

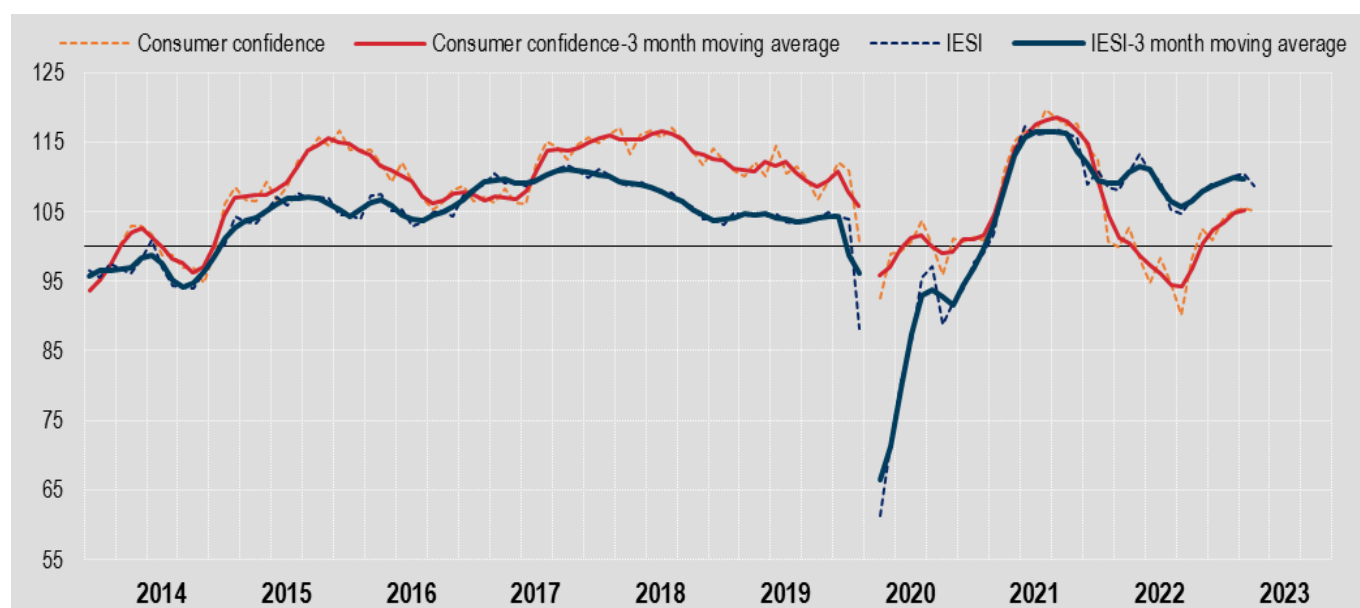
May 2023

## CONSUMER AND BUSINESS CONFIDENCE

- In May 2023, the consumer confidence index slipped from 105.5 to 105.1. With regard to its components, only the economic climate grew passing from 119.0 to 119.8, while all the other ones worsened. In more detail, the current climate decreased slightly passing from 100.2 to 100.0, the future one diminished from 113.3 to 112.6 and, finally, the personal one sank from 100.9 to 100.1.
- With reference to the business confidence climate, the index (IESI, Istat Economic Sentiment Indicator) decreased from 110.4 to 108.7.
- The confidence climate in manufacturing moved down from 102.8 to 101.4. Both expectations on production and assessments on order books worsened (the related balances passed from 6.1 to 4.3 and from -8.6 to -10.6, respectively). According to this result, the inventory volume was deemed to slightly increase (the balance of the variable in fact passed from 4.3 to 4.6).
- The confidence climate in construction decreased significantly from 164.2 to 159.4. Both its components went down: the assessments on order books/construction plans from 5.7 to 4.7 and the expectations on employment from 11.2 to 5.9.
- The market services confidence climate worsened from 105.5 to 104.1. Widespread pessimism emerged from the opinions both on the current business trend and the future volume of order books (the related balances passed from 10.0 to 8.9 and from 10.3 to 6.3, respectively). Conversely, assessments on order books came out more positive (the balance of the variable increased from 7.7 to 8.5).
- The retail trade confidence index decreased slightly passing from 112.9 to 111.6. Firms confirmed to be concerned on both the current and the future business trend. Analysing the balances of the variables, in fact, the one of assessments on current sales went down from 29.5 to 27.1, while the one of expectations on future volume of sales slipped from 23.2 to 22.8. Lastly, inventories further increased (the related balance varied from 6.2 to 7.2).

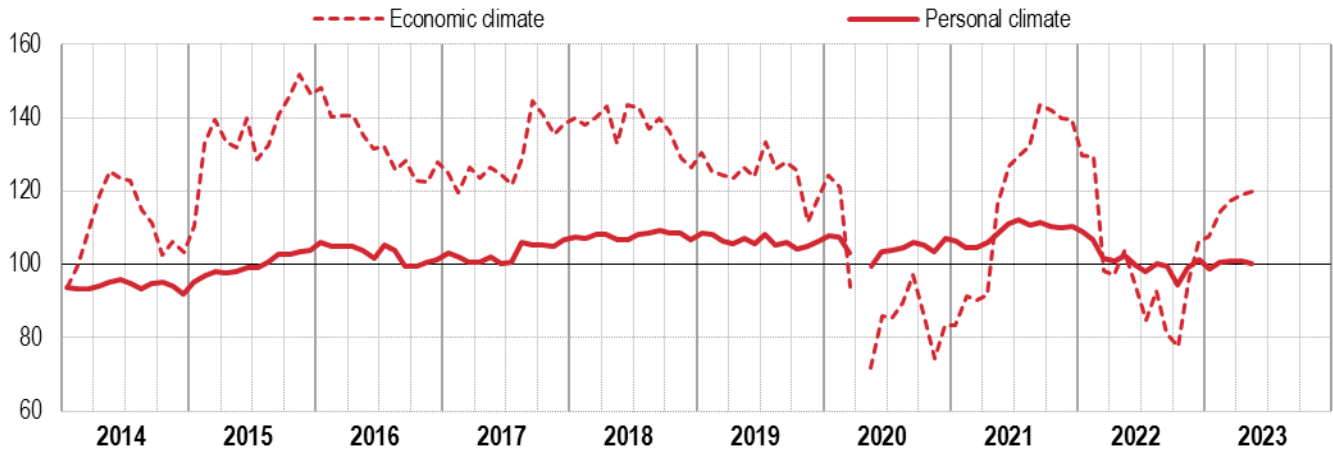
### CHART 1. CONSUMER AND BUSINESS CONFIDENCE CLIMATE INDICES

January 2014 – May 2023, seasonally adjusted and 3 month moving average (index, 2010=100)



