

Standard documentation
Metainformation
(Definitions, explanations, methods, quality)

on

Census of Building and Construction

This documentation applies to the reporting period: Annual

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1. Overview

The “Census of Building and Construction” is carried out annually and covers approximately 1,600 firms in the private (i.e. non-State) sector with 20 or more persons engaged. It covers firms whose main activity is building, construction or civil engineering i.e. firms classified to Division 45 of the NACE Industrial Classification of Economic Activity in the European communities - Nomenclature Generale des Activites Economiques dans l'Union Europeenne (NACE Rev 1.1). The Census is carried out as a postal inquiry.

The Census of Building and Construction first appeared as a separate census in 1966. Prior to that, data on the building and construction sector was collected and published in the Irish Statistical Bulletin/Irish Trade Journal as part of the Census of Industrial Production (first inclusion in the 1926 Census). It was first published as a separate release document in 1981.

Data since 1981 is available electronically on our website www.cso.ie via Database Direct. Recent improvements to the CSO Central Business Register have led to a significant increase in the number of enterprises with 20 or more persons engaged being identified and covered in the 2006 Census of Building and Construction. The expanded coverage has led to a discontinuity between the results for 2006 and those published previously.

2. General information

2.1 Statistical Category

The “Census of Building and Construction” is a primary statistical survey.

2.2 Area of Activity

Construction Statistics

2.3 Organisational Unit Responsible, Persons to Contact

Structural Business Statistics - Data Collection Unit

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2.4 Objectives and Purpose; History

The annual census covers firms in the private (i.e. non-state) sector with 20 or more persons engaged whose main activity is building, construction or civil engineering. The number of firms covered in the 2006 “Census of Building and Construction” has increased significantly by comparison with earlier years. This increased coverage has arisen from recent improvements to the CSO Central Business Register of firms.

These improvements are largely due to increased access to administrative data sources that support the Register. The overall purpose of the Census is to collect and publish annual structural statistics on the larger firms in the construction sector together with firms in certain trades which are allied to the construction sector. This data is published nationally and provided to the European Union’s Statistical Organisation – Eurostat.

2.5 Periodicity

The Census of Building and Construction is an annual survey.

2.6 Client

This survey is carried out to satisfy EU requirements under Council Regulation (EC, Euratom) No 58/97 concerning Structural Business Statistics.

2.7 Users

- Eurostat
- Government
- Economists
- Other CSO sections
- The general public
- Professional Bodies
- University students and other interest groups for research purposes

2.8 Legal basis

This is a statutory inquiry carried out in accordance with the Statistics (Census of Building and Construction) Order 2005, Number 774 made under the 1993 Statistics Act.

3. Statistical Concepts, Methods

3.1 Subject of the statistics

The subject of the statistics is to produce structural information on miscellaneous accounting variables for the Construction Industry on an annual basis. Such variables include:

- Number of Employees
- Wages and Salaries
- Acquisitions and Sales of Capital Assets
- Production Value
- Intermediate Consumption
- Gross Value Added

3.2 Units of Observation/Collection Units/Units of Presentation

Data is collected at firm level from enterprises with 20 or more persons engaged whose main activity is building, construction or civil engineering. These firms are classified to Division 45 of the NACE Industrial Classification of Economic Activity in the European communities (NACE Rev 1.1).

Monetary figures are published in units of €000's; persons engaged are published in absolute figures. Figures are published at 2 and 3-digit NACE level.

3.3 Data sources

None - this is a primary survey (census).

3.4 Reporting Unit/Respondents

Reporting unit – 3 digit NACE level reporting for enterprises with 20 or more persons engaged.

Respondents – Enterprises with 20 or more persons engaged.

3.5 Type of Survey/Process

The Census of building and Construction covers all enterprises with 20 or more persons engaged, classified according to NACE Rev 1.1, Division 45.

3.6 Characteristics of the Sample/Process

3.6.1 Population and Sampling Frame

Approximately 1,600 enterprises with 20 or more persons engaged, classified in NACE Rev 1.1, divisions 45 (all building and construction) are surveyed. The Building Register provides the sampling frame from which the enterprises to be surveyed are drawn.

