An Phríomh-Oifig Staidrimh

Central Statistics Office

Standard Report on Methods and Quality for Annual Services Inquiry

Standard Report

on

Methods and Quality

for

Annual Services Inquiry

This documentation applies to the reporting period:

2019

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1 Overview

The Annual Services Inquiry (ASI) has been conducted on an annual basis since 1991. The purpose of the survey is to provide estimates of the principal trading aggregates for all enterprises in the retail, wholesale, transportation and storage, accommodation and food, information and communication, real estate, professional, scientific, technical, administrative and other selected services sectors.

2 General Information

2.1 Statistical Category

ASI is primarily a statistical survey based on the enterprises' responses to the survey questionnaire. Enterprises that are not surveyed or did not respond data is imputed directly from administrative (tax) sources.

2.2 Area of Activity

The purpose of the survey is to estimate economic activity in the Distribution and Services sectors.

2.3 Organisational Unit Responsible, Persons to Contact

Business Statistics – Annual Services (Data Collection)

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The business specialists above can be contacted by e-mail using their firstname.lastname@cso.ie.

2.4 Objectives and Purpose; History

The purpose of the survey is to estimate economic activity in the Distribution and Services sectors, both country wide and separately in the Northern & Western, Southern and Eastern & Midland regions.

The principal variables collected are Turnover, Stocks, Capital Assets, Personnel Costs, Purchases, Employment, Location of Ownership, etc..

The Annual Services Inquiry has been conducted as an annual survey of both distributive and non-distributive services since 1991.

2.5 Periodicity

Annual.

2.6 Client

Irish Government and Eurostat.

2.7 Users

Primary users of the survey results are National Accounts, Eurostat, Irish Government, Economists, Researchers and industry representative bodies.

2.8 Legal basis

Annual Services Inquiry is a compulsory survey conducted under the Statistics Statistics (Structural Business Inquiry) Order 2017 (S.I. No. 572 of 2017) made under the Statistics Act 1993 and Regulation (EC) No. 295 of 2008 of the European Parliament and of the Council concerning structural business statistics.

3 Statistical Concepts, Methods

3.1 Subject of the Statistics

The survey covers all enterprises in the retail, wholesale, transportation and storage, accommodation and food, information and communication, real estate, professional, scientific, technical, administrative and other selected services sectors (NACE Rev.2 sectors G, H, I, J, L, M, N, divisions 92, 93, 95 and 96).

Enterprises that traded for at least 6 months in the reference year are included in the survey.

The principal variables collected are Turnover, Stocks, Capital Assets, Personnel Costs, Purchases, Employment etc..

3.2 Units of Observation/Collection Units/Units of Presentation

The ASI is an enterprise survey, where an enterprise is defined as the smallest legally independent unit.

All enterprises with 2 or more persons engaged are included in the survey frame.

However, the units with 1 person or less persons engaged are not surveyed; the data for those are imputed directly from administrative data sources.

Published results are aggregated by the type of activity (NACE), region, size class etc.

3.3 Data Sources

Enterprises' returns on the issued survey forms are the primary data source for units with 2 and more persons engaged. Administrative (Tax) data sources are used for imputation for enterprises with for non-surveyed or non-responding enterprises.

3.4 Reporting Unit/Respondents

The enterprises that were economically active in the reference year.

3.5 Type of Survey/Process

The ASI is conducted as a postal inquiry, but an electronic version of the questionnaire is also available for completion online on the CSO website.

3.6 Characteristics of the Sample/Process

3.6.1 Population and Sampling Frame

The survey covers all enterprises with 1 or more persons engaged in retail, wholesale, transportation and storage, accommodation and food, information and communication, real estate, professional, scientific, technical, administrative and other selected services sectors (NACE Rev.2 sectors G, H, I, J, L, M, N, divisions 92, 93, 95 and 96).

Since 1995 the CSO's Central Business Register provides the sampling frame, from which the Annual Services Inquiry sample is selected each year.

3.6.2 Sampling Design

The ASI is designed to provide estimates of the principal trading aggregates for all enterprises in the relevant sectors. The 'enterprise' is the unit used for survey purposes i.e. one return is sought in respect of each enterprise covering all constituent branches, local units or subsidiaries.

The survey sample consists of the census of enterprises with 50+ employees plus a random sample of the smaller units with 2 to 49 persons engaged, stratified by activity (NACE Rev.2) and employment size class. The employment size classes and approximate sampling rates are shown in the table below:

Persons Engaged	Sampling Rate
2 – 9	1/10
10 – 49	1/2

3.7 Survey Technique/Data Transfer

Survey forms are printed in the CSO's printing section and are usually posted to the enterprises at the end of April. Three reminders to non-respondents are sent in June, September and November. Due to the COVID-19 pandemic, forms for 2019 were posted in August 2020, an email reminder was sent in November and a paper reminder in December 2020.

An electronic version of the questionnaire is also available for completion online on the CSO website.

When a survey form is returned to the section, the form is scanned and verified. The scanned data are transferred to the CSO's Data Management System (DMS), where it can be viewed and amended as required.

