A World Class Statistical System for Ireland

National Statistics Board

Strategic Priorities for Official Statistics 2015 – 2020

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September 2015
Price: €5.00

ISBN 978-1-4064-2757-8

Contents

Abbreviations

ADC	Administrative Data Centre
CEDAR	Centre for Applied Data Analytics Research
CSO	Central Statistics Office
DES	Department of Education and Skills
DPER	Department of Public Expenditure and Reform
DSP	Department of Social Protection
EC	European Community
ECB	European Central Bank
EPA	Environmental Protection Agency
ES CoP	European Statistics Code of Practice
ESRI	Economic and Social Research Institute
ESS	European Statistical System
ESSC	European Statistical System Committee
EU	European Union
GDP	Gross Domestic Product
ICT	Information and Communications Technology
IGEES	Irish Government Economic and Evaluation Service
IGSS	Irish Government Statistical Service
IMF	International Monetary Fund
ISS	Irish Statistical System
ISS CoP	Irish Statistical System Code of Practice
MIP	Macroeconomic Imbalances Scoreboard
NDI	National Data Infrastructure
NSB	National Statistics Board
NSI	National Statistical Institute
OECD	Organisation for Economic Co-operation and Development
OGCIO	Office of the Government Chief Information Officer
ONA	Other National Authority
PPSN	Personal Public Service Number
QNHS	Quarterly National Household Survey
SEAI	Sustainable Energy Authority of Ireland
SES	Structure of Earnings Survey
SHA	System of Health Accounts
UNECE	United Nations Economic Commission for Europe

Chairperson's **Preface**

The National Statistics Board (NSB) was set up as a non-statutory body in 1986 and established on a statutory basis in November 1994 under the Statistics Act 1993. The role of the Board defined by the Statistics Act is to guide the broad strategic direction of the Central Statistics Office (CSO) and, in particular, to establish priorities for the development of official statistics in Ireland.

In the 20 years since it was first established the role of the Board has evolved considerably. In the early days the Board primarily advised the CSO on the strategic direction and priority statistical outputs for the CSO. However, in recent strategies and papers[1] the Board has developed a more holistic view of the nature of official statistics that goes beyond the activities of the CSO to highlight the importance of data held across the wider public system, and its potential for both administrative and statistical purposes. The Board has developed and championed the concept of an Irish Statistical System (ISS) involving the use of data from across the entire public sector to produce better official statistics. To give effect to this, it has promoted the idea of a National Data Infrastructure (NDI) with shared data management structures, standards and identifiers across the public sector.

In this strategy the Board sets out an ambition for the ISS to become an example of best international statistical practice in the production and dissemination of official statistics. The central tenet of the strategy is that a modern and effective system of government must maximise the quality and usage of data held across all public organisations.

The critical importance of official statistics for public policy and planning in Ireland is outlined, together with the challenges and opportunities for the system of official statistics over the next five years. In particular, the Board considers the influence of the rapidly changing national and international context on the collection and dissemination of official statistics.

The Board believes that the realisation of its vision of a modern and sophisticated ISS that uses the broadest possible range of data for the compilation of official statistics will require significant changes in the structure, management and quality of administrative data holdings across the public sector. These changes will be supported and informed by the CSO, but ultimately they require leadership of the public service from the highest level and the willingness of public bodies to embrace change in the management of their data holdings. The Board is optimistic that such leadership and commitment, backed by the necessary resources, can greatly strengthen the ISS's capacity to produce timely and relevant information for more effective policy and planning, better accountability and more efficient delivery of services to citizens.

As Chairperson, I would like to thank the Board members for their support and engagement, and the CSO for their commitment to delivering on the Board's priorities and their assistance in the preparation of this Strategy.

Dr Patricia O'Hara
Chairperson

1 —
National Statistics Board (2012). Strategy for Statistics: Mid-term review. Dublin: Stationery Office.

National Statistics Board (2011). The Irish Statistical System: The Way Forward. Dublin: Stationery Office.

National Statistics Board (2011). Joined Up Government Needs Joined Up Data. Dublin: Stationery Office.

National Statistics Board (2009). Strategy for Statistics.

Official statistics provide an indispensable element in the information system of a democratic society, serving the Government, the economy and the public with data about the economic, demographic, social and environmental situation. To this end, official statistics that meet the test of practical utility are to be compiled and made available on an impartial basis by official statistical agencies to honour citizens' entitlement to public information.

United Nations Fundamental Principles of Official Statistics

Vision of the Irish Statistical System

Vision

A world-class system of official statistics using the best available data to provide high-quality, independent and accessible information for Ireland.

Mission

To promote and protect the independence, accessibility and quality of Irish official statistics.

To promote and encourage the use of administrative data for official statistics in Ireland.

To encourage the producers of official statistics in Ireland to adopt the Irish Statistical System Code of Practice.

Values

A strong commitment to the independence, objectivity and quality of Irish official statistics.

A belief in the importance of a system of official statistics that is flexible in meeting the needs of users.

The recognition of data protection, security and confidentiality as the basis for trust in official statistics.

Strategic Goals

The production of world class official statistics based on an Irish Statistical System comprising public sector administrative data and a comprehensive programme of surveys to support national user needs.

The adoption and implementation of a national data infrastructure across the public sector, incorporating permanent unique identifiers and common data standards.

Adoption of the Irish Statistical System Code of Practice by all producers of official statistics.

1 Official Statistics

Chapter Key Points

An independent, objective and high quality system of official statistics is an essential part of modern democracy.

The ability to make successful national policy decisions and to be accountable to citizens can be enhanced or restricted by the availability, breadth and quality of official statistics.

The quality of Irish official statistics is subject to increasing scrutiny and monitoring; any shortcomings can affect how the country is perceived internationally and gravely damage its reputation.

Our economic reputation continues to be closely linked to official statistics, with Ireland's credit rating, borrowing costs, and assessments by other international organisations, such as the OECD, very much driven by the latest economic indicators.

As part of the European Statistical System (ESS), Ireland's statistical programme is mostly prescribed by EU Regulation which also sets stringent requirements for quality, and requires that the CSO coordinate the production of all European statistics.

1.1 The importance of official statistics

Every country in the world produces its own statistical information in order to monitor economic and social progress and to facilitate policy planning and decision-making. This information provides an essential basis for many of the most important policy decisions that are taken in Ireland every year. Without it we would not be able to plan public investment in schools, hospitals or infrastructure, or monitor the effectiveness of public policy initiatives. Clearly, the better the information produced by the statistical system, the greater the potential for effective decision-making, long-term planning and accountability.

This was very clearly illustrated during the economic crisis which began in 2008, when the necessity for independent, trustworthy and high quality information on which to base vital decisions was very evident. During the period of the Programme of Financial Support for Ireland 2010-2013, critical decisions were taken by the government and the Troika[2] based on what was known about the economic situation in Ireland and its likely development. Official statistical information, such as the latest economic growth rates from the CSO and the quarterly exchequer returns from the Department of Finance, were central in framing national and international policy-making about the Irish economy. Our economic reputation continues to be closely linked to official statistics, with Ireland's credit rating, borrowing costs, and assessments by other international organisations, such as the OECD, very much driven by the latest economic growth outlook and debt ratios.

Beyond the high level macro-economic indicators used in developing national policy, official statistics also provided many useful insights into the impact of the economic downturn and the process of recovery by tracking, for instance, unemployment and job seeking; the average weekly earnings; educational attainment; the significance of different sectors of the economy; the number of people at risk of poverty. As well as providing policy-makers with details about changes in the economy this type of information also gives ordinary citizens independent, objective and accessible information about the economic and social fortunes of their country.

