

ANNUAL REPORT 2018

The state of the Nation

Summary

read by Istat President Giorgio Alleva
Wednesday, 16 May 2018 in Rome, sala della Regina
of Palazzo Montecitorio



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RAPPORTO ANNUALE 2018

La situazione del Paese

Sintesi

letta dal Presidente dell'Istat Giorgio Alleva
mercoledì 16 maggio 2018 a Roma nella Sala della Regina
di Palazzo Montecitorio



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Networks and relations in today's Italy

Every year, the ISTAT Annual Report, now in its 26th edition, offers the Parliament and the citizens a documented reflection on the situation of the country in its different realities, identifying risks and opportunities for the future.

Our country has undergone profound changes. ISTAT analyses observe them from an original research perspective, through a great wealth of statistical information, and thanks to the capacity to integrate it into a coherent framework.

Such changes are far-reaching and have ancient roots. Their effects sometimes have been triggered or accelerated by the recession. They are mainly demographic changes, such as population ageing, transformation of family structures, and evolution of life cycles, resulting not only in delayed transition to adulthood, but also in the modification of their sequence. Our country has also experienced changes in the labor market and businesses (“the fourth industrial revolution”), the irruption of digital technologies, and the effects of welfare *policies* and organisation, which although did not act in a disruptive way, “gently changed” individual and collective behaviors.

The 2018 Report illustrates these dynamics by analysing networks and relations among people, between people and social actors (enterprises, institutions, formal and informal groups) and among social actors.

Before presenting the main results of our analyses, it is appropriate to summarise the Country's economic performance of the last year and the early months of the current year, which was the focus of the recent hearing on the Economic and Financial Document before the Special Committees for the examination of Government acts of the two Chambers of Parliament.

The current situation: population, economy, labor market, well-being

As of 1 January 2018, the resident population is estimated at 60.5 million, including 5.6 million foreign citizens (8.4 percent). For the third consecutive year, the total population decreased: almost 100 thousand less than the previous year. Births,

in particular, have been declining for nine years in a row: in 2008, they were 577 thousand, in 2017 464 thousand, a new historical low after that of the previous year. Three quarters of this decrease is caused by densely populated generations of women exiting childbearing age. The remaining quarter is due to a decrease in the propensity to procreate. In addition, late parenthood spread more and more. For women, the average age at first birth, 26 in 1980, in 2016 rose to 31.

In 2017, about 100,000 newborn babies had at least one foreign parent, more than a fifth of the total, although the contribution of the foreign population to growth had started decreasing too, as early as 2012. The average number of children born to foreign women remains higher than that of Italian women (1.95 children per woman vs. 1.27), but decreases due to older age structure as compared to the past and changes in the size and composition of migration flows.

Italy is one of the highest longevity countries in the world: a newborn baby today has a life expectancy of almost 81 years for males and 85 for females. In the presence of a falling birth rate, however, the demographic imbalance increases: with almost 170 elderly people (people aged 65 and over) per 100 young people (between 0 and 14 years), Italy is the second oldest country in the world after Japan.

The migration balance, positive for over twenty years, albeit gradually decreasing, has slightly recovered over the last two years (+184 thousand in 2017): between 2007 and 2017, annual registrations in the Registry Office from abroad decreased from 527 thousand to 337 thousand. Of these, 13 percent were Italian citizens returning to the country. Almost half of the new arrivals came from nine countries (Romania, Pakistan, Nigeria, Morocco, Albania, China, Bangladesh, Brazil, and India). In the same period, the number of outgoing migrants abroad tripled, from 51,000 to 153,000.

In 2017, the Italian economy benefited from an expanding international context (the International Monetary Fund estimated 3.8 percent global growth). Our country's Gdp volume increased by 1.5 percent, with a marked acceleration compared to 0.9 percent in 2016. The Italian growth, however, was still lower than the other major European economies. The preliminary estimate for the first quarter of 2018 indicates a 0.3 percent short-term variation, slightly lower than that of the Emu. Gross domestic product increased by 1.4 percent over the same period of 2017, and the growth overhang for 2018 by 0.8 percent.

