to outline the situation of young people in the 15-24 age group and to design appropriate policies at a global level[3]. In Europe, instead, a set of measures aimed at assessing youth well-being can be found in the context of the EU Youth Strategy[4]. The most recent, launched in November 2018, focuses on the key concepts Engage, Connect, Empower, embraces the period 2019-2027, is developed around 11 objectives[5] and does not give an a priori definition of young people, considering this category as flexible between 15-29 years depending on the socio-economic context and the phenomenon of interest. Moreover, the strategy emphasizes the role of data as key for evidence-based policies and identifies sources, indicators and targets to monitor trends and progresses in its implementation[6]. Among the measurement experiences blossomed in a more strictly well-being oriented perspective, it is also interesting to report that of the United Kingdom developed within the Measuring National Well-being programme. The Office for National Statistics has in fact released a set of well-being indicators for young people aged 16 to 24 (Measures of National Well-being Dashboard) which embraces various aspects of their quality of life[7].

1 This chapter was edited by Romina Fraboni, Miria Savioli, Elisabetta Segre, Alessandra Tinto and Anna Villa
2 Chen T. et al. 2018, European Commission 2018, Oecd 2017a, 2017b, 2018b, 2019.
3 In order to strengthen its implementation, the program was also joined by the Undp's First Youth Global Programme for Sustainable Development and Peace – Youth-GPS (2016-2020). https://www.undp.org/content/undp/en/home/librarypage/democratic-governance/Youth-GPS.html.
4 Policy tools specifically devoted to young people have been introduced in Europe since the early 2000s: in 2002 in particular the European Commission published the White Paper "A new impetus for european youth". EU Youth strategy is available on the website https://ec.europa.eu/youth/policy/youth-strategy_en.
5 Connecting EU with Youth; Equality of All Genders; Inclusive Societies; Information & Constructive Dialogue; Mental Health & Wellbeing; Moving Rural Youth Forward; Quality Employment for All; Quality Learning; Space and Participation for All; Sustainable Green Europe; Youth Organisations & European Programmes.
6 Eurostat's website provides a collection of objective and subjective indicators for young people between 15 and 29 years old in 9 domains: Population, Education and training, Employment, Health, Social inclusion, Culture and creativity, Participation, Volunteering, Digital world. https://ec.europa.eu/eurostat/web/youth/data/database.
7 The dimensions are: Personal well-being, Our relationships, Health, What we do, Where we live, Personal finance, Education and skills. https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/ articles/youngpeopleswellbeingandpersonalfinance/2017.

Beyond these dashboards, as often happens with multidimensional phenomena, some composite measures which synthesize in a single value a more or less wide battery of indicators have been developed. Even if there is a lack of coherence in their definitions it is worth mentioning some of the most popular indexes: the Global youth wellbeing index; the Youth progress index; the Youth Development Index[8].
Even the OECD, within a project on youth inclusion implemented in the 2014-2017 period, has moved towards this approach. Youth well-being is measured here starting from the How's life framework, through a very wide selection of indicators focusing on five dimensions: health, education and skills, employment, participation and empowerment, satisfaction and other subjective matters[9]. Starting form this framework, a summary measure including a subset of dimensions that represent the minimum conditions for youth is then proposed. The selected dimensions are education, employment, health and civic participation; indicators in each dimension are synthesized in a youth multideprivation measure: the Youth Multi-dimensional Deprivation Indicator (Y-MDI) (OECD, 2017b).
Starting with this inspiring work, youth well-being is measured here through the development of a multidimensional well-being indicator similar in the calculation method to the Y-MDI, but different in the selection of relevant dimensions and indicators.

Data and methods

The concept of deprivation is here understood, in line with the capability approach defined by Sen (Sen, 1998), such as the failure to achieve a plurality of factors (individual and context) acting in determining the well-being of young people.
The approach proposed by the OECD for the Y-MDI (Youth MultiDeprivation Index) provides a synthetic (and easily visualizable) tool for the evaluation and monitoring of youth well-being. We base this analysis on the OECD approach setting it within the conceptual framework of Equitable and Sustainable Well-being (Bes) developed by Istat.
From an operational point of view, the first step was the identification of key domains or dimensions in order to assess the achievement of the minimum well-being conditions for young people. Five independent dimensions were identified: Health; Work, Education and Training; Subjective Well-being; Social Cohesion (which includes the domains Social Relationships and Politics and Institutions); Territory (which groups the Landscape and cultural heritage, Environment and Quality of Services domains). The correspondence with the 12 domains of the BES framework is not one to one: we focused on those more representative of personal well-being and in some cases, accordingly with data availability, we end up with a composition of two or more domains of the Bes framework into one.
Data availability was hindered by the necessity to base the analysis on a single data source. This specific need is linked with the objective of this work to analyse youth deprivation in its various dimensions and at the same time to identify the coexistence of deprivation in several dimensions (multi-deprivation). It follows that the same youth are measured on all dimensions. In particular, the survey that allows to calculate individual indicators for a wide range of relevant Bes dimensions is the Istat survey on Aspects of Daily Life (Avq).
For each dimension, 3 Avq indicators have been identified, both objective and subjective measures, and for each of them a threshold was defined to identify deprived youth.
Table 1 shows indicators by domain and the corresponding thresholds.

8 http://www.youthindex.org/; https://www.youthforum.org/youth-progress-index; https://thecommonwealth.org/youthdevelopmentindex.

9 The Youth inclusion project, co-financed by the European Union, aimed at supporting 10 developing countries in defining national youth policies.

The youth is by nature a complex and heterogeneous universe and, depending on the age group chosen, the conceptual framework and its measurement (dimensions, indicators) change substantially.
This analysis is carried out on young people aged 18-34 (about 7,400 interviews, representing almost 10 million and 700 thousand young people). With respect to a specific dimension, a young person is defined as deprived if he/she is below the threshold for at least two of the three indicators.
In a second step of analysis a multi-deprivation indicator is calculated, identifying young people who are deprived with respect to two or more dimensions of well-being. The results, available for 2012 and 2018, are analysed over time, by gender, territory and specific age groups (18-24 and 25-34).

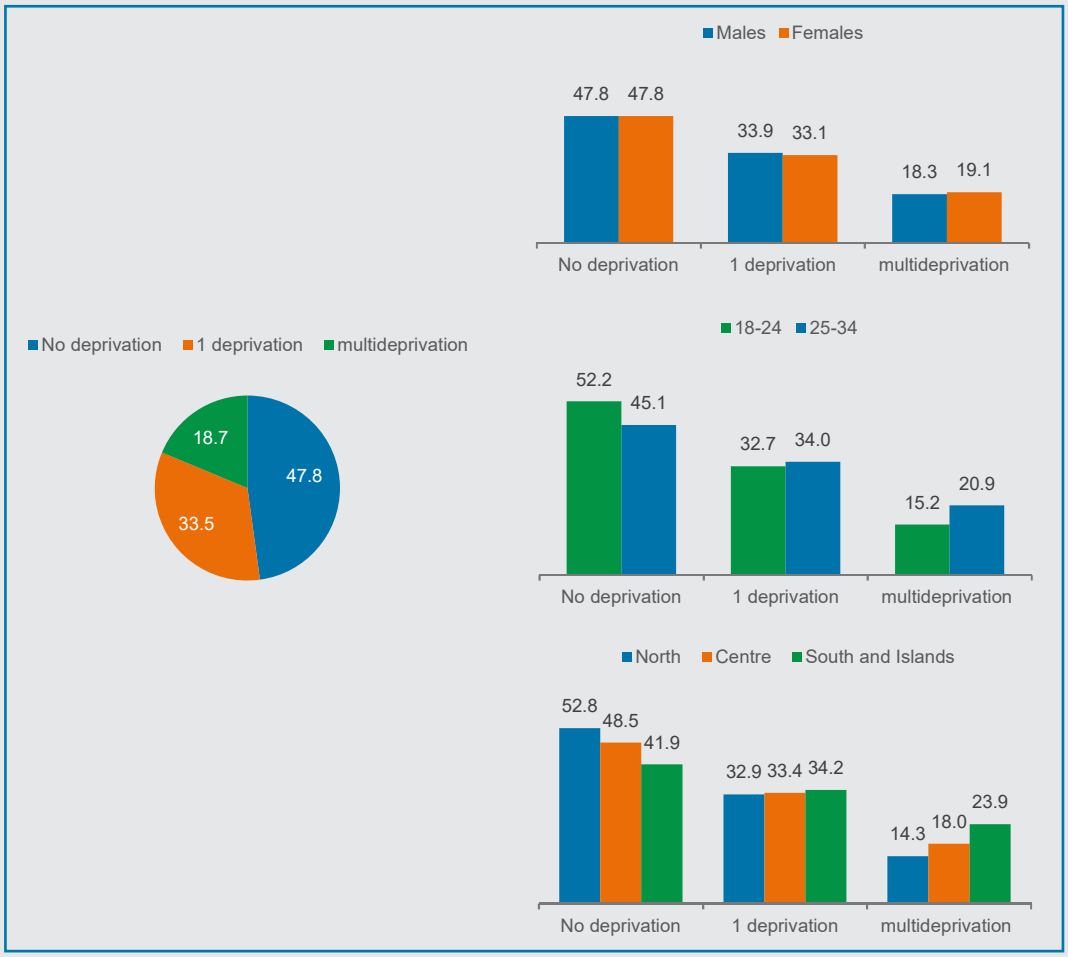
Table 1 – Domains, indicators and definition of deprivation

Domains	Indicators	Definition of deprivation
Health	Perceived health	Not seeling well nor very well
	Alcohol consumption	At least one risk behavior in alcohol consumption (exceeding the daily consumption of alcohol or binge drinking)
	Overweight or obesity	Overweight (25 <= BMI <30) or obese (BMI> 30) according to the Body Mass Index (BMI) classification by the World Health Organization (WHO)
Work, Education and training	Employment and education	Not in employment nor enrolled in a school in education institute
	Cultural participation	Not carrying out any of the 9 cultural activities considered . The activities considered are: go to the cinema at least four times in the last 12 months; at least once to the theatre, exhibitions and museums, archaeological sites, monuments, concerts of classical music, opera, concerts of other kind of music in the last 12 months; read the newspaper at least three times per week, read at least four books in the last 12 months
	Level of education	At most a middle lower secondary education (for people 20-34 years old); not enrolled in school, courses or institutes (for people 18-19 years old)
Subjective well-being	Life satisfaction	Level of life satisfaction from 0 to 5 (on a scale from 0 to 10)
	Future perspectives	They believe their personal situation will worsen in the next 5 years (negative judgement of future perspectives)
	Leisure time satisfaction	Not satisfied or a little satisfied with their leisure time
Social cohesion (Social relationships, Politics and Institutions)	Satisfied with friends relations	Not satisfied or a little satisfied with relations with friends
	Civic and political participation	People not performing any activities of civic and political participation. The activities considered are: to speak about politics at least once a week; to inform of the facts of Italian politics at least once a week; to attend online consultation or voting on social issues (civic) or political (e.g. urban planning, sign a petition) at least once in the 3 months prior to the interview, to read and to post opinions on social or political issues on the web at least once in the 3 months preceding the interview
	Trust in parliament	Average score of trust in the Italian Parliament below the average of young people (<4), (on a scale from 0 to 10)
Territory (Environment, Landscape and cultural heritage, Quality of services)	Satisfaction with the landscape	People reporting that the landscape of the place where they live is affected by evident deterioration
	Satisfaction with the environmental	People not satisfied or a little satisfied for the environmental situation (air, water, noise) of the area where they live
	Service accessibility	People who find very difficult to reach 3 or more basic services among the 11 considered (pharmacy, emergency room, post office, police, carabinieri, municipal offices, crèches, nursery, primary and secondary school, market and supermarket)

Findings

Overall, slightly less than half of young people aged 18-34 years (47.8%) show no deprivation, while one out of three (33.5%) shows one deprivation and 18.7% (slightly less than 2 million young people) is multi-deprived, i.e. deprived on two or more wellbeing dimensions. The latter group of young people, the multi-deprived one, is the target of the following analysis as it represents the most vulnerable part of the youth population, one upon which to draw policies attention.
Three out of four among the 2 millions of multi-deprived young people are in fact deprived for two dimensions, one out of five for three dimensions and the remaining 5%, the most fragile, for four or even five dimensions. The dimensions affecting the most the multi-deprivation condition are those related to Social relations and Political participation (69.5% of the multi-deprived ones are deprived in this domain), to Work, Education and Training (58.1%) and to the characteristics of the Territory where young people live (47.3%).
Although gender differences are negligible, age and, above all, territorial differences are relevant (Figure 1). Multi-deprivation is higher among young adults (25-34 years) (20.9% versus 15.2% for 18-24 years) and in the southern regions (major islands included), where 23.9% of young people is multi-deprived, 10 percentage points above young people in the North and about 6 percentage points above those in the Centre of Italy.