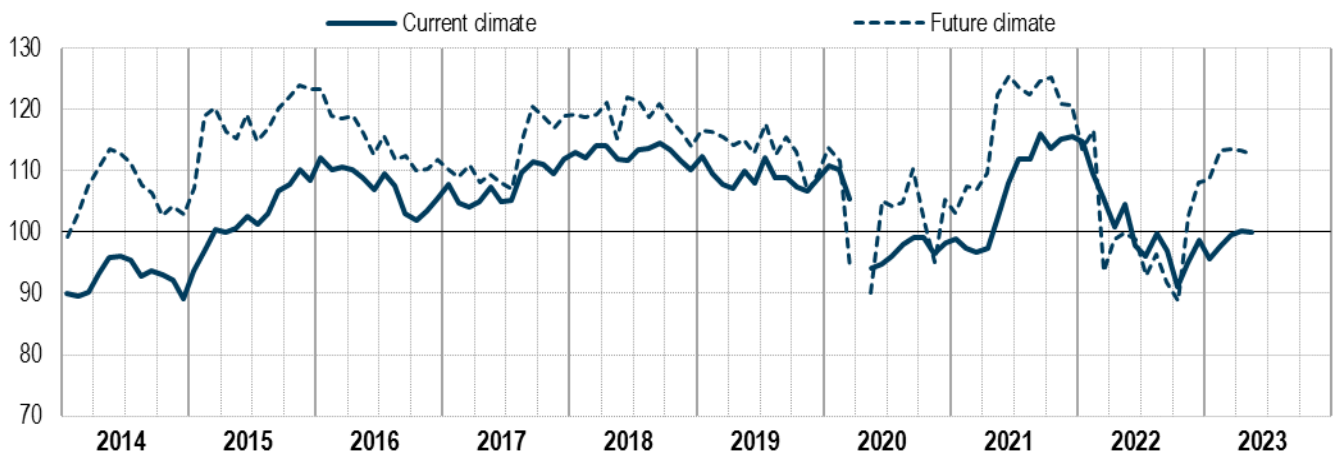
**CHART 2. ECONOMIC AND PERSONAL CLIMATE INDICES**

January 2014 – May 2023, seasonally adjusted (index, 2010=100)



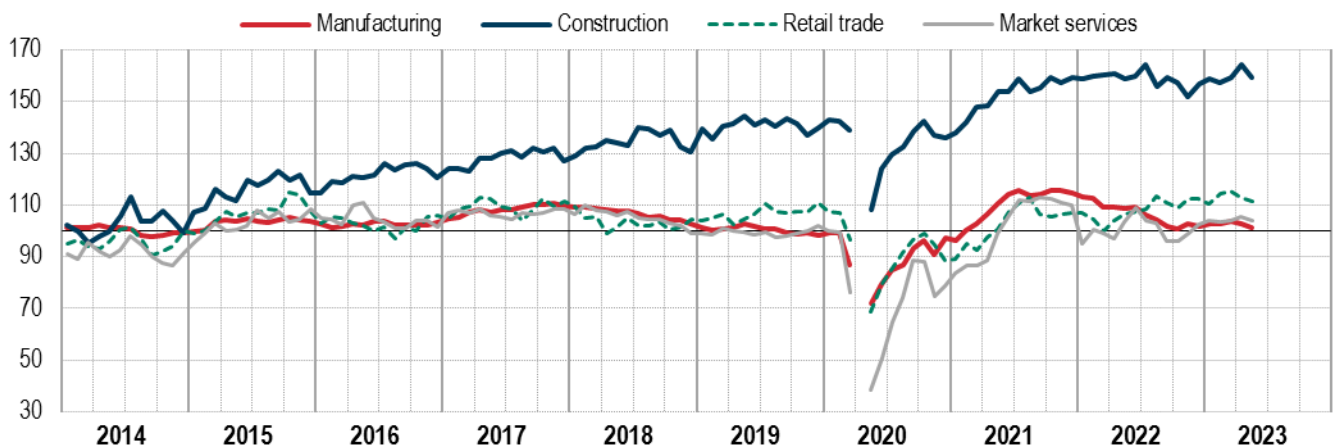
**CHART 3. CURRENT AND FUTURE CLIMATE INDICES**

January 2014 – May 2023, seasonally adjusted (index, 2010=100)



**CHART 4. BUSINESS CONFIDENCE CLIMATE INDEX BY ECONOMIC SECTOR**

January 2014 – May 2023, seasonally adjusted (index, 2010=100)



**TABLE 1. CONSUMER CONFIDENCE CLIMATE, ISTAT ECONOMIC SENTIMENT INDICATOR AND BUSINESS CONFIDENCE CLIMATES**

January – May 2023, Seasonally adjusted indices (index, 2010=100)

|   | 2023         |              |              |              |              |
|---|--------------|--------------|--------------|--------------|--------------|
|   | Jan          | Feb          | Mar          | Apr          | May          |
| <b>Consumer Confidence climate <sup>(a) (b)</sup></b> | <b>100.9</b> | <b>104.0</b> | <b>105.1</b> | <b>105.5</b> | <b>105.1</b> |
| Economic climate <sup>(b)</sup>                       | 107.6        | 114.5        | 117.4        | 119.0        | 119.8        |
| Personal climate <sup>(b)</sup>                       | 98.6         | 100.5        | 101.0        | 100.9        | 100.1        |
| Current climate <sup>(b)</sup>                        | 95.7         | 97.6         | 99.5         | 100.2        | 100.0        |
| Future climate <sup>(b)</sup>                         | 108.6        | 113.4        | 113.5        | 113.3        | 112.6        |
| <b>Confidence climate IESI</b>                        | <b>109.1</b> | <b>109.0</b> | <b>110.0</b> | <b>110.4</b> | <b>108.7</b> |
| Manufacturing   | 102.7        | 102.8        | 103.9        | 102.8        | 101.4        |
| Construction <sup>(b)</sup>                           | 158.8        | 157.2        | 159.1        | 164.2        | 159.4        |
| Market services                                       | 104.2        | 103.3        | 103.9        | 105.5        | 104.1        |
| Retail trade  | 110.3        | 114.3        | 115.6        | 112.9        | 111.6        |

(a) The consumer confidence climate is the synthesis of the economic climate and of the personal one or, alternatively, of the current climate and the future one.