Gdp growth and the budget control have resulted in an improvement in public finance indicators: net borrowing fell below 40 billion euro, from 2.5 to 2.3 percent of GDP, and the debt-to-GDP ratio was reduced by two-tenths of a percentage point, to 131.8 percent.

In the first few months of 2018, qualitative indicators on household and business confidence continued to show positive, albeit slightly weaker, signs. The European Commission forecasted that, in 2018, the economic growth rate in Italy and the Emu would remain at similar levels as compared to 2017, with an increase in investments and a reduction in net foreign demand.

Growth in 2017 was mostly sustained by internal demand components and, after three years of negative impact, the foreign component also contributed positively (+0.2 points).

Gross fixed investment was the most dynamic component of the domestic demand, with a 3.8 percent increase (3.2 percent in 2016). The increase was driven by investments in means of transport, but involved all components of capital goods, and all business sectors. In 2017, the share of companies and sectors that claimed to have increased their physical and intangible capital increased compared to 2016, both in manufacturing and in services.

Compared to the main European countries, Italian investments are imbalanced in favor of tangible investments. On the other hand, intangible investments, such as research and development, software and databases are now recognised as an essential component of productivity dynamics, and therefore, of the competitive capacity and growth potential of our production system.

The volume of households' consumption grew by 1.4 percent and, following the moderate recovery in inflation, their purchasing power increased by only 0.6 percent (1.0 percent in 2016). Accordingly, households' propensity to save in 2017 fell from 8.5 percent to 7.8 percent.

Exports of goods and services grew in volume by 5.4 percent, confirming the high and increasing level of competitiveness of our enterprises on the international markets, and imports by 5.3 percent. In value terms, exports increased by 7.3 percent and imports by 8.6 percent. This reflects the deterioration of terms of trade, due to the increase of import prices, in particular oil. The trade surplus showed a slight decrease in 2017 (from 49.6 billion to 47.5 billion euro), while remaining high, and the non-energy balance surplus increased more substantially, from 76.2 billion to 81.0 billion euro.

After three years of stagnation, in 2017 price trends turned positive again (+1.3 percent), driven by the performance of energy goods (+4.5 percent). Core inflation remained contained at +0.8 percent, as in recent years. The general index and core inflation remained two to three tenths below the Emu average, a distance that has been widening since early 2018.

In 2017, economic activity grew in all the productive sectors, with the only exception of agriculture: the increase in the value added was marked in industry in the strict sense (+2.1 percent), sustained in all service activities (+1.5), and moderate in construction (+0.8). Labor input (total hours worked) increased by just over 1.0 percent and hourly productivity by 0.4 percent (+0.6 percent when considering market economy sectors alone).

In the 2015-2016 period, economy resumed growing in the South, after seven years of contraction: GDP by volume increased by 2.4 percent, higher than the national average (+1.9 percent).

In 2017, the employed exceeded 23 million (+265 thousand and +1.2 percent compared to 2016) and the employment rate rose to 58 percent, a value close to the 2008 peak (58.6 percent), but over 8 points below the European average. The unemployed numbered 2.9 million and the unemployment rate dropped to 11.2 percent (11.7 percent in 2016). Taking into account the potential labor force, the number of people willing to work was just over 6 million. Employment growth continued, albeit at a low pace, in the first quarter of 2018, mainly involving young people and men.

The 2017 growth was relatively uniform throughout the country: in particular, it involved women (+1.6 percent against +0.9 percent of men) and, for the second consecutive year, people in the 15-34 age group (+0.9 percent). The South is the only area of the Country where the employment balance was negative compared to 2008 (-310 thousand units, -4.8%); the female employment rate was over 13 points lower than the European average (48.9 percent and 62.4 percent, respectively) and youth unemployment was much more widespread, especially in the 15-24 age group, whose unemployment rate was stable at 34.7 percent (compared to 18.7 percent in the Eu28).

