



An Phríomh-Oifig Staidrimh
Central Statistics Office

information notice

Consumer Price Index (CPI)

The Scanner Data Project in CSO

Introduction

In 2016, the CSO is launching a project to obtain and analyse “scanner data” from retailers with a view to researching its potential use in the production of statistics and the Consumer Price Index (CPI) in particular. The following are a list of questions and answers which outlines briefly what the scanner data project is all about.

What is scanner data?

Point-of-sale barcode scanning was first introduced in retail shops in the US in 1974 and has grown hugely in popularity since then. The motivation for introducing barcode scanner was for improving the efficiency of processing payments and an automatic means for managing the stock in the retail outlets. This transactions data which automatically records the quantity sold and the price paid for each item is known as “scanner data”.

What does the CSO want to use scanner data for?

Scanner data is potentially a rich data source for the production of various statistics, one of which is the Consumer Price Index (CPI). In order to produce the monthly CPI, the CSO currently employs a field force of 90 price collectors to visit retail outlets all over the country to collect information on popular consumer goods. In many other European countries (e.g. Belgium, Denmark, the Netherlands, Norway, Sweden, Switzerland), there has been a shift away from collecting information using a field force towards collecting scanner data directly from the retailers.

What are the potential benefits of scanner data to the CSO?

There are clear benefits to using scanner data for the production of statistics. Firstly, there are efficiency/cost gains from collecting the data directly from retailers. Secondly, there are multiple ways that scanner data can improve the quality of the statistics. Scanner data contains the transactions of all goods sold, the prices actually paid by consumers and the quantities sold for each item. By contrast, prices collected in traditional ways are price offers i.e. shelf prices, quantities sold are not available and prices for only a small number of items can be collected.

What are the potential benefits to retailers of supplying scanner to CSO?

In the initial stages of a scanner data project there would need to be a collaborative approach between CSO and the retailer. During this period, the CSO would need to understand the data structure and data quality held by the retailer. The CSO has expertise in the areas of classification systems, metadata, statistical methodology, data processing, analytics, dissemination and visualisation. While implementing a scanner data project with a retailer, CSO may be able to offer advice to the retailer in these areas.

As scanner data has the potential to improve the quality of our statistics, the retailer will have access to better information on consumer inflation for evidence based decision-making within the organisation.

What are the challenges to using scanner data in the production of statistics?

There will be many challenges for the CSO to using scanner data for the production of statistics. One challenge relates to the fact that the volume of scanner data is far greater than what CSO currently use to produce inflation statistics. For example the CPI currently takes a sample basket of 634 items for which prices are collected and processed. As scanner data is effectively a census of items that are sold, the number of items to process can

run up to 100,000 in a single large retail shop. All of these items need to be classified to the standard COICOP classification used in the CPI and tracked over time.

Another challenge relates to the methodological approach to index calculation. The CPI uses a fixed basket approach whereby the prices of exact product matches are tracked over time to ascertain price changes. In practice, this means the CSO price collectors record prices of the exact same products (same brand, size, quality etc.) each month. As scanner data contains dynamic information on products entering and exiting consumer markets, this raises the question of how this information could improve the overall measurement of inflation. There is a well-established literature in this area from countries that have already used scanner data in the production of their CPI.

What exactly are CSO looking for from retailers?

Initially, the CSO would be requesting a small sample of scanner data (e.g. from a single shop) in order to understand some of the data challenges that will arise. There is a recommendation from Eurostat (statistical office of the EU) on the level of granularity for scanner data that national statistical organisations should collect from retailers. These are as follows:

- Data on product transactions at the level of the Global Trade Item Number (GTIN) code
- Turnover and quantity sold are the key variables – these can be aggregated at the level of the GTIN code
- As many variables as possible to help identify products such as descriptive variables, retailer specific classifications and proprietary item codes (in addition to the GTIN code)
- Separate information should be supplied for each outlet in a retail chain
- Appropriate metadata and documentation should accompany the scanner data

Are there legislation compelling retailers to provide this information?

Regulation (EU) 2016/792 on the Harmonised Index of Consumer Prices (HICP) gives statistical offices authority to access scanner data held by retailers for the purpose of calculating consumer price indices (see Article 5.4). This reflects the shift throughout Europe away from field collection towards using scanner data.

How does the CSO ensure the confidentiality of scanner data?

Any information you provide to the CSO will be treated as strictly confidential and will be used only for statistical purposes. This is guaranteed by law under Sections 32 and 33 of the Statistics Act 1993 and also guaranteed by the EU statistical legislation. Confidentiality is the cornerstone of all the work we do in the CSO and we value the trust placed in the CSO by the business sector and the public in general.

To reinforce our commitment to confidentiality, the CSO takes great care in putting the correct structures in place to ensure that data is transferred securely and in encrypted format from data suppliers to the CSO.

Enquiries to:

CSO, Skehard Road, Cork, T12 X00E, Ireland

LoCall: 1890 313 414 (ROI)

0870 876 0256 (UK/NI)

Tel: 021 453 5000

01 498 4000

Fax: 021 453 5433

E-mail: cpi@csso.ie

Internet: <http://www.csso.ie>

September 2016