



**An
Phríomh-Oifig
Staidrimh**

Central
Statistics
Office

Standard SIMS Report: Building and Construction Inquiry



Single Integrated Metadata Structure (SIMS) Report

For

Building and Construction Inquiry

This documentation applies to the reporting period:
2021

Last edited: 17/10/2023



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2. Introduction

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 the CSO website www.cso.ie via Databases.

The Building and Construction Inquiry (BCI) was established in 2009. It is a sample survey covering all enterprises in the private (i.e. non-state) sector whose main activity is construction of buildings, civil engineering or specialised construction activities. It consists of a census of enterprises with 10 or more persons engaged and in addition a random sample of the smaller units stratified by activity (NACE Revision 2) and employment size class. The BCI is collected by Electronic Survey forms.

The overall purpose of the BCI is to collect and publish annual structural statistics on enterprises in the construction sector together with enterprises in certain trades which are allied to the construction sector. This data is published nationally and provided to Eurostat.

3. Contact

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4. Metadata Update

4.1. Metadata last certified

12/10/2023

4.2. Metadata last posted

12/10/2023

4.3. Metadata last update

12/10/2023



5. Statistical Presentation

5.1. Data Description

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 Persons engaged
- Wages and Salaries
- Production Value
- Intermediate Consumption
- Gross Value Added

5.2. Classification System

In accordance with EU legislation, the NACE REV. 1 classification was used to classify activities from 1991 to 2001.

From 2002 onwards results are classified by NACE Rev 1.1.

From 2008 onwards, results are classified by NACE Rev 2. A correlation table showing the relationship between headings of the old and new classification is available. Each 4 digit class in NACE REV 2 relates to a specific form of economic activity, e.g. construction of roads and railways (NACE 4211).

5.3. Sector Coverage

The scope of the Census extends to NACE section F, Divisions 41 – 43 namely:

- NACE 41: Construction of buildings
 - NACE 41.1 Development of building projects
 - NACE 41.2 Construction of residential and non-residential buildings
- NACE 42: Civil engineering
 - NACE 42.1 Construction of roads and railways
 - NACE 42.2 Construction of utility projects
 - NACE 42.9 Construction of other civil engineering projects
- NACE 43: Specialised construction activities
 - NACE 43.1 Demolition and site preparation
 - NACE 43.2 Electrical, plumbing and other construction installation activities
 - NACE 43.3 Building completion and finishing
 - NACE 43.9 Other specialised construction activities

5.4. Statistical Concepts and definitions

The object of the survey is to produce information on key accounting variables for the Construction Industry on an annual basis. Such variables include:

- Number of persons engaged
 - Employees are persons who are paid a fixed wage or salary. Persons at work or temporarily absent because of illness, holidays, strike etc. are included. Persons working on a labour-only subcontract basis are excluded.
 - Manual Employees comprise skilled operatives, apprentices and unskilled operatives.
 - Other Employees comprise supervisory staff (foremen and supervisors), managerial, technical and clerical (male and female) employees.
 - Proprietors and family members, included here are those proprietors, partners etc. and members of their families who work regularly in the firm and are not paid a definite wage or salary.
- Wages and Salaries



Wages and salaries is the gross amount paid to employees before deduction of income tax, employees' social security contributions etc. plus payments to labour-only subcontractors. Overtime pay, bonuses, holiday pay and sick pay are included.

- **Acquisitions and Sales of Capital Assets**

Acquisitions and sales of capital assets where Capital assets are defined as new and second-hand goods with an expected life of more than one year intended for use by the firm itself. Acquisitions include both purchases and construction by the firm itself of capital goods for its own use.

- **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 calculation includes 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.

- **Gross value added (GVA) at factor cost**

GVA can be expressed at Factor Cost or at Basic Prices. GVA at Basic Prices is the gross income from operating activities while GVA at factor cost is the gross income from operating activities adjusting for operating subsidies and indirect taxes. In the Structural Business Statistics release GVA is expressed at Factor Cost. Data on GVA at Basic Prices is available [here](#) for Industry and [here](#) for Construction.

5.5. Statistical Unit

The statistical unit is the enterprise, defined as the smallest combination of legal units that is an organisational unit producing goods or services, which benefits from a certain degree of autonomy in decision making especially for the allocation of its current resources.