1.2 The implications of incomplete or poor quality statistics

Gaps and deficiencies in official statistics became starkly evident during the financial crisis. Despite the quality and depth of the information provided by the CSO and other official sources such as the Department of Finance, the Central Bank and the Revenue Commissioners, there were a number of critical information deficits. For example, at a time when property prices were collapsing there were no official sources of information on house prices[3], and there was no centralised source of loan-level information on the number of mortgages in arrears within the banking sector[4]. In these circumstances policy-makers and the general public were largely reliant on industry reports and anecdotal evidence to quantify the scale of the problems emerging in the property market.

The capacity of government to consider fiscal policy options was significantly hampered by a lack of coherent data within the public system. For example, the absence of a comprehensive and up-to-date housing register slowed the implementation of the property tax measures and the inability to link individuals within households was often cited as an obstacle to coordinating the social welfare and income tax systems.

2 — European Commission, European Central Bank and the International Monetary Fund.

3 — The CSO's national Residential Property Price Index was first published on May 13th 2011.

4 — Kennedy, G. and McIndoe-Calder, T. (2011). The Irish Mortgage Market: Stylised Facts, Negative Equity and Arrears: Research Technical Paper. Dublin: Central Bank of Ireland .

1.3 The European context for official statistics

Ireland's official statistics are fundamentally important to informing national policy, but it must also be remembered that they are collected and combined with the official statistics of other countries by Eurostat[5] as part of the European Statistical System (ESS), which frames European Union policy. Indeed Ireland's official statistical programme is largely prescribed by regulation to meet the needs of key European institutions such as the directorates of the European Commission, the European Central Bank and the European Council. The decisions taken by these and other international bodies have far-reaching national implications, and therefore it is essential that Ireland's official statistics are produced to the highest quality and in accordance with the principles of the European Statistics Code of Practice (ES CoP)[6], and in particular those of independence, quality and objectivity.

The centrality of official statistics to international decision-making during the economic crisis heightened the scrutiny placed on the quality of national statistical systems. Apart from more rigorous monitoring of compliance with the ES CoP, European policy-makers decided to increase surveillance and scrutiny of national economic indicators across the EU, by introducing a series of regulatory reform packages in 2011[7] and 2013[8]. The regulatory 'six-pack' introduced in 2013 was designed to reform the Stability and Growth Pact which commits EU member states to achieving budgetary targets in the areas of debt and deficit[9].

Under these regulations eleven headline statistical indicators[10] are now carefully monitored and assessed on an annual basis, and there are sizeable fines for national governments if these indicators remain consistently off-target. The European Union has also given Eurostat the power to adjust nationally produced European statistics if it considers that the figures look implausible or has doubts about the methodology used to produce the data. This heightens the potential for international reputational damage should Ireland's official statistics be judged 'not fit for purpose'.

To further underpin the quality of European statistics, strengthen the governance of the ESS and provide assurance to users about the credibility and impartiality of European statistics, the European Parliament and European Council have also adopted an amendment to the 'European Statistical Law' (Regulation (EC) 223/2009)[11]. This amendment strengthens a number of important principles including the co-ordination role of the National Statistical Institute[12] (NSI), the role and professional independence of the head of the NSI, the publication by national governments of 'Commitments on Confidence in Statistics' and enhanced access to administrative data. Perhaps the most significant element of the amended regulation is that the head of the NSI now has formal responsibility for European statistics produced by other national authorities (ONAs)[13]. In effect, this means that the CSO has become responsible at national level for coordinating statistical programming and reporting, quality monitoring, methodology, data transmission and communication of all European statistics produced within Ireland, regardless of which department or agency produces them.

5 — The statistical agency of the European Union.

6 — Eurostat (2011). European Statistics Code of Practice.

7 — Regulations (EU) 1173/2011 to (EU) 1177/2011 and Council Directive 2011/85/EU.

8 — Regulations (EU) 472/2013 and (EU) 473/2013 of the European Parliament.

9 — EU member states are obliged to keep their budget deficits below 3% of GDP and government debt below 60% of GDP.

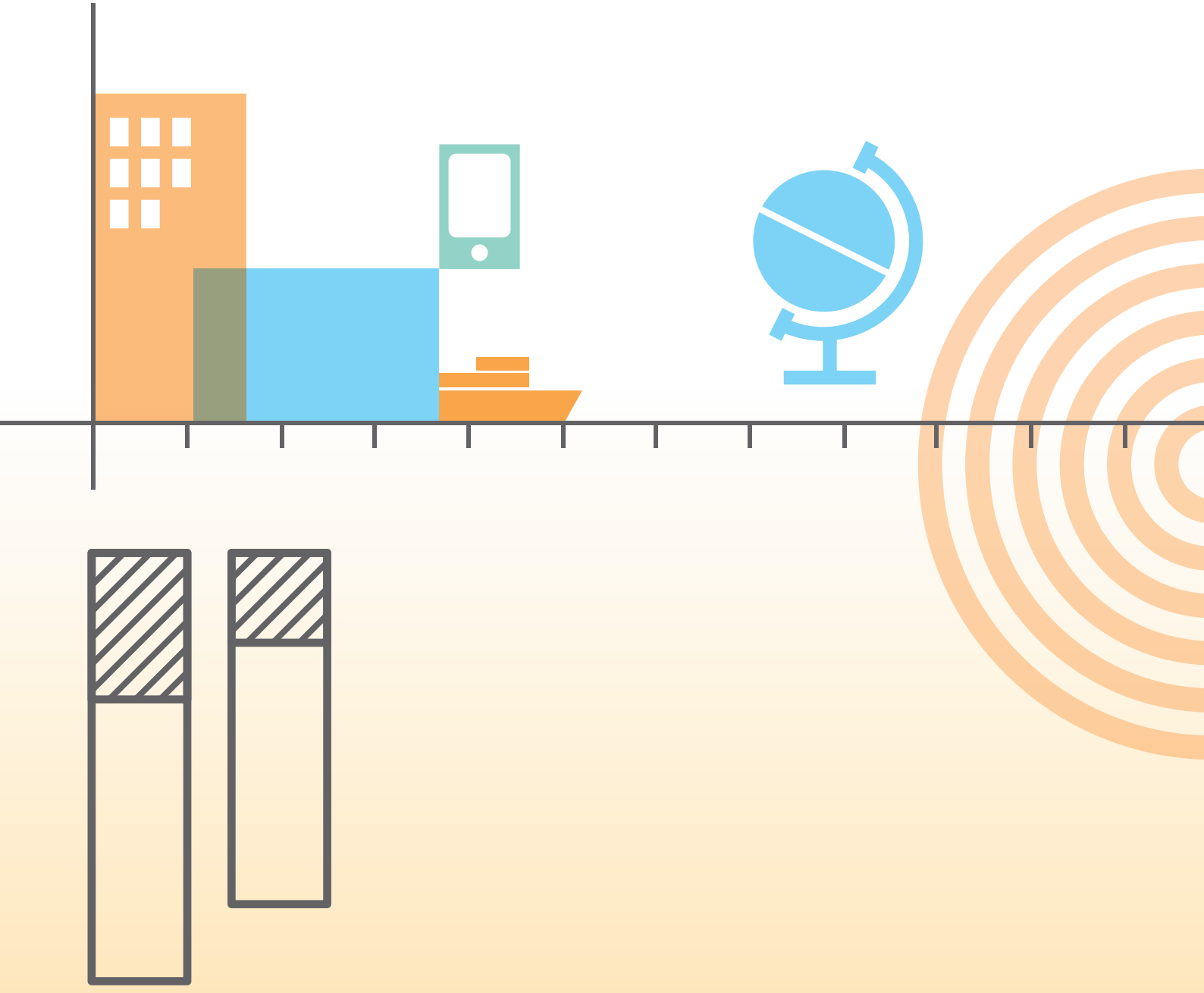
10 — Macroeconomic Imbalances Procedures (MIP) scoreboard, includes Indicators such as general government sector debt as a percentage of GDP, the three-year average unemployment rate and private sector debt as a percentage of GDP.