(b) Seasonality not present.

**Seasonally adjusted data:** figures filtered, by means of specific statistical techniques, excluding fluctuations attributable to the seasonal component (due to weather, customary, legislative factors, etc.). Moreover, if the calendar effects are significant, they are also excluded. This data transformation is the most suitable to capture the economic evolution of an indicator.

**Consumer Confidence Climate:** it is elaborated on the base of nine questions deemed most appropriate to assess the optimism/pessimism of consumers (namely: assessments and expectations on the Italian general economic situation, expectations on unemployment, assessments and expectations on households' financial situation, current opportunity and future possibility of savings, current opportunities of durable goods purchases, assessments on family budget).

The results of the nine questions, expressed as weighted balances on raw data, are aggregated through a simple arithmetic average; the result is then reported in the index (based on 2010) and seasonally adjusted with the direct method.

A breakdown of the Consumer Confidence Climate is also proposed. The derived values are expressed as indexes (based on 2010) and are seasonally adjusted (where necessary) with the direct method. In particular: a) **Economic Climate**, simple arithmetic average of weighted balances related to both the assessments and expectations on the Italian general economic situation and the expectations on unemployment (the latter with inverted sign); b) **Personal Climate**, simple arithmetic average of the weighted balances of the remaining six questions of the Confidence Indicator (assessments and expectations on the households' financial situation, assessments on savings current environment and expectations on savings intentions, assessments on the durable good major purchases, assessments on the family budget); c) **Current Climate**, simple arithmetic average of the questions related to the assessments ( the Italian general economic situation and the households' financial situation, the savings current environment, the durable good major purchases and the family budget); d) **Future Climate:** simple arithmetic average of the questions related to the expectations (the Italian general economic situation and the households' financial situation, the unemployment with inverted sign, the savings intentions).

The balances relating to the variables of the consumer survey consist of the difference between the percentage frequencies of the positive and negative answering options. They provide synthetic indications about the observed phenomena. Balances weighed by double weight are used for extreme options. Questionnaire questions (largely of qualitative closed kind with answers given according to an ordinal scale) provide for a predetermined and exhaustive range of response possibilities (from three to five with the add of the "Don't know/ Don't answer" option) of the type: "Very high", "High", "Stable", "Low", "Very low".

**Business Confidence Climate by sector:** they are elaborated as simple arithmetic averages of the seasonally adjusted balances relating to the questions considered most suitable for assessing the optimism/pessimism of the sector companies. The results are then brought back to 2010 indexes.

The Manufacturing Confidence Climate includes the assessments on the order books, assessments on the stocks (the last with inverted sign) and expectations on the production level. The variables making up the Construction Confidence Climate include the assessments on the order book and/or construction plan level and the expectations on employment. As for the market services companies, the confidence climate calculation includes the assessments as well as the expectations on the order books and the assessments on the business trend. Finally, regarding the retail trade firms, the confidence climate includes the assessments and the expectations on business trend and the assessments on stocks (the last with inverted sign).

The balances of the business survey variables consist of the differences between positive and negative answering options. The central options (invariance, stability) are not considered in the balance calculation. For every question the results are expressed in terms of percentage frequencies concerning each answering option (generally three, for example: "High", "Normal", "Low").

**Istat Economic Sentiment Indicator – Iesi:** starting from release of data referring to May 2022, the Iesi index has been calculated as weighted arithmetic average of the sectoral confidence climate indexes (2010=100), i.e. as the weighted arithmetic average of the confidence climate indexes of the manufacturing, construction, service and trade retail firms. The weights used are indicated in Table 2 of the methodological note attached.

**Main groupings of industries (RPI):** consumer goods, intermediate goods and investment goods. The European Commission Regulation n.656 / 2007 (E.U. Official Journal of 15 June 2007) establishes, for all member countries, the criteria for the RPI definition: to each of them, whole groups and/or divisions of the NACE Classification are attributed on base of prevalence.

**Manufacturing Sectors.** The manufacturing sectors covered by the survey, with the respective NACE rev.2 code, are the following: Manufacture of food products (10), Manufacture of beverages (11), Manufacture of tobacco products (12), Manufacture of textiles (13), Manufacture of wearing apparel, leather and fur articles (14), Manufacture of leather and related products (15), Manufacture of wood and products of wood and cork derivations (furniture excluded); manufacture of articles of straw and plaiting materials (16), Manufacture of paper and paper products (17), Printing and reproduction of recorded media (18), Manufacture of coke and refined petroleum products (19), Manufacture of chemicals and chemical products (20), Manufacture of basic pharmaceutical products and pharmaceutical preparations (21), Manufacture of rubber and plastic products (22), Manufacture of other non-metallic mineral products (23), Manufacture of basic metals (24), Manufacture of fabricated metal products, except machinery and equipment (25), Manufacture of computer, electronic and optical products; electro-medical devices, measurement apparatus and watch apparatus (26), Manufacture of electrical equipment and non-electric household appliances (27), Manufacture of machinery and equipment not otherwise classified (28), Manufacture of motor vehicles, trailers and semi-trailers (29), Manufacture of other means of transport (30), Manufacture of furniture (31), Other industrial manufacturing (32), Repair and installation of machinery and equipment (33).

**Construction sectors.** The construction sectors covered by the survey, with the respective NACE rev.2 code, are the following: Construction of buildings (41), Civil engineering (42), Specialised construction activities (43). The Construction of buildings includes general activities for construction of any type of buildings. The Civil engineering consists of general activities for the construction of civil engineering works such as highways, roads, bridges, tunnels, railways, airfields, ports and other hydraulic works, as well as the construction of irrigation and sewage systems, pipelines and power lines, outdoor sports facilities, etc. The Specialised construction activities include specialized activities (such as piling, foundation work, etc.), activities of finishing and completion of buildings and installation activities of all types of services necessary for the operation of the building.

