BANCA D'ITALIA
EUROSISTEMA

Statistics

Methods and Sources:
Methodological Notes

23 February 2017

For further information: statistiche@bancaditalia.it
www.bancaditalia.it/statistiche/index.html

Italian Housing Market Survey
Short-term Outlook

General issues

The Italian Housing Market Survey was launched in January 2009 by the Bank of Italy and Tecnoborsa and, starting from the October 2010 survey, it has been prepared with the cooperation of the Property Market Observatory (Osservatorio del Mercato Immobiliare), a section of Italy's Revenue Agency[1]. As of the April 2016 survey, the interviews have been conducted by Gruppo CLAS SpA.

The purpose of the survey is to obtain the assessment of estate agents on housing market trends both in terms of residential sales and rents.

Most of the information gathered is qualitative in nature and is designed to detect the opinions of estate agents on the changes in the housing market both in the reference quarter and looking forward. The qualitative questions in the questionnaire generally propose three or five possible answers. The stable answer reflects a neutral assessment while the others reflect favourable or unfavourable opinions. For example, the possible answers may be 'better', 'the same', or 'worse'; 'increasing', 'stable', or 'decreasing'; 'higher', 'the same', or 'lower'. For each question the balance is then calculated as the difference between the number of favourable and unfavourable responses; the stable answer is not included in the calculation.

The survey, the only one in Italy with nationwide distribution and a wide range of information collected, is carried out on a panel of 1,300 - 1,400 estate agents who are interviewed on a quarterly basis.

The trends of the main indicators that emerge from the survey are shown in the statistical tables attached to the quarterly reports.

The methodology of the survey is described in detail below.

Composition of the reference universe and sample[2]

The reference universe consists of about 32,000 estate agencies who work on behalf of third parties. The information on the distribution of the population, used to construct the weights, is taken from Istat and is provided by class of employee and province (NACE code 68 - real estate activity).

---

[1] Pursuant to Article 23-quater of Decree Law 95/2012, the Italian Revenue Agency has incorporated the Land Registry Office, including the Property Market Observatory that was part of it.

[2] Some calculations based on data from older surveys may not coincide with the data published in previous publications of this report on account of revisions made to the archives over time.

Some of the lists used in constructing the sample are lists of estate agents while others are lists of estate agencies, and include the following:

a) real estate agents belonging to the Italian Federation of Real Estate Professionals (FIAIP);

b) real estate agents registered with one of the property exchanges;

c) real estate agents correspondents of the Property Market Observatory;

d) lists of firms operating in real estate brokerage on third party assets, extracted from lists kept by the Chamber of Commerce.

Due to observed difficulties[3] using the register of the Chamber of Commerce, which is exhaustive in principle, the extraction is mainly based on lists a) to c), supplemented by the register, in order to reach the desired number of estate agents and to minimize any distortions that may be typical of lists maintained by professional associations.

The data in the tables are divided by geographical area and by urban and non-urban area. The share surveyed is generally higher in the North-East, South and Islands and in urban and metropolitan areas.

The sampling design is stratified, with a total of 34 strata made up as follows:

a) 12 Italian towns with a population of 250,000 or more[4] plus the towns of Padua, Trieste and Messina (the 15 towns in Italy with the highest populations);

b) 15 areas around the towns at letter a), forming the hinterland[5];

c) 4 national macro-areas (North-West; North-East; Centre; South and Islands), excluding the 30 strata at letters a) and b).

The number of units in each stratum is selected according to several criteria. The basic number is proportional to the number of transactions recorded in each unit available at the time the sample is formed (based on local data provided by the Property Market Observatory). Then within each stratum a minimum number of units is set so that the sample size is large enough to ensure that the standard errors of the main variables are acceptable. Finally, further units are added to the sample for the metropolitan areas to take account of greater variations in the phenomena surveyed.

---

[3] In the registers of the Chambers of Commerce, the contact information is often incomplete or out of date.

[4] Bari, Bologna, Catania, Florence, Genoa, Milan, Naples, Palermo, Rome (including Ostia Lido), Turin, Venice (including Mestre), and Verona

[5] An 'urban area' is the area of a town with at least 250,000 inhabitants and its hinterland. A 'metropolitan area' is an urban area with a city or large town of at least 500,000 inhabitants (Genoa, Milan, Naples, Palermo, Rome and Turin). Every urban or metropolitan area has its own Local Labour System (Istat, I sistemi locali del lavoro 1991, Rome, 1997), which is defined as 'the unit of territory identified by a set of neighbouring towns linked by daily commuting for the purpose of work'; i.e. they are groups of towns that constitute homogenous labour markets. Since administrative constraints are not considered, a local labour system can incorporate towns belonging to different provinces or regions from the main town, and is identified from information on commuting obtained from the general population census.