3.6.2 Sampling Design

Not applicable as survey is a Census.

3.7 Survey Technique/Data Transfer

Survey forms are issued by post annually and returned forms are then scrutinised for any discrepancies prior to scanning. The returned forms are scanned in batches of 20 forms.

The resulting scanned data is imported in to the Data Management System (DMS), where edits are run to get a list of outstanding companies.

Postal reminders, emails, telephone calls and field officer visits are used to seek the return of forms from non-respondents.

Edits are run on the scanned data and any required changes are made to the data.

3.8 Questionnaire (incl. Explanations)

The following is a link to the current questionnaire:

http://www.cso.ie/surveysandmethodologies/surveyforms/documents/construction/pdf_docs/census_of_build_and_construction.pdf

The following is a link to the current set of instructions which are to be referenced to aid completion of the questionnaire:

http://www.cso.ie/surveysandmethodologies/surveyforms/documents/construction/word_docs/census_instructions_2007.doc

The Census of building and construction gathers information as outlined in section 3.1.

3.9 Participation in the survey

Participation is compulsory. This is a statutory inquiry in accordance with the Statistics (Census of Building and Construction) Order 2005, Statutory Instrument Number 774 made under the 1993 Statistics Act.

3.10 Characteristics of the Survey/Process and its Results

The "Census of Building and Construction" covers all enterprises with 20 or more persons engaged, which is aggregated and published at 3-digit NACE level, classified according to NACE REV1.1, division 45. Results are grossed for non-response. The subject of the statistics is to produce structural information on miscellaneous accounting variables for the Construction Industry on an annual basis. Such variables include

- Number of Employees
- Wages and Salaries
- Acquisitions and Sales of Capital Assets
- Production Value

Production value represents the net selling value of work done during the year, whether sold or not. It is valued exclusive of VAT. It incorporates an element of double counting arising from the fact that work done on a subcontract basis by firms in a particular sector for other firms in the same sector is included in the turnover figures provided by both firms. However, in the calculation of Gross Value Added this double counting is eliminated.

- Intermediate Consumption

This represents the value of building materials, fuel, industrial services and other goods and services used in production. The definition of this variable has been changed from that given in the 1981 results (Statistical Bulletin, March 1985) to include payments to subcontractors as part of the cost of industrial services, thereby eliminating double counting from the gross value added figures.

- Gross Value Added

This is the difference between production value and intermediate consumption and represents the value added by the firm. Because work done by subcontractors is treated as part of intermediate consumption, there is no double counting in this variable.

3.11 Classifications used

NACE Rev 1.1.

Please see the following link to a definition of NACE Rev 1.1:-

http://ec.europa.eu/eurostat/ramon/nomenclatures/index.cfm?TargetUrl=LST_CLS_DLD&StrNom=NACE_1_1&StrLanguageCode=EN&StrLayoutCode=HIERARCHIC#

3.12 Regional Breakdown of Results

Results are not broken down by region.

4. Production of the Statistics, Data Processing, Quality Assurance

4.1 Data capture

Data is collected by means of postal questionnaire. Data once returned receives a receipt date and is scrutinised. The survey form is then scanned and verified using Teleforms software. It is then transferred to the In-house CSO Data Management System (DMS) and a copy of the scanned image is stored on the network. Edits are run after the data is scanned and any issues or discrepancies that arise with the data are checked and corrected where necessary. Other IT systems that are used include SAS, Microsoft Excel and PC Axis

4.2 Coding

The following section codes are used:-

- non – relevancy reason codes
- issue/receipt codes
- census query codes
- field officer codes
- county and region codes
- Dublin postal codes

4.3 Data Editing

Edit checks are run for each firm to compare figures against previous years data using PC SAS programs. Consistency checks are run, and any edits raised are followed up with the enterprise where necessary.

Edits are also run to check that the sum of components that make up a total is correct for that variable.

Where unusually low or high values for a variable are displayed, a first check is done to see if it is a scanning/verification error. If so, it is corrected, if not, a query is sent to the enterprise for resolution.