**Market service sectors.** The economic sectors covered by the survey, with the respective NACE rev.2 code, are the following: *Supporting business operations and other services* which include the Real estate activities (68), the Legal and accounting activities (69), the Activities of head offices and management (70), the Architectural and engineering activities, technical testing and analysis (71), the Scientific research and development (72), the Advertising and market research (73), the Other professional, scientific and technical activities (74), the Veterinary activities (75), the Rental and leasing activities (77), Employment activities (78), the Security and investigation activities (80), the Services to buildings and landscape activities (81), the Office administrative, office support and other business support activities (82), the Creative, arts and entertainment activities (90), the Libraries, archives, museums and other cultural activities (91), the Gambling and betting activities (92), the Sports activities and amusement and recreation activities (93), the Repair of computers and personal and household goods (95), the Other personal service activities (96); *Transportation and storage* which includes the Land transport and transport via pipelines (49), the Water transport (50), the Air transport (51), the Warehousing and support activities for transportation (52), the Postal and courier activities (53); *Information and communication* which includes the Publishing activities (58), the Motion picture, video and television programme production, sound recording and music publishing activities (59), the Programming and broadcasting activities (60), the Telecommunication (61), the Computer programming, consultancy and related activities (62), the Information service activities (63); *Accommodation and food service activities* which includes the Accommodation (55), the Food and beverage service activities (56), the Travel agency, tour operator and other reservation service and related activities (79);

**Retail Trade Sectors.** The economic sectors covered by the survey, with the respective NACE rev.2 code, are the following: Wholesale and retail trade and repair of motor vehicles and motorcycles (45), Retail trade, except motor vehicles and motorcycles (47). The survey excludes the Retail sale via stalls and markets (47.8) and the Retail trade not in stores, stalls or markets (47.9)

### Retail trade distribution typologies

*Large-scale retail trade:* companies with sales outlets operating in the form of a supermarket, hypermarket, discount store, department store or other large specialized or non-specialized area, with a sales area of more than 400 square meters.

*Traditional distribution (also "Business operating with small sales area and Minimarkets"):* specialized points of sale not belonging to the large distribution, characterized by a sales area not exceeding 400 square meters.

## Introduction and regulatory framework

The surveys on consumer and business confidence are five monthly sample surveys aimed at individuals and companies: one survey that studies data on individuals and four surveys that are directed to enterprises. In particular, the surveys on the enterprises cover 4 economic sectors (manufacturing, construction, services and retail trade) identified by the classification of economic activities (ATECO 2007, Italian version of Nace Rev.2) currently in force. The main purpose of the surveys, which remained unchanged over time, is to collect the opinions (assessments and expectations) of all the economic agents with regard to specific variables connected to their future behaviour and to the economic environment in which they operate. The information surveyed, mainly qualitative in nature, is considered significant because it permits to measure modifications in the behaviours of the individuals and change, current and future, of the economic sectors studied by the survey. The opinions expressed by the units interviewed on key variables, suitably quantified and processed also allow achievement of an indication on the level of confidence in the sectors studied.

Conceived for the need of short-term analysis, these surveys are strongly different from quantitative statistics: they work, in fact, in different contexts of fields of economic action that are beyond, because of their nature, quantitative measure (consider, in particular, the expectations). The results of the surveys on confidence are characterised by the ability to monitor the overall economic system, and therefore, are also often used in econometric models.

The surveys, required in the framework agreement between Istat and the European Commission (Framework Partnership Agreement ECFIN/026/2021 and Specific Grant Agreement ECFIN/021/2023/890455), are part of a joint project harmonised at European level coordinated by the European Commission; currently, the project is governed by the [Decision of the European Commission C\(97\) 2241 of 15 July 1997](#) and by the Communication of the Commission COM (2006) of 12 July 2006. Due to the insertion in a European level programme, the main characteristics of the surveys, for methodological aspect and for the definitions relating to some of the studied variables, follow the guidelines provided by the European Commission. In particular, the questionnaires used for the five surveys contain both questions harmonised at European level and additional questions aimed to satisfy a need for information at national level.

The surveys are inserted in the Italian National Statistical Programme (current edition: NSP 2020-2022, update 2021-2022) approved with Decree of the President of the Republic of 15 December 2022, published in the Ordinary Addition no.7 to the Official Journal of the Italian Republic - general series - No. 44 of 21 February 2023.

## Reference population, survey and analysis units

*Survey on consumer confidence* - The reference population is made up of individuals of at least 18 years of age.

The survey unit is the customer with a fixed telephone, present in the list used to extract the names.

The analysis unit is the individual of at least 18 years of age.

*Surveys on business confidence* - The reference population is composed of enterprises with at least 5 employees for the manufacturing sector, with at least 3 employees for the construction and services sectors; for retail trade the reference population is composed of all enterprises operating in the national territory.

The survey and analysis unit is the enterprise for all four surveys.

## Sample design

*Survey on consumer confidence* - The theoretical sample, equal in number to approximately 2,000 units, is in two stages, stratified by geographical area and size of municipality of residence. Allocation of the units in the strata is proportional to the universe of the adult resident population of Italy. The list used for the extraction of the names is made of the list of subscribers to fixed line telephones; the first stage unit is the subscriber, while the second stage unit is composed on the consumer, meaning an adult person, belonging to the nuclear family identified by the telephone number. The selection technique of the units is systematic in the first stage, and by quota in the second stage.

*Surveys on business confidence* - The surveys use “panel” samples of enterprises extracted from the Statistical archive of active companies (ASIA), stratified according to the following variables: size, economic activity sector (identified by ATECO 2007) and geographic area. Starting from November 2011 (for the construction sector, and later, from June 2013 for the surveys on the manufacturing, services and retail trade sectors) new stratification and allocation criteria of the units was introduced.

In particular, the entry cut-off thresholds were identified (defined on the basis of number of employees, as listed below), that exclude enterprises of smaller size (this threshold sets out the exclusion from survey of all enterprises of the population with less than 3 employees for the services and construction survey and with less than 5 employees for the manufacturing survey; for the survey on retail trade no entry cut-off was introduced) as well as a threshold also defined in terms of employees, that identifies the “census” strata of the survey (strata in which all units present in the population are included). The thresholds are as follows: enterprises with at least 1,000 employees for the manufacturing, services and retail trade sectors; enterprises with at least 250 employees for the construction sector). The number of units within each non-census stratum is defined on the basis of the *Robust Optimal Allocation with Uniform Stratum Threshold* (ROAUST)<sup>1</sup> criteria.

*Survey on confidence of manufacturing enterprises* - The survey on confidence of the manufacturing enterprises has been performed monthly since 1962 on a panel that currently numbers approximately 4,000 enterprises. In the light of the methodological updates introduced in June 2013, the survey uses a theoretical stratified sample according to the firm size (5-9 employees, 10-49 employees, 50-249, 250-999 and at least 1,000 employees), geographical area (North-west, North-east, Centre, South and Islands), and main activity (considering the divisions from 10 to 33 of the Ateco 2007 classification). The unit selection technique sets out a random extraction for the companies with a number of employees less than 1,000, and a census placement for all units with 1,000 employees and more.