2017 was characterized by an increase in fixed-term work (+298 thousand, +12.3 percent), which involved mainly residents in the Centre and North area and young people up to 34 years. At the same time, the increase in part-time employees, over 4.3 million in 2017, slowed down with a stable incidence on the total. The composition of employment continued to shift more and more from self-employment to employee and permanent work.

The increase in employment was widespread, in varying degrees, in all the economic sectors, and for the first time employment in the construction sector increased again (+0.9 percent). According to some microfounded analyses carried out by ISTAT, the employment growth experienced in 2015-2017 was mainly driven by enterprises with a greater endowment of human capital and a greater propensity to innovate.

An overall assessment of the interaction between productive development, living conditions, public policies and well-being, equity and sustainability is provided by 12 socio-economic and environmental indicators elaborated by ISTAT (indicators of Equitable and Sustainable Well-Being). In 2017, for the first time, they were included in the Economic and Financial Document, thus becoming part of the Government's economic planning cycle, as an important expansion of the country's economic policy, fully implemented in 2018. The first country to comply with the requirements agreed at the international level, Italy included important quality of life aspects in its Budget Law, integrating the traditional economic performance indicators.

Last year, the level of well-being of the Italians, measured in the Economic and Financial Document, improved significantly in five out of its twelve indicators, and decreased or stagnated in the remaining seven. On the positive side, there have been positive trends over the past three years or more in reducing predatory crime, improving labor market participation and reducing the duration of

civil suits. On the negative side, income inequality and absolute poverty have increased. The latter, according to preliminary estimates in 2017, affects 6.9 percent of households and 8.3 percent of residents (from 6.3 percent and 7.9 percent in 2016, respectively), almost 1.8 million households and 5 million individuals in absolute terms.

The networks perspective

The picture that emerges from economic data shows the consolidation of the economic recovery, albeit with different intensities in different regions and social groups.

The perspective of networks and relationships permits an innovative, in-depth analysis of Italian society. We are convinced that this change of perspective will enrich the analysis and allow us to respond to some research questions that we will also deal with in this summary: for example, are networks an evolutionary factor? Do they contribute to the resilience? Are they a factor of social protection, strengthening and growth?

The concepts of network we refer to are many, vast and have a plurality of meanings. We are social animals: “No man is an island, complete in himself”, the English poet John Donne wrote in 1624 in his 17th meditation. We simply cannot survive on our own. Immersed in social relations, instead, we prosper.

In the last quarter of the last century, the ICT network has become so pervasive that all the other networks and relationships in which we are immersed have moved to the background.

Yet, people are involved in a number of different systems of relationships and networks, in which they participate with varying intensity, at different stages of their life, family structure, social status, work, income. They are generally informal networks, which makes to analyse them particularly difficult. Moreover, the subjective component is strong: what meaning do their members give to the networks they belong to? How formal are the relationships among them? How large, intense and frequent are the relationships? What are the factors behind their size? What emotional meaning or investment is given to them?

People's networks

To better understand all these aspects, we analysed the networks of kinship, friendship and neighborhood taking into account close relatives (grandparents, parents, brothers and sisters, partners, children and grandchildren), other relatives (uncles, children of brothers, cousins, brothers-in-law, in-laws and others), neighbors, friends and anyone willing to provide practical help.

They can be represented as a set of concentric circles. Whether they live in the same household or not, the network of close relatives is at the core, i.e. those who are considered 'by right' members of the family network (the 'ascribed' network). They share normative and affective ties, legitimated by their very existence. The second circle consists of other relatives, and – as the field expands - other people, such as friends and neighbors on whom to rely. They are therefore "elective" networks, resulting from preferences and free choices of the individuals: they build social and recreational relationships to spend time together and share passions. The network of people who meet at school or at work has similar characteristics as that of friends, although often with less close ties. Considering the sphere of people's interests, we can identify the network of associative ties, made up of individuals who voluntarily participate in associations. Finally, the supporting network is defined by the type of people who, in the individual's opinion, can intervene in case of need: it can therefore include all or only some of the members of the elementary networks.