Figure 1. Young people aged 18-34 years by deprivation and specific characteristics. Year 2018. Percentages



Source: Istat, survey on Aspects of daily life

The most frequent association among dimensions of multi-deprivation is observed between the dimension describing Social relations and that expressing lack of Work and Education participation (two-fifths of multi-deprived cases). It follows a strong association between Social relations and Territory, which affects about a quarter of all cases of multi-deprivation, and between Work and Education and Territory (a quarter of cases). This picture seems to outline a strong inter-relationship between certain aspects of social cohesion, active inclusion in society and tangible and intangible infrastructures of the territory. The association between the domain of Education and Labour and the domain of satisfaction for Social relations is the strongest in all geographical macro areas. There are some aspects of specificity, though: Northern regions are affected also by a strong association between deprivation in Health and Social Cohesion, central regions by an overlap between deprivation in the Subjective Well-being indicators and in those related to the Territory and in the southern regions between Education and Work and Territory.

But what are the indicators, within domains, that contribute the most to make a sub-group of young people disadvantaged on a plurality of domains compared to another group?

Among the youngest (18-24 years old) the most affecting factors on multiple deprivation are alcohol use (25.8% against 18.9% for the older ones) and life dissatisfaction (38.8% against 33.8% for the older ones). But it is undoubtedly the young adults aged 25-34 years who suffer from a multiplicity of disadvantages: excess weight in Health domain (44% against 27.9% of 18-24 years of age), all indicators of the Work and Education domain, dissatisfaction for leisure time in Subjective Well-being domain (51.1% against 42.4% of the youngest) and dissatisfaction for friends in Social and Political Relations domain (33.8% against 25%).

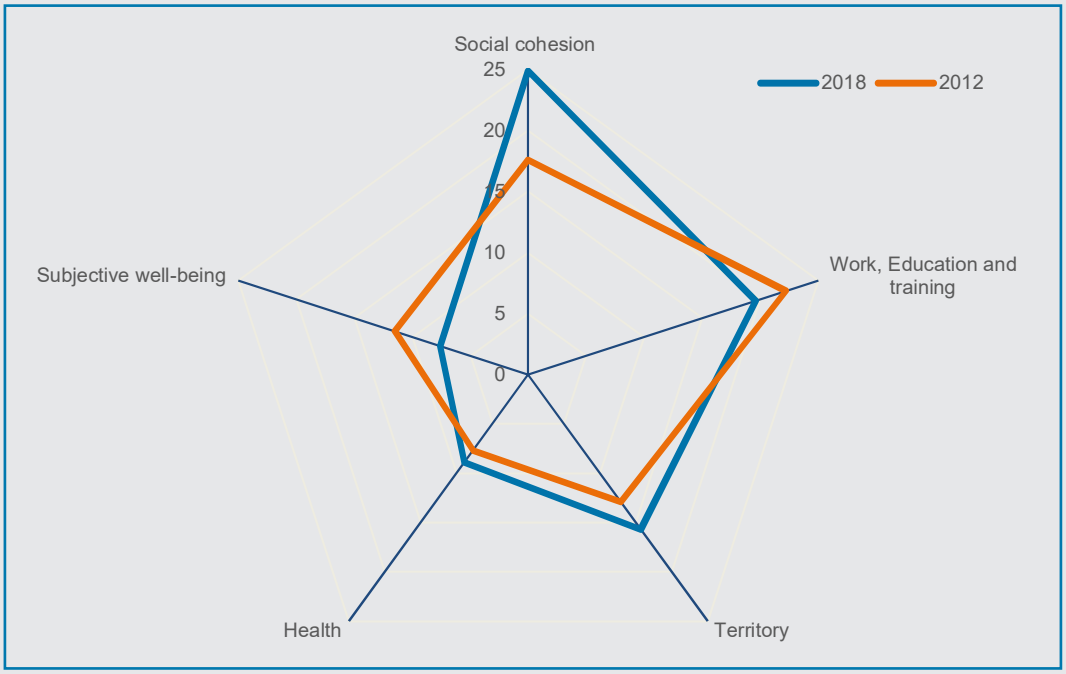
As far as territorial differences are concerned, the disadvantage of Southern Italy is characterized by levels of indicators that contribute to multiple deprivation with greater intensity, compared to other areas of the country, for all the indicators of the Education and Labour domain. In the South and Islands also the future prospects are considered to be worsening by a good part of young people (14.3% compared to 11.7% in the North and 13% in the Centre). Moreover, a high proportion of young people do not carry out civic and political participation activities (74.3% compared to about two thirds in other areas) and are dissatisfied about the environmental situation or the accessibility of the services of public utility.

Signs of deterioration using data from the 2012 wave. The share of young people with no deprivation has decreased by almost 4 percentage points, while both the share of young people with a single deprivation and the share of those in multi-deprivation condition have raised (respectively by 2.6 pp and 1.3 pp). There are important differences at territorial level. The worsening in the condition of young people has been stronger in northern and central regions, where the reduction in the share of young people with no symptoms of deprivation have dropped respectively by 8.4 and 4.8 percentage points. The reasons behind this dynamic are rather different, though. While in northern regions has increased the share of young people with a single symptom of deprivation (+3.2 pp), in central regions signals are of greater concern: it has consistently increased the share of multi-deprived young people (3.6 pp). In southern region the situation is stable.

Interesting results also emerge from the analysis by age group. For young people aged 18-24 the increase in deprivation was less intense (the share of young people with no deprivation dropped by 3.6 pp) and is generated solely by the increase in the share of those deprived in only one dimension. For young adults (25 -34) there was a more intense increase (the share of young people with no deprivation dropped by 4.1 pp) attributable to an increase of equal intensity of young adults with a single deprivation and multi-deprived ones. For a better understanding of these difference, it is useful to deepen the analysis looking at the domains. The dynamic in terms of share of deprived within each domain is almost the same by age group with the exception of Work and education. Here the situation for young aged between 18 and 24 has much improved (the share of deprived has fallen by 6, 3 pp), while it has remained almost stable among young adults (-0.2 pp). The share of young people 18-24 who

are not in employment or education has dropped from 27.2% in 2012 to 20.7 in 2018, while for young adults data registered only a small change (from 29.3 to 28.9%).
Overall, looking at Figure 2 it strikes a significant increase in the share of young people deprived in the domain of Social relations and political participation (from 17.6% in 2012 to 24.9%), while conditions improved in the Work and education domain (from 22.2% in 2012 to 19.6%) and in the Subjective well-being domain (7.6% compared to 11.5% in 2012). The latter is the domain which shows the lowest percentage of young deprived people.

Figure 2. Young people aged 18-34 years in deprivation by domain. Years 2012-2018. Percentages



Source: Istat, survey on Aspects of daily life

Final remarks

The analysis highlights a large group of young people, almost 2 million, who are more vulnerable because they are deprived in more than one dimension of well-being. The condition of multi-deprivation is a serious obstacle in the achievement of a young person potential and requires specific policy interventions. One point of particular attention is the well-being dimension which refers to social networks and political participation. This is the area where the disadvantage of young people is most intense and for which there has been a considerable worsening in the last five years. In addition, deprivation in the aspects of social cohesion has been closely associated with that of active inclusion (school/work), a dimension which could be more directly addressed by specific policies.

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ANALYSIS OF DETERMINANTS OF LIFE SATISFACTION[1]

Introduction

International recommendations for the study of well-being defined in the Stiglitz Report (Stiglitz et al., 2009) have stimulated research into the determinants of subjective well-being in the scientific literature (Stone et al., 2018); this is also due to the increased availability of subjective well-being measures, which are now included in the surveys of several national statistical institutes (Tinto et al., 2018).
Also at the international level there are several studies that aim at analysing social and economic progress from a "beyond GDP" perspective, including the United Nations World Happiness Report, published annually from 2012 (Helliwell et al., 2019), the report of the US National Academy of Science (Stone and Mackie, 2015), the OECD's How's Life? series (OECD, 2017). Different approaches are adopted for the analyses, however many studies which include territorial factors adopt a multi-level approach (see Aslam and Corrado, 2012; Pierewan A.C., Tampubolon G., 2014; Pittau et al. 2010, Ballas and Tranmer 2012), in order to capture the extent to which individual, family and territorial factors contribute to high levels of life satisfaction. The results of the implementation of multilevel models by geographic distribution were presented in the ISTAT Annual Report 2019, refining the contents of the in-depth analysis on "Determinants of subjective well-being in Italy" published in the 2018 issue of the Bes Report with the aim of including in the analysis aspects related to the territorial and economic characteristics of the context in which people live.
Several works aim at assessing the impact of "non-income related" factors on subjective well-being, considering household income as an indicator of individuals economic well-being (Ng and Diener, 2018; Fleche et al., 2012; Sacks, et al., 2010).
This type of approach was useful to deepen the association between subjective well-being, measured as a positive judgement of life satisfaction, and the relevant aspects that contribute to determine it, studied through the lens of the Bes domains.
Aim of this work, based on data from the ad hoc module on well-being of the European Union Statistics on Income and Living Conditions (Eu-silc), is to integrate the analyses carried out so far by specifically including economic factors together with those already considered previously for the analysis of the determinants of life satisfaction.
This contribution has the double objective of deepening the analysis of the association between life satisfaction and some individual and context variables, including the equivalent disposable income, and of observing regional variations of these associations. At the individual level, the economic and non-economic determinants will thus be put on an equal footing.

Data and methods

Data used in this study are taken from Eu-silc 2018 survey and the ad-hoc module on well-being. Individuals aged 16 and over, who directly provided the requested information, were asked to express the degree of satisfaction with the quality of several dimensions of their life (such as job, financial situation, leisure time, personal relationships, or overall life satisfaction), measured in a scale ranging from 0 (not at all satisfied) to 10 (completely satisfied). In this study we have modelled the probability P of being very satisfied, that is a response score equal to or greater than 8.

1 This chapter was edited by Barbara Baldazzi, Rita De Carli, Daniela Lo Castro, Miria Savioli, Isabella Siciliani and Alessandra Tinto.

The overall life satisfaction is estimated through a multilevel logistic model with random intercept and random slope, in order to take into account the hierarchical structure of our data. Data are structured in first level units (individuals), nested in second level units (household they belong to), nested in third level units (region of residence)[2]. The multilevel models allow, under certain assumptions, to decompose the overall variability of the phenomenon under study into the three levels considered and to measure the correlation between the responses of individuals belonging to the same household or living in the same region (but in different households)[3].
The assumption underlying this work is that units within groups are never completely independent: for example, individuals belonging to the same household, sharing many aspects related to the context that shape life satisfaction, tend to be more similar to each other in attributing meaning to the different individual components of well-being; in the same way, households living in the same area are likely to be affected in a similar way by the environmental and political characteristics they share within that specific context, as confirmed by other studies on this topic (Rampichini and D'Andrea, 1998)[4].
In order to verify the existence of a hierarchical structure, first we have estimated the "null" multilevel model, i.e. with no predictors, obtaining an estimate of how much of the overall variance is explained by between-groups variability by means of the intra-class correlation coefficient (ICC)[5], which provides a measure of the degree of homogeneity between observations belonging to the same group. The higher the ICC value, the more appropriate it becomes to use an estimation procedure that takes into account the positive correlation between the first level units belonging to the same higher level unit. In the specific case, the ICC is equal to 0.427, mainly due to the similarity within the same household (0.386) and to a lesser extent to the similarity of individuals of different households within the same region (0.041). Therefore, the ICC value confirms the preference for grouping individuals into second level units, such as households, and into third level units, such as regions.
In order to identify the determinants of life satisfaction, measured as a dichotomous variable equal to 1 if the individual declares a high level of satisfaction and 0 otherwise, the probability of being very satisfied is modelled considering, as covariates, individual characteristics (gender, age, citizenship, role within the household, level of education, occupational status, presence of physical limitations), household socio-economic status (logarithm of the equivalised disposable income, material and housing deprivation, accommodation tenure status),

2 The three-level logistic mutilevel model, with random intercepts and random slopes, can be formalized in this way: $logit(\boldsymbol{P}) = log\frac{\boldsymbol{P}}{\boldsymbol{1-P}} = \boldsymbol{X\beta} + \boldsymbol{Zu} + \boldsymbol{Kw} + \boldsymbol{\varepsilon}$, where $\boldsymbol{P}$ is the (n x 1) vector of the responses on the degree of satisfaction (1 very satisfied, 0 not at all), X is the (n x q_1) matrix of the covariates (including possible interactions) for which the fixed effects have to be estimated and $\boldsymbol{\beta}$ the (q_1 x 1) vector of the relative coefficients, Z is the (n x q_2) matrix of the covariates for which the random effects at the second level have to be estimated and u the (q_2 x 1) vector of the relative coefficients, K is the (n x q_3) matrix of the covariates for which the random effects at the third level have to be estimated and w the (q_3 x 1) vector of the relative coefficients, $\boldsymbol{\varepsilon}$ is the (n x 1) vector of the level-one residuals, n is the number of the level-one units (individuals). In this study the matrix X contains data on individual characteristics, household socio-economic status and territorial characteristics, the matrix Z contains only the intercept, and the matrix K contains the intercept and the logarithm of the disposable equivalised income.

