

Innovations in Official Statistics

Central Statistics Office, Ireland

Background

A primary objective for the CSO is to meet the ever-growing needs of both national and EU users. Our most recent Statement of Strategy, relating to the period 2008-2010, outlines the operational environment in which we operate and clearly sets out our corporate priorities for the next 2-3 years. Amongst our main priorities are:

- The need to manage response burden;
- The exploitation of administrative data (including linkage of survey and administrative data at the micro-level); and
- Improving efficiency in our work practices.

The achievement of these priorities is challenging and the identification of innovative practices is seen as being central to the achievement of these corporate priorities.

Innovations in governance

Development of the Irish Statistical System

The legal framework within which the CSO operates is the Statistics Act, 1993. The independence of the Director General of the CSO is explicitly determined in the Act along with the functions of the CSO. The Act also establishes on a statutory basis the National Statistics Board (NSB), as a strategic advisory body, responsible for establishing the priorities for the compilation and development of official statistics, and assessing the resources (e.g. staff, equipment and finance) that should be made available to the CSO so that it can perform its legally mandated functions.

The NSB (which is comprised of representatives from the various social partners including the unions, other Government Departments and employer representative bodies) has played a pivotal role in supporting one of the primary innovations undertaken by the CSO in recent times. The NSB published its *Strategy for Statistics 2003-2008* in July 2003. This set out a new vision for the development of official statistics in Ireland and emphasised the use of statistics to support evidence-based decision-making and the potential to make greater use of administrative records as a source of statistics.

In 2003, 2005 and 2008 the CSO conducted a series of SPAR (Statistical Potential of Administrative Records) projects where the data holdings of all policy departments were examined in detail with a view to using existing administrative data for the purposes of compiling official statistics. In the latest SPAR project, the CSO examined data held by the Office of the Revenue Commissioners (the relevant tax authority in Ireland) in order to ascertain whether some business statistics can be replaced by using tax information. The focus in all these reviews has been to assess the extent to which existing administrative data holdings can be used to supplement or replace CSO statistical surveys.

The CSO is already beginning to realise the benefits of this initiative with integration of sources (survey and administrative) at a micro level now forming part of the overall survey process for a number of our social surveys. In addition the integration of multiple administrative sources has been used to provide new analysis on the

employment activities of recent migrants. The release can be accessed at http://www.cso.ie/releasespublications/documents/labour_market/current/ppsn.pdf.

The statistical system in Ireland is highly centralised and the CSO compiles and disseminates the vast majority of official statistics. However official statistics also include statistics that are produced by government departments, agencies and other state bodies. Most of these are available on the web through a variety of websites and formats.

In an attempt to improve integration activities in official statistics across the public sector the CSO has developed a web portal, called StatCentral (see www.statcentral.ie) that provides standard documentation on all official statistics, regardless of source, and links to where they can be found on the internet. This portal was launched in early 2008 with a limited range of statistics. During 2009 the range of statistics accessible through the portal will be steadily expanded until it covers the full range of Irish official statistics.

From a governance perspective this provides a central repository within which access to all official statistics will ultimately be provided. In addition there are plans to provide a quality assessment of the statistics linked through this portal and it will provide a mechanism through which the CSO can initiate discussions around the implementation of the European Statistics Code of Practice to official statistics produced outside of the CSO.

Quality initiatives

Ensuring the quality of our statistical products has always been at the core of our activities. In recent years the CSO has made a number of changes to the governance of data quality issues. These developments have been grounded in wider Irish civil service developments, which in turn have been based on developments in internal auditing in the private sector. Some of the fundamental elements of this new approach include a focus on risk management, internal audit scope and the creation of audit committees.

It was in this context that a “Quality Assurance and Audit (QA&A)” function was established within the CSO and assigned responsibility for developing an integrated and co-ordinated approach to quality assurance. In addition, and following on from the civil service wide review, an Audit Committee, with significant external representation including the Chair, was established.

The CSO Audit Committee was established in 2003 and operates under a charter, agreed with the Director General of CSO. The charter outlines the key roles and responsibilities of the Audit Committee and establishes its independence in the exercise of the functions outlined below:

- The Office's strategic processes for governance, risk management systems and internal controls
- The accounting policies and the accounts of the Office
- The effectiveness of the internal audit function
- The results of internal and Comptroller & Auditor General audit
- Management response to issues identified by audit activity

Both the Audit Committee and the Director General of CSO heavily inform the work of the CSO's Quality Assurance & Audit section.