*Survey on confidence of construction enterprises* - The survey on confidence of the construction enterprises has been performed monthly since 1966 on a panel that currently numbers approximately 700 enterprises. The theoretical sample is made up of a stratified panel according to the firm size (3-9 employees, 10-249, at least 250 employees), the economic activity sector (considering the following divisions of the ATECO classification: 41 - building construction; 42 - civil engineering; 43 - specialised construction works) and the four geographical areas (North-west, North-east, Centre, South and the Islands). The unit selection technique sets out a random extraction for the enterprises with a number of employees less than 250, and a census placement for all units with 250 employees and more.

*Survey on confidence of market services enterprises* - The survey on confidence of market services enterprises has been performed monthly since 2003 on a sample of approximately 2,000 enterprises of the sector. The theoretical sample is made up of a panel stratified according to the size of the enterprises (3-999 employees, at least 1,000 employees), the geographical area (North-west, North-east, Centre, South and the Islands) and main activity (classified according to Ateco 2007, identified by all the divisions from 49 to 96, excluding: 54, 57, 64, 65, 66, 67, 76, from 83 to 89 and division 94). The unit selection technique sets out a random extraction for the enterprises with a number of employees less than 1,000, and a census placement for all units with 1000 employees and more.

*Survey on confidence of retail trade enterprises* - The survey on confidence of the retail trade enterprises began in 1986, every two months. Since 1992, survey frequency has been monthly. Since May 2010, the information has been collected from a panel of approximately 1,000 commercial enterprises included in divisions 45 (Wholesale and retail sales; vehicle and motorcycle repair) and 47 (Retail sales excluding vehicles and motorcycles) of the Ateco 2007 classification. The theoretical sample is stratified by firm size (1-2 employees, 3-5; 6-999; at least 1,000 employees), by geographical area (North-west, North-east, Centre, South and the Islands) and by main activity (45.1 sales of motor vehicles; 45.2-45.4 maintenance of motor vehicles and sales of accessories; 47.1, 47.2 retail sales of food, drinks and tobacco; 47.3 retail sales of transport fuel; 47.4-47.7 retail sales of other goods). The sampling scheme, which does not apply any cut-off selection in entry, sets out a random extraction for the enterprises with a number of employees less than 1,000, and a census placement for all units with 1,000 employees and more.

## Data collection

Data collection is performed on a monthly basis and occurs in the first 15 days of the data reference month for the survey on consumers. With regard to the enterprises, data collection occurs in the first 16/18 days of the data reference month; enterprises interviewed are asked to answer to the questions of the questionnaire with reference to their main activity. Data collection is carried out using the CATI technique (Computer assisted telephone interviewing) for all 5 surveys.

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<sup>1</sup> In this regard, see P. M. Chiodini, G. Manzi, B.M. Martelli, F. Verrecchia, “The ISAE Manufacturing Survey Sample: Validating the Nace Rev.2 Sectorial Allocation”, 2010, work presented at the 30th CIRET Conference, New York, 13-16 October.

For the consumer survey, the questionnaire harmonised to European level includes, in addition to some structural and household income information, qualitative questions characterised, excluding the option “Don’t know”, by three or five ordered responses (for example, increase sharply, increase slightly, stay the same, fall slightly, fall sharply), relating to the Italian economic situation and to the personal situation of the interviewed. The opinions are requested in the form of assessments regarding the previous twelve months, or in the form of expectations of the short-term future evolution (in the following 12 months). Intentions to buy a vehicle, intentions to buy and expenses for extraordinary maintenance on the home are also surveyed quarterly (in January, April, July and October).

For the business surveys, the questionnaires are harmonised at European level, but also contain questions aimed at satisfying the need for national information (for example, the section dedicated to analysis of access to credit conditions). The information collected is mainly qualitative, and is aimed at obtaining indications on the current state and on short-term expectations (with a 3-month horizon) of the main economic variables of the firm. The majority of the questions present in the questionnaires provide three types of responses: “high”, “normal”, “low”, or: “Increasing”, “stable”, “decreasing”.

## Data processing: process, tools and techniques

*Survey on consumer confidence* - The process sets out the estimate of the frequency percentages of each reply option relating to each question of the questionnaire. Until December 2020, the aggregation process of the micro data did not set out the use of sample weights. Starting from January 2021, calibrated weights are used in the estimation process.

More specifically, in January 2021 Istat started the publication of the new series of the response percentage frequencies, of the balances and of the confidence climate indexes. Compared to the time series calculated and published until December 2020, the new ones are obtained by means of the calibration estimator.

The calibration estimator has been introduced into the estimation process to improve the representativeness of the monthly data spread. It allows the sample to be linked both to the structure of the reference population used in the stratification phase (thus correcting any distortion phenomena in the data collection phase), and to the structures that are not considered in the sample design (for example the one for age classes of which the survey stratification design does not take into account). The calibration estimator approach is based on the use of some auxiliary information, such as the population structure, which corresponds to the known totals in the reference population. In this way, it is possible to calibrate the estimated population in relation to the known totals of the reference population disaggregated according to specific features. The reference aggregates, used as known totals in the consumer survey calibration procedure, are derived from the resident population data officially released by Istat. These latter are updated annually. The auxiliary information used in the construction of the calibration estimator is reported in the following table:

**TABLE 1. AUXILIARY INFORMATION FOR THE CONSUMER SURVEY CALIBRATION PROCEDURE**

| Description                               | Modalities  |
|---|---|
| Resident population for geographical area | North-west, North-east, Centre, Mezzogiorno                                       |
| Resident population for gender            | Males, females  |
| Resident population for age classes       | Until March 2018: 18-29, 30-49, 50-64, 65 years and over                          |
|   | Beginning April 2018: 18-29, 30-39, 40-49, 50-59, 60-64, 65-70, 71 years and over |

In practice, the calibration estimator application consists in the calculation of a "calibrated" weight for each responding individual. The basic weight, i.e. the sample weight, is modified according to the technique of calibrated estimator which takes into account the auxiliary information described in Table 1. Therefore, the results of the monthly estimation process, i.e. the calibrated estimates of the response percentage frequencies to each questionnaire question, are obtained through a weighted aggregation procedure of the collected data, by associating to the answers provided by each interviewee the corresponding calibrated weight calculated as described above.