5.6. Statistical Population

The BCI covers all enterprises in Ireland classified according to NACE Rev 2, Divisions 41 - 43.

5.7. Reference Area

State of Ireland

5.8. Time Coverage

2021

5.9. Base period

Not applicable.



6. Unit of Measure

Monetary figures are published in units of €000's;
persons engaged are published in absolute figures.

Data is broken down in the publication by activity (NACE Rev 2), by employment and turnover (Euro "000").

7. Reference Period

2021

8. Institutional Mandate

8.1. Legal Acts and other agreements

Nationally, the survey is carried out under [S.I. No. 268 of 2022 - Statistics \(Structural Business Inquiry\) Order 2022](#) while at EU level the survey is carried out under [Regulation \(EU\) 2019/2152 of the European Parliament concerning business statistics](#)

8.2. Data Sharing

Not applicable.

9. Confidentiality

9.1. Confidentiality – policy

All information supplied to the CSO is treated as strictly confidential. The Statistics Act, 1993 sets stringent confidentiality standards: Information collected may be used only for statistical purposes, and no details that might be related to an identifiable person or business undertaking may be divulged to any other government department or body.

These national statistical confidentiality provisions are reinforced by the following EU legislation: Council Regulation (EC) No 223/2009 on European statistics for data collected for EU statistical purposes.

Further details are outlined in the CSO's Code of Practice on Statistical Confidentiality.

For more information on the CSO confidentiality policy please visit:

<https://www.cso.ie/en/aboutus/lgdp/csodatapolicies/statisticalconfidentiality/>

9.2. Confidentiality – data treatment

All information supplied to the CSO is treated as strictly confidential. The Statistics Act 1993 sets stringent confidentiality standards: Information collected may be used only for statistical purposes, and no details that might be related to an identifiable person or business undertaking may be divulged to any other government department or body.

The level of breakdown is determined by making sure that the data in the resulting categories does not violate the confidentiality of the returns.

Eurostat k-rules are used, i.e. a cell is confidential, if 80+% of total comes from 1 company or 90+% comes from 2 companies. A cell is confidential if it contains less than 3 enterprises.



10. Release Policy

10.1. Release Calendar

The date of dissemination of all statistics released by CSO can be found in the Release Calendar published on www.cso.ie. This calendar is regularly updated.

10.2. Release calendar access

The release calendar can be accessed via the CSO website, www.cso.ie, or directly from this link: <https://www.cso.ie/en/csolatestnews/releasecalendar/>

10.3. User access

In accordance with Principle 6 of the European Statistics Code of Practice all users of CSO statistics have equal access via the CSO website at the same time of 11 am. Any privileged pre-release access to any outside user is limited, controlled and publicised. In the event that leaks occur, pre-release arrangements are revised so as to ensure impartiality.

The CSO recognises that in very limited circumstances a business need for pre-release access may be substantiated. Any form of pre-release access is a privilege and a strict CSO pre-release access policy is adhered to for these special requests. The full pre-release access policy can be accessed at <https://www.cso.ie/en/aboutus/lgdp/csodatapolicies/csopolicyonpre-releaseaccess/>

The various results are published nationally in statistical release format as well as on the CSO website (www.cso.ie). Selected extracts from the results are posted on the CSO's data dissemination database, PxStat.

Any ad-hoc quests for data are released as long as confidentiality is maintained.

11. Frequency of Dissemination

Annual.

12. Accessibility and clarity

12.1. News release

Not applicable.

12.2. Publications

Publications related to this output available on the CSO website include:

- Building and Construction Inquiry available at <https://www.cso.ie/en/statistics/buildingandconstruction/buildingandconstructioninquiry/>
- Structural Business Statistics available at <https://www.cso.ie/en/statistics/retailandservices/structuralbusinessstatistics/>
- Statistical Yearbook of Ireland available at <https://www.cso.ie/en/statistics/statisticalyearbookofireland/>
- Business in Ireland available at <https://www.cso.ie/en/statistics/enterprisestatistics/businessinireland/>



12.3. On-line database

Final data for 2020 and historical data for previous years can be found at PxStat tables for Building & Construction Inquiry <https://data.cso.ie/product/ESC>

12.3.1. AC 1. Data tables - consultations

The structural business statistics tables were accessed a total of 722 of which 331 were unique in the period (1/1/21-2/11/21)

12.4. Micro-data Access

Microdata access is available after national publication to any approved users to apply via our RMF application process. See weblink below for details on our RMF application process.