Other checks include: range checks.

4.4 Imputation (for Non-Response or Incomplete Data Sets)

None.

4.5 Grossing and Weighting

Grossing is performed using SAS; the grossing factors are calculated using employment figures for each sizeclass and 3-digit NACE group.

Individual grossing factors are derived for each sizeclass by 3-digit NACE group. For each of these sub classifications, a grossing factor is calculated by dividing the total employment for all firms surveyed in each sub classification, divided by the total employment of those respondent firms in each sub classification, thus grossing up data for non-response for all variables in each group.

No weighting is used for the derivation of results.

4.6 Computation of Outputs, Estimation Methods Used

The dataset is created from the Building Register (which is taken from the Central Business Register). All companies in NACE 45 (Construction) with 20 or more persons engaged are included.

Results are aggregated to 3-digit NACE level. There are preliminary results for year T and revised results for year

T-1. Grossed results are aggregated.

4.7 Other Quality Assurance Techniques Used

Staff training, questionnaire reviews, survey respondents feedback sought and acted upon, supervision of field force, telephone skills for all staff.

5. Quality

5.1 Relevance

The Census of Building and Construction is an important indicator used both nationally and by the EU. It is required by the EU under Council Regulation (EC, Euratom) No 58/97 concerning Structural Business Statistics.

5.2 Accuracy and Reliability

5.2.1 Sampling Effects, Representativity

Census – no sampling effects

5.2.2 Non-Sampling Effects

5.2.2.1 Quality of the Data Sources Used

Not applicable.

5.2.2.2 Register Coverage

Census of firms with 20 or more persons engaged is taken from the Building register (which is sourced from the Central Business register). The quality of the register used for sample selection is very important. Updates to the register are made continually throughout each year, to improve the quality of the register. Data is obtained through a postal statistical survey. This survey is a census of all construction and allied trades firms with 20 or more persons engaged within NACE Rev 1.1, division 45. There may be some duplicates when the census is first taken, however these are then removed each year when discovered. Companies that have been discovered to be non-relevant are also removed.

Recent improvements to the CSO Central Business Register have led to a significant increase in the number of enterprises with 20 or more persons engaged being identified and covered in the 2006 Census of Building and Construction. The expanded coverage has led to a discontinuity between the results for 2006 and those published previously.

5.2.2.3 Non- response (Unit and Item)

Unit non – response

Non-Response is of the order of 25% typically, however with the recent addition of a large number of extra firms for 2006 (see section 5.2.2.2 for more details); the response rate has not been as high as it had been previously. For 2006 and 2007 non-response was of the order of 40% covering firms with 20 or more persons engaged. This response rate is expected to improve over time.

Firms surveyed are classified by sizeclass, firms with 20-99 persons engaged and firms with 100+ persons engaged. 95% of non-respondents fall into the 20-99 sizeclass, the remaining 5% is accounted for in the 100+ sizeclass.

To help reduce unit non-response, the company is contacted. Grossing Factors are calculated using employment figures.

The main reasons for unit non-response are:

- A company may no longer be at the address that is on file. These are investigated by the section.
- A company may receive two forms in the case of a duplicate
- A company may have ceased trading
- A company may request an extension to the return due date.

Item non – response

To help reduce item non-response:

- The company is contacted.
- Look at previous years data – LVCF (Last Value Carried Forward)

5.2.2.4 Measurement errors

Measurement errors are not formally calculated, however the following measures have been put in place :-

Types of errors – a respondent may give incorrect data; the form/questionnaire may lead to the recording of wrong values. Examples include – missing employment figures, missing contact details.

Some solutions:

- comparison of data at local level. Current data is compared with data for T-12 (previous years data).
- there are built in edit checks
- training of staff so that they have good knowledge of the local units they are responsible for
- design of questionnaire is monitored and changes are made if necessary

5.2.2.5 Processing errors

Forms are sent by post to construction firms. The returned forms are checked prior to scanning, then scanned, verified and then imported into the DMS. Edits are then run on the keyed data using PC SAS. Any edits that arise are analysed and records are corrected as appropriate following clarification with the company. Edits are run for each unit.