Each individual has a network of an average of 5.4 close relatives and 1.9 other relatives on whom to rely.

In order to measure the size of the network of people who can be relied upon, it is necessary to go beyond the circle of relatives, and consider also friends and neighbors. Just under 20 percent of people aged 18 and over say they have no one to rely on; the remaining 80 percent say they have at least one relative, friend or neighbor, while 40 percent of people can count on people from different circles at the same time. If one is to choose only one network, the most reliable is that of friends, followed by neighbors and other relatives.

In 2016, 7.1 percent of households benefited from various types of formal support (health and social services, economic contributions, etc.), provided by municipalities, affiliated cooperatives, local health authorities, public or private institutions or bodies, often complementary to the support offered by the networks of kinship, friendship and neighborhood.

Support is designed to meet the households' needs: overall 16.1 percent of households received at least once supporting service over the last four weeks. The share rises to 24.6 percent if one only considers households where at least one member has some limitations in their daily activities and to 31.7 percent if such limitations are severe.

Nearly 45 percent of individuals say they have at least one person to rely on in case of urgent need for money.

In 2016, one third of total respondents gave some free help to somebody at least once in the four weeks preceding the interview.

Belonging to a variety of networks represents a value not only in terms of mutual support, but also offers opportunities to develop personal interests and aspirations, while improving individual well-being. Nearly 6 million people aged 14 and over claimed to have access to a whole range of relationships, including associ-

ative networks. Almost 60 percent of the population aged 14 and over declared they had a network of friends and a supporting network external to their household. Another 20 percent could count on a single network of relations. About 3 million people declared that they had no network outside their family, meaning they did not have relations with friends or a supporting network and did not take part to any kind of associations.

The share of people who declared they did not have any extra family relationships brought to light the question of social isolation, studied in detail in the literature. In part, the problem is of a demographic nature. From the age of 55, the average number of close relatives increases with age, while the number of other relatives to rely on decreases. Accordingly, the composition of the family network changes. In addition, the poorer health of people aged 65 and over hinders social and cultural participation: this age group has the lowest share of people active in volunteering and a lower and decreasing cultural participation index, as they grow older.

Changes in the size and structure of networks are often related to changes in individual behavior: low population replacement rate due to low fertility (1.34 children per woman), conjugal instability (the number of separations in 2016 was 16.4 per 10 thousand inhabitants) and the delayed transition to adulthood and family formation (also witnessed by mothers' age at first child). In addition, there was an increase in the number of single-person households (31.6 percent in 2015-16, from 21.5 percent in 1997-98) and a decrease in the number of households with five or more members (which is now just over 5 percent).

Living alone, although increasingly a deliberate choice, does not necessarily equal happiness. People who live alone or do not have a supporting network are those who least frequently score high in satisfaction with their lives, in general and with regard to family relationships. Confidence in others is also significantly higher among those who have a supporting network.

The need for sociality emerges for all the categories considered: almost 53 percent of people aged 15 and over are satisfied with the amount of time they spend with friends, but 37 percent complain that they do not have enough of it. Young people and people aged between 65 and 74 are more often satisfied with this aspect. Adults between the ages of 25 and 44, on the other hand, are more likely to complain about the lack of time, especially if they are employed or parents of children up to the age of 13 (alone or in pairs).

Forms of "virtual" sociality (60.1 percent of regular internet surfers use social networks) flank the traditional ones and allow to maintain contacts and widen networks, although they are perceived as less pleasant compared to face-to-face relationships. Younger people prefer online relationships to face-to-face with family members, but not with friends: keeping contacts with the "peer group" in all possible ways is particularly important for this age group. More generally, the increasing use of social networks does not substitute, but complements, face-to-face social relationships, which remain the most gratifying form of interaction.

