

## Buildings and constructions

Since Italian unification, growing importance has been attributed to the health and safety of dwelling places, the improvement of buildings and the development of public works.

Ever since the beginning of the 20th century numerous laws have been passed with the aim of providing new regulations for the various phases of town and territorial development. In 1930, the considerable boost to reclamation works in Italy led to the creation of new cities, especially in the regions Lazio and Sardegna, creating the need for functional systems linking different urban areas. Later on, the urbanisation process that accompanied Italian industrialisation highlighted the need for new structures and the completion of adequate public works to support the development in course.

Right from the first years since Italian unification, the need for statistics on constructions to orientate choices and decisions was therefore evident. The forms used for the first two Housing and Population Censuses in 1861 and 1871 already included some questions relating to houses (buildings); however, due to the inconsistency in methodology and definitions, it was not possible to obtain complete and reliable statistics until 1931; in that year, thanks to two *ad hoc* surveys performed at the same time as the Census, reliable national housing data were collected and disseminated at national level. By the 9<sup>th</sup> General housing and population census in 1951, housing had become an integral and essential part of the survey.

Regarding construction activities, the information collected by Istat is available in time series running from 1935 onwards.

With reference to public works, some short-term surveys on the subject were conducted as far back as 1800. Istat took over these statistics from its foundation in 1926 until 2004, when the survey was suspended. However, due to changes of the reference classification systems, reliable and comparable data disaggregated by category of works is only available for the period between 1921-1998.

### Housing in general population Censuses

The first General housing and population census in 1861 already collected some information on the number of dwellings, both occupied and unoccupied, and the average number of households and persons per dwelling<sup>1</sup>.

Due to the problems in the definitions and classifications used till then, by 1901 and 1911 surveys the field of observation was reduced and the survey unit was redefined, firstly by substituting the concept of *house* with that of *dwelling*, and later changing it with that of *room*.

The 1921 Census also revealed a number of difficulties, mainly associated with the questions on dwellings within the household survey form, which caused some figures to be counted twice.

In consideration of these issues, in 1911 and 1921 the Statistics Union of Italian Cities promoted a survey to be conducted by municipalities at the same time as the census, using a separate form, thus allowing for the publication of information referring to some local areas.

Due to changes in definitions and methodology, the data collected until then did not allow for harmonised information to be obtained, so as to reconstruct the changes that took place in dwellings and living conditions over time.

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<sup>1</sup> Regarding the evolution of the methodology and organisation of the general Censuses, please refer to chapter on Population (Chapter 2). For 1881 and 1901 censuses, the information covered: the number of rooms in each dwelling, including the kitchen; the position (floor of the building in which the dwelling was located); the number of cohabitations (number of households in each dwelling); the location of the dwelling (centre of the municipality; other areas; scattered housing). 1891 Census was not carried out due to financial and organisational problems.

In order to extend knowledge on the sector, two separate surveys on dwellings were conducted in 1931. The first, called *Indagine sommaria* (Summary survey), was extended to all Italian Municipalities and was designed to record the number of dwellings, rooms and occupants. The second, known as *Indagine speciale* (Special survey), was conducted only in the 422 largest municipalities using specific forms with the purpose of acquiring more detailed information, especially regarding services available in occupied dwellings, use of the rooms and reasons for possible unoccupied dwellings.

The first General housing and population census was conducted in 1951. Combining data collection on both population and housing into one survey, which was repeated in Italy and elsewhere in future censuses, allowed for expenses to be reduced and data to be better interpreted, thanks to their significance when read together<sup>2</sup>.

From 1971 onwards new questions were included on the date of construction or rebuilding and the surface area of dwellings<sup>3</sup>; since 1981, furthermore, a group of questions was introduced on the town planning framework in which the dwelling was located and, for the first time, detailed information was acquired on the owner of the property (natural person, construction company, etc.)<sup>4</sup>; in 1991 the questions on the use of unoccupied dwellings and the building characteristics were extended<sup>5</sup>.

Important content innovations were introduced with the 2001 Census, when information on buildings were recorded for the first time in an *ad hoc* questionnaire. This covered all buildings present in residential nuclei, while outside these areas only buildings used for residential purposes were recorded, including characteristics in terms of material used for the weight-bearing structure, the buildings state of conservation, the presence of elevators and the number of stairways in the building<sup>6</sup>.