The survey process, questionnaire and responses

The interviews are conducted quarterly in January, April, July and October by CLAS SpA[6] who carries out the survey on behalf of the Bank of Italy.

The data were collected in two ways: about 65 per cent of the interviews were computer-assisted telephone interviews, while the rest were computer-assisted web interviews with a questionnaire that could be filled out online.

The questionnaire consists of four sections: sales, prices, prospects, and the rental market. The survey gathers information on various characteristics of the Italian housing market such as housing sales in the reference quarter and going forward, the structure of the market in which the agency operates (number of potential buyers and sellers), average house prices, and indicators regarding the rental market.

Occasionally (usually in the January survey), a section is included on the structural characteristics of the homes sold: floor area (in square meters), energy class, condition and type of property.

Over the years the response rate, which used to be about 45 per cent, fell owing to a variety of factors (depletion of the lists, economic crisis, etc.); currently the response rate is about 30 per cent.

Data quality control and the entry of missing data

The data collected are subject to quality controls to assess the following: the compatibility of the values inserted in the questionnaire with those admissible by the question, the intertemporal coherence of the panel data, the presence of abnormal values and the numerical formats necessary for insertion.

An initial check of the data entered in the questionnaire is carried out by the survey company through the interviewers and by means of checks carried out directly at the time of entering responses into the dataset. A second check is carried out through the data loading procedure that prevents the acquisition of data outside the surveyed variable's defined range.

The data entry process uses average estimators, assigning to each observation the average estimated value in the stratum to which the unit to be entered belongs. Currently the only variable entered is the number of homes sold. The missing data is replaced by multiplying the number of agents working in the agency by the average number of homes sold per agent.

---

[6] The survey has been conducted until December 2015 by Questlab srl.

Weighting

The weighting procedure is composed of two steps. In the first step the original design strata are used. Each unit in the sample is assigned an initial weight, given by the ratio of the number of firms in the stratum cell to the number of firms in the sample. Let h be the general stratum cell and, within it, Nh the number of firms in the target population and nh the sample size.[7] The first-step weight of each firm in stratum h is therefore:

$$W_h^{(0)} = \frac{N_h}{n_h}$$

By construction, the sum of the weights of each cell therefore gives the size of the target population it contains.

In the second step a post-stratification (by using the raking technique)[8] also takes into account the different sizes of the real estate agencies. The initial weight is modified by an adjustment factor fk, so that the final weights can be obtained as:

$$w_{hk}^{(1)} = w_h^{(0)} f_k$$

the sum of which coincides, in the generic post-stratum cells k, with the number of firms in the target population they contain. The real estate agencies are grouped into three size classes (1 employee, 2-5 employees, 6 employees and over) separately by metropolitan areas, non-metropolitan urban areas, and other municipalities, for a total of 9 post-strata cells. At every survey the weights are recalculated according to the distribution of the population based on the latest available data[9].

Sample estimators and standard errors

For a generic quantitative variable X_i, the mean is estimated with an estimator given by:

$$\overline{X} = \frac{1}{\sum w_i} \sum w_i X_i$$

where w_i is the weight of the single sample unit. The weight may be the original one or the weight obtained multiplying it by a scale variable to take account of the different size of the estate agencies in the sample[10].

For the qualitative variables, the standard errors are calculated by reference to the binomial distribution. Table 2a contains the estimates for the standard errors of the percentages of estate agents for the total sample and for some geographical groupings.

---

[7] The symbol n_h indicates the actual sample size. This allows the weights to be implicitly corrected to take account of total non-responses.

[8] Iterative proportional fitting (or raking) simultaneously aligns the sample weights to the distribution of certain characteristics known from outside sources. See for instance V. Verma, 'Advanced Sampling Method: Manual for Statistical Trainers', Statistical Institute for Asia and the Pacific, Tokyo, 2000.

[9] The population of firms is that obtained from Istat, 'Archivio statistico delle imprese attive'. Updates are published periodically for the population of about two years earlier. The estimates are revised periodically to take account of updates in the survey reference population.

[10] On all these aspects, including the method of estimating standard errors, see for example F. Cicchitelli, A. Herzel and G. E. Montanari, 'Il campionamento statistico', Bologna, Il Mulino, 1994.

The BIRD remote processing system for survey data

The Bank of Italy's system for remotely accessing microdata (BIRD) also gives access to the microdata collected from this survey[11]. The new system makes it possible to process survey data, ensuring that individual information remains completely confidential. The user performs his statistical and econometric analyses without having direct access to individual elements of the microdata, submitting his calculations and receiving the corresponding output via email. Input and output alike are subject to automatic and manual checks of their content and logic. Users must apply to the Bank of Italy for authorization to gain access to the system.

---

[11] Further details can be found on the Bank of Italy's website at https://www.bancaditalia.it/statistiche/basi-dati/bird/index.html?com.dotmarketing.htmlpage.language=1