3 The violation of the independence of observations assumption makes it difficult to adopt conventional models: using them in such circumstances, generally brings to underestimate standard errors and therefore to consider results statistically significant even if they are not.

4 The authors have noted that individuals from the same region share common socio-economic, political and culture environments, which, as well as individual characteristics, could determine their perceived satisfaction.

5 In three-level hierarchical models, the variability of the response variable can be decomposed into two components, between-groups variability (($\boldsymbol{\sigma}^2_u$ e $\boldsymbol{\sigma}^2_w$ are the variances at the second and third level respectively) and within-groups (residual) variability ($\boldsymbol{\sigma}^2_\varepsilon$ is the variance of level-one residual errors, approximated by the quantity $\pi 2/3$ in those cases where the response variable (having a logistic distribution) is obtained by the dichotomization of a quantitative dependent variable (Hox, 2002)). The ICC is therefore defined as $\frac{(\sigma^2_u + \sigma^2_w)}{(\sigma^2_u + \sigma^2_w + \sigma^2_\varepsilon)}$

territorial characteristics (type of municipality, logarithm of per capita municipal value added, per capita municipal social expenditure, soil sealing, unemployment rate and number of violent crimes reported at provincial level) (Table 1)[6].

Table 1. Selected indicators

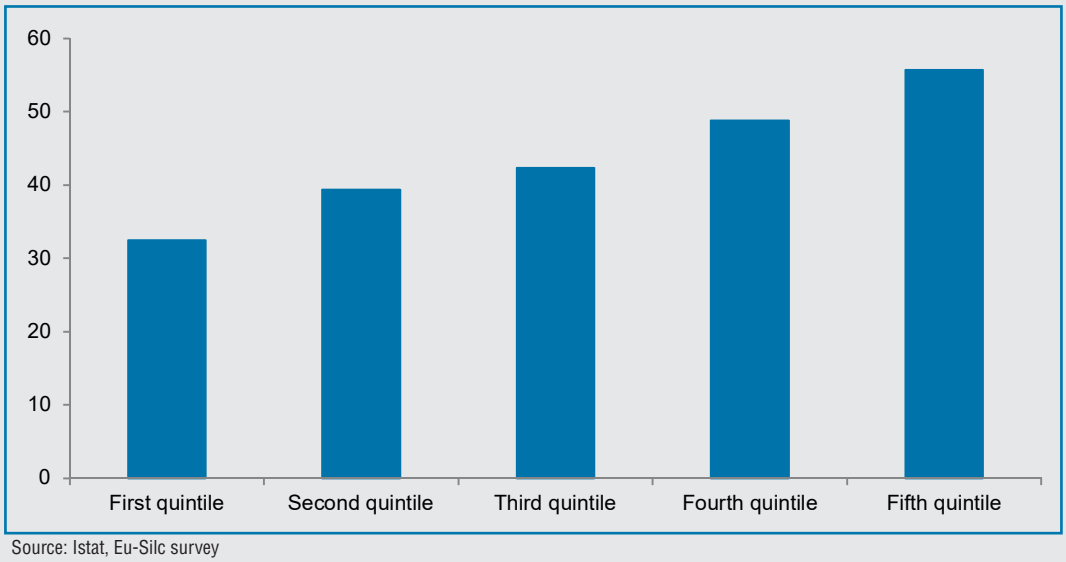
Domains	Indicators	Categories	Source
Individual characteristics			
Socio-demographic characteristics	Gender	Males, females	Istat, Eu-silc survey, 2018
	Age	In years	Istat, Eu-silc survey, 2018
	Family context	In couple without children, parent in couple with children, single parent, child, living alone, other	Istat, Eu-silc survey, 2018
	Citizenship	Italian, foreign	Istat, Eu-silc survey, 2018
Education and training	Level of education	Low (Isced 0-2), Medium (Isced 3-4), High (Isced 5-8)	Istat, Eu-silc survey, 2018
Work and life balance	Labour status	Employed, unemployed, inactive	Istat, Eu-silc survey, 2018
Health	Activity limitations	No limitations, severe limitations, non severe limitations, did not reply	Istat, Eu-silc survey, 2018
Household characteristics			
Economic well-being	Per capita disposable income	Net equivalised disposable income (log)	Istat, Eu-silc survey, 2018
	Arrangements under which the dwelling is occupied	Ownership, other	Istat, Eu-silc survey, 2018
	Material deprivation	Severe material deprivation, no material deprivation	Istat, Eu-silc survey, 2018
	Housing deprivation	Severe housing deprivation, no housing deprivation	Istat, Eu-silc survey, 2018
Territorial characteristics			
Structural characteristics	Municipality classification	Urban and suburban area Up to 10,000 inhabitants (small dimension) 10,001 inhabitants or more (medium dimension)	Istat, Eu-silc survey, 2018
Quality of services	Social expenditure of municipalities	Per capita social expenditure of municipalities (indicator at municipal level)	Istat, Census survey on interventions and social services of single and associated municipalities, 2016
Environment	Soil sealing from artificial land cover	Percentage of soil sealed following a change from non-artificial to artificial coverage	Ispra, Soil consumption, territorial dynamics and ecosystem services, 2017
Work and life balance	Unemployment rate	Percentage of unemployed persons in relation to the corresponding labour force (indicator at province level)	Istat, Labour Force Survey, 2018
Production system	Value added	Per capita value added (logarithm) (indicator at municipal level)	Istat, Extended register of economic variables at territorial level (Territorial Frame SBS), 2016
Safety	Violent crimes	Violent crimes reported (per 10,000 inhabitants) in the province of residence (provincial indicator)	Istat, Processing on data on crimes reported to Police Forces, 2017

In addition to the fixed effects of explanatory variables and to the random intercepts at household and regional levels, the model estimates also the random effect of the equivalised

6 In order to select the covariates to be included in the regression model, the presence of multicollinearity between predictors has been detected through the Variance Inflation Factor (VIF), defined as: $VIF = \frac{1}{1 - R^2}$ where R2 is the coefficient of determination. The quantitative variables has been previously mean centered and rescaled by the standard deviation. Analyses were conducted with R programming software using the package lme4 (Bates et al., 2015).

disposable income at regional level[7], in order to assess how much the effect of income varies on the degree of satisfaction in a specific region with respect to the expected average value for all individuals (fixed effect of income). This allows to evaluate specifically how life satisfaction reacts to the income values in the various regional contexts.
According to descriptive analysis, Eu-silc data show that individuals with a higher income have higher percentages of being very satisfied (55.7% of individuals who have an equivalised disposable income in the fifth quintile of income distribution) (Figure 1)[8].

Figure 1. Percentage of persons aged 16 and over referring to be very satisfied with their life (8-10 score on a 0 to 10 scale) by income quintile. Year 2018



Source: Istat, Eu-Silc survey

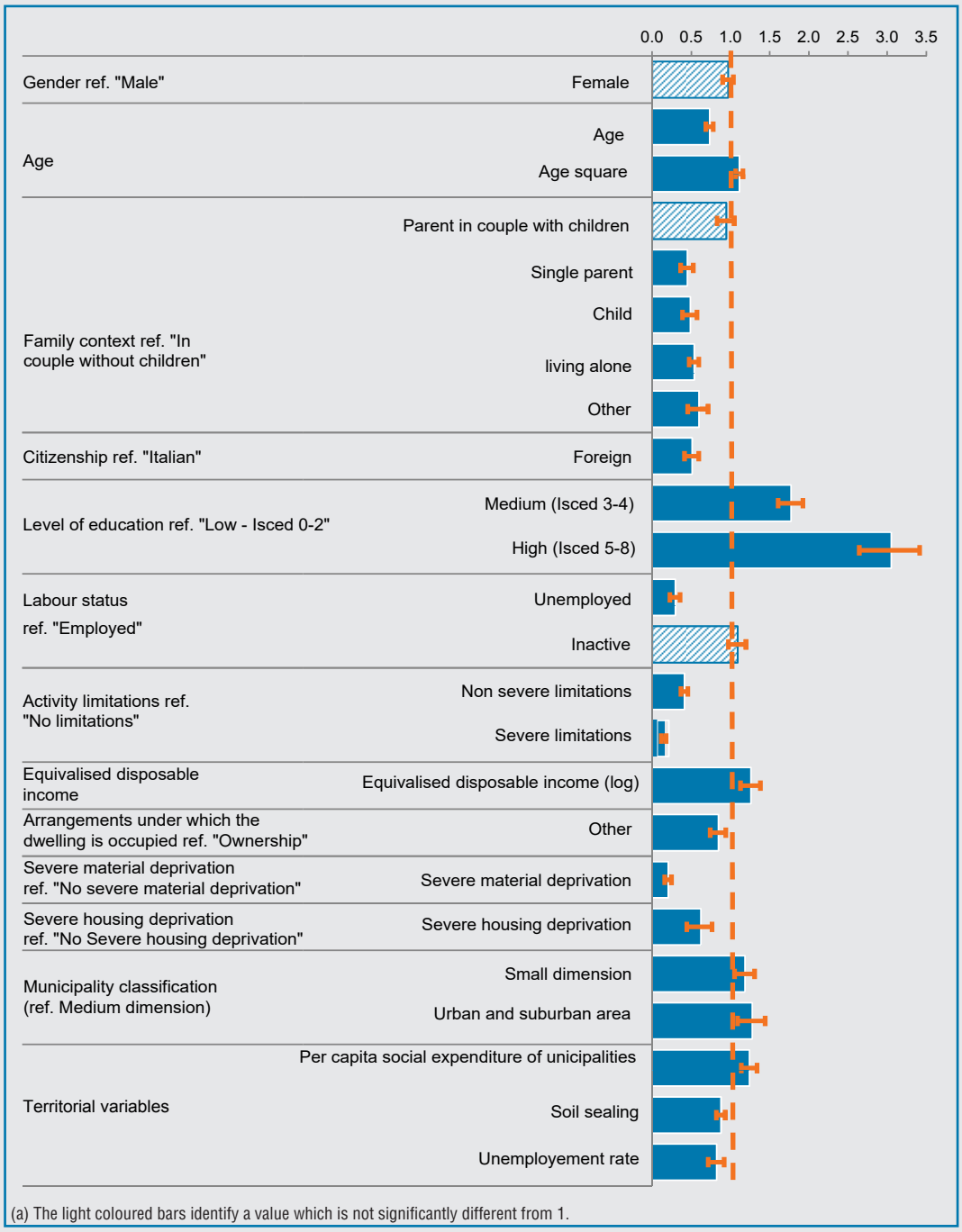
Results

The estimated fixed effects in the model are shown in Figure 2 in terms of odds ratio (OR). These represent the ratio between the odds of those who are exposed to a given risk factor and of those belonging to the target category. The odds are given by the probability of being very satisfied in relation to its complementary probability. In other words, the OR measures the association between the response variable and the covariate under examination: it's 1 in the absence of this association, it's more than 1 when the probability of being very satisfied increases in presence of risk factor; it's less than 1 when it decreases.
When analysing the model's results, referring to individual, family and context effects, it can be observed firstly that the fixed effects estimate indicates how positive variations in individual well-being perceptions are due to having a high educational qualification: among graduates the propensity to be very satisfied with life is about three times higher than among those with a lower educational qualification (OR 3.1), almost twice as high among graduates (OR 1.8) (Figure 2). Moreover, as age increases, the proportion of very satisfied decreases, with a slight recovery among the elderly, attested by a positive odds ratio for the squared age. A decisive factor that negatively affects life satisfaction at the individual level is the level of autonomy, which is included in the model as indicative of his or her general health status:

7 The equivalised income is calculated by dividing the total net household income by an appropriate correction factor (modified OECD equivalence scale), in order to take into account the effect of economies of scale and to make directly comparable income levels of households with different size and composition.

having limitations in carrying out daily activities, both serious (OR 0.1) and medium (OR 0.4), drastically decreases the probability of attributing high scores to life satisfaction. The position within the household can also be a relative disadvantage, especially that of a single parent or single person (OR 0.5 in both cases, comparing to those living in couple without children).