For a part of the population, living alone is not a disadvantage. For adults, this situation implies more free time to dedicate to social life, voluntary and cultural activities; at the same time, it reduces the time required for housework. Among adults living alone, three out of four attend friends at least once a week. Among couples with children, the share of those who can see friends every week is reduced to one in two. As family commitments increase, the willingness to engage in organised voluntary activities also decreases: adults living alone show higher participation rates than those living in a childless couple.

People aged 25 and over, who live alone and have a wide range of networks (supporting networks, friends and associations), are also more active from a cultural point of view (62.8% of them show a strong cultural participation index). Those who live alone and have a less extensive and articulated network at their disposal make up for these shortcomings with their cultural and education background: among graduates who live alone and only access one supporting network, the cultural participation rate is quite high and reaches 47.3% (only 3.1% among those who have a primary school license and 13.2% among secondary school graduates); for graduates, whose friends are also in the network, the share rises to 62.0%. The risk of social isolation can therefore be countered by two factors: the extent of socialisation networks and the cultural background.

Supporting networks: eight profiles

A statistical model has been applied in order to identify the factors determining the size and composition of people's supporting networks. Individual data of the survey *Households, social subjects and life cycle* show how the total number of people making up the reference network of each individual - defined by the number of close relatives, other relatives to rely on and friends and people ready to provide financial assistance (800 euros, in case of need) - changes according to individual (gender and age), economic (employment status), cultural (education), social and territorial (socio-demographic classification of the local system of residence) characteristics.

The method of classification adopted does not impose *a priori* assumptions on the distribution and association of relevant variables that intervene in succession in the progressive partition of people, creating 'branches' and 'leaves' of the classification tree, with the 'trunk' representing the whole Italian population aged 18 years and over.

Educational level is the first variable that divides individuals into two groups, according to the size of the network which they belong to: people with at least upper secondary education on the one hand, and those with at most lower secondary education on the other. A significant difference is immediately evident: the former (just over half of individuals aged 18 and over) have a network nearly 20 percent larger compared to the entire population, while the latter can rely on a 20 percent smaller network. This confirms that not only education defines the human capital of individuals, but staying in learning longer also allows - since school times - to come into contact with wider circles of people than those of origin.

A second segmentation is by employment status. Both upper secondary and lower secondary school graduates are divided into employed persons on the one hand, and inactive or job-seeking persons on the other. The advantage of the employed – in terms of available network of relationships – is net, of 25 percentage points. Work is an important factor in socialization and being part of the world of work broadens the possibilities of establishing important social relationships.

In the next step of the construction of the tree classification, different factors intervene to discriminate between the different ‘branches’ of the tree identified so far.

For people in employment with at least upper secondary education, educational attainments play a critical role. People with university degree (almost 5 million people, and almost 10 percent of the total) have an advantage of 27 percentage points in terms of the network size: they can count on the largest network compared to all the profiles considered.

Among inactive or job-seeking persons, age is a further discriminating factor: young people (between 18 and 24) have systematically larger supporting networks than those aged 25 and over, regardless of their educational attainment. The widest gap is found between unemployed adults and elderly people with at most lower secondary school education and young people in the same situation.

Finally, employed persons with low educational attainment (up to lower secondary school) are discriminated by their place of residence. Those who live in the most disadvantaged urban areas of the South and Islands area suffer a disadvantage of about 25 points compared to the national value, but they are less than one million individuals, two percent of the total. In other cases, the model applied does not discriminate between urban contexts and less urbanized territories in central, northern and southern regions. Therefore, at least for these categories of people, the size of the network is not associated with the classic city-countryside dichotomy.

Of all the individual characteristics, the level of education, followed by the participation in the labor market, is the factor affecting the size of supporting networks most. Acting on these two factors, and especially on the first one, may have positive effects on the extent of individuals’ supporting networks.