The new series have been calculated starting from January 1998. In fact, only starting from this date it has been possible to ensure consistency between the underlying monthly sample and the application of the calibration estimator. Therefore, starting from 1998 the new series fully replace the previous ones.



On this occasion, the seasonal adjustment models of all the consumer survey series have also been reviewed. More specifically, the seasonal adjustment models of the balance series, the ones of the confidence climate indexes series, and, finally, the ones of the economic, personal, current and future climate indexes series have been tested again. The calibrated series generally present less seasonality than the unweighted series. In particular, the absence of seasonality has been highlighted for the series of the consumer confidence climate and for the ones of the economic, the personal, the current and the future confidence climates. In more detail, the seasonality absence has been observed for the national level series and for the ones relating to the North-west, the Center and the Southern geographical areas.

The time series of the balances and the indices are seasonally adjusted with the Tramo-Seats method. The indices are seasonally adjusted with the direct method.

The frequency percentages, calculated with the estimating process, are rounded to the first decimal place.

*Surveys on business confidence* - The process sets out the estimate of the frequency percentage relating to each response options of each question in the questionnaire. For this purpose, the processing of the micro data is based on a double weighting system: a) the frequencies relating to each reply option are firstly weighted using the number of employees declared by the enterprise at the time of the interview (internal weight) for the survey of the manufacturing sector, construction and retail trade; with regard to the services survey, the internal weighting is composed of the central value of the turnover class that each enterprise belongs to; b) subsequently, for the four surveys, fixed weights are used that reflect the distribution of the added value of the reference sector (external weight). Since March 2015, the aggregation procedure uses an external weighting structure derived from the added value at factor costs relating to 2012.

The time series of the balances of the main variables studied in the surveys and those of the confidence indices are seasonally adjusted with the Tramo-Seats method.

The percentage frequencies, calculated with the estimating process, are rounded to the first decimal place.

## Output: main measures of analysis

The surveys on consumer and business confidence aim to produce indicators able to measure the “sentiment” of the economic operators. For this purpose, questions are formulated in the questionnaire that are able to capture the assessments and expectations of the interviewees. A selection of these questions are used to calculate the confidence indicators. The definitions and principles for the formulations of the questions necessary to study these variables are reported in the Business and Consumer Surveys User Guide of the European Commission (2020) available at the link: [https://ec.europa.eu/info/business-economy-euro/indicators-statistics/economic-databases/business-and-consumer-surveys/methodology-business-and-consumer-surveys/methodological-guidelines-and-other-documents\\_en](https://ec.europa.eu/info/business-economy-euro/indicators-statistics/economic-databases/business-and-consumer-surveys/methodology-business-and-consumer-surveys/methodological-guidelines-and-other-documents_en).

Summary indications on the performance of the qualitative variables surveyed are expressed by balances calculated, for each question, generally as the difference between the percentages of respondents giving favourable and unfavourable responses.

*Survey on consumer confidence*. In particular, for the consumer confidence survey, the weighed balance is calculated. The general formula, in the case of the five reply options, is the following:

$$\text{balance} = \text{fr}(++) * w1 + \text{fr}(+) * w2 + \text{fr}(=) * w3 - \text{fr}(-) * w4 - \text{fr}(- -) * w5$$

where fr(“..”) represents the frequency percentage of the response option “..”; the reply options are the following: “++” greatly increased/much more/will certainly grow/easy to predict, “+” slightly increased/slight growth/will grow slightly/moderately easy to predict, “=” equal/stationary/will remain the same, “-“ corresponds to slight decrease/slightly less/improbable/moderately difficult to predict and “- -“ corresponds to greatly decreased/much less/very improbable/difficult to predict.

w1...w5 are weights to be attributed to the reply options. In the case of the weighted balance, these weights assume the respective values: 2;1;0;1;2. The last response mode, corresponding to “don’t know”, is not included in the calculation of the balance. In the case of a question with 4 response options, the calculation of the balance is obtained as follows:

$$\text{balance} = \text{fr}(++) * 2 + \text{fr}(+) - \text{fr}(-) - \text{fr}(- -) * 2$$

With reference to the question on the predictability of future financial situation of the household (uncertainty question), frequencies of reply options “easy to predict” (++) and “moderately easy to predict” (+) are included with negative sign while the other two frequencies (reply options (- -) and (-)) come in the calculation with positive sign.

For the questions with three response modes, the balance is as follows:

$$\text{balance} = \text{fr}(++) * 2 - \text{fr}(-) * 2.$$

The balances are calculated on the percentage frequencies with all the decimals (or rather the output of the estimation process) and are then rounded to the first decimal place.

An overall summary indicator of the results of the survey, aimed at evaluating the optimism/pessimism of Italian consumers is represented by the confidence climate indicator. The confidence indicator is obtained by aggregating with simple arithmetic average the raw weighted balances calculated for nine questions of the questionnaire: assessments and expectations on the Italian general economic situation, expectations on unemployment (inserted in the calculation with opposite sign), assessments and expectations on the household financial situation, current and possible future opportunity for savings, opportunity to purchase durable assets, assessments on the family budget. The indicator obtained is then transformed into a numeric index with base 2010=100. The confidence indicator can be disaggregated in economic and personal climates, or, alternatively, in the present and future climates. The economic, personal, current and future climates are obtained as the arithmetic average of the balances of some questions that make up the general climate; in this case too, the indicators obtained are then transformed in numeric indices with base 2010=100. In greater detail, the economic climate is obtained by aggregating the balances relating to the questions on assessments and expectations on the general economic situation and the balance of the question relating to the expectations on unemployment (inserted in the calculation with an opposite sign); the personal climate is obtained as the arithmetic average of the balances relating to the assessments and expectations on the household financial situation, to the assessments on family budget, to the current opportunity and the future possibility of saving, as well as to the opportunity to purchase durable assets; the current climate is calculated using the balance relating to the assessments on the general economic situation and those on the household financial situation, to the assessments on the family budget, to the current opportunities for saving and purchasing of durable assets; finally the future climate is given by the aggregation of the balance relating to the expectations on the general economic situation, on the household financial situation, on unemployment (inserted in the calculation with opposite sign) and to that relating to the future possibility of saving.