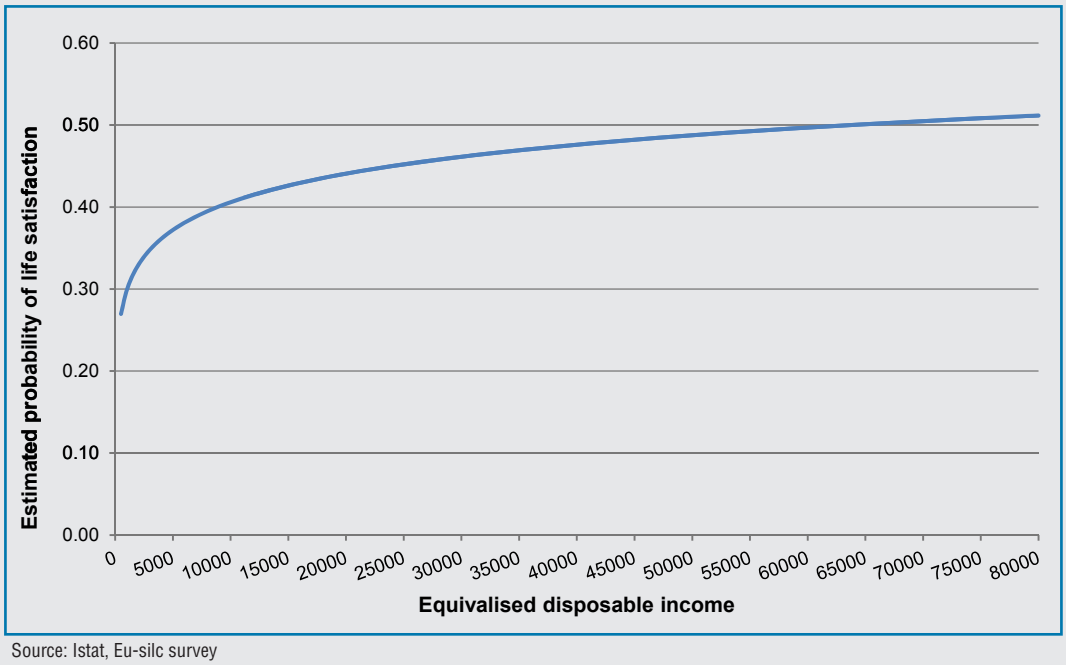
Figure 2. Estimates from the fixed effects logistic regression multilevel model on the probability of giving a 8-10 score to own life satisfaction. Year 2018 Odds ratio (a)



(a) The light coloured bars identify a value which is not significantly different from 1.

At household level, the economic resources provided by the equivalised household income lead to an increase in the propensity to be very satisfied, albeit with a lower OR compared to those just mentioned (OR 1.3). Relative disadvantages are severe deprivation (OR = 0.2 for material, OR = 0.6 for housing deprivation). Living in a non-owned dwelling reduces the chances of family members to be very satisfied with their lives (OR 0.8).
Regarding the territorial context in which people live, living in metropolitan areas but also in small municipalities increases the probability of being very satisfied (OR 1.3 and 1.2 respectively compared to those living in medium-sized municipalities). There is also a positive impact of local economic interventions, aimed at integrating and supporting weaker groups, with higher levels of satisfaction combined with higher levels of social spending in the municipality (OR 1.2). Living in a region with a high unemployment rate is a risk factor for satisfaction, as it reduces the probability of being very satisfied with one's life (OR 0.8).
These evidences show that economic resources have an impact on well-being, even if at a minor extent compared to the other factors taken into account. As said above, in fact, the odds ratio of the equivalised disposable income is 1.3. To give an idea of what this means in terms of relation between income level and life satisfaction, let us consider a baseline individual8 defined as the one having the characteristics of the reference category of categorical covariates and average values of quantitative covariates. Ceteris paribus, the overall probability of being very satisfied plotted versus the equivalised income is shown in Figure 3. As an example, other conditions being equal, with an equivalised income of 10,000 euros per year (about equal to the at-risk-of poverty threshold) such a probability is 0.41, with an equivalised income of 20,000 euros per year the probability rises to 0.44, and at 30,000 euros it becomes 0.46; for a very well-off individual, having for instance 500,000 euros,

Figure 3. Estimated probability of being very satisfied by level of equivalised disposable income

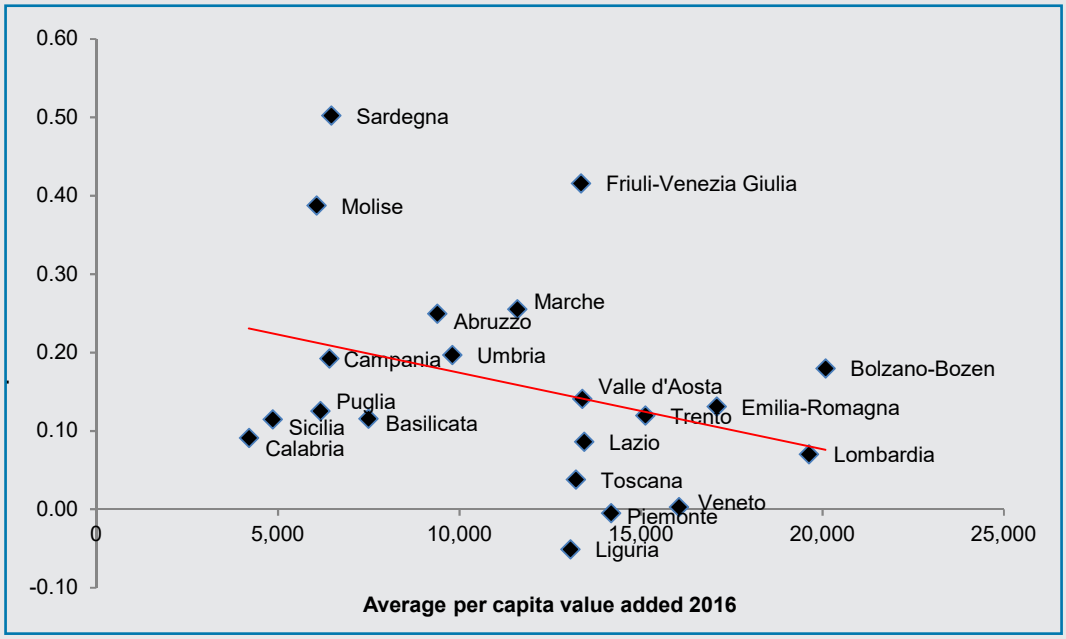


Source: Istat, Eu-silc survey

8 The baseline individual considered here is an Italian man of average age, living in a couple without children, with a low education level, occupied, without physical limitations, without material or housing deprivation, owner of the accommodation he lives in, living in a medium-sized municipality and in a territory where we fictitiously assume that the unemployment rate, the per capita value added, the reported crimes, the soil sealing, the per capita social expenditure are equal to the national average value.

the probability of being very satisfied would reach the value of 0.6. In more general terms, similar income increases imply a well-being growth greater in the lowest income classes and gradually minor in the upper classes.
Furthermore, variations in the association between equivalised disposable income and life satisfaction have been found across regions. Figure 4 displays the estimated random income slopes for each region plotted versus the regional per capita value added, here used as a measure of the richness of the region. The positive effect of income on life satisfaction (represented on the vertical axis) is stronger in Sardegna, Friuli-Venezia Giulia and Molise, denoting that the same income increase has a greater impact on the probability of very high satisfaction in these regions.
On the other side, taking into account the association between the equivalised disposable income effect and the area richness level, a slight inverse relation has been found on average: having more economic resources accounts more in poorer regions than in wealthier regions. The negative association, shown by the decreasing regression line, highlights that, controlling for basic socio-demographic characteristics, an individual living in a poor context is more likely to relate his subjective well-being to his own income, as confirmed by other similar studies (Pittau et al., 2010). In other words, disposable income is a better predictor for life satisfaction in poorer regions than in richer regions: this result does not necessarily mean that a low income person in a rich region (as Lombardia) feels less satisfied than a low income person in a less rich region (as Sardegna), but that other non-economic factors could have a greater impact on subjective satisfaction levels in less deprived areas.

Figure 4. Random effect of equivalised disposable income (a) by regional per capita value added



Source: Istat, Eu-silc survey; Extended register of economic variables at territorial level (Territorial Frame SBS)
a) The random effect measures the association between equivalised disposable income and life satisfaction within each region.

Final remarks

Although income is confirmed as one of the factors associated with high levels of life satisfaction, a number of other characteristics are particularly relevant, including educational attainment, health, employment status and housing conditions. At the territorial level, living in contexts characterised by a higher level of employment, higher levels of social expenditure

by the municipality, and better environmental conditions (measured by an indicator on soil sealed) brings an advantage in terms of life satisfaction.
Deepening the analysis of the impact of household income on life satisfaction, it emerges that it varies by region, with a more marked positive effect in the most economically disadvantaged territories.
These regional variations in the effect of economic resources should be further investigated, also to take into account territorial differentials in terms of purchasing power. A possible development of the analysis could be, for example, the inclusion of estimated sub-national spatial deflators in the model. Alternatively, one could also consider, among the explanatory factors, the relative economic positioning of individuals within the territorial context, in the hypothesis that the degree of satisfaction could also be determined in part by comparison with the economic situation of the other individuals living in the same context.

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Regional fact sheets[1]

In addition to the overall trend of the indicators (chapter 1), this Report proposes the reading of the evolution of well-being at the regional level through the composite indices that have been developed for the 12 domains of the Bes.

A selection of 130 indicators examined within the Report in used in the construction of the composite indices. The choice of indicators to be synthetized takes into account, on the one hand, the availability of data in time series and by regions and their timeliness, on the other hand, the need to provide a broad representation of the different aspects of each domain.

With respect to the 12 domains under analysis, in 9 cases a single composite index was computed, while for 3 domains two different indices were produced. This is the case of the "Work and Life balance" domain, for which an employment index and a quality and job satisfaction index are computed; of the "Economic well-being" domain, for which the indicators of income and inequality and those related to minimum economic conditions are aggregated separately; of the Safety domain, for which homicides are kept separate from other less serious criminal offenses (aggregated in "predatory crimes"). This is the reason why the results presented in the regional fact sheets refer to 15 dimensions.

Table 1 lists all the composite indices by domain, with the specification of the elementary indicators used and their polarity.

1 Regional fact sheets are curated by Barbara Baldazzi and Lorenzo Di Biagio, with contribution from Luigi Costanzo, Lorena Di Donatantonio and Vincenzo Spinelli.

Table 1. Composite indices and indicators used in their construction (name of the indicator within its domain, polarity, years for which the composite index is calculated)

Indicator	Polarity	Years
HEALTH		2010-2018
Life expectancy at birth	+	
Healthy life expectancy at birth	+	
Life expectancy without activity limitations at 65 years of age	+	
EDUCATION AND TRAINING		2010-2018
Participation in the school system of children aged 4-5	+	(a)
People with at least upper secondary education level (25-64 years old)	+	
People having completed tertiary education (30-34 years old)	+	
Early leavers from education and training	-	
Participation in life-long learning	+	
(a) Indicator available from 2013. From 2010 to 2012 data have been replicated with the 2013 data.		
WORK AND LIFE BALANCE		
EMPLOYMENT		2010-2018
Employment rate (20-64 years old)	+	
WORK QUALITY		2010-2018
Share of employed persons with temporary jobs for at least 5 years	-	
Share of employees with below 2/3 of median hourly earnings	-	
Share of employed persons not in regular occupation	-	(a)
Share of employed persons who feel satisfied with their work	+	(b)
Involuntary part time	-	
(a) Indicator available until 2016. The 2017 and 2018 data have been replicated with the 2016 data.		
(b) For 2008, 2010, 2011 and 2012 the figure has been imputed.		
ECONOMIC WELL-BEING		
INCOME AND INEQUALITY		2010-2017
Per capita disposable income	+	
Disposable income inequality	-	
MINIMUM LIVING CONDITIONS		2010-2018
Severe material deprivation rate	-	
Severe housing deprivation	-	
Index of economic distress	-	
Very low work intensity	-	
SOCIAL RELATIONSHIPS		2010-2018
Satisfaction with family relations	+	
Satisfaction with friends relations	+	
People to rely on	+	(a)
Social participation	+	
Civic and political participation	+	(b)
Voluntary activity	+	
Association funding	+	
Generalized trust	+	
(a) Data for the years 2010, 2011, 2012 have been interpolated.		
(b) Indicator available since 2011. The 2010 data has been estimated.		
POLITICS AND INSTITUTIONS		2010-2018
Trust in the parliament	+	(a)
Trust in judicial system	+	(a)
Trust in political parties	+	(a)
Trust in police and fire brigade	+	(b)
Women and political representation at regional level	+	(c)
Length of civil proceedings	-	(b)
Prison density	-	
(a) Indicator available since 2011. The 2010 data has been replicated with the 2011 data.		
(b) Indicator available since 2012. The 2010 and 2011 data have been replicated with the 2012.		
(c) Indicator available since 2012 but not in 2016. The 2010 and 2011 data have been replicated with the 2012, the 2016 data has been estimated.		
SAFETY		
HOMICIDE		2010-2018
Homicide rate	-	
PROPERTY CRIMES		2010-2018
Burglary rate	-	
Pick-pocketing rate	-	
Robbery rate	-	

Table 1 continued. **Composite indices and indicators used in their construction** (name of the indicator within its domain, polarity, years for which the composite index is calculated)