Electronic returns are transferred to DMS as is, without any prior scrutiny.

Edits are run after the data is uploaded and any issues that arise are looked at and resolved where necessary. This is done by contacting the company, looking at previous returns or consulting administrative data sources, where available.

3.8 Questionnaire (including explanations)

The [Annual Services questionnaire](#) requests the data on Turnover, Stocks, Capital Assets, Personnel Costs, Purchases, Employment, including detailed breakdowns.

3.9 Participation in the Survey

Annual Services Inquiry is a compulsory survey conducted under the Statuary Instrument Statistics (Structural Business Inquiry) Order 2017 (S.I. No.572 of 2017), made under the Statistics Act 1993 and Regulation (EC) No. 295 of 2008 of the European Parliament and of the Council concerning structural business statistics.

3.10 Characteristics of the Survey/Process and its Results

The original series was aggregated using grossing factors. This method has been revised in the new series. Instead of grossing to a total population 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. Where possible labour costs for non response were taken from revenue data also to reduce the estimation. 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.

3.11 Classifications used

NACE Rev.2 [Classifications](#) is used to classify the companies by activity.

3.12 Regional Breakdown of Results

The regional classifications are based on the Nomenclature of Territorial Units (NUTS) classification used by Eurostat. The boundaries were amended on 21st of November 2016 under Regulation (EC) No. 2066/2016 and have come into force from 2018. The new breakdown has three regions the counties constituting each of the regions are listed below:

Northern & Western Region

Cavan, Donegal, Leitrim, Monaghan, Sligo, Galway City, Galway County, Mayo and Roscommon.

Southern Region

Clare, Limerick, Tipperary, Carlow, Kilkenny, Waterford, Wexford, Laois, Cork City, Cork County, Kerry.

Eastern & Midland Region

Dublin City, Dun Laoghaire-Rathdown, Fingal, South Dublin, Kildare, Meath, Wicklow, Louth, Laois, Longford, Offaly, Westmeath.

For information the previous regions were Southern and Eastern (SE) and Border, Midlands and West (BMW) regions.

The counties constituting each of the previous two regions are listed below:

BMW Region: Cavan, Donegal, Galway, Laois, Leitrim, Longford, Louth, Mayo, Monaghan, Offaly, Roscommon, Sligo, Westmeath

SE Region: Carlow, Clare, Cork, Dublin, Kerry, Kildare, Kilkenny, Limerick, Meath, Tipperary, Waterford, Wexford, Wicklow

4 Production of the Statistics, Data Processing, Quality Assurance

4.1 Data Capture

Returned survey forms are scrutinised to identify any errors, scanned and verified. The scanned data and the data from electronic returns 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 transfers and management of the survey.

4.2 Coding

Every company is coded according to its primary activity (NACE); County codes are used to produce regional results. These are the only types of coding used.

4.3 Data Editing

The data scanned from the survey forms and from the electronic returns is uploaded into DMS and edited on-screen. Multiple derived variables are created to check for abnormalities in the companies' returns. These are mainly ratios such as Stocks to Turnover, Opening Stocks to Closing etc., which are supposed to be within a certain range.

Additionally, the following edit rules are built into the DMS:

B form Edits enterprises with 15 or more employees

- Unusually high profit or loss.
- Turnover needs to be checked if 20% change from previous year.
- Capital Research and Development needs to be checked if 100% different than the previous period.
- Cost of sales needs to be checked if 100% different than the previous period.
- Purchases of other goods and services needs to be checked if 100% different than the previous period.
- Total Subsidies needs to be checked if 100% different than the previous period.
- Purchases for resale needs to be checked if 100% different than the previous period.
- Social security should not be less than 5% of Wages and Salaries.
- Social Security should not exceed 25% of wages and salaries.
- Wholesale Turnover needs to be checked if 50% change from previous year.

<u>C form Edits enterprises with 14 or less employees</u>

- Unusually high profit or loss.
- Turnover needs to be checked if 20% change from previous year.
- Social security should not be less than 5% of Wages and Salaries.
- Social Security should not exceed 25% of wages and salaries.
- Cost of sales needs to be checked if 100% different than the previous period.
- Purchases of other goods and services needs to be checked if 100% different than the previous period.
- Total Subsidies needs to be checked if 100% different than the previous period.
- Purchases for resale needs to be checked if 100% different than the previous period.

If any of the edit rules is violated, the enterprise is contacted to resolve any discrepancy. The data is then manually edited on the basis of the enterprise explanation.

In certain cases (very large companies) the enterprises' returns are checked for consistency across available administrative data sources.

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

Mass imputation from the administrative data sources is used for enterprises who have not responded or were not surveyed.

4.5 Grossing and Weighting

Due to the use of Administration data no grossing or weighting is carried out.

4.6 Computation of Outputs, Estimation Methods Used

Outputs are computed using ratio estimator with Number of Persons Engaged as an auxiliary parameter.

4.7 Other Quality Assurance Techniques Used

The sample is manually checked for accuracy of names, addresses and NACE codes before posting. The enterprises deemed to be inactive, non-relevant or duplicates of other enterprises are removed from the survey and reported to Business Register for further actions.