### *Warnings for time series comparisons*

- In 1931, data on occupied dwellings refer to both resident and non-resident households; since 1951 only data on resident households were recorded.
- In 1931, data on unoccupied dwellings only refer to empty buildings; since 1951 they include both empty dwellings and dwellings occupied by non-residents.
- Given the small number of years elapsed since the previous Census, the 1936 survey did not record data on dwellings.
- In 1941, the General population and housing census was not performed due to the war.

## **Construction surveys**

In 1935 Istat launched an ongoing survey on residential buildings, observing the number and main features of dwellings. This survey was marked by several changes over time. Until 1979 the survey was only partial<sup>7</sup> and was conducted on a quarterly basis, with surveyors collecting the information of interest directly from construction worksites, making use of habitability or usability licences and building permits records.

In 1980, taking into account the new regulations on soil suitability for building and the administrative procedures for the issuing of building permission<sup>8</sup>, Istat launched a new monthly, total survey on construction activities. Data collection and control were assigned to municipal technical offices, with

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<sup>2</sup> In addition to the amount and features of the population, information regarded the type of dwelling, number and use of rooms, existence and general conditions of kitchen, hygienic services and systems and tenure status.

<sup>3</sup> Surface area is understood as the entire area in square metres including both the rooms and any accessory spaces, excluding terraces, balconies, etc.

<sup>4</sup> Information was also collected regarding the reason for unoccupied dwellings, i.e. whether they were available for rental or sale, usable for holidays, work, or other.

<sup>5</sup> Regarding unoccupied dwellings, information was requested on whether they were available to rent or sell; regarding buildings, questions were added on the weight-bearing structure and number of floors.

<sup>6</sup> The household form also included questions on works/renovations to the systems, structural and non-structural elements of the dwelling, the presence and position of car-parking spaces and the presence of telephone in the dwelling.

<sup>7</sup> This survey covered provincial capitals and the largest municipalities.

<sup>8</sup> In compliance with Law no. 10/1977 (dated 28 January 1977, known as the *Bucalossi* Law).

the aim of acquiring data relating to new projects for residential and not-residential buildings, along with details of extensions to existing buildings. For all these types of works a regular building permit or commencement notice (Dia) must be requested, issued and then picked up by the applicant from the competent municipal offices<sup>9</sup>. The survey unit is formed by a new building or an extension of the volume of an existing building, including among new buildings also demolished and completely reconstructed buildings<sup>10</sup>.

In 2005, the survey name was changed to *Rilevazione statistica dei permessi di costruire* (Survey on building permits). At the same time new questions were introduced and the definitions of variables were reviewed in order to bring them into line with Council Regulation no. 1165/1998/EC dated 19 May 1998 on short-term statistics and subsequent modifications and implementations thereof, which required European Union member states to submit quarterly statistical data to Eurostat within 90 days from the end of the reference period.

Municipal offices were assigned the task of monthly collecting survey forms, checking information accuracy, completing the relevant parts and transmitting forms to the Chambers of Commerce which, after additional accuracy and quality checks, send them on to Istat<sup>11</sup>.

From the beginning of 2010, the process of collecting information on building permits was largely revised, introducing two new forms – one on residential building and one on non-residential building. Furthermore, since July of the same year some municipalities have started experimentally filling in survey forms online, using the certified and secure Indata platform on Istat website.

## Survey on public works

The statistical survey on public works, launched at the end of the 19th century, was conducted by Istat from 1932 to 2004, when the survey was suspended.

In the two decades between 1878-1898, data were collected by the Ministry of Public Works and published during the national and international exhibitions of the time, especially with reference to spending and the profits of public works.

In 1925 the Ministry of Finance used accounting data to publish a time series for the period between 1862-1924.

From 1926 and until 1935, the Statistics Office of the Ministry of Public Works conducted four total surveys every three years, with the aim of collecting information on the progress in public works in course or completed. These surveys were performed under the supervision of the Central Institute of Statistics, which issued consent for their publication as set out in Royal Decree no. 1285/1929 (dated 27 May 1929). The collected data referred to the amounts in kilometres of road works, in linear or square metres of port works, in cubic metres of public buildings (state or school buildings). Monthly statistics bulletins were also used to publish the amounts agreed in payment for public works, divided into ordinary and extraordinary expenses.