11 — Regulation (EU) 2015/759 amending Regulation (EC) 223/2009. Official Journal of European Union, 19.5.2015. Regulation (EC) 223/2009 is the framework legislation for the European Statistical System (ESS), which is made up of Eurostat and producers of official statistics in Member States. The Regulation defines the objectives, governance and statistical principles of the ESS.

12 — The NSI is the body responsible for the compilation and dissemination of official statistics in each country .i.e. the CSO in Ireland.

13 — National authorities other than the CSO responsible for the development, production and dissemination of specific parts of European statistics. See Appendix 6 for list of ONAs in Ireland.

2 Towards a World Class System of Official Statistics



Chapter Key Points

The NSB's vision is of an Irish Statistical System (ISS) aligned with leading international systems, where surveys remain central to the production of official statistics, but where more of the raw data is increasingly drawn from administrative data sources.

Realising this vision in Ireland will require the creation of a National Data Infrastructure (NDI) involving the consistent use of permanent unique identifiers on public data sources so as to enable linkage of data sets and creation of a system of integrated base registers[14] for statistical purposes.

This will require the use of the Personal Public Service Number in interactions between the individual and the public sector; the mandatory usage of a unique business identifier in interactions between enterprises and the state, and the use of standard geo-spatial codes on all public data sources. Some progress has been made on these issues at both strategic and operational level in recent years, but a number of key steps are essential to build on what has been achieved.

The NSB welcomes recognition across a range of government policy initiatives (e.g. Civil Service Renewal Plan 2014; Public Service Reform Plan 2014-2016; 2014 Action Plan for Jobs) of the systemic importance now being placed on public sector data in support of policy development and evaluation, administrative efficiency and the delivery of improved public services.

The privacy and data protection concerns of the general public must be acknowledged and addressed, in the context of increased use of administrative data, through a legal framework that ensures the careful use and management of public sector data for legitimate administrative and statistical uses.

The public sector through the proposed Data Sharing and Governance legislation needs to establish a clear legal and ethical framework that clarifies the use of unique identifiers and sharing of administrative data for all public bodies, while ensuring that citizens' personal privacy considerations are respected.

14 — A base register is a large database that lists the details of every possible unit of interest; such as all the individuals in the state or all the businesses in the state or all the address points in the state.

2.1 The existing system of official statistics in Ireland

The system of official statistics in Ireland mirrors that of many other countries where statisticians predominantly use primary data sources (surveys and population censuses) to develop information about different aspects of Irish society. While the defining characteristic of a national statistical system is independent, high quality and reliable information, the maturity of a national statistical system can be judged by the efficiency and sophistication of the way it combines the use of primary and secondary data sources[15].

A potential weakness of Ireland's system of statistics, up until recent times, has been the extent to which it has been reliant on primary survey-based data collected by the CSO. Survey-based methods of data collection are resource intensive and dependent on respondent cooperation. Ultimately the volume of information that the CSO can generate is limited to the number of surveys it can build, the number of questions it can ask, the number of respondents it can enlist and the ability of those respondents to provide the information required. Information produced in this way also tends to be focussed on particular areas of the economy or society and sometimes it can be difficult to make inferences to other related policy areas.

A world-class statistical system

The Nordic Example

In the world of official statistics the Nordic* countries are often held up as exemplars of best practice, not just because of their professional methodology but also because of their extensive and long-standing use of secondary, register-based, data to generate official statistics. The use of secondary data in official statistics was pioneered in Norway following Nordbotten's (1966)[16] observation that a logical information system using administrative data could be built, using identifiers to link data. This would ultimately enable the compilation of registers and the production of information which could replace, and eventually supersede, survey based data in the Nordic countries.

In these countries the compilation of labour market statistics and censuses based on register data is now commonplace. For example, Denmark first used a register to create a national census in 1981. The significant attraction of this approach is that the information already exists, thus reducing costs but also potentially giving access to much more complete and sophisticated information than can be gathered using a survey-based approach.

Register-based statistics

In assessing their own statistical systems in 2007[17] the Nordic countries concluded the following: *'Three base registers seem to be necessary for a statistical system based mainly on administrative sources: a population register, a business register (enterprises and establishments) and a register of addresses, buildings and dwellings. A unique identification for each unit in the base registers, and links between them are necessary. The unique identification should also be used in other administrative registers for these units (educational registers, taxation registers and so on)'.*

** Denmark, Finland, Iceland, Norway and Sweden*

15 — Secondary data is information that has been collected for a purpose other than the generation of official statistics, an example being administrative data. Primary data, by contrast, is information collected specifically for the purpose of official statistics, usually by way of survey.

16 — Nordbotten, S. (1966). A statistical file system. Statistisk Tidskrift, 1966 (2).

17 — United Nations Economic Commission for Europe (2007). Register-based statistics in the Nordic countries: Review of best practices with focus on population and social statistics. UNECE: New York and Geneva.

2.2 Moving towards a world class system – changes needed

The survey-based system has served Ireland well for a long time but the NSB[18] has repeatedly pointed to the limitations of this traditional approach, in particular the significant resources required in maintaining it and the information gaps that persist when using predominantly survey data sources. For this reason, and conscious of the ever-increasing demands for better statistical information from both national and international users, the Board has promoted a more holistic view of the nature of official statistics highlighting the significant importance of secondary sources in the form of administrative data collected and held by many public bodies, and the potential of using this data to develop new statistical information.

Thus, the NSB's vision of the Irish Statistical System (ISS) is of a broad national system of high quality statistics based on the administrative data of public bodies and a complementary programme of survey data. An effective ISS will mirror the European Statistical System (ESS) which draws on both primary and secondary sources to produce high quality statistical information. The Board's vision is that while surveys will remain central to the production of official statistics, more and more of the raw data for these statistics will come from administrative data sources. Eventually, most public data systems should be designed so that they can contribute statistical information to meet the needs of wider public policy and decision-making where appropriate while also meeting their own immediate administrative needs.

More integrated and widely used administrative data will also encourage public bodies to publish official statistics further extending the ISS beyond the output of the CSO, and maximising the use of integrated administrative data sources. This end result will be the production of better statistical information for use by decision-makers in both the public and private sectors.

2.3 Achievements so far

In its Strategy for Statistics 2009-2014 the National Statistics Board set out its ambition for an ISS that was more equally balanced between public administrative data and traditional survey sources. The Board identified a number of areas for development to give effect to this. These included:

- greater commitment across government departments and agencies to the development of statistical infrastructure;
- resolving critical data integration issues in the public sector such as the lack of unique identifiers and the underdevelopment of data classification systems;
- strengthening quality and confidentiality protocols;
- addressing critical data gaps in the areas of education, health and environment (e.g. Primary Pupil Database, System of Health Accounts); and
- improving access to data and responses to user needs.

Essentially, the NSB sought strategic developments at Government level and practical developments at the level of the CSO and public bodies to create a better system of official statistics.