Work and networks

The relationship between networks and occupation works in both directions: on the one hand, being employed offers a substantial advantage in terms of availability of a broad supporting network; on the other hand, informal networks of relatives, friends or acquaintances may play an important role in job-seeking strategies, also in combination with different institutional actors, such as employment centres, universities, other intermediation agencies.

The Labor Force Survey shows that almost 90 percent of people who carried out some job-seeking activities in the four weeks prior to the interview had activated informal networks. However, they rarely use only one search channel; more often people prefer a combination of two (in 50% of cases) or three channels (in 30% of cases). The widespread use of the informal network takes on different meanings, depending on whether it is the only strategy (only 13.7% of people find a job through it) or whether it is associated with a more complex one. In any case, the use of informal networks is more frequent among respondents with low educational qualifications, of older age and residents in the southern regions.

Among job-seekers, former employed (those who had an occupation immediately before looking for a job) activate the most complex search strategies, combining formal actions with the use of family friends and acquaintances. A wider network of relationships, including former colleagues, is useful in providing job search guidance.

Even enterprises prefer informal recruitment channels: in 2014, more than seven out of ten firms (especially small ones) declared that they had hired informally selected candidates (personal acquaintances of the owner, on the recommendation of friends or relatives, CVs received).

According to nearly one third of the 2011 graduates who were occupied in 2015, job advertising and sending CVs are the most effective way to find a job. One fourth of them claimed they succeeded in finding a job through the informal channel. For graduates in engineering and scientific faculties, university reporting is also important. A detailed analysis of the quality of work indicates that the informal channel is less “profitable”: a job found through networking is characterized by lower wages and is less stable, rewarding and consistent with the completed curriculum. Finally, the share of young people up to the age of 34 who claim to be in a job for which a lower educational attainment than theirs would be sufficient is higher (both among upper secondary school and university graduates) if the job is found through the network of relatives, friends and acquaintances.

Against this background, strengthening employment services is crucial to develop effective, active labor market policies, including measures against poverty and social exclusion.

Enterprises in networks

Enterprises also operate in network, establishing relationships with each other for the purchase and sale of semi-finished products, formal and informal agreements, forming business groups and value chains. The Italian production structure is characterized by a dense network of relationships between enterprises, both formal and informal. In the Report, these business networks are analysed according to various dimensions: number and variety of relationships, breadth of the subjects involved, spatial extent, the underlying business strategies and the relevant effects.

Examining the intersectoral relations allows to evaluate the degree of interrelation of the production system, the intensity of the production links and the capacity of the system to spread technologies and knowledge within it. The Italian economic system activates a network of relations comparable in size to the German one, used as a benchmark, but less favourable to the circulation of innovations, due to the relative isolation of some sectors. This is essentially due to a specialisation model that places low and medium-low technology/knowledge sectors at the centre of the relation network, together with a fragmented and relatively closed exchange structure.

From a territorial point of view, the configuration of the various types of interdependence between enterprises affects the growth process: spatial contiguity, but also the command and control relations between headquarters of an ultimate parent undertaking or a parent company and their production units promote the exchange of knowhow and knowledge.

The density of the network between the areas where parent companies and their local units are located has decreased: in 2015, the network activated 7.6% of potential links compared to 8.2% in 2008. The decision-making centres are more concentrated in the regions of the North-east, whose role in orienting the production choices of the Italian economy has grown over time. On the other hand, local systems with low interdependence are more often localised in the South and Islands, where even 40% of local “exogenous” systems are concentrated (local systems in which a high percentage of employees work within local units for companies based outside the area). In both years, higher levels of interconnection have been confirmed in medium and large sized cities, with Rome and Milan at the centre of networks, followed, but to a lesser extent, by Turin.

By analysing geographic patterns of labor productivity, the Report identifies two high- productivity industrial areas, both originating in Milan: the first, and more fragmented, extends towards the Eastern border of Veneto, while the second, more compact, develops along the Via Emilia.