Data Capture

Less data capture errors are likely to arise due to scanning and verification, however data can be keyed manually if there are scanning/verification errors.

Data Editing

Edits are run as outlined in section 4.3. Any inconsistencies are queried with the firm. Any changes required are keyed manually.

5.2.2.6 Model-related effects

The characteristics of non-respondents are thought to be the same as respondents for each 3-digit NACE group by sizeclass.

Individual grossing factors are derived for each sizeclass by 3-digit NACE group. For each of these sub classifications, a grossing factor is calculated by dividing the total employment for all firms surveyed in each sub classification, divided by the total employment of those respondent firms in each sub classification, thus grossing up data for non-response for all variables in each group.

5.3 Timeliness and Punctuality

5.3.1 Provisional results

Provisional data is sent to Eurostat in T+ 10 months.

Provisional data is not published nationally.

5.3.2 Final results

Final results are sent to Eurostat and published by the Central Statistics Office in T+18 Months.

5.4 Coherence

Consistency checks are performed against the Monthly Index of Employment for employment figures, with comparisons also being made between the Quarterly Inquiry on Earnings and Hours Work (QEH), to compare wages and salaries. Comparisons are also made between employment figures in the Census with those in the Monthly Index of Employment in Construction. There are also some comparisons made with annual series derived from the Quarterly National Household Survey as well as the aforementioned QEH survey.

When compared with other series, figures from the census of building and construction are largely consistent with those from other series and show similar trends in the construction sector.

5.5 Comparability

Comparisons are made with previous years data. Due to the use of comparable methodology, certain main variables from the Census of Building and Construction (Number of Employees, Wages and Salaries, Acquisitions and Sales of Capital Assets, Production Value, Intermediate Consumption and Gross Value Added) can be compared over time and with other European states on the Eurostat website:

http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database

Please navigate to: Database; Industry, trade & services; Structural business statistics; SBS – industry & construction, from the main page.

5.6 Accessibility and Clarity

5.6.1 Assistance to Users, Special Analyses

The census is published on the CSO website, see section 5.6.3.3.

The questionnaire is available at the following link:

http://www.cso.ie/surveysandmethodologies/surveyforms/documents/construction/pdf_docs/census_of_building_and_construction.pdf

Background notes are also available here:

http://www.cso.ie/surveysandmethodologies/surveys/census_of_building_and_construction_methodology.htm

Data is transmitted to Eurostat electronically via Edamis.

Historical data is available from the CSO's Database direct, see section 5.6.3.3.

Specific user requests are acceded to where possible and where confidentiality issues do not arise.

5.6.2 Revisions

Revisions are made to previous years data where necessary. This can be due to receiving late returns, or amendments being required to existing returns. These revisions are generally quite small.

5.6.3 Publications

5.6.3.1 Releases Regular Publications

Results are released on the CSO website.

5.6.3.2 Statistical Reports

- Statistical Yearbook
- Small Business in Ireland
- Construction and Housing in Ireland

5.6.3.3 Internet

Data from the 2006 reference period is published on the CSO website at :

<http://www.cso.ie/releasespublications/documents/construction/current/cenbuild.pdf>

Data from the 2007 reference period is available on the CSO's databank along with historical data :

<http://www.cso.ie/px/pxeirestat/database/eirestat/Annual%20Enterprise%20Statistics%20on%20Building%20and%20Construction/Annual%20Enterprise%20Statistics%20on%20Building%20and%20Construction.asp>

Historical data publications are also available on the CSO website at :

http://www.cso.ie/releasespublications/pr_constructarchive.htm

5.6.4 Confidentiality

In accordance with the Statistics Act, 1993, all data received is treated as strictly confidential.

Where individual companies can be identified, data is grouped or suppressed.

6 Additional documentation and publication

www.cso.ie

The entry for this statistic under StatCentral (the portal to Ireland's official statistics) is at

<http://www.statcentral.ie/viewStat.asp?id=127>