<https://www.cso.ie/en/aboutus/lgdp/csodatapolicies/dataforresearchers/rmfapplicationprocedure/>

12.5. Other

As part of the EU regulation underpinning the BCI, data is transmitted electronically to Eurostat via eDamis at T+10 and T+18, this data is published on Eurostat's website at Eurostat - Annual detailed enterprise statistics for Construction

Background notes are available here:

<https://www.cso.ie/en/methods/surveybackgroundnotes/buildingandconstructioninquiry/>

Historical data is available from the CSO's Database direct.

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

12.5.1. AC2. Metadata consultations

Not calculated.

12.6. Documentation on Methodology

Further documentation on the methodology used for the compilation of these results can be found on the CSO's methods page <https://www.cso.ie/en/methods/construction/buildingandconstructioninquiry/>

12.6.1. AC3 – Metadata completeness – rate

Not calculated.

12.7. Quality Documentation

For more information on the quality of this publication please refer to the CSO's methods page

<https://www.cso.ie/en/methods/construction/buildingandconstructioninquiry/>

13. Quality Management

13.1. Quality Assurance

Quality Management Framework

The CSO avails of an office wide Quality Management Framework (QMF). This framework allows all CSO processes and outputs to meet the required standard as set out in the European Statistics Code of Practice (ESCoP). The QMF foundations are based on establishing the UNECE's Generic Statistical Business Process Model (GSBPM) as the operating statistical production model to achieve a standardised approach to



Quality Management. All and any changes implemented to CSO processes and outputs require adherence to the QMF.

To assure the quality of the information collected all staff training on the subject matter and telephone skills. We carry out questionnaire reviews and seek survey respondents feedback that we act upon.

The main quality assurance activity for SBS is the data validation.

A number of validation procedures, from data collection to data dissemination are performed:

- Automatic checks - performed in the process of data entry.
- Logical checks - data control of correctness of the suspicious size of the values or incompleteness of the data. Errors of this type are corrected through direct contacts with the enterprises.
- Micro checks - at the level of enterprise.
- Macro checks - at the level of NACE class (2/3/4-digit code).

Micro and macro plausibility checks are performed as historical and actual data are compared; comparison with other sources (External trade and STS especially) is also made.

13.2. Quality Assessment

No changes were implemented after Quality Review Self-Assessment was carried out in 2021.

14. Relevance

14.1. User Needs

The BCI is an important indicator used both nationally and by the EU. It is required by the EU under Council Regulation (EC, Euratom) No 44/2013 concerning Structural Business Statistics.

14.1.1. Main National Users

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

14.1.2. Principal External Users

- Eurostat.

14.2. User Satisfaction

We meet with customers (government and research community) once a year via an Economic Statistics Liaison Group (ESLG) to discuss our surveys and data during which we gauge user satisfaction and feedback. A user canvass was carried out in 2019.

14.3. Data Completeness

Data on all variables requested by Eurostat are collected and submitted.

14.3.1. Data Completeness rate

100%



15. Accuracy and reliability

15.1. Overall accuracy

Not applicable.

15.2. Sampling Error

Not analysed.

15.2.1. A1. Sampling error indicator

Not calculated.

15.3. Non-sampling Error

Statistical inference using ratio estimators. Non-respondents are treated as not being selected; the final sample from which inference is made consists of respondents only. The sample is increased to the population size using Administrative data.

15.3.1. Coverage error

The sample is taken from the CSO's Business Register. All enterprises in NACE Rev 2 Section are covered. 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 via postal and electronic means. 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.

15.3.1.1. A2. Over coverage rate

Not calculated.

15.3.1.2. A3. Common units – proportion

Not calculated.

15.3.2. Measurement error

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-1 (previous year's 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.



15.3.3. Non-Response Error

In 2020, Non-Response was in the order of 62%. To help reduce unit and item 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.

15.3.3.1. Unit non-response rate

62%

15.3.3.2. Item non-response rate

Not calculated

15.3.4. Processing error

Survey forms are returned electronically and are transferred to the CSO's Data Management System (DMS) where it can be viewed and amended as required. 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 Editing

Edits are run on the returned data. Any inconsistencies are queried with the firm. Any changes required are keyed manually.

