

Standard Report on Methods and Quality

for

Irish Industrial Production by Sector (previously PRODCOM)

This documentation applies to the reporting period:

2014

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1 Overview

PRODCOM is a system for the collection and dissemination of statistics on the production of manufactured goods. The title comes from the French "PRODUCTION COMMUNAUTAIRE" (Community Production) for mining, quarrying and manufacturing: sections B and C of the Statistical Classification of Economy Activity in the European Union (NACE Rev 2).

It is based on a product classification called the PRODCOM List which consists of about 3,800 headings relating to manufactured products.

Products are detailed on an 8-digit level; 1 to 4 digits refer to the NACE classification in which producing enterprise is normally classified, digits 1 -6 refers to the CPA (European Union Classification of Products by Activity) code while the last two digits show the classification of a heading within this CPA heading.

In accordance with Article 2(2) of the PRODCOM regulation - *EU Council Regulation on the Establishment of a Community Survey of Industrial Production* (No. 3924/91), each heading of the PRODCOM list is, with a few exceptions, defined by one or more headings of the European Union Trade nomenclature i.e the eight-digit Combined Nomenclature (CN). Exceptions include some industrial services.

The PRODCOM survey is a postal survey. For each heading, the survey covers the physical volume of production sold during the survey period and the value of production sold during the survey period.

PRODCOM is a census of all enterprises employing 3 or more persons engaged in sections B and C of NACE Rev 2. The PRODCOM regulation came into force in December 1991 and the first PRODCOM survey conducted by CSO was in respect of calendar year 1992.

PRODCOM data provides industry, business and researchers with a powerful tool for market analysis. By combining them with the trade statistics, users can derive various other statistics, for example shares of exports, the net supply to the market and unit prices for production, imports and exports - all at the product level.

PRODCOM data also play an important role in the process of reconciling the income, expenditure and output components of Gross Domestic Product (GDP), providing estimates of domestic supply.

At European level, the PRODCOM system enables the size of the Community market to be known.

Results were first published for PRODCOM in respect of 1994, however data is available for 1992 and 1993 on special request.

2 General information

2.1 Statistical Category

Primary statistical survey.

2.2 Area of Activity

Structural Business Statistics – PRODCOM

2.3 Organisational Unit Responsible, Persons to Contact

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2.4 Objectives and Purpose; History

The PRODCOM Inquiry is conducted by the Central Statistics Office (CSO). This is an annual survey of the value and volume of products produced by industrial enterprises in Ireland and sold during the reference year. It is carried out in compliance with *EU Council Regulation on the Establishment of a Community Survey of Industrial Production* (No. 3924/91). Results were first published for PRODCOM in respect of 1994 however data is available for 1992 and 1993 on special request.

The results are presented using a harmonised EU product classification called PRODCOM. Each year, a new PRODCOM list is published based on changes to the Combined Nomenclature. Since 2003 an annual Commission Regulation is required for the PRODCOM List.

2.5 Periodicity

This survey is carried out annually.

2.6 Client

This survey is carried out in compliance with EU Council Regulation on the Establishment of a Community survey of Industrial Production (No 3924/91) and with Commission Regulation (EC) No 830/2011 of 27 July 2011 establishing for 2012 the "Prodcom list" of industrial products provided for by Council Regulation (EEC) No 3924/91.

2.7 Users

- Eurostat
- Government
- Other CSO (e.g. Monthly Industrial Production (MIP), Environmental Accounts, Census of Industrial Production(CIP)), National Accounts
- Economists/Statisticians

2.8 Legal basis

Prodcum is a statutory inquiry conducted under the Statistics (Survey of Industrial Commodities Production) Order, 2012 (S.I. No 511 of 2012) made under Statistics Act, 1993.

3 Statistical Concepts, Methods

3.1 Subject of the Statistics

The survey covers all industrial enterprises with three or more persons engaged which are wholly or primarily engaged in industrial production and industrial services in the Mining, Quarrying, and Manufacturing industries i.e. NACE sections 07 – 33. The survey does not cover the following sectors and products:

- Mining support service activities (NACE 09)
- Manufacture of refined petroleum products (NACE 19)

3.2 Units of Observation/Collection Units/Units of Presentation

The survey is made up of a census of all Industrial enterprises coded to NACE Revision 2 sections 07 – 33 i.e Sections B (Mining and Quarrying) and Section C (Manufacturing) with 3+ employed. The census is taken from the Business Register, there were 3,541 enterprises surveyed in 2014.