At the same time, the Central Institute of Statistics in collaboration with the Ministry of Public Works launched a monthly survey of public works in 1932 to collect information on employment in the sector and on the institutions not directly controlled by the Ministry itself<sup>12</sup>. The authorities involved participated in collecting data, although without the help of common methodological guidelines or survey forms. From 1939 to 1945 the survey was suspended due to the world war and was re-launched in 1946 using the same criteria adopted in the pre-war period.

From 1950 onwards, in order to ensure greater coherence in data collection and to take account of the changes to the Country's administrative structure, the Council of Ministers set up an office to coordinate Public Works at the Central Institute of Statistics, responsible for the monthly statistics on public works funded entirely or partly by the State, with the aim of following the developments of the

<sup>9</sup> The survey form was to be filled out by all applicants for building permits, holders of commencement notice (Dia) for new constructions or the extension of the volume of existing constructions, as also public authorities whose projects for buildings or extensions of public buildings were approved, in accordance with Article 7 of Presidential Decree no. 380/2001 (dated 6 June 2001). The forms were considered complete and ready for submission to Istat only after the construction project was approved and when planning permission was issued. Regarding Dias, in the absence of objections all requests were considered automatically approved 30 days after filing.

<sup>10</sup> In the case of a single building permit covering several buildings or extensions, individual forms had to be filled out for each building.

<sup>11</sup> In the case of absence of the construction permits in the month of reference, the Municipality was nonetheless required to report a null construction activity.

<sup>12</sup> The figures were published in 1934 *Annuario statistico italiano* (Italian statistics yearbook).

works in terms of amounts used and workers employed.

Istat also used the same methods to record the event among local authorities and other public bodies, with relation to works performed using own funding without any contribution from the State. On that occasion, the first volume of the collection *Methods and norms* was published with a description of the main characteristics and phases of this total survey, which covered all public works or public utility works relating to new constructions, rebuilding, large-scale repairs and extraordinary maintenance. The survey unit was each work, intended as work or part of work as defined by the tender or project funding application<sup>13</sup>. Data were collected each month both for works entirely or partly funded by the State and for works totally or partly funded by local authorities or other public bodies for works performed by all regional and local authorities<sup>14</sup>.

In 1958, Istat decided to attach compilation instructions to the survey form, and several innovations were introduced to the survey, also in order to meet National Accounts requirements for calculating investment in the constructions sector. Therefore, the definition of work<sup>15</sup> was modified and the field of observation was extended to include both works constructed for direct use by the Public Administration and works used by public and private enterprises as also works performed by private parties (dwellings), constructed with total or partial funding from the Public Administration, including public corporations and municipal enterprises; the field of observation therefore included works constructed by these bodies without State funding. The survey form for the work became easier to fill out, as the percentage of progress was required in terms of production value rather than in physical terms<sup>16</sup>; this led to the completion and adaptation to the new procedures also for the works notification form.

During 1974, without modifying the methodological aspects of the survey, Istat completed the classification of public works, specifying categories of individual works and simplifying the data collection and checking operations<sup>17</sup>.

From 1985 onwards, the greater independence of local authorities to perform public works and the creation of bodies with own legal personality and accounting independence led to a revision of the survey methodology, which became administrative and was conducted on a quarterly basis. The new survey had the exclusive purpose of calculating the production index for civil works and the estimation of investment in the construction sector for the National Accounts. The survey field of observation was represented by public utility works and public works managed by contract or on a time and materials basis, whoever materially performed them<sup>18</sup>. Financing bodies were no longer involved in the survey which was directly aimed at contracting bodies. From Istat point of view, this led to the development of an archive of contracting bodies for internal use, updated on the basis of information on their creation and closure taken from the Chambers of Commerce or other sources. This archive allowed better control on survey quality, with the possibility of both calculating the level of collaboration from municipalities and other bodies and of sending targeted reminders to non-respondents. Non-respondent identification was also made more accurate with the introduction of the communication of null activities (for works that had already been started and performed) which allowed for non-response to be distinguished from the absence of tender contracts.

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<sup>13</sup> Ordinary maintenance works were excluded. The main information was collected using a survey form filled out directly by the contracting enterprises, or by the technical services of the single authorities entrusted with performing the works. The figures covered mainly the workers employed and the value of the works. The form included the name of the contracting enterprises, the description of the project and the work to which it referred, in addition to the work's *statistical number*, a unique identification code allowing for the work's progress to be tracked. A second type of form used was the work notification form, adopted by the survey bodies for each work, in order to follow the various phases of its development.