While, as the title suggests, there is a traditional audit function (e.g. procurement, financial) for the new area the primary focus is on the development of standards and assessing adherence to these by undertaking statistical audits of our business areas. The Office adopted formal standards and guidelines for statistical functions and processes in February 2006.

While initially there was some concern within the business areas regarding these statistical audits their experience over the past number of years has been positive. The QA&A function is seen clearly as a support function within the organisation and many areas now see the statistical audits as an opportunity to have their survey processes and outputs peer reviewed.

In addition to developments in auditing, CSO is also leveraging on developments in other National Statistical Institutes (NSIs) and the ESS concerning quality reporting. CSO has adopted the quality reporting templates in place in many other NSIs, suitably amended to reflect the local environment. In tandem with survey areas reporting on quality matters, these reports also capture survey methodology details.

Innovations in Data Collection and Management

The Central Statistics Office (CSO) has identified as a corporate priority the minimising of response burden on CSO inquiry respondents. To achieve this, the CSO will take a number of actions, including increasing the use of electronic reporting methods, adopting better sampling techniques, increasing the co-ordination between surveys, and making greater statistical use of administrative records. A number of specific projects are already underway.

In 2007, the CSO commenced an initiative to reduce response burden for the Earnings, Hours and Employment Costs Survey (EHECS). The CSO began to work with payroll software providers during the early part of 2007 to specify the statistical requirements of the EHECS survey with a view to incorporating them into their payroll software applications. This project proved fruitful and in 2008 payroll software providers began rolling out updated versions of their software that includes a module that can automatically extract and complete almost all of the requirements of the EHECS survey.

We also initiated a project, in mid-2008, to examine the data capture processes in place for the Consumer Price Index (CPI). The purpose of this project is to replace the existing manual data entry processes. It is anticipated that this will facilitate the movement of data from the Pricer in the retail outlet to the Data Management Systems of the CSO in a seamless electronic fashion.

A Product item list will be sent by a Pricing Software Application within the CSO network to the Pricers who will obtain prices in retail outlets throughout the country. These prices will be returned to the CSO network via the CSO's web server. The communication between the CSO network and the Pricer will occur through an Electronic Data Capture device held by the Pricer over a GPRS network. It is anticipated that this new approach will result in significant improvements in timeliness, quality and overall efficiency in the compilation of the CPI in Ireland.

Innovations in Dissemination

Like many National Statistical Institutes the CSO has developed an online statistical database (using the PC-AXIS application as the dissemination tool) where users have instant access to a system where they can create their own customised tables before

downloading in a format of their choice. Users also have access to software they can install free of charge such that they can download a full file or data dump and automate the transformation of their data to a desired structure using the software.

While this type of innovation is common across many NSIs a subsequent extension of this development is the provision by CSO of a service whereby the CSO host statistical databases of other Public Sector organisations with no additional third party costs. Currently three Public Sector organisations are availing of this service

- The Department of Environment, Heritage and Local Government
- The Department of Education and Science
- Sustainable Energy Ireland

In addition to the provision of access in a user-friendly manner to aggregate statistical data the CSO has also been examining its rules and policies around access to microdata. In that regard the CSO recently adopted a new "Rules, policy and procedures" document regarding the provision of access to microdata for statistical research purposes (http://www.cso.ie/aboutus/access_microdata_tableofcontents.htm). Under the provisions of the Statistics Act, 1993, the CSO may provide access to microdata files **under strict conditions** to ensure that the integrity and confidentiality of data collected under the Act is maintained.

The CSO provides access to two types of microdata files:

- Anonymised Microdata Files (AMFs)
- Research Microdata Files (RMFs)

Anonymised microdata files contain microdata that are provided for statistical/research purposes only in such a form that the information related to an identifiable entity/person cannot be directly (so, no direct identifiers) or indirectly (in many cases having undergone additional anonymisation procedures such as "top-coding" e.g. specific age re-coded to an age class) identified.

RMFs are unit record files that do not contain direct identifiers but where the risk of disclosure through indirect identification is considered to be significant. RMFs are not statistical products, as our products relate to aggregated statistical analysis, but are research files that are made available to persons authorised to access such files under the Statistics Act, 1993 subject to strict criteria.

Access to RMFs is strictly controlled and can only be granted within the framework of the Statistics Act, 1993 and must be approved by the Director General of the CSO. Any persons accessing such files must be appointed an Officer of Statistics, sign a Declaration of Secrecy and agree to abide by the Standard Agreement which outlines the specific conditions under which the microdata can be made available.

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