Indicator	Polarity	Years
SUBJECTIVE WELL-BEING		2010-2018
Life satisfaction	+	
LANDSCAPE AND CULTURAL HERITAGE		2010-2018
Current expenditure of Municipalities for culture	+	(a)
Illegal building rate	-	
Spread of rural tourism facilities	+	
People that are not satisfied with the quality of landscape of the place where they live	-	(b)
(a) Indicator available until 2017. The 2018 data has been replicated with the 2017 data.		
(b) Indicator available for the years 2012 and 2014 to 2018. The 2010 and 2011 data have been replicated with the 2012. The 2013 data has been estimated.		
ENVIRONMENT		2010-2018
Water losses in urban supply system	-	(a)
Landfill of waste	-	
Quality of urban air *	-	(b)
Urban green	+	(c)
Satisfaction for the enviroment	+	
Protected natural areas	+	(d)
Electricity from renewable sources	+	(e)
Separate collection of municipal waste	+	
* Maximum value between the percentage of units in municipalities with valid measurements that have recorded more than 35 days/ year of exceeding the daily limit value for PM_{10} and the percentage of units that have exceeded the annual limit value for NO2.		
(a) Indicator available for 2012 and 2015. The 2010, 2011, 2013 and 2014 data have been estimated. The 2016, 2017 and 2018 data have been replicated with the 2015.		
(b) Indicator available since 2013. for 2010, 2011 and 2012 data, the figure was estimated on the basis of the changes observed for the indicator on the maximum number of days the PM10 limit was exceeded among all fixed air quality monitoring units in the regional capital cities.		
(c) Indicator available from 2011 to 2017. The 2010 data has been replicated with the 2011. The 2018 data has been replicated with the 2017.		
(d) Indicator available for the years 2012, 2013, 2016 and 2017. The 2010 and 2011 data have been replicated with the 2012 data. The 2014 and 2015 data have been estimated.		
(e) The 2018 data has been replicated with the 2017 data.		
INNOVATION, RESEARCH AND CREATIVITY		2010-2018
R&D intensity	+	(a)
Impact of knowledge workers on employment	+	
Cultural employment (% of total employment)	+	(b)
(a) Indicator available until 2017. The 2018 data has been replicated with the 2017.		
(b) Indicator available since 2011. The 2010 data has been replicated with the 2011.		
QUALITY OF SERVICES		2010-2017
Beds in residential health care facilies	+	(a)
Children who benefited of early childhood services	+	(b)
Composite index of service accessibility	-	
Irregularities in water supply	-	
Seat-Km of public transport networks	+	
Satisfaction with means of transport	+	
(a) Indicator available from 2011 to 2016. The 2010 data has been replicated with the 2011. The 2017 data has been replicated with the 2016.		
(b) Indicator available until 2016. 2016. The 2017 data has been replicated with the 2016.		

Note: Polarity is defined as the existence of a direct (+ sign) or inverse (- sign) relationship to the dimension of the reference well-being.

GEOGRAPHIC AREAS

Composite indices for North, Centre, South and Islands and Italy. Years 2017/2018. Italy 2010=100 (a)

Changes of composite indices between the latest available year and the previous year for North, Centre, South and Islands and Italy. Years 2017/2018 (b)

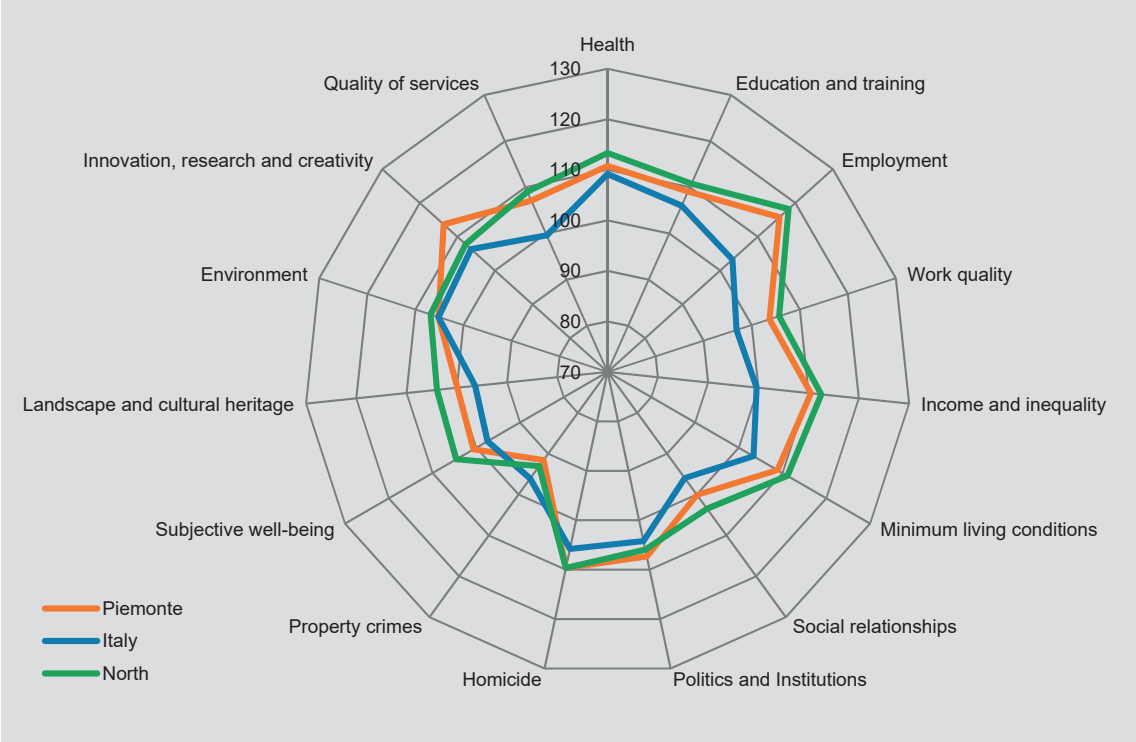
REGIONS AND GEOGRAPHIC AREAS	Health	Education and training	Employment	Work quality	Income and inequality	Minimum living conditions	Social relationships	Politics and Institutions	Homicide	Property crimes	Subjective well-being	Landscape and cultural heritage	Environment	Innovation, research and creativity	Quality of services
	2018	2018	2018	2018	2017	2018	2018	2018	2018	2018	2018	2018	2018	2018	2017
North															
Centre															
South and Island															
Italy															

(a) For the composite indices of Income and Inequality and Quality of Services the latest update refers to 2017.

(b) If the difference between the two years is greater than or equal to 0.5 the change is considered positive (in green); if less than or equal to -0.5 it is considered negative (in red). In the interval (-0.5; +0.5) the value is considered stable (in grey).

PIEMONTE

Composite indices for Piemonte, North and Italy. Years 2017/2018. Italy 2010=100 (a)



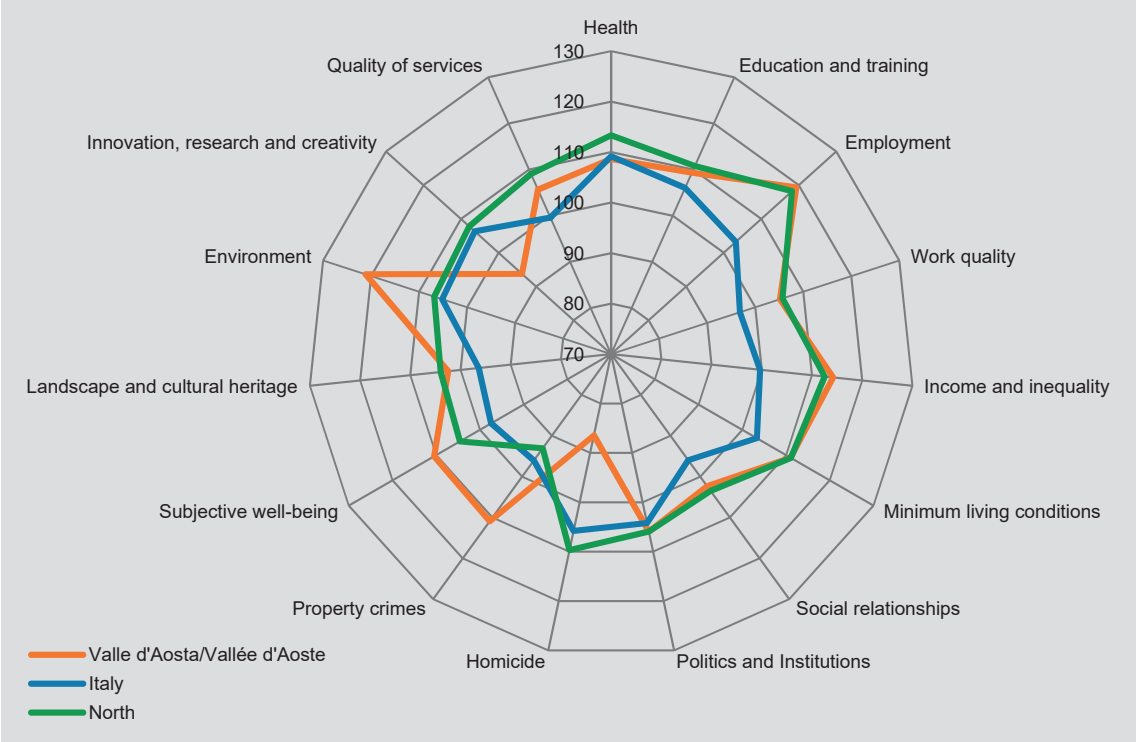
Changes of composite indices between the latest available year and the previous year for Piemonte, North and Italy. Years 2017/2018 (b)

REGIONS AND GEOGRAPHIC AREAS	Health	Education and training	Employment	Work quality	Income and inequality	Minimum living conditions	Social relationships	Politics and Institutions	Homicide	Property crimes	Subjective well-being	Landscape and cultural heritage	Environment	Innovation, research and creativity	Quality of services
	2018	2018	2018	2018	2017	2018	2018	2018	2018	2018	2018	2018	2018	2018	2017
Piemonte															
North															
Italy															

(a) For the composite indices of Income and Inequality and Quality of Services the latest update refers to 2017.
(b) If the difference between the two years is greater than or equal to 0.5 the change is considered positive (in green); if less than or equal to -0.5 it is considered negative (in red). In the interval (-0.5; +0.5) the value is considered stable (in grey).

VALLE D'AOSTA/VALLÉE D'AOSTE

Composite indices for Valle d'Aosta/Vallée d'Aoste, North and Italy. Years 2017/2018. Italy 2010=100 (a)



Changes of composite indices between the latest available year and the previous year for Valle d'Aosta/Vallée d'Aoste, North and Italy. Years 2017/2018 (b)

REGIONS AND GEOGRAPHIC AREAS	Health	Education and training	Employment	Work quality	Income and inequality	Minimum living conditions	Social relationships	Politics and Institutions	Homicide	Property crimes	Subjective well-being	Landscape and cultural heritage	Environment	Innovation, research and creativity	Quality of services
	2018	2018	2018	2018	2017	2018	2018	2018	2018	2018	2018	2018	2018	2018	2017
Valle d'Aosta															
North															
Italy															

(a) For the composite indices of Income and Inequality and Quality of Services the latest update refers to 2017.
(b) If the difference between the two years is greater than or equal to 0.5 the change is considered positive (in green); if less than or equal to -0.5 it is considered negative (in red). In the interval (-0.5; +0.5) the value is considered stable (in grey).

LIGURIA

Composite indices for Liguria, North and Italy. Years 2017/2018. Italy 2010=100 (a)

Changes of composite indices between the latest available year and the previous year for Liguria, North and Italy. Years 2017/2018 (b)

REGIONS AND GEOGRAPHIC AREAS	Health	Education and training	Employment	Work quality	Income and inequality	Minimum living conditions	Social relationships	Politics and Institutions	Homicide	Property crimes	Subjective well-being	Landscape and cultural heritage	Environment	Innovation, research and creativity	Quality of services
	2018	2018	2018	2018	2017	2018	2018	2018	2018	2018	2018	2018	2018	2018	2017
Liguria															
North															
Italy															

(a) For the composite indices of Income and Inequality and Quality of Services the latest update refers to 2017.
(b) If the difference between the two years is greater than or equal to 0.5 the change is considered positive (in green); if less than or equal to -0.5 it is considered negative (in red). In the interval (-0.5; +0.5) the value is considered stable (in grey).

LOMBARDIA

Composite indices for Lombardia, North and Italy. Years 2017/2018. Italy 2010=100 (a)

Changes of composite indices between the latest available year and the previous year for Lombardia, North and Italy. Years 2017/2018 (b)

REGIONS AND GEOGRAPHIC AREAS	Health	Education and training	Employment	Work quality	Income and inequality	Minimum living conditions	Social relationships	Politics and Institutions	Homicide	Property crimes	Subjective well-being	Landscape and cultural heritage	Environment	Innovation, research and creativity	Quality of services
	2018	2018	2018	2018	2017	2018	2018	2018	2018	2018	2018	2018	2018	2018	2017
Lombardia															
North															
Italy															

(a) For the composite indices of Income and Inequality and Quality of Services the latest update refers to 2017.
(b) If the difference between the two years is greater than or equal to 0.5 the change is considered positive (in green); if less than or equal to -0.5 it is considered negative (in red). In the interval (-0.5; +0.5) the value is considered stable (in grey).