In its mid-term review of the strategy[19] the Board recognised the progress made by CSO in engaging with some key data custodians as evidence of the

18 — National Statistics Board (2011). The Irish Statistical System: The Way Forward. Dublin: Stationery Office National Statistics Board (2011). Joined Up Government Needs Joined Up Data. Dublin: Stationery Office National Statistics Board (2009). Strategy for Statistics.

19 — National Statistics Board (2012). Implementation of Strategy for Statistics 2009-2014. Dublin: Stationery Office.

potential of the ISS to inform policy and evaluation, but also noted that there was "a lack of uniformity in engagement with the ISS, restrictions on the use of some administrative sources and the absence of formal protocols around statistical work in many departments and agencies". However, the Board did welcome the role of promoting data sharing and statistical best practice across the public sector which was assigned to the Department of Public Expenditure and Reform in the Public Service Reform Plan (2011).

In the period since the publication of the Board's last strategy, some progress has been made towards the development of an ISS that makes greater use of existing public administrative data sources. Importantly, many key government strategies now recognise the systemic importance of public sector data and the potential of 'joined-up' data to drive public sector efficiency and policy.

2.3.1 Government policy on public sector data

A number of strategic government initiatives[20] now send a clear signal to public sector organisations that their data is an important resource that must be carefully managed and exploited to facilitate public sector reform, more efficient service delivery and potentially economic growth.

The most significant of these are:

- The **2011 Public Service Reform Plan**, which identified as priority actions, the development of a code of practice and standards for the gathering and use of data for statistical purposes in the public sector, and the development of a strategy for the systematic use of data in service delivery and planning (Actions 2.10 – i and ii).
- Following on from this, the **Irish Statistical System Code of Practice (ISS CoP)** was launched by the CSO in December 2013, and provides a valuable set of guiding principles for the production of official statistics by public bodies (see Appendix 3).
- The **Public Service Reform Plan 2014-2016** emphasises the need for a focus on evidence-based longer-term and strategic policy making and on developing greater integration within the Public Service. The Plan contains an action to 'improve data use and sharing, including Open Data' (1.2.4) and specifically targets improved public services through the proposed Data Sharing and Governance legislation, the establishment of an Open Data Initiative and the increased use of Big Data.
- The **2014 Action Plan for Jobs** specifically referred to the need to further strengthen the mechanisms for data sharing and the use of data analytics across Government by enacting the required legislation, setting up a platform to facilitate data analytics within Government and taking steps to strengthen further Ireland's national data infrastructure.
- The proposed **Data Sharing and Governance legislation** will establish an important framework for the management and use of data across the public sector. Importantly, when enacted, it will provide public bodies with clarity around the issue of privacy and the use of unique identifiers, and legal certainty around the sharing of data with other public bodies.
- The **Civil Service Renewal Plan 2014** recognises data as a valuable asset to the civil service but acknowledges that improvements must be made to the collection, management and sharing of data in order to "increase efficiency,

20 — See Appendix 5 for other relevant government initiatives.

reduce fraud and improve use of data in management and the delivery of services so that we have a stronger basis for longer-term thinking and strategic decision making" (Action 24). The need to develop a common data model and a coordinated data infrastructure through the ICT strategy are also identified (Action 19). This will mean recognising data as a corporate asset and developing a common data model and coordinated data infrastructure, underpinned by legislation. Data management skills should be developed as a resource that could be shared across the public sector (Action 6).

- The **2015 Public Service ICT** Strategy identified improved data governance and data sharing as one of its five strategic objectives. Furthermore, through this strategy the importance of public sector data infrastructure and data sharing generally are emphasised to support better decision-making and public sector efficiency.

The Board recognises that these and other government initiatives establish a strong and welcome endorsement of improved data governance and sharing in the public sector. However, it is clear that achieving more efficient management and use of public data will require strong leadership and resources, to provoke and support changes in data management and sharing practices across more public bodies.

2.3.2 Developments in the Central Statistics Office

Apart from widening its own core work programme, the CSO has also facilitated progress towards a more broad-based ISS in recent years through engagement with administrative data sources from various government departments. It has considerably developed the use of administrative data as a source of statistical information through its Administrative Data Centre.

Constructing Structural Earnings Statistics from Administrative Datasets (SESADP)

The CSO has developed a new source of structural earnings statistics which makes extensive use of administrative data, known as the Structure of Earnings Survey (SES) – Administrative Data Project (SESADP).

This project, which commenced in 2013, radically changed how the CSO compiled earnings statistics. Previously, to provide Structural Earnings Statistics the CSO deployed an enterprise based survey of 70,000 employees, known as the National Employment Survey, which ran for 2002 and 2005-2009. The new approach, which matches existing survey data to administrative data sources, creates a new data source without the need for a separate survey.

The benefits of using this approach are evident in a number of ways. The cost reduction is significant as fewer staff and other resources are needed to construct the earnings statistics in this way. The quality of the output is greatly improved by the increase in sample size from 70,000 employees previously surveyed to one million available in the administrative data. There is a substantial improvement in timeliness, and the response burden on enterprises is reduced as no new survey is needed to collect the earnings data.

The ground-breaking work of this unit in accessing and using administrative data from various public agencies such as the Revenue Commissioners, the Department of Social Protection, and the Department of Agriculture, Food and the Marine, has supplemented the quality of information available to existing CSO surveys, reduced respondent burden in some cases and led to the development of important new statistical products such as the Residential Property Price Index and the 'Job Churn' series.

Job Churn Statistics from Administrative Data

The annual 'Job Churn' release was first created by the CSO in 2010 to explore the dynamics of business employment by capturing the flow of jobs and persons between firms, and within and between industrial sectors. While the Labour Force Survey (i.e. QNHS) provides good information about the labour market it has limited ability to track the movement of workers between firms.

This database product is derived solely from administrative data sources in government departments using a methodology adapted by the CSO from international research in this area. The analysis dataset is derived from joining up the employee returns submitted by enterprises to the Revenue Commissioners with the CSO's Central Business Register (to obtain enterprise based attributes), and the Client Record System from the Department of Social Protection (DSP) (to obtain person based attributes).

The potential of these linked datasets is significant for obtaining insights into the movements of jobs and workers and are of particular value for evaluating and informing policy analysis with respect to market dynamics.

2.3.3 Moving towards a National Data Infrastructure – some progress

The benefits of using secondary data sources for official statistics are clear, ranging from reduced costs to improved quality and coverage. This has been demonstrated by other National Statistical Institutes (NSIs), particularly the Nordic countries as outlined above. The Board believes that the key to unlocking the potential contained within administrative data in Ireland and moving towards a register-based system of official statistics lies in the more consistent use of unique identifiers on public datasets. However, progress towards a public data system based on high quality linkable data using common standards and data management structures[21] or what the Board has previously termed a National Data Infrastructure (NDI), has been slow and uneven.

There have, however, been some encouraging structural developments. The introduction of postcodes (EirCode), in 2015, represents an important breakthrough for the system of official statistics not to mention a valuable addition to the administrative systems of the public and private sectors. The new system of postcodes creates a register of unique locations that will allow statisticians to compile and produce more accurate information at local level.

21 — The first Public Service Reform Plan (2011) specifically targets better data structures and data management in order to maximise the quality and usage of public sector data with the goal of creating a more efficient public service.

The enactment of the Health Identifiers Act 2014 provides for a single unique identifier for everyone who comes in contact with the health service. As well as undoubtedly contributing to an improved customer experience this identifier should serve as an important management information tool for the health service, and a useful basis for the provision of statistical information for policy-makers in a major area of public expenditure.