<sup>14</sup> The survey was conducted on a quarterly basis, on the other hand, for works entirely or partially funded by local authorities or other public bodies for works performed by municipalities with a resident population of less than 20,000 inhabitants.

<sup>15</sup> A construction or system destined for use as fixed capital in the production of goods or services by the Public Administration and public or private enterprises, performed using total or partial funding from the State, local Authorities or other national or international public bodies.

<sup>16</sup> Nonetheless, precodified variables were not yet present for the category of work or type of job. The codes were therefore applied by Istat. As in previous years, ordinary maintenance was excluded while structural extensions or improvements were included, with the aim of obtaining an estimate of investment.

<sup>17</sup> From the late 1960s, the State administration underwent considerable evolution: in 1970 councils of regions with ordinary statute were elected and over time these became contracting bodies and, above all, financing sources for public works. Moreover, a process of transformation began for some of the large State institutions, such as the Railways, Post Office, Enel, etc.

<sup>18</sup> From that time onwards, public work or utility is understood as a construction or system destined for use as fixed capital in the production of goods or services by Public Administration bodies or their enterprises, Enel S.p.A., Ferrovie dello Stato S.p.A., or other parties when performed using total or partial funding from Public Administration bodies. The survey unit became the individual work, understood as a new public work or a structural improvement (extension, enlargement) and/or extraordinary reparation of an existing public work or part of it.

In 1999 a value threshold was introduced; works already started for a value of over 50 million Lire (subsequently updated to 25,823 Euro) and related activities performed for public works and utilities by Public Administration bodies and related enterprises, Enel S.p.a. and Ferrovie dello Stato S.p.a. became the survey object, with the sole exception of ordinary maintenance works. On this occasion the bodies, previously grouped into 16 categories, were reclassified according to the criteria set out by the new European System of National and Regional Accounts (ESA95); records in the public works archive were associated with the sector Non-financial Companies and quasi-companies and in the sector Public Administrations. Still in the same year, the classification of public works was updated to take account of the harmonised European Classification of construction (Cc), designed in line with the Central product classification (Cpc) published in 1991 by the United Nations<sup>19</sup>.

As mentioned above, in 2004 the *Rilevazione statistica delle opere pubbliche* (Statistical survey of public works) was suspended following the difficulties encountered in respecting the deadlines set out in Council Regulation no. 1165/1998/EC (dated 19 May 1998) relating to the issue of the variables requested, and due to the superimposition created by the administrative survey performed by the Supervision Authority for Public Works (Avlp), set up in 1994<sup>20</sup>.

Moreover, the Istat survey was not found to be effective for producing stock data, due to the impossibility of linking works already started with the related Work Progress Reports (Sal) using the works code. These problems, together with the need to reduce the statistical burden on contractors, led to the suspension of the survey and the launching of a collaboration with Avlp regional Observatories, with the aim of using the information collected on public works at local level for statistical purposes.

The largely positive results of the experiment, performed in Lombardia, Valle d'Aosta/Vallée d'Aoste, Friuli-Venezia Giulia and the independent provinces of Trento and Bolzano/Bozen in 2002 and 2003 led to the extension of this faster and easier information collection method to all regions, allowing for wider coverage and better quality data.

#### *Warnings for time series comparisons*

- The statistical survey on public works has evolved together with the changes in the structure of the Italian State over the course of time, starting from almost entirely centralised spending competence and culminating in almost completely decentralised spending competence assigned to local authorities, provinces and municipalities. Investment in public works today is prevalently made by private legal bodies or mixed private and public institutions.

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<sup>19</sup> The Classification of construction (Cc) is structured into 2 sections, 6 divisions, 20 groups and 46 classes. The Cc provides two main categories: buildings and civil engineering works. Within these two sections, a fundamental distinction is made according to the structure's specific use (for example, buildings for offices or shops, road network, hydraulic works, pipes) and, in particular for buildings, according to its prevalent use. Buildings are divided into residential and non-residential buildings. Residential buildings are intended as constructions in which at least half of the building will be used for residential purposes. If less than the net surface area will be used for residential purposes, the building is classified as non-residential and maybe distinguished according to its main economic purpose: agriculture, industry, transport, etc. Civil engineering work is intended as all constructions not classified as buildings: railways, roads, bridges, highways, aeroplane runways, dams, etc.

<sup>20</sup> In fact, Law no. 109 dated 1994 (*Merloni Law*) established regional Observatories of public works at the Avlp that represent an administrative source of reference.