BOLZANO/BOZEN

Composite indices for Bolzano/Bozen, North and Italy. Years 2017/2018. Italy 2010=100 (a)

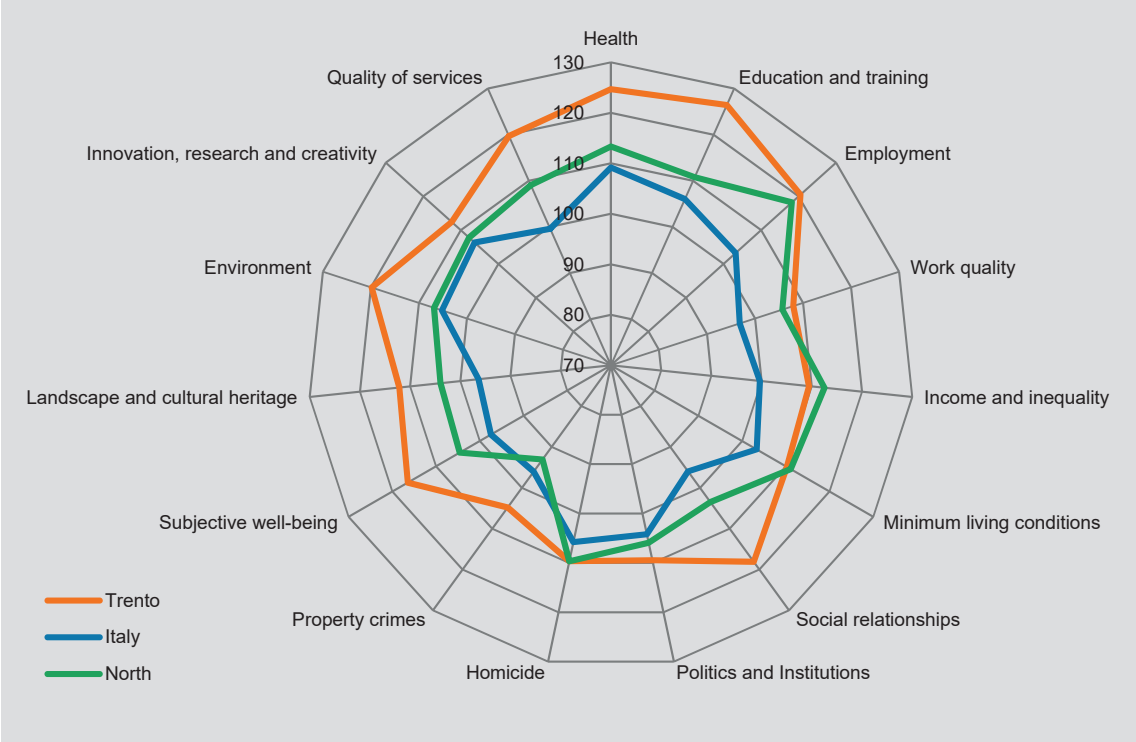
Changes of composite indices between the latest available year and the previous year for Bolzano/Bozen, North and Italy. Years 2017/2018. (b)

REGIONS AND GEOGRAPHIC AREAS	Health	Education and training	Employment	Work quality	Income and inequality	Minimum living conditions	Social relationships	Politics and Institutions	Homicide	Property crimes	Subjective well-being	Landscape and cultural heritage	Environment	Innovation, research and creativity	Quality of services
	2018	2018	2018	2018	2017	2018	2018	2018	2018	2018	2018	2018	2018	2018	2017
Bolzano															
North															
Italy															

(a) For the composite indices of Income and Inequality and Quality of Services the latest update refers to 2017.
(b) If the difference between the two years is greater than or equal to 0.5 the change is considered positive (in green); if less than or equal to -0.5 it is considered negative (in red). In the interval (-0.5; +0.5) the value is considered stable (in grey).

TRENTO

Composite indices for Trento, North and Italy. Years 2017/2018. Italy 2010=100 (a)



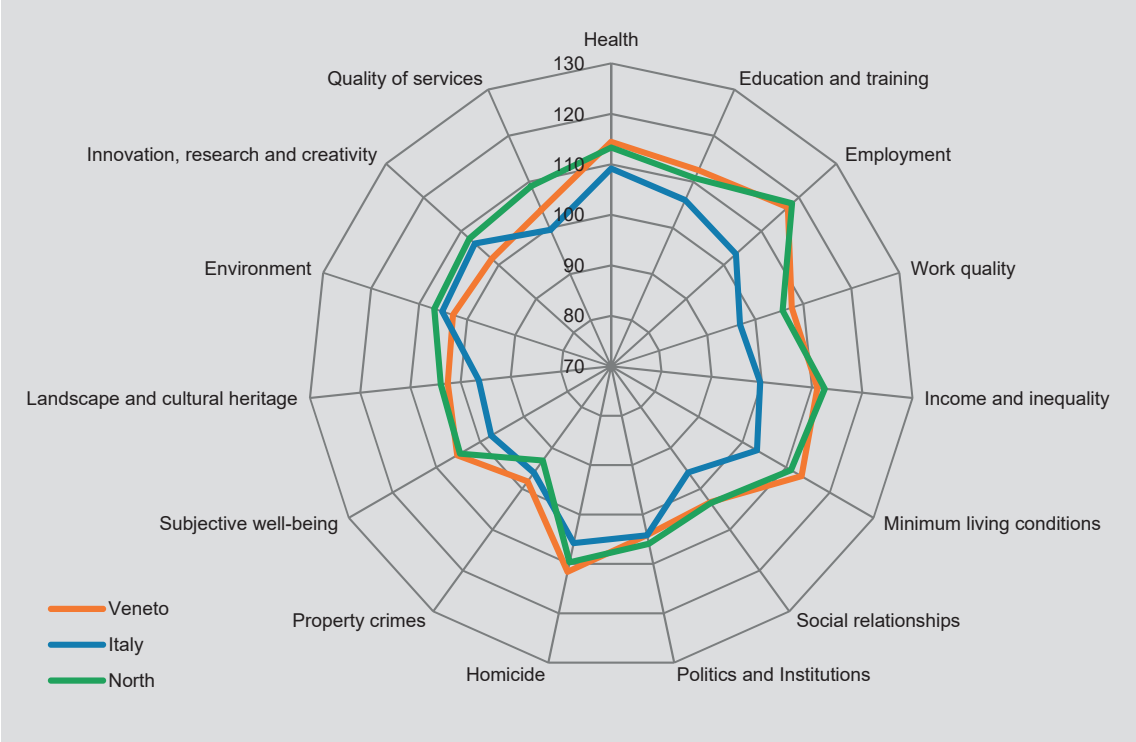
Changes of composite indices between the latest available year and the previous year for Trento, North and Italy. Years 2017/2018 (b)

REGIONS AND GEOGRAPHIC AREAS	Health	Education and training	Employment	Work quality	Income and inequality	Minimum living conditions	Social relationships	Politics and Institutions	Homicide	Property crimes	Subjective well-being	Landscape and cultural heritage	Environment	Innovation, research and creativity	Quality of services
	2018	2018	2018	2018	2017	2018	2018	2018	2018	2018	2018	2018	2018	2018	2017
Trento															
North															
Italy															

(a) For the composite indices of Income and Inequality and Quality of Services the latest update refers to 2017.
(b) If the difference between the two years is greater than or equal to 0.5 the change is considered positive (in green); if less than or equal to -0.5 it is considered negative (in red). In the interval (-0.5; +0.5) the value is considered stable (in grey).

VENETO

Composite indices for Veneto, North and Italy. Years 2017/2018. Italy 2010=100 (a)



Changes of composite indices between the latest available year and the previous year for Veneto, North and Italy. Years 2017/2018 (b)

REGIONS AND GEOGRAPHIC AREAS	Health	Education and training	Employment	Work quality	Income and inequality	Minimum living conditions	Social relationships	Politics and Institutions	Homicide	Property crimes	Subjective well-being	Landscape and cultural heritage	Environment	Innovation, research and creativity	Quality of services
	2018	2018	2018	2018	2017	2018	2018	2018	2018	2018	2018	2018	2018	2018	2017
Veneto															
North															
Italy															

(a) For the composite indices of Income and Inequality and Quality of Services the latest update refers to 2017.
(b) If the difference between the two years is greater than or equal to 0.5 the change is considered positive (in green); if less than or equal to -0.5 it is considered negative (in red). In the interval (-0.5; +0.5) the value is considered stable (in grey).

FRIULI-VENEZIA GIULIA

Composite indices for Friuli-Venezia Giulia, North and Italy. Years 2017/2018. Italy 2010=100 (a)

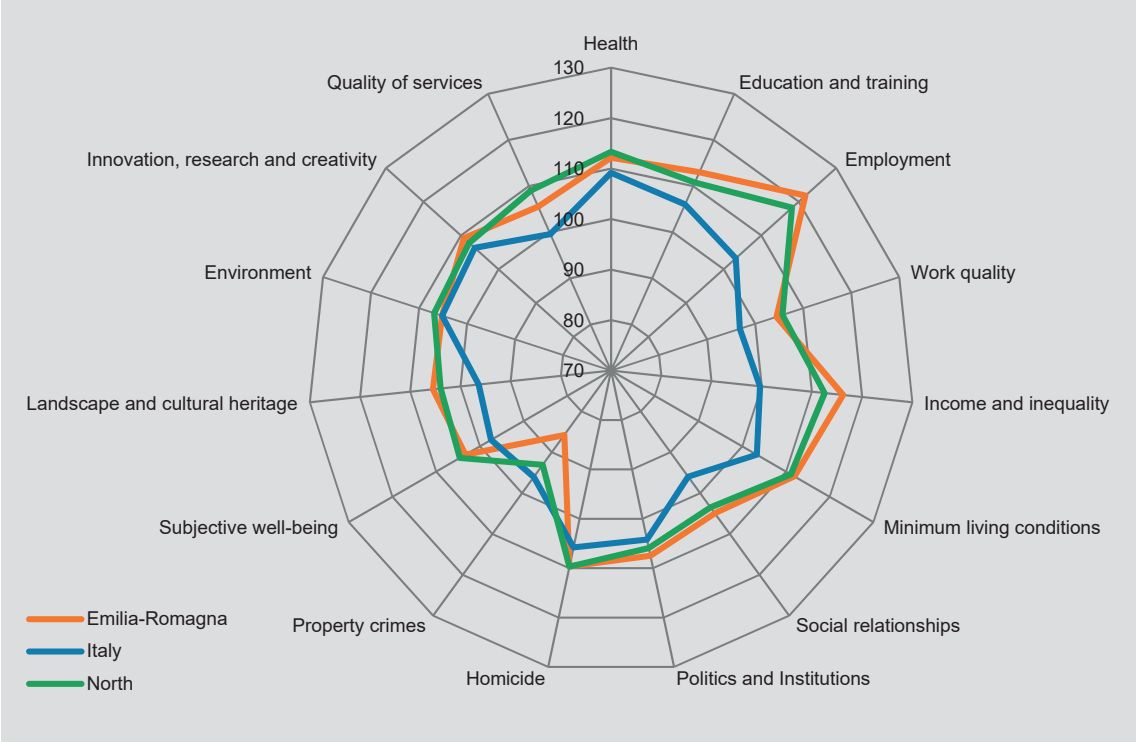
Changes of composite indices between the latest available year and the previous year for Friuli-Venezia Giulia, North and Italy. Years 2017/2018 (b)

REGIONS AND GEOGRAPHIC AREAS	Health	Education and training	Employment	Work quality	Income and inequality	Minimum living conditions	Social relationships	Politics and Institutions	Homicide	Property crimes	Subjective well-being	Landscape and cultural heritage	Environment	Innovation, research and creativity	Quality of services
	2018	2018	2018	2018	2017	2018	2018	2018	2018	2018	2018	2018	2018	2018	2017
Friuli-Venezia Giulia															
North															
Italy															

(a) For the composite indices of Income and Inequality and Quality of Services the latest update refers to 2017.
(b) If the difference between the two years is greater than or equal to 0.5 the change is considered positive (in green); if less than or equal to -0.5 it is considered negative (in red). In the interval (-0.5; +0.5) the value is considered stable (in grey).

EMILIA-ROMAGNA

Composite indices for Emilia-Romagna, North and Italy. Years 2017/2018. Italy 2010=100 (a)



Changes of composite indices between the latest available year and the previous year for Emilia-Romagna, North and Italy. Years 2017/2018 (b)

REGIONS AND GEOGRAPHIC AREAS	Health	Education and training	Employment	Work quality	Income and inequality	Minimum living conditions	Social relationships	Politics and Institutions	Homicide	Property crimes	Subjective well-being	Landscape and cultural heritage	Environment	Innovation, research and creativity	Quality of services
	2018	2018	2018	2018	2017	2018	2018	2018	2018	2018	2018	2018	2018	2018	2017
Emilia-Romagna															
North															
Italy															

(a) For the composite indices of Income and Inequality and Quality of Services the latest update refers to 2017.
(b) If the difference between the two years is greater than or equal to 0.5 the change is considered positive (in green); if less than or equal to -0.5 it is considered negative (in red). In the interval (-0.5; +0.5) the value is considered stable (in grey).