The Public Services Card is currently being issued to applicants for, or recipients of, certain social welfare payments. Over time it will become the mechanism by which people can easily validate their entitlement to public services, and the infrastructure that supports the Card will play a major role in supporting the appropriate linking of systems and the transfer of information.

2.4 Urgency of addressing privacy and data protection concerns

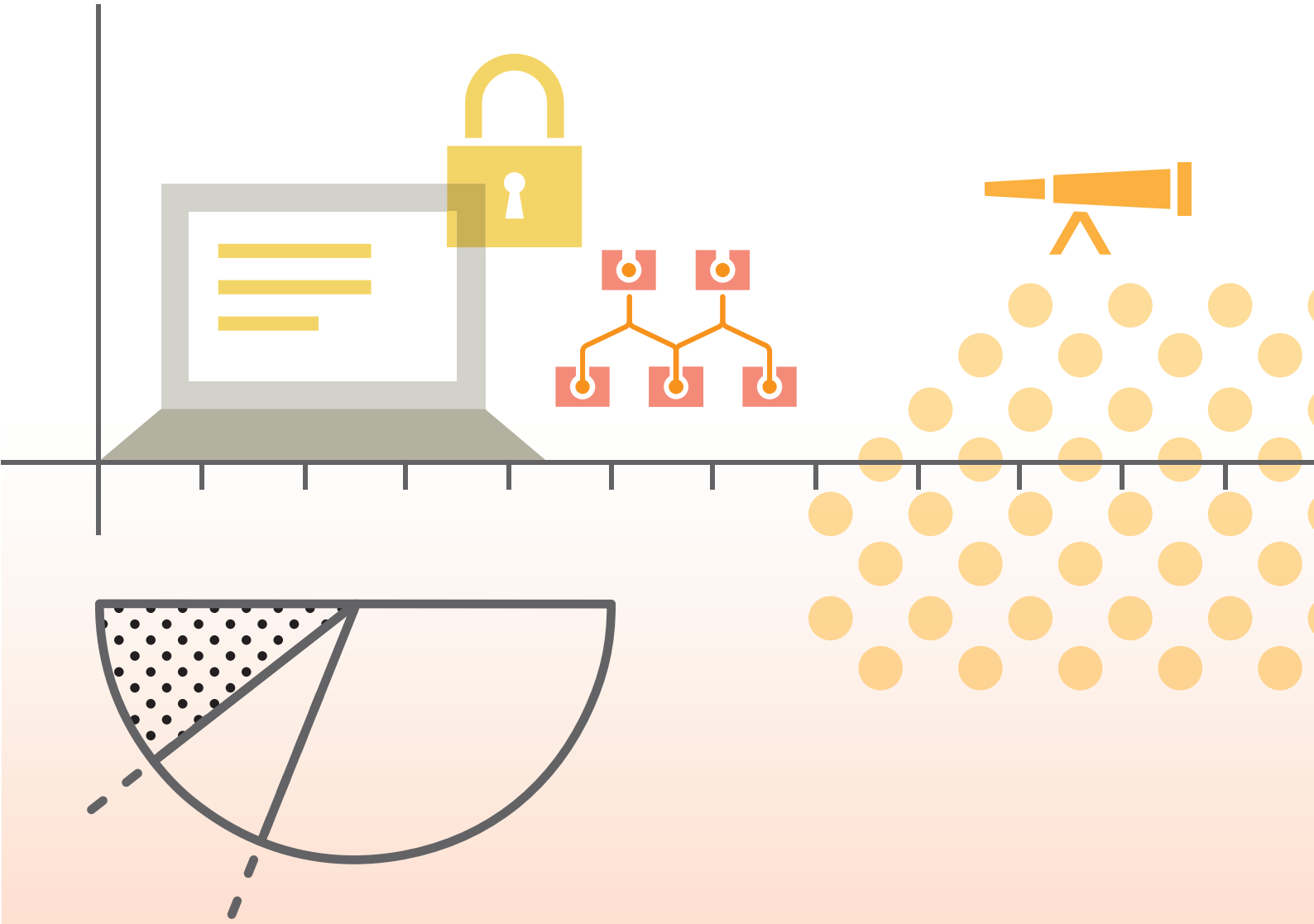
The use of permanent unique identifiers, such as the PPSN, across public datasets is essential for the most effective use of public data for administrative and public policy needs and fundamental to the creation of an NDI. The Board is, however, very conscious of the issues of privacy and data protection that exist in Ireland around the use of personal data. Concerns have been voiced that the increased use of the PPS number and the greater sharing of data between government departments and agencies will result in an erosion of personal privacy and heighten the potential for the loss, or disclosure, of personal data. These concerns have very significant implications for the governance of public administrative data and the implementation of a NDI as the capacity to generate better information from public sector data sources will be critically impaired if the various sources cannot be linked using permanent unique identifiers.

Notwithstanding general public concerns about the use and potential misuse of data by public sector authorities, it is difficult to resolve the expectation of limited public sector data usage for reasons of privacy with an expectation of improvement in public policy and services. Every private enterprise and individual public sector organisation should be able to use all of the information at its disposal in order to make the best possible business decisions. There is a need therefore to find an acceptable way of addressing this tension between the need for access to data for legitimate statistical or administrative purposes and the protection of citizen privacy.

The Board believes that the privacy concerns of the general public must be carefully considered and addressed within the context of a legal framework that strikes a balance between the legitimate use and management of public sector data and assurance of proportionate data protection. While these represent considerable challenges, the Board remains convinced in its view that the implementation of the fundamental principles of a NDI, including the widespread use of permanent unique identifiers, is an essential requirement for Irish public sector data that will ultimately underpin public sector reform, administrative decision-making, public accountability and, a joined-up ISS.

The public sector through the Data Sharing and Governance legislation needs to establish a clear legal and ethical framework that clarifies the use of unique identifiers and sharing of administrative data for all public bodies, while ensuring that citizens' personal privacy considerations are respected.

3 Realising the NSB's Vision for the Irish Statistical System



Chapter Key Points

Strategic Leadership

The Board believes that leadership and resources are required to implement a National Data Infrastructure (NDI) that will underpin a modern Irish Statistical System (ISS). There are a number of public strategies and initiatives that can drive the improvement of data governance across the public sector, most notably the Public Sector ICT Strategy 2015.

The Board welcomes the weight attached to data, data governance and data analytics in the Public Service ICT Strategy and hopes that the leadership role now being adopted by the Department of Public Expenditure and Reform through the Office of the Government Chief Information Officer (OGCIO) can bring significant system-wide improvements and consistency to the management and use of public sector data. However, there is a risk of confusing data issues with technology issues. The primary difficulty with linking and sharing public data is not a problem of technology but a problem with the underlying structure of the data itself and the lack of common identifiers.

The broad consensus around the potential of public data to drive administrative efficiency, inform public policy and support economic growth is encouraging. However, establishing the principles of a NDI across the public sector is a formidable task given the number of diverse data sources and organisations involved.

CSO Role

Implementation of the CSO's coordination role as provided for in the Statistics Act 1993 and the recently enacted Regulation (EU) 2015/759 amending Regulation (EC) 223/2009 and system-wide compliance with the ISS Code of Practice are critical tools to support the quality and objectivity of official statistics produced right across the public sector.

The European Statistical System (ESS) in its 2015 peer review of Ireland's compliance with the European Statistics Code of Practice (ES CoP)[22], recommended that the CSO should decisively strengthen coordination of the producers of European statistics across the ISS.