*Surveys on business confidence* - In the case of the business surveys, the balances are calculated as the difference between the percentage of respondents giving favourable responses and unfavourable responses. The central reply option (unchanged, adequate) is not considered in the calculation. Regarding the question on the predictability of future business situation (uncertainty question) with four reply options, the balance is calculated as follow:

$$\text{balance} = \text{fr}(-) + \text{fr}(-) * 0,5 - \text{fr}(+) * 0,5 - \text{fr}(++)$$

where fr("...") represents the frequency percentage of the response option "..."; the reply options are the following: "++" easy to predict, "+" moderately easy to predict, "-" corresponds to moderately difficult to predict and "- -" matches with difficult to predict.

The balances are calculated on the percentage frequencies with all the decimals (or rather the output of the estimation process) and are then rounded to the first decimal place.

A concise indicator of the confidence climate is also calculated on a monthly basis for the enterprises; it summarizes the level of confidence in the various economic sectors. The confidence climate indicators of the sectors surveyed are calculated as arithmetic average of the seasonally adjusted balances of the variables considered most representative of the short-term evolution of the specific sector. The series of the confidence climate are successively indexed in base 2010=100. In particular, the confidence climate for the manufacturing sector is obtained as the arithmetic average of the seasonally adjusted balances relating to the questions regarding the assessments on the level of overall order books, on the level of stocks (inserted into the calculation with the opposite sign) and the short-term expectations on production level; the confidence climate of the construction sector is calculated considering the judgements on the level of order books and expectations on employment; for the services sector, the variables that make up the climate are the judgements and expectations on the order books and assessments on business trend, while for retail trade, the judgements and expectations on sales and assessments on volume of stocks (this series is inserted in the calculation with the opposite sign).

In the monthly press release, "Consumer and business confidence", the confidence climate indicators of each economic sector covered by the surveys are released, as well as the balances of the main variables surveyed. In addition, for the consumer survey, economic, personal, current and future confidence climates are released. For manufacturing, construction and service firms, the confidence climate is also disseminated for economic macro-sectors. For the retail trade, finally, the index is also released for type of sale (large scale distribution and small and medium scale distribution). For further details relating to the dissemination, see the relevant section of this

methodological note.

In the press release, the Istat Economic Sentiment Indicator (Iesi) is also published. The index is an overall measure of the Italian production sector confidence state. Until the April 2022 press release, the indicator, spread as an index number based 2010, was elaborated aggregating the balances of the variables that make up the confidence climate of the manufacturing firms (assessments on demand in general, expectations on production and assessments on finished product stocks), of the construction firms (assessments on order books and expectations on employment), of the market service firms (assessments and expectations on order books, assessments on business trends) and of the retail trade firms (assessments and expectations on sales, assessments on stocks). On this methodological procedure basis -moreover consistent with the approach adopted at the Community level- the index was not, however, directly obtainable from the variables, albeit weighted, that make up the sectorial confidence climates. Furthermore, it could, albeit rarely, present an evolution that was not in line with the one of the sectorial confidence climate indexes. In order to overcome these limits, a methodological change was introduced to the processing procedure of the index. In fact, starting from May 2022, it is obtained, no longer as a weighted arithmetic average of the seasonally adjusted and standardized balances of the variables making up each sectorial confidence climate, but directly as a weighted arithmetic average of the four production sector confidence indexes (manufacturing, construction, market services and retail trade). The time series of the index so obtained was reconstructed starting from March 2005 and replaces the previously published one.

The synthesis, by weighted average of the four confidence climate indexes, is obtained using, as weights, the shares calculated on the 2005 and 2012 level of the added value of each sector (for the weighting structure of the index, see Table 2). In particular, the added value considered starting from 2010 is expressed at cost of factors and refers to 2012. The weights are calculated net of the Ateco divisions that are not included in the single surveys and refer to the respective observation domains. Specifically, the weight of the manufacturing sector refers to the universe of firms with at least 5 employees, while the one pertaining to the sectors of the construction and the market services refers to the universe of firms with at least 3 employees.

**TABLE 2. ISTAT ECONOMIC SENTIMENT INDICATOR – Iesi**

Weighting structure of Iesi

| SECTORS         | Sectorial weight<br>(% added value 2010) | Sectorial weight<br>(% added value 2012) | Sectorial weight<br>(% added value 2012) |
|-----------------|--|--|--|
|                 | March 2005-December<br>2009 <sup>2</sup> | January 2010-May 2013 <sup>3</sup>       | Starting from 2013 <sup>4</sup>          |
| Manufacturing   | 20,3                                     | 40,2                                     | 39,3                                     |
| Construction    | 9,6                                      | 8,9                                      | 8,7                                      |
| Retail trade    | 9,0                                      | 11,7                                     | 11,4                                     |
| Market services | 61,1                                     | 39,2                                     | 40,6                                     |

The Iesi index released by Istat is an overall measure of the confidence state only of the production sector, unlike the ESI index developed by the European Commission. Therefore, it does not take into account the results of the consumer confidence climate survey.

## Data revision

The monthly estimates are released in final form by the end of the reference month.

The monthly seasonally adjusted series are estimated every month including the latest available data, and updating the estimate of the model parameters (*partial concurrent approach*). With reference to the seasonally adjusted data, therefore, revisions are observed every month. The revision of the seasonal adjustment models is carried out once a year.

<sup>2</sup> The index is expressed in base 2005=100, moved forward to 2010.

<sup>3</sup> The index is expressed in base 2010=100.

<sup>4</sup> The index is expressed in base 2010=100.

## Information on data privacy/confidentiality

The data collected for the confidence surveys is protected by statistical confidentiality and subject to the regulations on the protection of personal data. They may be used exclusively for statistical purposes, also for subsequent processing, by bodies of the National Statistical System. They may also be communicated for the purpose of scientific research, on the conditions and according to the terms provided by art. 7 of the Ethics code for the processing of personal data performed in the context of the National Statistical System and by Community Regulation No. 831/2002. The estimates disseminated in aggregate form, do not allow to trace back to the subjects that provided the data, or to which they refer.

## Coverage and territorial breakdown

The estimates commented in the monthly press release “Consumer and business confidence”, are also available by geographic breakdown with regard to the consumer survey and manufacturing and services surveys.

## Timeliness

The monthly estimates are disseminated in definitive form by the end of the reference month. They are also published by the European Commission in the database devoted to the confidence surveys (link: [https://ec.europa.eu/info/business-economy-euro/indicators-statistics/economic-databases/business-and-consumer-surveys/download-business-and-consumer-survey-data/time-series\\_en](https://ec.europa.eu/info/business-economy-euro/indicators-statistics/economic-databases/business-and-consumer-surveys/download-business-and-consumer-survey-data/time-series_en)).