Data is published on the internet showing the value and volume of production sold for each PRODCOM code. Units that are confidential are denoted by the code -99999999.

3.3 Data Sources

None- primary survey (census)

3.4 Reporting Units/Respondents

Reporting unit – PRODCOM code for industrial enterprises employing 3+ persons (NACE 07 - 33)

3.5 Type of Survey/Process

Census of Industrial Enterprises with 3+ persons (NACE 07 – 33)

3.6 Characteristics of the Sample/Process

3.6.1 Population and Sampling Frame

The survey population is made up of all industrial enterprises in NACE 07 – 33 with 3+ persons engaged.

The sampling frame is maintained from the CSO's Business Register. Every December a file is taken from the business register containing the relevant enterprises and this file is uploaded into the processing system.

3.6.2 Sampling Design

Not applicable as the survey is a census

3.7 Survey Technique/Data Transfer

A permanent up-to-date register is kept of all enterprises with 3 or more persons engaged known to be involved in industrial production. The register is maintained from the Central Business Register, administrative and public utility records, announcements in the press, business journals, etc.

PRODCOM is a postal survey. The survey forms are printed in the Printing section of the CSO and posted out to respondents for self completion. Forms are sent out typically during January.

Respondents are sent a number of reminders through out the first part of the year, encouraging them to complete the forms in a timely manner. The PRODCOM regulation states that data must be provided to Eurostat within six months of the end of reference period.

3.8. Questionnaires (incl. Explanations)

The following paragraphs are explanations of the terms used within the questionnaire and descriptions of inclusions/exclusions etc.

Net Selling Value

The value of sales for each product relates to the net selling value i.e. the net amount (excluding VAT) invoiced to customers.

This value includes amounts charged by enterprises to customers for transport of goods by their own vehicles and packaging costs.

Excluded from this definition are:

- duties and taxes payable on the goods e.g. excise duties;
- separately charged freight costs;
- any discounts granted to customers;
- goods resold with further processing i.e. goods merchanted or factored.

(1) Products

Products include:

- all finished goods made from materials or intermediate goods purchased by the enterprise;
- semi-finished goods transferred for further processing to another establishment of the business (valued at their estimated value);
- goods which were substantially made in the factory but on which some intermediary work was done on commission by another firm;
- goods fully manufactured by the enterprise on commission from materials supplied by another firm;
- goods partly manufactured by the enterprise on commission;
- work done for a fee or charge on products supplied by another firm within the State and then returned for further processing prior to becoming a finished product;
- any other work done on commission.

The following is a link to the survey questionnaire

<http://www.cso.ie/en/media/csoie/surveysandmethodologies/surveyforms/documents/industry/pdfdocs/A4prodcom2014.pdf>

<http://www.cso.ie/en/media/csoie/surveysandmethodologies/surveyforms/documents/industry/pdfdocs/A3prodcom2014.pdf>

3.9 Participation in the survey

This survey is statutory and therefore participation is compulsory.

3.10 Characteristics of the Survey/Process and its Results

The survey is a census so there is no grossing or weighting performed on the data. In the case of non-respondents, estimations/ imputation procedures are used. Post estimation results are simply aggregated by product code. Data are published on the internet only and are grouped by product code showing the value and volume for each relevant PRODCOM code.

3.11 Classifications used

In the PRODCOM classification products are grouped by the NACE Rev. 2 four digit industrial sectors in which they are primarily produced (i.e. characteristic products). NACE Rev. 2 is the EU system for classifying economic activities. The value and volume data shown for a product, therefore, includes not only the production by enterprises classified to the NACE sector where it is primarily produced but also its subsidiary production by enterprises classified to the other NACE Rev. 2 sectors.

Classification of Products

The PRODCOM list is divided into "Classes" corresponding to the classes of NACE Rev 2. Within the individual classes, the headings of the list are set out in ascending order of their PRODCOM codes. PRODCOM uses an eight-digit product code of the form **XX.XX.XX.YY**.

The first four digits of the code correspond to the 4-digit classes of NACE Rev. 2. The first six digits are the Community Classification of Products by Activity (CPA) codes. The CPA provides a detailed listing of the characteristic products for each 4-digit NACE Rev. 2 economic activity. The last two digits provide a more detailed breakdown of the CPA classes into PRODCOM product headings.