TOSCANA

Composite indices for Toscana, Centre and Italy. Years 2017/2018. Italy 2010=100 (a)

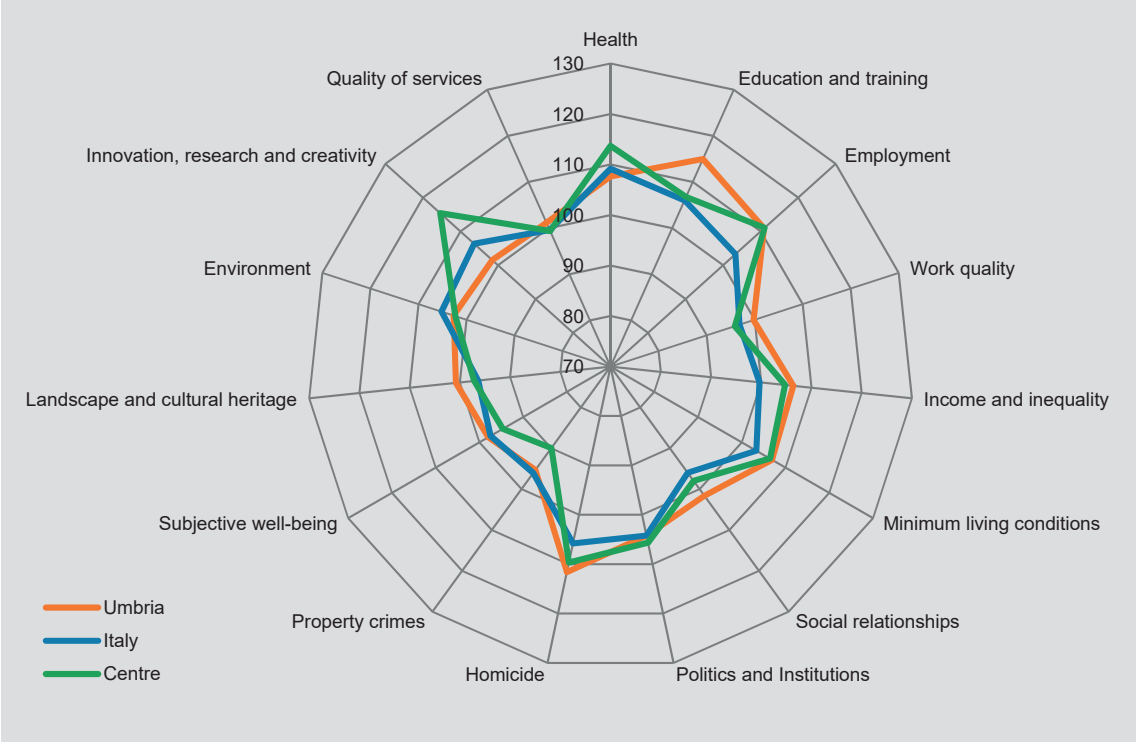
Changes of composite indices between the latest available year and the previous year for Toscana, Centre and Italy. Years 2017/2018 (b)

REGIONS AND GEOGRAPHIC AREAS	Health	Education and training	Employment	Work quality	Income and inequality	Minimum living conditions	Social relationships	Politics and Institutions	Homicide	Property crimes	Subjective well-being	Landscape and cultural heritage	Environment	Innovation, research and creativity	Quality of services
	2018	2018	2018	2018	2017	2018	2018	2018	2018	2018	2018	2018	2018	2018	2017
Toscana															
Centre															
Italy															

(a) For the composite indices of Income and Inequality and Quality of Services the latest update refers to 2017.
(b) If the difference between the two years is greater than or equal to 0.5 the change is considered positive (in green); if less than or equal to -0.5 it is considered negative (in red). In the interval (-0.5; +0.5) the value is considered stable (in grey).

UMBRIA

Composite indices for Umbria, Centre and Italy. Years 2017/2018. Italy 2010=100 (a)



Changes of composite indices between the latest available year and the previous year for Umbria, Centre and Italy. Years 2017/2018 (b)

REGIONS AND GEOGRAPHIC AREAS	Health	Education and training	Employment	Work quality	Income and inequality	Minimum living conditions	Social relationships	Politics and Institutions	Homicide	Property crimes	Subjective well-being	Landscape and cultural heritage	Environment	Innovation, research and creativity	Quality of services
	2018	2018	2018	2018	2017	2018	2018	2018	2018	2018	2018	2018	2018	2018	2017
Umbria															
Centre															
Italy															

(a) For the composite indices of Income and Inequality and Quality of Services the latest update refers to 2017.
(b) If the difference between the two years is greater than or equal to 0.5 the change is considered positive (in green); if less than or equal to -0.5 it is considered negative (in red). In the interval (-0.5; +0.5) the value is considered stable (in grey).

MARCHE

Composite indices for Marche, Centre and Italy. Years 2017/2018. Italy 2010=100 (a)

Changes of composite indices between the latest available year and the previous year for Marche, Centre and Italy. Years 2017/2018 (b)

REGIONS AND GEOGRAPHIC AREAS	Health	Education and training	Employment	Work quality	Income and inequality	Minimum living conditions	Social relationships	Politics and Institutions	Homicide	Property crimes	Subjective well-being	Landscape and cultural heritage	Environment	Innovation, research and creativity	Quality of services
	2018	2018	2018	2018	2017	2018	2018	2018	2018	2018	2018	2018	2018	2018	2017
Marche															
Centre															
Italy															

(a) For the composite indices of Income and Inequality and Quality of Services the latest update refers to 2017.
(b) If the difference between the two years is greater than or equal to 0.5 the change is considered positive (in green); if less than or equal to -0.5 it is considered negative (in red). In the interval (-0.5; +0.5) the value is considered stable (in grey).

LAZIO

Composite indices for Lazio, Centre and Italy. Years 2017/2018. Italy 2010=100 (a)

Changes of composite indices between the latest available year and the previous year for Lazio, Centre and Italy. Years 2017/2018 (b)

REGIONS AND GEOGRAPHIC AREAS	Health	Education and training	Employment	Work quality	Income and inequality	Minimum living conditions	Social relationships	Politics and Institutions	Homicide	Property crimes	Subjective well-being	Landscape and cultural heritage	Environment	Innovation, research and creativity	Quality of services
	2018	2018	2018	2018	2017	2018	2018	2018	2018	2018	2018	2018	2018	2018	2017
Lazio															
Centre															
Italy															

(a) For the composite indices of Income and Inequality and Quality of Services the latest update refers to 2017.
(b) If the difference between the two years is greater than or equal to 0.5 the change is considered positive (in green); if less than or equal to -0.5 it is considered negative (in red). In the interval (-0.5; +0.5) the value is considered stable (in grey).

ABRUZZO

Composite indices for Abruzzo, South and Islands and Italy. Years 2017/2018. Italy 2010=100 (a)

Changes of composite indices between the latest available year and the previous year for Abruzzo, South and Islands and Italy. Years 2017/2018 (b)

REGIONS AND GEOGRAPHIC AREAS	Health	Education and training	Employment	Work quality	Income and inequality	Minimum living conditions	Social relationships	Politics and Institutions	Homicide	Property crimes	Subjective well-being	Landscape and cultural heritage	Environment	Innovation, research and creativity	Quality of services
	2018	2018	2018	2018	2017	2018	2018	2018	2018	2018	2018	2018	2018	2018	2017
Abruzzo															
South and Islands															
Italy															

(a) For the composite indices of Income and Inequality and Quality of Services the latest update refers to 2017.
(b) If the difference between the two years is greater than or equal to 0.5 the change is considered positive (in green); if less than or equal to -0.5 it is considered negative (in red). In the interval (-0.5; +0.5) the value is considered stable (in grey).

MOLISE

Composite indices for Molise, South and Islands and Italy. Years 2017/2018. Italy 2010=100 (a)

Changes of composite indices between the latest available year and the previous year for Molise, South and Islands and Italy. Years 2017/2018 (b)

REGIONS AND GEOGRAPHIC AREAS	Health	Education and training	Employment	Work quality	Income and inequality	Minimum living conditions	Social relationships	Politics and Institutions	Homicide	Property crimes	Subjective well-being	Landscape and cultural heritage	Environment	Innovation, research and creativity	Quality of services
	2018	2018	2018	2018	2017	2018	2018	2018	2018	2018	2018	2018	2018	2018	2017
Molise															
South and Islands															
Italy															

(a) For the composite indices of Income and Inequality and Quality of Services the latest update refers to 2017.
(b) If the difference between the two years is greater than or equal to 0.5 the change is considered positive (in green); if less than or equal to -0.5 it is considered negative (in red). In the interval (-0.5; +0.5) the value is considered stable (in grey).

CAMPANIA

Composite indices for Campania, South and Islands and Italy. Years 2017/2018. Italy 2010=100 (a)

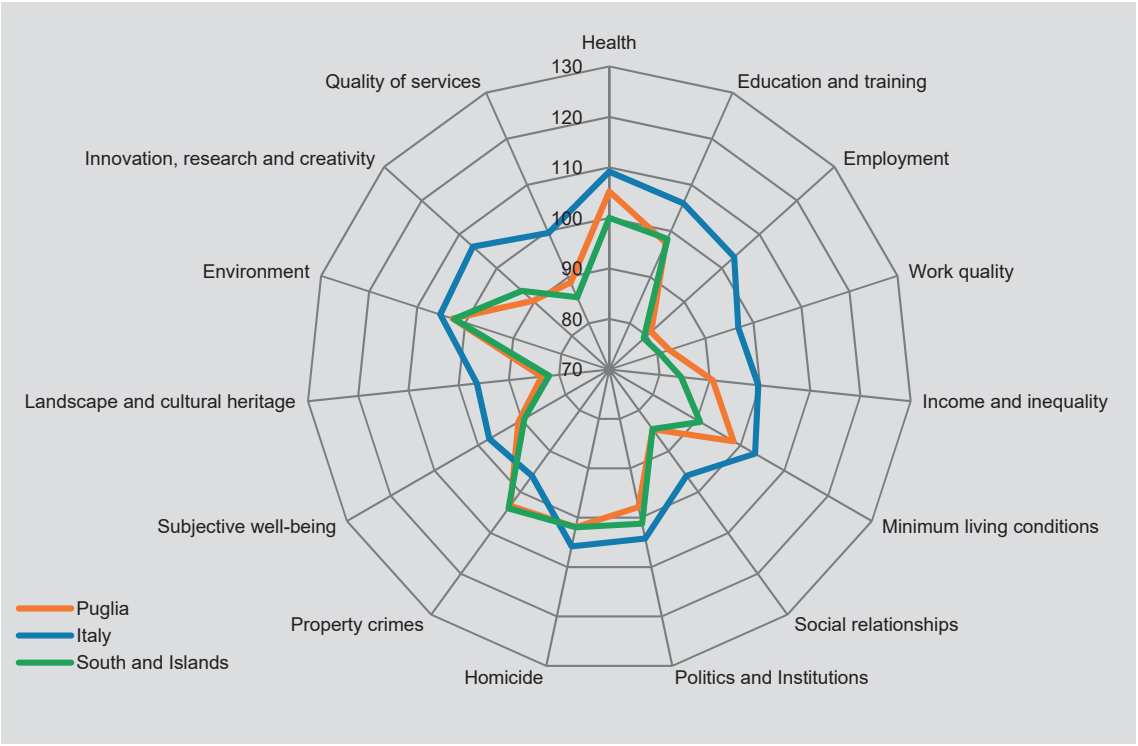
Changes of composite indices between the latest available year and the previous year for Campania, South and Islands and Italy. Years 2017/2018 (b)

REGIONS AND GEOGRAPHIC AREAS	Health	Education and training	Employment	Work quality	Income and inequality	Minimum living conditions	Social relationships	Politics and Institutions	Homicide	Property crimes	Subjective well-being	Landscape and cultural heritage	Environment	Innovation, research and creativity	Quality of services
	2018	2018	2018	2018	2017	2018	2018	2018	2018	2018	2018	2018	2018	2018	2017
Campania															
South and Islands															
Italy															

(a) For the composite indices of Income and Inequality and Quality of Services the latest update refers to 2017.
(b) If the difference between the two years is greater than or equal to 0.5 the change is considered positive (in green); if less than or equal to -0.5 it is considered negative (in red). In the interval (-0.5; +0.5) the value is considered stable (in grey).