## Data dissemination

The monthly seasonally-adjusted and non-seasonally-adjusted data is available on [I.Stat](#), the Istat data warehouse. In particular, for consumer survey, the data is available in the “Households economic conditions and disparities/Consumer confidence”; with reference to the survey on the manufacturing sector and the survey on the construction sector, the data is available, respectively, in sections “Industry and construction/business confidence in the manufacturing sector” and “Industry and construction/business confidence in the construction sector”. For services and retail trade, the sections are, respectively, “Services/business confidence in the market service sector” and “Services/business confidence in the retail trade sector”.

The availability of the time series of balances and of the confidence indices (length of time series, breakdowns, etc.) varies for each survey. Below, the availabilities of the main variables disseminated in [I.Stat](#).

Survey on consumer confidence. Weighted series from January 1998 - Raw climates: from January 1998, national level and by geographical area; seasonally adjusted climates: from January 1998, national level and geographical area; raw monthly balances: from January 1998, national level and by geographical area ; raw monthly balances disaggregated by age or by sex or by education or by occupation of respondent: from January 1998 national level; reply options percentage frequencies for monthly questions: raw data from January 1998, national level; quarterly questions relating to spending intentions for a car, a home, home improvements or renovations: raw data from January 2006, national level; monthly questions relating to the spending intentions for a car, a home, home improvements or renovations: raw data from January 1998 to December 2005, national level.

Unweighted series calculated until December 2020 - Raw climates: from January 1995 to December 2020, national level and by geographical area; seasonally adjusted climates: from January 1995 to December 2020, national level and geographical area; raw monthly balances: from January 1982 to December 2020, national level and from January 1995 to December 2020 by geographical area ; raw monthly balances disaggregated by age or by sex or by education or by occupation of respondent: from January 1995 to December 2020, national level; reply options percentage frequencies for monthly questions: raw data from January 1982 to December 2020, national level; quarterly questions relating to spending intentions for a car, a home, home improvements or renovations: raw data from January 2006 to December 2020, national level; monthly questions relating to the spending intentions for a car, a home, home improvements or renovations: raw data from January 1995 to December 2005, national level. Starting from November 2022, Istat disseminates the reply percentage frequencies and balances concerning question on predictability of future financial situation of the household (uncertainty question). The raw time series start in May 2021, when the question was added in the questionnaire. Balances are available at national level and for the following breakdowns: by age, by gender, by education, by occupation of respondent, The reply percentage frequencies are released at national level.

*Survey on business confidence in the manufacturing sector.* Raw series: from 1986; from 1991 by geographical area; seasonally adjusted series: from 2000. The quarterly variables on the exportations and on production capacity are disseminated in raw form starting, respectively, from the fourth quarter of 1985 and from the first quarter of 1986; the pertaining seasonally adjusted series are disseminated starting from the first quarter of 2000. Starting from March 2022, the export quarterly variables are not disseminated anymore except for those concerning obstacles to export. The raw series regarding access to credit are available from August 2009 to September 2015 on a monthly basis; the same variables are available on a quarterly basis from October 2015. Starting from November 2022, Istat disseminates the reply percentage frequencies and balances concerning question on predictability of future business situation (uncertainty question). The raw time series start in May 2021, when the question was added in the questionnaire. They are available at national level, by geographical area, Ateco 2007, size classes of employees. *Survey on business confidence in the construction sector.* Raw series: from 1985; seasonally adjusted series: from 2000. The series of the raw climate are available at national level and by the three economic sectors corresponding to the three divisions of Ateco 2007 (41: building construction, 42: civil engineering and 43: specialised construction works); moreover, the balances and the climates relating to the aforementioned economic sectors, as well as the variable surveyed quarterly on the duration of activity guaranteed (in months) are only available in raw terms, as they are not affected by seasonality. From May 2009 to September 2015, the raw series of the variables regarding access to credit are available on a monthly basis; starting from October 2015, the same variables are available on a quarterly basis. Starting from November 2022, Istat disseminates the reply percentage frequencies and balances concerning question on predictability of future business situation (uncertainty question). The raw time series start in May 2021, when the question was added in the questionnaire. They are available at national level, by Ateco 2007.

*Survey on confidence in the market service sector.* Confidence climates (both raw and seasonally adjusted): from March 2005; raw series of balances and frequencies (reply options): from 2003; seasonally adjusted series of balances and frequencies (reply options): from 2003. Monthly variable "Business situation over the past three months" is surveyed from March 2005; quarterly variable "Capacity utilization" is available from the first quarter of 2010. The raw series regarding access to credit are available from August 2009 to September 2015 on a monthly basis; the same are available on a quarterly basis from October 2015. Starting from November 2022, Istat disseminates the reply percentage frequencies and balances concerning question on predictability of future business situation (uncertainty question). The raw time series start in May 2021, when the question was added in the questionnaire. They are available at national level, by geographical area, Ateco 2007.

*Survey on business confidence of the retail trade sector.* Raw series (confidence climate and frequencies of reply), for the whole country and by Ateco 2007 sector 45 (wholesale and retail sales and vehicle and motorcycle repair), 47 (retail sales excluding vehicles and motorcycles) except for groups 47.8 e 47.9: from 1986, every two months; since 1992, monthly. Raw and seasonally adjusted series by distribution type (large scale distribution and small and medium scale distribution): from 2003. The variable "Sale prices expectations over the next three months" is surveyed starting from November 2003. The raw and seasonally adjusted series of that variable are therefore disseminated only starting from that date. The raw series regarding access to credit are available from August 2009 to September 2015 on a monthly basis; the same are available on a quarterly basis from October 2015. Starting from November 2022, Istat disseminates the reply percentage frequencies and balances concerning question on predictability of future business situation (uncertainty question). The raw time series start in May 2021, when the question was added in the questionnaire, They are available at national level, by distribution type and Ateco 2007.

For the IESI, the time series of the confidence climate of Italian enterprises is available from March 2005.

## The management of the health emergency effects on the surveys

The exceptional variations in raw data recorded during the 2020-21 health emergency were handled according to the guidelines issued by Eurostat, available at the URL:

[https://ec.europa.eu/eurostat/documents/10186/10693286/Time\\_series\\_treatment\\_guidance.pdf](https://ec.europa.eu/eurostat/documents/10186/10693286/Time_series_treatment_guidance.pdf)

## For technical and methodological information

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