There is a direct link between the PRODCOM classification and the EU foreign trade Combined Nomenclature (CN). Each PRODCOM 8-digit heading covers one or more CN 8-digit headings. To view the NACE classification, please see.

<http://www.cso.ie/px/u/NACECoder/NACEItems/searchnace.asp>

3.12 Regional Breakdown of Results

No regional breakdown

4 Production of the Statistics, Data Processing, Quality Assurance

4.1 Data capture

Data once received is scrutinised. The survey form is then scanned and verified. It is then transferred to the internal IT system (Sprocket) and a copy of the scanned image is stored on the network. Edits are run after the data are scanned and any issues or discrepancies that arise with the data are checked and corrected where necessary.

4.2 Coding

A customised form is sent to each respondent based on the return from the previous year. In the case of new products, the respondent will provide a description and a Combined Nomenclature (CN) code. On receipt of the form, the section will assign a new PRODCOM code based on the CN code provided.

For enterprises being surveyed for the first time, the process is the same.

4.3 Data Editing

Within the Sprocet system, there are extensive micro and macro edits such as “Net Selling Value year on year” and “Volume year on Year”.

Checks are made against previous returns to check for inconsistencies and where necessary enterprises are contacted. For the larger enterprises, data from Monthly Industrial Production is compared to ensure consistency between the sources.

Typically, one month before the Eurostat deadline of t+6 months, the survey is closed down and a clean file is generated. A number of SAS procedures are run to ensure the quality of the data. These procedures include checking the CIP for all enterprises with turnover greater than €10m where available and checking the unit price at NACE 4 digit level.

Once satisfied with the quality of the data, imputation procedures can be run.

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

For unit non-response, large firms i.e. employment greater than 100 are not imputed but are estimated based on returns from Monthly Industrial Production.

For all other units who did not respond, the In-house Lotus Notes system (Sprocet) is used to run the imputation procedures.

The first procedure imputes individual product values for the enterprise, the total Net Selling Value (NSV) is first imputed and then needs to be apportioned across all product codes which are relevant in the current period.

The second procedure imputes individual product volumes for the enterprises. A volume figure is imputed for all relevant product codes and an average unit price for each product is set.

4.5 Grossing and Weighting

Survey is a census, consequently grossing and weighting techniques are not used.

4.6 Computation of Outputs, Estimation Methods Used

Results are aggregated to PRODCOM code level. Estimation is used for large enterprises that have not responded, a factor is applied to the previous year's return based on the change in turnover year on year in Monthly Industrial Production for each particular enterprise. A number of SAS procedures are run to calculate the factor from MIP and in turn calculate the Net Selling Value of the enterprise.

4.7 Other Quality Assurance Techniques Used

When the PRODCOM survey population is selected from the Business Register, a detailed analysis is carried out by Industry staff of the new births and if there are issues detected, they are fed back to Business Register

Training of staff – staff are given training on a regular basis which ensures that they are fully conversant with the survey forms

Use is made of PRODCOM validation software provided by Eurostat. By making extensive use of this product, it ensures that the data sent to Eurostat is of the highest quality and no further revisions are required.

5 Quality

5.1 Relevance

PRODCOM is an annual survey that is used both nationally and by the EU. It allows for the comparison of industrial production between countries and makes it possible to compile data on the markets of individual products.

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

Census of all enterprises with 3+ employees. Census is taken from the CSO's Business Register. No other external data sources are used.

5.2.2.2 Register Coverage

As this survey is a census with the industrial units being obtained from the CBR, all companies in the relevant NACE groups are surveyed. However there may be some multiple listings (duplicated) when the sample is first taken from Business Register. They are removed from the sample when discovered.

5.2.2.3 Non-response (Unit and Item)

In 2013, the response rate to the PRODCOM Survey was 76% of all enterprises surveyed, there is no data available for item non-response.

Large non-respondents (employment greater than 100) were estimated using turnover data from other CSO surveys, principally the Monthly Industrial Production. Total turnover was disaggregated, where possible, by reference to the product mix details supplied by the non-respondents to an earlier PRODCOM inquiry. In all other cases, both volume and value are imputed by the In-house IT system (Sprocet).