15.3.5. Model assumption error

The use of Administrative data to impute for a range of financial variables is making the assumption that certain enterprises financial structures are similar. This may not always be the case.

16. Timeliness and punctuality

16.1. Timeliness

Provisional data should be sent to Eurostat in T+10 months, by the agreed deadline of the 31st of October to avoid revisions when the National account data is finalised.

Provisional data is not published nationally.

Under EU regulation, final data must be sent to Eurostat by T+18 months.

16.1.1. TP1. Time lag – First results

10 months

16.1.2. TP2. Time lag – Final results

18 months for Eurostat, 20 months nationally.



16.2. Punctuality

Data for reference period 2021 was submitted to Eurostat in September 2023 for Construction. This was approximately 2 months after the Eurostat deadline of 30th June 2023 for Structural Business Statistics.

At national level data was published on the website on the 25th October 2023 as previously indicated in the CSO release calendar.

16.2.1. TP3. Punctuality – Punctuality - delivery and publication

0 days.

17. Comparability

17.1. Comparability – Geographical

Not applicable.

17.1.1. CC1. Asymmetry for mirror flow statistics

Not applicable.

17.2. Comparability over time

Comparisons are made with previous year's data. Due to the use of comparable methodology, certain main variables from the BCI (Number of Employees, Wages and Salaries, Production Value, Intermediate Consumption and Gross Value Added) can be compared over time and with other European states on the Eurostat website.

NACE classification was changed in 2008.

Target population changed in 2008, due to change in methodology in Business Register.

17.2.1. Length of Comparable Time series

3 (Full- Comparability)/14 (Partial –Comparability) years. Following a review of the methodology in 2021/2022 and the variety of data sources available, a decision was made to utilise wages and social security payments data from administrative data sources to improve the accuracy of the BCI. This data source has been utilised from 2020 onwards, including a reconstruction of the 2019 data using this new method. Due to this, certain variables such as the number of construction enterprises and the number of employees can be compared fairly across all 14 years (2008-2021). However, other variables, including labour costs for 2021 should only be compared to 2020 and 2019 which used the same methodology.

17.3. Coherence – cross domain

A major revision of the 2008-2014 series was carried out previously. This new methodology was applied from 2015 reference period data onwards. This mean SBS data was much closer aligned to Business Demography data.

17.3.1. Coherence – Sub annual and annual statistics

Construction data is compared with quarterly construction data and planning permissions.

17.3.2. Coherence with National Accounts

Prior to aggregation the data is thoroughly checked for consistency with National Accounts and Balance of Payments sections of the CSO. Any major discrepancies are discussed and resolved.



17.4. Coherence – internal

For the seventy or so largest companies in Ireland, the Large Cases Unit deal with their data and provide each survey area with the data as required. This makes this data very coherent.

18. Cost and Burden

Estimates of Cost and Burden can be obtained from the Response Burden Barometer <https://www.cso.ie/en/statistics/enterprisestatistics/responseburdenbarometer/>

Survey specific information is available via CSO's dissemination database PxStat. <https://data.cso.ie/product/RBB>

19. Data Revision

19.1. Data Revision Policy

Revisions refer to changes made to published statistical data when the information used in its production has been updated or corrected. This information includes all data used in compiling the statistic e.g. respondent data, administrative data, weights and factors, methodology, classifications, definitions, modifications to survey questionnaires, survey scope and data collection methods.

The data revision policy that CSO statistics adheres to can be found via the following link: <https://www.cso.ie/en/methods/quality/treatmentofrevisions/>

19.2. Data Revision Practice

A major revision of the 2008-2014 series was carried out in 2015 and 2016. The new methodology was to use matched sample based on units that have responded to both in 2016. If an error or new data becomes available which will affect any major variable at division level by 5% a revision will be made and published. Users will be made aware of the revision by inserting a grey box outlining the revision and or a footnote in PxStat. The revised data would be sent to Eurostat.

19.2.1. Data Revision – Average size

Not calculated.