The articulated composition of the production system corresponds to an equally rich network of relationships that companies entertain with other entrepreneurial subjects or institutions: bonds of collaboration or, more simply, for individual firms and self-employed, diversification of the characteristics of their customers.

In 2017, more than half of all enterprises reported stable relationships with other companies. Networking enterprises are more widespread in the North-east and less so in the South and Islands, although the gap is relatively small. Stable relations are on a scale ranging from the simplest, of a commercial nature, through “vertical” relations (order/subsupply), to complex networks (marketing activities and shared services, innovation, research, etc.). The latter have quickly gained ground, involving more than 30% of companies in 2017. The presence and characteristics of collaborative relationships between enterprises are strongly associated with labor productivity.

Networks of information, reciprocity and sharing also make a difference among self-employed workers. People working in a network or sharing their activity with partners are more present in places where the labor market is more dynamic and have more professional resources than the self-employed who work alone (with higher education, more qualified profession). On the other hand, the profile of the self-employed working alone is more fragile: they are more often residents in the southern regions, foreigners, less educated people, employed in unskilled professions, all depending on a major client. The lack of network support also affects job security: seven out of ten of those who are considering the possibility of closing their activity in the next six months, are working alone. In addition, all other things being equal, network workers are 20% more likely to be satisfied with their work than those who work alone.

Networks of Institutions

Institutions – State, Regions, Municipalities, non-profit institutions, universities, schools – form a widespread network throughout the national territory, which creates relationships, offers services and promotes circulation of information.

A network that makes a strong contribution to characterising the social services is that of the interventions at the local level. Municipalities, either individually or in partnership, provide a network of facilities and services for citizens, from nursery schools and other childcare services to income support and home care for the elderly and the disabled. As part of their organisational autonomy, municipalities offer a wide range of services, with different welfare strategies to meet a plurality of needs.

The metropolitan transport network in the major cities of Milan, Rome and Naples clearly acts a connection network between different realities living in the cities. Through a synthetic index of social and material vulnerability and a real estate value indicator - measures that describe, with the opposite sign, the social and economic characteristics of the territory - it is possible to highlight the differences between different urban areas. Milan is characterized by a radial structure, whereby wealthiest areas are especially concentrated in the geographical center. Rome has a more complex articulation. In the capital, vulnerable zones are also present in the central areas of the city, with high real estate values, but their concentration is greatest especially in areas close to the Grande Raccordo Anulare motorway (*Great Ring Junction*), both in the north-west and in the east section. Naples shows a clear contrast between the western areas, more affluent and less vulnerable, and the eastern ones (including those located in the far north of the municipal territory), in opposite conditions.

Networks in the education system (universities and schools) and in libraries and museums deserve particular attention.

The university system can be defined as a “network of networks” as it connects groups of institutions, scholars and student communities, both at national and in-

ternational level. The Italian system is largely open to foreign countries, especially with regard to research activities.

When they are based on bilateral protocols with foreign countries, collaborations with foreign institutions are often of a formal nature. More often, however, relationships between universities and between countries, arising from bilateral or multilateral agreements, simply testify to the existence of joint research projects. The State University of Milan, the Sapienza University of Rome and the University of Turin rank on top for number of collaboration agreements and the number of countries with which they have relationships.

A case of particular interest is the European Commission's research programme "*Horizon 2020*", which promotes and supports collaboration between research consortia, institutions and companies in and outside Europe. There are 1,881 Italian companies, 327 research institutions, 245 non-profit organizations, 161 public bodies and 98 universities. In addition to the pivot role played jointly by British universities and German companies, a social network analysis, conducted starting from the project database, and brought out the aggregation strength of Italian universities, much higher than those of the remaining countries, including France and Spain.