In the case of respondents, estimates for missing volumes have been made in certain cases by using the average unit price from the respondent firms. In other cases it was not possible to estimate for missing volumes, in these cases, the Average unit price for a product across all member states (Eurostat Median Price) is used to obtain an average unit price.

5.2.2.4 Measurement errors

Types of errors – a respondent may give incorrect data; the form/questionnaire may lead to the recording of wrong values. Examples include – missing product details, product details not clear enough, wrong contact details, some enterprises find it difficult to supply product data.

The solution was

- product details are updated on a continuous basis.
- comparison of data at local level – previous year and possibly further back. There are built in edit checks.
- training of staff so that they have good knowledge of the companies that they are responsible for
- design of questionnaire is monitored – changes made if necessary

5.2.2.5 Processing errors

Forms are sent by post to all industrial enterprises with three or more persons engaged. The returned forms are scanned and verified. There is also the option of manual data entry. Edits are run on each local unit. Types of processing errors include scanning in of incorrect data, incorrect verification. The In-house IT system (Sprocet) produces lists of errors for each type or error. These are then analysed and records are corrected as appropriate.

5.2.2.6 Model-related effects

In imputation, using ratios from responding enterprises to impute for non-respondents may have an effect on data quality but this is not quantifiable.

5.3 Timeliness and Punctuality

5.3.1 Provisional results

No provisional results published.

5.3.2 Final results

PRODCOM is published on the CSO's website within t+7 months, however, due to delays in data collection this year, publication was delayed until t+10 months in 2015. Once PRODCOM data has been validated by Eurostat, data is uploaded onto Eurostat's website. Typically, this will be at the same time that the CSO publishes the PRODCOM data on its website.

5.4 Coherence

Consistency checks are done with Monthly Industrial Production and Census of Industrial Production, this is to ensure the veracity of the returned data. These checks will involve examining the aggregated returns for PRODCOM, MIP and CIP at NACE 2 digit level and ensuring that returns are consistent, where there are differences, these cases are further scrutinised and corrected if necessary.

It should be noted that the PRODCOM list changes on an annual basis making some direct comparisons difficult however over the past number of years, these changes have been minimal.

5.5 Comparability

Comparisons are done with previous year's data however as the PRODCOM list changes on annual basis, some direct comparisons are difficult. However over the past number of years, these changes have been minimal. Since the introduction of PRODCOM, by and large the classification has remained the same with no major breaks.

As all EU member states conduct the PRODCOM inquiry, international comparisons are possible.

5.6 Accessibility and Clarity

5.6.1 Assistance to Users, Special Analyses

The questionnaire and background notes are available at

<http://www.cso.ie/en/media/csoie/surveysandmethodologies/surveyforms/documents/industry/pdfdocs/A4prodcom2014.pdf>

<http://www.cso.ie/en/media/csoie/surveysandmethodologies/surveyforms/documents/industry/pdfdocs/A3prodcom2014.pdf>

<http://www.cso.ie/en/surveysandmethodology/industry/prodcom/>

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

5.6.2 Revisions

No revisions are made to PRODCOM data.

5.6.3 Publications

On the CSO website, Principal statistics are published which relate to value of products sold during 2013 broken down by broad industry groups.

Waiting for Jeremy/John Carroll -When a principal statistics tables for Prodcom 2014 is created, we need to get the short URL and update this here - Ger

<http://cso.ie/shorturl.aspx/169>

5.6.4 Confidentiality

The information which was provided by enterprises is treated as strictly confidential in accordance with national and EU law. Rules are applied to both the value and volume data of each individual product or service to identify confidential data. Individual products which are confidential are identified in the publication as -99,999,999.

6 Additional documentation and publications

As part of the EU regulation underpinning the PRODCOM inquiry, data is transmitted to Eurostat at t+6 months, this data is published on Eurostat's website at

<http://ec.europa.eu/eurostat/web/prodcom/overview>

Data is stored in Eurostat's New Cronos database which contains high quality macroeconomic and social statistics data organised into nine statistical themes; Industry, Trade and Services (which includes PRODCOM), General Statistics, Economy and Finance, Population and Social Conditions, , Agriculture and Fisheries, External Trade, Transport, Environment and Energy, Science and Technology. The entry for this statistic under StatCentral (the portal to Ireland's official statistics) is at

<http://www.statcentral.ie/viewStat.asp?id=173>