20. Statistical processing

20.1. Source Data

The BCI is made up of a census of construction enterprises that employ 10 or more and a random sample of the smaller units stratified by activity (NACE Revision 2) and employment size. The survey is aggregated and published at 3-digit NACE level, classified according to NACE Rev 2, divisions 41 - 43. Results are grossed for non-response.

20.1.1. Population and sampling frame

Approximately 4,500 enterprises classified in NACE Rev 2, divisions 41 – 43 (all building and construction) are surveyed. The Business Register provides the sampling frame from which the enterprises to be surveyed are drawn.



20.1.2. Sampling design

The survey sample consists of the census of enterprises with 10+ employees plus a random sample of the smaller units stratified by activity (NACE Rev 2) and employment size class.

20.1.3. Survey size

In 2021 there were approximately 59,000 enterprises known to the CSO to have been engaged in construction activity of which approx. 4,500 enterprises were surveyed.

20.1.4. Survey technique

Survey forms are returned electronically and are transferred to the CSO's Data Management System (DMS) where it can be viewed and amended as required. SAS programs are used for the transfer and management of the survey. Postal reminders, emails, telephone calls are used to seek the return of forms from non-respondents.

20.2. Frequency of data collection

Data is collected annually

20.3. Data Collection

Survey forms are returned electronically and are transferred to the CSO's Data Management System (DMS) where it can be viewed and amended as required. SAS programs are used for the transfer and management of the survey. Postal reminders, emails, telephone calls are used to seek the return of forms from non respondents.

20.3.1. Type of Survey/Process

Sample postal survey

20.3.2. Questionnaire (including explanations)

There are two types of questionnaires used in the BCI and sent to all enterprises whose activity is primarily construction. The type of 'enterprise' questionnaire depends on the size of the enterprise.

- The most detailed form (Form L) is generally sent to all enterprises with twenty or more persons engaged.
- A less detailed form (Form S) is sent to enterprises with between zero and nineteen persons engaged.

Individual forms and instructions on how to complete same are available on the CSO website.

20.3.3. Survey Participation

This is a statutory enquiry and therefore participation is compulsory under S.I. No.268/2022.

20.3.4. Data Capture

Data is collected at firm level from enterprises whose main activity is construction of buildings, civil engineering or specialised construction activities. These firms are classified to Divisions 41 – 43 of the NACE Industrial Classification of Economic Activity in the European communities (NACE Rev 2). The survey is made up of a census of construction enterprises that employ 10 or more and a random sample of the smaller units stratified by activity (NACE Revision 2) and employment size. The BCI is drawn from the Business Register.



20.4. Data Validation

Edits are run on the scanned data and any required changes are made to the data. The IT tools employed are:

- The CSO in house computer system – Data Management System (DMS),
- also bought in systems: SAS, Microsoft Excel and PCAxis.

Edit checks are run for each firm to compare figures against previous year's data using 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.

The majority of edit check consist of:

- Year-on-year comparisons for key variables;
- Consistency checks, e.g. sum of parts against the total;
- Plausibility checks, e.g. profit to turnover ratio too high/low.
- Compared with other survey returns for coherence

We also use other CSO collected data from Short Term Statistics and National Accounts to validate data returns. Tax returns are also used for plausibility checks.

20.5. Data Compilation

The dataset is created from the Business Register. All enterprises in NACE Section F i.e. divisions 41 – 43 are included.

Results are aggregated and published at 3-digit NACE level.

20.5.1. Imputation (for Non-Response or Incomplete Data Sets)

None.

20.5.1.1. A7. Imputation rate

Not applicable

20.5.2. Grossing and Weighting

The original series was aggregated using grossing factors. This method has been revised in the new series. Instead of grossing to a total population the use of administrative (tax) data is used instead.

For every non-respondent or non-surveyed enterprise, a survey return is created using tax information. The primary financial value the survey uses is profit/loss data with estimates for labour costs added to arrive at a value for GVA. This is derived from the administrative data. Other financial variables normally received from the survey form are estimated using actual survey returns as the data is not available from the administrative data. This is done using ratio-estimators. A basic example of the concept would be the ratio of turnover to GVA. If for a particular NACE the ratio of turnover to GVA is 4:1, we would simply multiply the derived administrative GVA by 4 to give us a turnover value.

20.6. Adjustment

Not applicable

20.6.1. Seasonal Adjustment

Not applicable.



21. Comment