The creation of an Irish Government Statistical Service could have a major impact on the coherence of the ISS and the development of the NDI as well as supporting the implementation of Codes of Practice.

22 — Eurostat (2015) Report on Compliance with the Code of Practice and the Co-Ordination Role of the National Statistical Institute – Ireland (ec.europa.eu/eurostat/web/quality/peer-reviews).

3.1 The Irish Statistical System – the importance of strategic leadership

The NSB welcomes the unequivocal message in government strategies and initiatives that public data is a valuable resource that must be managed and exploited to produce better quality information for administrators, policy-makers and the public. However, the Board remains concerned that in many areas of the public sector the fundamentals of data collection and management, in other words data governance, will not change unless strong leadership and the necessary resources are put in place.

In the absence of clearly defined common data standards and an external reference to wider public policy, the Board believes that individual public bodies will continue to adapt and adjust their data systems to suit their own administrative ends without necessarily considering the value of this data to the wider public service. This will continue to limit the utility of such data, either as a supplement to other administrative systems or an input to public policy or planning. As outlined in the previous section, the Board believes that the improvement and development of the system of official statistics is dependent on accessing and linking more administrative data. This requires the existence of a national data system based on high quality, well-managed public data that is linkable. Indeed, the potential for public data to drive administrative efficiency, strategic planning, economic growth, transparency, accountability and improved public services is wholly reliant on the underlying quality and reliability of the data. A NDI requires common data management structures, standards and permanent unique identifiers.

This was also recognised in the 2015 ESS peer review of Ireland's compliance with the European Statistics Code of Practice (ES CoP) which emphasised the importance of a properly developed data infrastructure to facilitate the use of administrative data sources for statistical purposes and recommended the inclusion of unique identifiers of persons and businesses, as well as postcodes, on all relevant administrative data holdings.

There are a number of public strategies and initiatives that can drive the improvement of data governance across the public sector[23]. Perhaps most significantly the new Public Sector ICT Strategy 2015[24] recognises the central role of data in supporting better decision-making and administrative efficiency.

3.2 Public Service ICT Strategy 2015

This Strategy has the potential to be one of the most significant drivers of change in the area of data infrastructure and standards across the public sector. Improved data governance and data sharing is one its five strategic objectives and the importance of data infrastructure and data sharing across government departments to support better decision-making and drive efficiency across the public sector is stressed throughout.

It is envisaged within the Strategy that the Data element of the ICT strategy will be driven through the Office of the Government's Chief Information Officer 'with the engagement of the CIO council and the Data Protection Commissioner'.

The ICT Strategy sets out key focus areas that are necessary to deliver the potential of public sector data including the role of 'Data as an enabler'.

23 — See p.11 and Appendix 5 for other government strategies that reference public data.

24 — Department of Public Expenditure and Reform (2015). Public Service ICT Strategy.

Public Service ICT Strategy 2015: Key focus area – data as an enabler

Common Data Model	Identify and agree a common data set that uniquely defines citizens and businesses.
Data Management	Create functions for oversight and governance of critical common data to ensure standardisation of data and drive quality.
Data Infrastructure	Implement the necessary infrastructure to allow aggregation and facilitate sharing of common data on a Public Service wide basis to support new digital services and secure authentication to existing services
Data Insight	Identify opportunities for better data analysis by Public Bodies to target service delivery and improve services. This should include the creation of a centre of excellence for data analytics to assist Public Bodies in addressing common business challenges in this area.
Data Protection	Create functions for oversight and governance of privacy and security for the safe and appropriate use of data as an enabler to support new services and better decision-making.

The board believes that the experience of the CSO in accessing and using public sector administrative data sources will be a valuable resource for the OGCIO in developing both a common data model and data infrastructure. The Board also believes that the suggested centre of excellence for public sector data analytics while mining new information from the breadth of public sector data, will also bring important new skills to the public sector and promote a standard approach to data governance.

However the Board would sound one note of caution, against confusing data issues with technology issues. As MacFeely and Dunne (2014)[25] point out, the primary difficulty with linking and sharing public data is not a problem of technology but a problem with the underlying structure of the data itself and the lack of common identifiers.

25 — MacFeely, S. and Dunne, J. (2014). Joining up public service information: The rationale for a national data infrastructure. Administration, Vol 61, no. 4.

3.3 Legislation to facilitate a National Data Infrastructure

A number of current and forthcoming legislative developments such as the proposed Data Sharing and Governance legislation, the Health Information Bill and the Health Identifiers Act (2014) will also facilitate a better NDI, as they explicitly target more efficient public sector data management through the use of unique identifiers and common data standards.

Health Identifiers Act 2014

The Health Identifiers Act allows for the assignment of an individual health identifier to anyone currently or previously in receipt of a health service, and also anyone who might require a health service in the future. The Act also allows for the creation of a National Register of Individual Health Identifiers, which will link unique health identifiers to other personal identifiers such as name, PPSN, date of birth and address.

The use of a unique identifier across health service data sources will facilitate the linking of citizen experiences and outcomes across the health service, and this improvement in the quality of the administrative information available should allow for better insights into the provision of health care at local and national level. Furthermore, the appropriate use of unique health identifiers will also create an invaluable source of information for researchers and statisticians interested in the dynamics of health service provision at a system-level, within the framework of legislation that protects individual privacy.

Data Sharing and Governance

In October 2013, the Government agreed to a series of actions required to improve data sharing in the public service, including the need for Data Sharing and Governance legislation to facilitate data sharing across the public service.

Following on from this in August 2014 DPER published a policy paper entitled "Data Sharing and Governance: Policy Proposals" which discussed the importance of data sharing across the public service and identified the obstacles and issues that any new legislation would have to address.

The policy paper identifies data as the 'single most important resource available to public bodies' and suggests that 'maximising the use and value of this data must, therefore, be a priority in assessing how the effectiveness and efficiency of public services can be enhanced'. In the paper issues such as data protection, privacy and common data standards were identified as potential barriers to data sharing that the proposed legislation may need to consider.

The proposed Data Sharing and Governance legislation has the potential to greatly enhance the use and value of administrative data across the public service by providing a clear legal basis to underpin public sector data sharing.

3.4 Coordination role of the Central Statistics Office

The Board's view is that the CSO has an important role to play in developing the ISS through its engagement with other public bodies. The Statistics Act 1993 (Section 10(2) and 31) already provides for a strong engagement and consultation role for the CSO in the development of new public sector data systems, while the newly enacted piece of legislation, Regulation (EU) 2015/759 amending Regulation (EC) 223/2009 formally assigns responsibility to the CSO for coordination of the compilation of European statistics by other national authorities (ONAs).

The European Statistical System (ESS), in its 2015 Peer Review to monitor statistical authorities compliance with the European Statistics Code of Practice (ES CoP), recommended that the CSO should decisively strengthen coordination of the producers of European statistics across the ISS, and that Irish national authorities should develop and implement a data infrastructure, including unique identifiers (personal and business) and postcodes. The ESS also recommended that the Board, the CSO and the ONAs producing European statistics should ensure that all statistical authorities are involved in the design of administrative data, making them more suitable for statistical purposes.

The 2013 ISS Code of Practice (ISS CoP)[26] will be a fundamental part of the ISS in the years ahead. The ISS CoP has established important guiding principles for the producers of official statistics in Ireland. The CoP, modelled on the European Statistics CoP, is primarily designed to ensure that official statistics in Ireland are produced in accordance with the key principles of professional independence, timeliness, accessibility, quality and confidentiality.