A set of extensive macro-checks is run on the aggregated data to comply with Eurostat rules. These include year-on-year comparison for both main variables and certain ratios, e.g. Turnover per Person Engaged or GVA to Turnover etc. Additional micro-checks are performed for the sectors where the change is outside the specified range, usually [-10%; +10%].

5 Quality

5.1 Relevance

The ASI is an important instrument for production of Structural Business Statistics both on national and European level. It provides a base for computing other important indicators, such as consumer, wholesale price and retail sales indexes.

The results are constantly used by National Accounts and Balance of Payments sections of the CSO.

5.2 Accuracy and Reliability

5.2.1. Sampling Effect & Representativity

5.2.2. Non-Sampling Effects

5.2.2.1 Quality of the Data Sources used (other than survey register)

Administrative data sources used seem to be of satisfactory quality.

5.2.2.2 Register Coverage

The sample is taken from the CSO's Central Business Register (CBR). All enterprises in NACE Rev.2 sectors G, H, I, J, L, M and N, divisions 92, 93, 95 and 96 with at least 1 person engaged are covered.

Misclassification errors (wrong NACE code) are corrected manually and reported back to CBR.

5.2.2.3 Non-response (Unit and Item)

A breakdown of the response rate for 2019 is available in the table below

No of forms Issued	Responded	Usable
17,462	5,977	5,373
100%	34%	31%

5.2.2.4 Measurement Errors

Measurement errors are not formally calculated for the survey.

However, all measures are taken to prevent their occurrence. All efforts are made to make the questionnaire form as clear as possible. Detailed Instructions on how to fill it in are also provided. A large number of queries are dealt with by phone or e-mail on a day-to-day basis.

Individual companies' data are confidential under the Statistics Act, 1993, and can only be used for statistical purposes. All efforts are made to make this fact known to the respondents.

5.2.2.5 Processing Errors

All possible measures are taken to avoid processing errors, which may occur in scanning, data transfer and in the process of updating the data manually. A system of derived variables and edit rules described in 4.3 ensures that the processing errors, even if present, are not affecting the outcome significantly.

5.2.2.6 Model-related Effects

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.

5.3 Timeliness and Punctuality

5.3.1 Provisional Results

Preliminary results containing only Turnover and Employment for the state at 3-digit NACE level are produced @T+10 month and transmitted to EuroStat. However, these have never been published.

5.3.2 Final Results

Final results are produced and transmitted to EuroStat @T+18 month and published @T+20 months. This schedule is generally met.

5.4 Coherence

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.

5.5 Comparability

The 1995 inquiry was the first survey to use Business Register as the basis for the sampling frame, as previous inquiries were sampled and grossed with reference to the 1988 Census of Services register. The Business Register is continuously updated, and thus provides a more satisfactory approach to grossing than used previously. However, this change of registers, in addition to changes in classifications, means that the results of the 1995 and subsequent inquiries are not fully comparable with results from previous years. A more complex sampling/grossing methodology is used from 1999 ASI onwards; therefore, the outcome is not directly comparable to previous years.

The introduction of the NACE Rev. 2 classification has led to some significant changes compared to the previously used NACE Rev. 1.1, such as the introduction of new sectors not surveyed before (e.g., veterinary services), the reclassification of some sectors from Industry to Services (e.g. publishing) and changes to the internal structure of the Distribution and Services sectors. As a consequence, the results from the reference year 2008 onwards are not directly comparable with earlier years. The introduction of the use of Administrative data in 2008 for non-response instead of grossing has increased the difficulties in comparing the series.

The ASI is conducted under the Eurostat guidelines, which apply to all member countries in the European Union. This ensures that the statistics produced are comparable across EU.

5.6 Accessibility and Clarity

5.6.1 Assistance to Users, Special Analyses

Historical results for reference years 1999 to 2006 and current data are available on the CSO website as are current survey forms.

Individual queries and requests for special data are answered by phone and e-mail. A typical example is a breakdown of data at more detailed level of NACE than in publication.

5.6.2 Revisions

Revisions are very infrequent and done by updating the tables on PxStat.

Primary driving force for revisions is new sources of information that were not available at the time of the original publication.

5.6.3 Publications

5.6.3.1 Releases, Regular Publications

Electronic Release - Structural Business Statistics, Business in Ireland and PxStat tables on the CSO website.

5.6.3.2 Statistical Reports

Statistical Yearbook of Ireland.

5.6.3.3 Internet

Final data are available on the [CSO website](#).

5.6.4 Confidentiality

Individual companies' data are treated as strictly confidential under the Statistics Act, 1993. The aggregates are published broken down by principal activity of the enterprise as well as by regions, turnover and employment size classes, nationality of ownership etc.

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

6 Response burden

Respondents were asked to estimate the number of minutes it took them to complete the Annual Services Inquiry form. The purpose of this question was to indicate the response burden placed on enterprises selected for the survey. The average response time for all enterprises was 45.7 minutes.

7 Additional documentation and publications

Additional information can be obtained from the [EuroStat website](#).