PUGLIA

Composite indices for Puglia, South and Islands and Italy. Years 2017/2018. Italy 2010=100 (a)



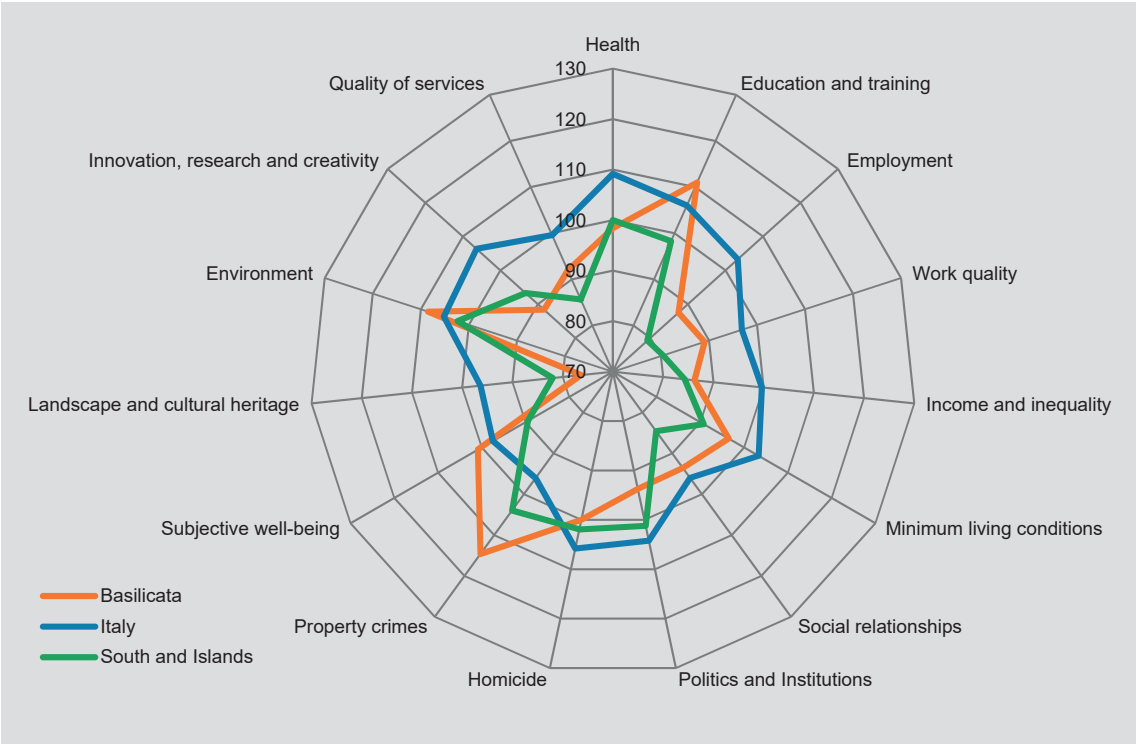
Changes of composite indices between the latest available year and the previous year for Puglia, South and Islands and Italy. Years 2017/2018 (b)

REGIONS AND GEOGRAPHIC AREAS	Health	Education and training	Employment	Work quality	Income and inequality	Minimum living conditions	Social relationships	Politics and Institutions	Homicide	Property crimes	Subjective well-being	Landscape and cultural heritage	Environment	Innovation, research and creativity	Quality of services
	2018	2018	2018	2018	2017	2018	2018	2018	2018	2018	2018	2018	2018	2018	2017
Puglia															
South and Islands															
Italy															

(a) For the composite indices of Income and Inequality and Quality of Services the latest update refers to 2017.
(b) If the difference between the two years is greater than or equal to 0.5 the change is considered positive (in green); if less than or equal to -0.5 it is considered negative (in red). In the interval (-0.5; +0.5) the value is considered stable (in grey).

BASILICATA

Composite indices for Basilicata, South and Islands and Italy. Years 2017/2018. Italy 2010=100 (a)



Changes of composite indices between the latest available year and the previous year for Basilicata, South and Islands and Italy. Years 2017/2018 (b)

REGIONS AND GEOGRAPHIC AREAS	Health	Education and training	Employment	Work quality	Income and inequality	Minimum living conditions	Social relationships	Politics and Institutions	Homicide	Property crimes	Subjective well-being	Landscape and cultural heritage	Environment	Innovation, research and creativity	Quality of services
	2018	2018	2018	2018	2017	2018	2018	2018	2018	2018	2018	2018	2018	2018	2017
Basilicata															
South and Islands															
Italy															

(a) For the composite indices of Income and Inequality and Quality of Services the latest update refers to 2017.
(b) If the difference between the two years is greater than or equal to 0.5 the change is considered positive (in green); if less than or equal to -0.5 it is considered negative (in red). In the interval (-0.5; +0.5) the value is considered stable (in grey).

CALABRIA

Composite indices for Calabria, South and Islands and Italy. Years 2017/2018. Italy 2010=100 (a)

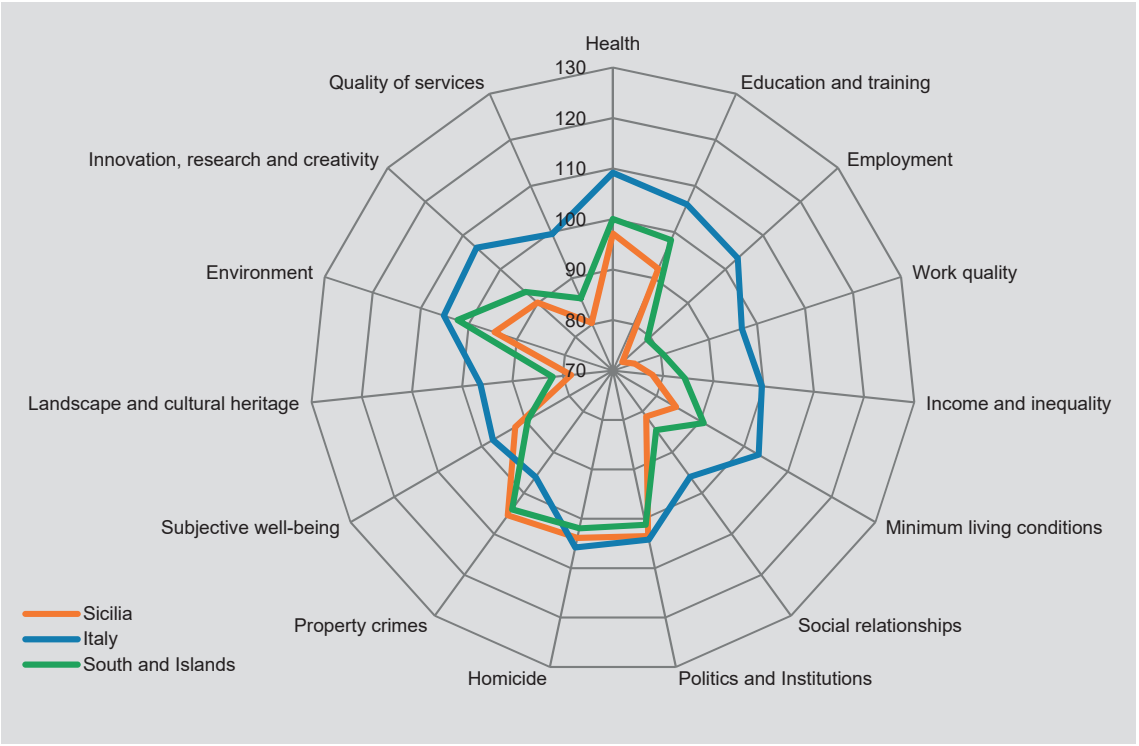
Changes of composite indices between the latest available year and the previous year for Calabria, South and Islands and Italy. Years 2017/2018 (b)

REGIONS AND GEOGRAPHIC AREAS	Health	Education and training	Employment	Work quality	Income and inequality	Minimum living conditions	Social relationships	Politics and Institutions	Homicide	Property crimes	Subjective well-being	Landscape and cultural heritage	Environment	Innovation, research and creativity	Quality of services
	2018	2018	2018	2018	2017	2018	2018	2018	2018	2018	2018	2018	2018	2018	2017
Calabria															
South and Islands															
Italy															

(a) For the composite indices of Income and Inequality and Quality of Services the latest update refers to 2017.
(b) If the difference between the two years is greater than or equal to 0.5 the change is considered positive (in green); if less than or equal to -0.5 it is considered negative (in red). In the interval (-0.5; +0.5) the value is considered stable (in grey).

SICILIA

Composite indices for Sicilia, South and Islands and Italy. Years 2017/2018. Italy 2010=100 (a)



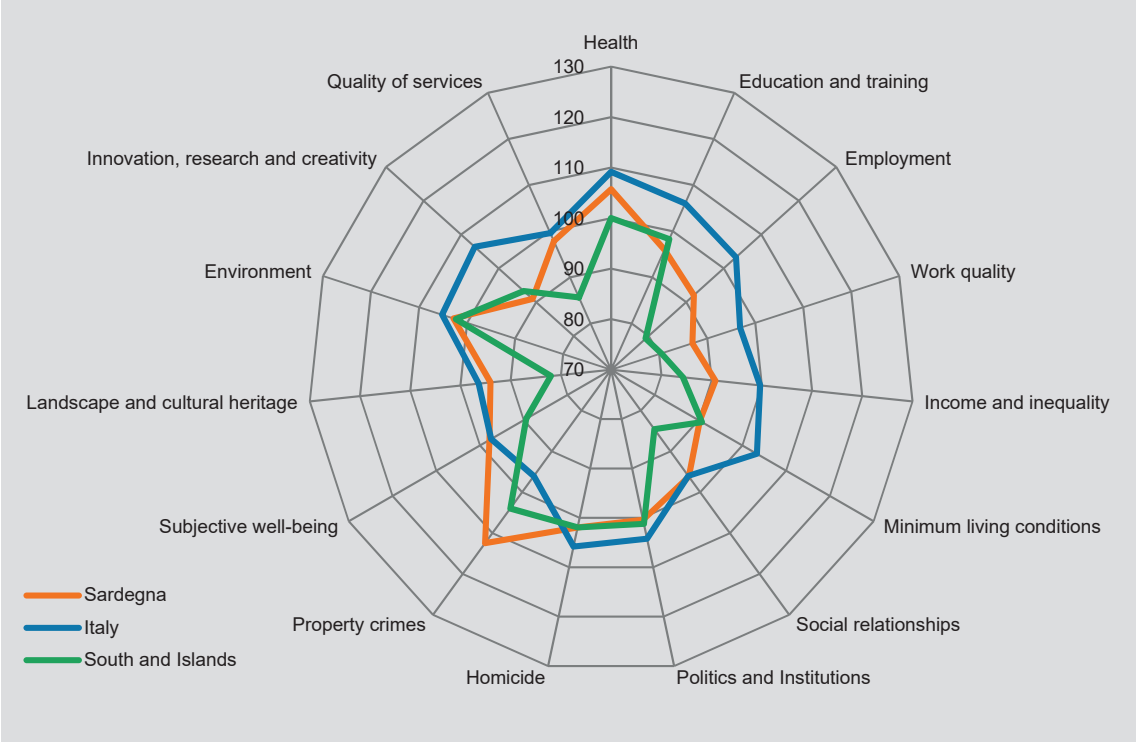
Changes of composite indices between the latest available year and the previous year for Sicilia, South and Islands and Italy. Years 2017/2018 (b)

REGIONS AND GEOGRAPHIC AREAS	Health	Education and training	Employment	Work quality	Income and inequality	Minimum living conditions	Social relationships	Politics and Institutions	Homicide	Property crimes	Subjective well-being	Landscape and cultural heritage	Environment	Innovation, research and creativity	Quality of services
	2018	2018	2018	2018	2017	2018	2018	2018	2018	2018	2018	2018	2018	2018	2017
Sicilia															
South and Islands															
Italy															

(a) For the composite indices of Income and Inequality and Quality of Services the latest update refers to 2017.
(b) If the difference between the two years is greater than or equal to 0.5 the change is considered positive (in green); if less than or equal to -0.5 it is considered negative (in red). In the interval (-0.5; +0.5) the value is considered stable (in grey).

SARDEGNA

Composite indices for Sardegna, South and Islands and Italy. Years 2017/2018. Italy 2010=100 (a)



Changes of composite indices between the latest available year and the previous year for Sardegna, South and Islands and Italy. Years 2017/2018 (b)

REGIONS AND GEOGRAPHIC AREAS	Health	Education and training	Employment	Work quality	Income and inequality	Minimum living conditions	Social relationships	Politics and Institutions	Homicide	Property crimes	Subjective well-being	Landscape and cultural heritage	Environment	Innovation, research and creativity	Quality of services
	2018	2018	2018	2018	2017	2018	2018	2018	2018	2018	2018	2018	2018	2018	2017
Sardegna															
South and Islands															
Italy															

(a) For the composite indices of Income and Inequality and Quality of Services the latest update refers to 2017.
(b) If the difference between the two years is greater than or equal to 0.5 the change is considered positive (in green); if less than or equal to -0.5 it is considered negative (in red). In the interval (-0.5; +0.5) the value is considered stable (in grey).