These principles and standards, when adopted, will support the quality and objectivity of official statistics produced across the public sector. Public organisations that sign-up to the Code will be stating that their official statistics are being produced in a manner that is professional, independent and of the highest possible quality.

The ISS CoP also provides a new platform to the CSO to influence and support the production of official statistics across the whole system. The CoP implementation process can create a dialogue between the CSO and key public bodies about data standards and the use of administrative data for statistical purposes.

The CSO's implementation of the CoP will also assign a powerful stamp of quality and trust to the official statistics of these bodies. Organisations that sign-up to the CoP will eventually undergo a peer review led by the CSO to ensure that their system of statistical production meets the principles of the CoP. The CoP may ultimately act as an encouragement to other public bodies to publish their own statistical releases and create a more widespread culture of data use and management.

3.5 The need to establish an Irish Government Statistical Service

Important potential advocates for the benefits of a NDI and ISS are the CSO seconded statisticians working in six government departments. These statisticians are ideally placed to highlight and promote the value of common data standards and the use of administrative data for statistical purposes through their work. In practice however, they generally work as individuals in isolation from the CSO and their statistical colleagues in other departments. The requirement of the CSO to coordinate the European statistical activities of other public bodies (EU Regulation 2015/759) means that it is now necessary for the CSO to adopt a more formal approach to the coordination of statistical resources to other government agencies.

The effectiveness of these statisticians in promoting and supporting the ISS could be enhanced by constituting them as part of a broader Irish Government Statistical Service (IGSS), centrally organised and with access to ongoing support and training. An Irish Government Statistical Service would complement the existing Irish Government Economic and Evaluation Service (IGEES) by concentrating on data issues (finding, mining, cleaning etc.) allowing IGEES members and other policy analysts in data analysis units to adopt a multi-disciplinary approach to developing value-added analyses.

26 — CSO (2013). Irish Statistical System Code of Practice for Official Statistics. www.isscop.ie

The establishment of an IGSS would provide an opportunity to introduce a common approach or contract for devolved statisticians and statistical units. It would also create sufficient scale to offer statisticians a more varied and interesting career; and to provide central support services efficiently. From a strategic perspective, an IGSS would bring a tangible visibility to the ISS that does not currently exist, and it would support the implementation of the ISS CoP and, where applicable, the ES CoP.

In summary, an IGSS could create a broader statistical system that:

- Adheres to international best practice;
- Complies with legislative requirements;
- Supports the objectives of the Civil Service Renewal Plan, Open Data Initiative, Data Sharing and Governance Bill;
- Enhances the work of IGEES; and
- Supports decision making through the provision of high quality objective evidence.

An effective IGSS would support the process of turning data and statistics into information and knowledge. It will also broaden the skills base across the public service and provide the necessary assurances to Irish citizens that decision makers have access to the "right information at the right time".

The use of administrative data by statisticians in the Department of Education and Skills to monitor educational progress, as shown below, is an example of how secondary data sources can be effectively used for statistical purposes and provide insights for policy-making.

Using Administrative Data to Monitor Educational Progression and Early School Leaving

In 2013 the Department of Education and Skills (DES) produced a series of reports which tracked school leavers a year after leaving school, using existing administrative data to address specific data gaps.

These reports[27,28] are based on a detailed analysis of the records held in the Department on students who were enrolled in post-primary schools (on the Post-Primary Pupils Database), focusing on those pupils who were enrolled in post-primary schools in one academic year but not enrolled in one of these schools one year later. In order to identify where early school leavers and 'school completers' were going after their school attendance ended, pupils were tracked using a unique personal identifier (a protected identifier key based on the Personal Public Service Number (PPSN)), through other administrative data sources.

The data linking was carried out in line with the Statistics Act 1993 in conjunction with the CSO. This work was carried out by CSO statisticians on secondment to DES in collaboration with the CSO's Administrative Data Centre.

27 — Tickner, N. (2013). School Completers - What Next. Department of Education and Skills; Dublin.

28 — Tickner, N. (2013). Early Leavers - What Next. Department of Education and Skills; Dublin.

3.6 Governance of public data crucial

The fundamental importance of a coherent and consistent approach to the management of data across the public sector in Ireland cannot be overstated. The Board is convinced that the potential for the ISS to produce new statistical information from public data sources will be limited until common data standards and unique permanent identifiers are more widely adopted across the public sector.

The Board welcomes the broad consensus about the potential of public data to drive administrative efficiency, inform public policy and support economic growth. In particular the Board welcomes the new Public Service ICT Strategy and the proposed Data Sharing and Governance legislation as they formally recognise the important administrative and policy benefits to linking and analysing public data from across the whole public system, and contain some significant objectives that could transform the way public data is managed and used.

However, while the necessary policy and legislative elements are now falling into place, establishing the principles of a NDI across the public sector is a formidable task given the number of diverse data sources and organisations involved. This is also recognised in the Public Service ICT Strategy which acknowledges that the specific data objectives outlined will require 'time, co-operation and investment' before they can be fully implemented.

At a more operational level, the CSO's implementation of the ISS CoP and the establishment of a formal structure for CSO statisticians working in government departments in the form of an Irish Government Statistical Service will be critical to delivery and buy in across the public service.

4 Challenges for Official Statistics

Chapter Key Points

CSO Challenges

It is of crucial importance that the CSO has adequate budgetary resources so that the quality and reputation of Irish official statistics are not compromised in any way.

The skills profile of the CSO as an organisation will need to continue to evolve with developments in data sources and technology. Workforce planning must take account of the new skills that will be required by the organisation in the future.

The CSO is involved in Big Data activities in the international statistics community, contributing to the ongoing dialogue around Big Data for official statistics and participating in new Big Data experiments. The CSO's pilot projects will provide a useful basis to explore the utility of Big Data and to scope the skills required to analyse it.

Privacy-Efficiency Balance

The growth of new data sources has opened a privacy debate about the appropriate use of administrative and Big Data sources that has implications for the CSO and official statistics. It is important to recognise the tension between privacy and efficiency in the apparent contradiction between a desire for more efficient public services and a reluctance to allow greater access to and use of public data.

It needs to be clear to the general public that the CSO is required by legislation to use data only for statistical purposes, can never divulge the identity of any individual or enterprise, nor publish or share individual level data with other public sector organisations.

User Needs

Official statistics must evolve to meet the changing demands and tastes of users, using the opportunities of new data sources and technologies to create new statistical products and reach new audiences. The producers of official statistics have a responsibility to work to meet the changing needs of the modern citizen and to make users aware of the advantages that official statistics have over other less rigorous sources of information.

4.1 CSO resources

There is a constant demand for more comprehensive and faster official statistics in the face of economic globalisation and the rapid pace of change in the digital world. With new technologies and new data there is an expectation that meeting user information needs must now be easier than ever. This presents considerable challenges for the system of official statistics given already extensive work programmes and finite resources.

The ESS, in its European Statistical System Vision 2020, points out that the cost of producing high quality statistical products is a challenge faced by National Statistical Institutes (NSIs) and that "tightened budgets in the public sector have led to shrinking resources for statistical administrations." [29]

The CSO, in common with other European statistical institutes, is faced with accommodating the new statistical needs of government, the EU and national users, while at the same time evolving as an organisation to take advantage of the opportunities that new data sources and new technologies may present. It has had to operate within a constrained environment since the economic crisis and cost savings and efficiencies have been achieved throughout the CSO by prioritising data needs, using more administrative data and applying business process improvement methodologies (i.e. Lean Six Sigma).