Schools, widespread throughout the territory, have also the ability to create relationships: the possibility of creating networks, introduced in the nineties with school autonomy, allows them to grow deeper roots in the territory. Schools become part of networks in order to improve educational and didactic practices, to train and update teachers or access funding, to make agreements for school-work alternation projects. Families are a very important part of the network: the involvement of parents in their children's school life - an important element for sharing the educational project - is very heterogeneous in terms of school cycle and territory.

Libraries, too, constitute a network of cultural services spread throughout the territory, including small and very small towns. The basic services (consultation and reading, viewing and listening to documents, borrowing, etc.) are free of charge and accessible to everyone. The network of libraries is well structured as it is based on shared procedures, activities, standards and protocols: the National Library Service counts over six thousand facilities.

Finally, in a country as rich in culture as ours, we cannot fail to mention the network of museum institutions. Beyond the highly attractive state poles (Colosseum, Pompeii excavations, Uffizi Gallery, etc.), the network is composed of thousands of local realities that enhance the country's historical, artistic and ethnographic heritage. Almost half of the museums belong to museum networks or systems, whose aim is to share human, technological or financial resources, carry out cultural initiatives or participate in or promote tourist itineraries. Moreover, the cultural heritage network is not only that of the great treasures and monuments, but also that of rural and natural landscapes, an extraordinary element of identity for our country.

Conclusions

Reading the Italian society through the plurality of networks of relationships analysed in this Report allows a deeper understanding of changes in economic and social structures that characterize our country; important steps in the process of today's society evolution that challenge some of the most traditional aspects of our history. A shrinking family reduces the size of family networks. When smaller towns lose population and those remaining get older, neighborhood networks become smaller. In cities that, following a functional reorganization, separate shopping and entertainment centres from residential areas, the opportunities for relationships become more selective and move from housing and work to culture and leisure places. As networks become thinner, the risk of isolation for individuals is likely to grow. As we have seen, this last issue has two sides: a demographic one, which mainly concerns the elderly population, and a territorial one, which refers to a lower human presence in some areas of the country.

These challenges, however, should not frighten us. The Report clearly shows that belonging to more than one network, beyond the kinship one, is of great value for people. In particular, it focuses on the increasingly important role of elective networks, both in supporting and responding to individuals' needs and requirements and for the development of their interests and cultural enrichment. Network variety and breadth increases confidence in others, with positive implications for society as a whole.

Moreover, we have also observed how communication technologies promote contacts without emptying or replacing traditional forms of sociality, thus transforming themselves into enabling technologies.

Education and participation in the world of work are once again the two key variables in the reading of the country. This was the case last year when, in the Annual Report, we proposed a classification of Italian households into social groups. In this year's edition they are used to define the size of the reference network and the opportunities derive from it.

The work is made up of the places where people work, which appear to maintain their traditional function as a privileged space for socialisation, albeit in new and non-exclusive ways.

Education and knowledge, to which ISTAT dedicated a few months ago a specific study, do not act only as a protective factor for accessing and staying in the labor market, in positions more consistent with the knowledge possessed, better paid, and above all more fulfilling. Education and knowledge are also a key to access a variety of aspects of individual well-being: they enable people to live longer and in better health, but also to activate the 'value added' of networks, especially in cultural activities and in participation, for example in voluntary work. Furthermore, as we also emphasized in the presentation of last year's Report, education and training of human capital are the means to remove obstacles to equal opportunities and the major vector for social promotion.

Formal and non-formal networks between companies in the plurality of forms and extensions analysed in the Report play an increasingly crucial role in characterising the business strategy with its different ownership structures, forms of organisation of production and product promotion.

The networks of relationships, whatever the area in which they are observed, do not involve only isolated advantages, but they accumulate and agglomerate, so that they are said to have a multiplying power of networks and associated with the concepts of square or cube networks. The benefits of relational resources extend beyond the boundaries of the individual and his/her family, stimulating the sense of belonging, promoting a sense of civic responsibility and fostering interpersonal and institutional confidence, with important effects on society as a whole.

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