Furthermore as part of its 2020 strategy, the CSO has undertaken a number of key projects designed to bring change and greater efficiency to the CSO. These include the development of a quality management framework for the Office, a redesign of the household survey framework, a modernisation of the IT systems of National Accounts and a new policy for customer outputs.

The Board recognises that the need for greater efficiency, innovation and process improvement are part of every modern business enterprise and the CSO must continue its efforts to maintain a modern and progressive statistical institute. However, the weight attached to key national statistical indicators by international decision-makers, such as the IMF, the ECB and the European Commission, underlines the considerable risks for Ireland of producing indicators that are perceived to be biased or sub-standard in any way.

The CSO has an important role to play in the coordination of statistical activities of the producers of European statistics in Ireland which has been strengthened by the recently enacted Regulation (EU) 2015/759 amending Regulation (EC) 223/2009. The 2015 ES CoP peer review recommends that the CSO assigns human resources and a dedicated budget to implement its coordination role.

The Board views the stronger coordination role assigned to the CSO as a positive development but recognises that significant resourcing requirements will be needed to fulfil this mandate. Therefore, it is of critical importance that in the drive to cut costs and achieve greater operational efficiency, the CSO has adequate resources so that the quality and reputation of Irish official statistics are not compromised in any way and that the CSOs role as the coordinator of the producers of European statistics can be carried out effectively.

29 — The European Statistical System (ESS) Vision 2020, presented at the 21st Eurostat Directors meeting 18th March 2014

4.2 Skills challenges

Apart from budgetary constraints, producers of official statistics are today faced with other resource challenges. Even though the digital revolution has provided new opportunities, there are considerable difficulties for individual statistical institutes to keep pace with new methodologies, emerging technologies and complex data sources, while maintaining existing work programmes. Considering the pace of technological advancements and the complexity of modern global data sources it is unrealistic for individual statistical institutes to be at the cutting edge of innovation in every business area.

The ESS, in its European Statistical System Vision 2020 document acknowledges these challenges and advocates further collaboration and the sharing of expertise between NSIs and the need to create public-private partnerships in order for NSIs to develop more efficient production methodologies and in doing so create additional capacity.

The skills required to analyse data and produce official statistics are evolving. The changing face of data requires new skills and new technologies to analyse it. Recent years have seen the birth of the 'data scientist': an individual who tends to have a strong mathematical or statistical background but also a willingness to engage with new and emerging technologies, the skills to manipulate big data and the problem-solving skills to create solutions in a non-traditional and rapidly changing data environment. The 2014 Forfás report, Assessing the Demand for Big Data and Analytics Skills, highlights the need for Ireland to develop a pool of people with the skills to meet the needs of both public and private enterprises in this emerging environment. The Board considers it desirable that any further government strategies for science, technology and innovation should prioritise the development of data analytical skills.

The profile of staff and staff skills within the CSO is also an important factor in maintaining and developing a trusted statistical programme. In recent years the CSO has lost a number of senior managers through retirement while at the same time being faced with an embargo on recruitment for several years. The scale of the loss of institutional memory through retirement has understandably heightened the risks to the quality of current production. Indeed, the provision of staff training on the quality of statistics was one of the recommendations contained in the 2015 peer review of Ireland's compliance with the European Statistics Code of Practice (ES CoP).

The NSB believes that the CSO should remain cognisant of the changing face of data and the increasing importance of secondary data sources, as more administrative and Big Data sources (see below) become available. The skills profile of the CSO as an organisation will need to continue to evolve with developments in data sources and technology. The CSO can expect that the profile of skills within the organisation will continue to change over the coming years as the focus of official statistics continues to shift away from traditional survey methodologies and primary data sources.

4.3 Big Data – challenge or opportunity?

The potential of Big Data[30] to change the landscape of official statistics has been widely acknowledged. The possibility of reducing dependence on traditional survey methodologies, reducing costs and improving scope and timeliness have been suggested. Both the European Statistical System Committee (ESSC)[31] and the United Nations Economic Commission for Europe (UNECE) have initiated projects to examine the factors associated with using Big Data for official statistics, and some NSIs including the CSO have initiated pilot Big Data projects, including smart metering of electricity, web scraping[32] and using mobile phone data for tourism statistics.

The lure of the so-called 3Vs (volume, variety and velocity) of Big Data suggests that there is an untapped pool of data waiting to have important truths uncovered. However, some commentators caution against "conflating data volume with insight, utility and value"[33] and argue that the expertise and knowledge built up over many years using tried and trusted methods cannot be discarded or replaced overnight. The reality is that Big Data is not necessarily better than traditional data sources and the value of the insights to be gained depends on the nature of the data itself, the tools available to analyse it and the resource implications in managing and mining Big Data sources.

Big Data will certainly have some role to play in the creation of new official statistics in Ireland but the extent or imminence of that role is not yet clear.

The challenge for the CSO and other producers of official statistics will be to decide which data sources offer genuine opportunities for new data products of sufficient quality and reliability to replace or supplement existing statistical indicators.

A further challenge will be to develop the internal technological and technical capacity to manage and analyse Big Data sources. In this, the CSO should consider the opportunities that may exist through engagement with private enterprises and the importance of tailoring recruitment and training programmes to meet future skills needs in this area.

The CSO is already contributing and must remain involved in Big Data activities in the international statistics community, contributing to the ongoing dialogue around it for official statistics and participating in new Big Data experiments. The Board is encouraged by the CSO's ongoing pilot projects such as the use of mobile phone data for tourism statistics and the use of smart metering, and expects that these will provide a useful basis for the CSO to explore the utility of Big Data and to scope the skills required to analyse it.

30 — "Big data is a buzzword, or catch-phrase, used to describe a massive volume of both structured and unstructured data that is so large that it's difficult to process using traditional database and software techniques. In most enterprise scenarios the data is too big or it moves too fast or it exceeds current processing capacity" (http://www.webopedia.com/TERM/B/big_data.html).

31 — Scheveningen Memorandum Big Data and Official Statistics adopted by the ESSC on September 27th 2013.

32 — Web scraping is the automated harvesting of information from websites on a particular topic (e.g. continuous harvesting of product prices from a range of websites).

33 — Kitchin, R. and Lauriault, T. (2014) The Programmable City Working Paper I. Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2376148 [September 2014]

4.4 Privacy and data protection challenges

Sections 32 and 33 of the Statistics Act 1993 clearly direct that data supplied to the CSO can only be used for statistical purposes and that the CSO cannot disseminate anything that could be related to an identifiable person or undertaking. This absolute commitment to data protection and individual privacy, enshrined in law, is perhaps the most important reason for the success of the CSO in gathering survey and census data over many years.

However, the advent of new data sources has opened a privacy debate about the appropriate use of administrative and Big Data sources that has implications for the CSO and official statistics. There is a risk that the full potential of many secondary data sources will not be realised in the face of privacy concerns, but on the other hand there is also a risk that trust in official statistics may be damaged if it is perceived by the public that the use of administrative or Big Data sources is an invasion of privacy, even if used exclusively for statistical purposes.

The digitalisation of modern society and the incredible growth of online data have created a vast ocean of personal and business data, which could potentially have benefits for official statistics, public administration and commercial enterprise. However, this so-called 'data deluge' and the potential it represents also brings with it many complex questions about the right to privacy, data protection and data ownership. The spectre of 'big brother' is often raised in the public mind when concepts such as 'data sharing' and 'data linking' are used to discuss mining the potential of secondary data sources, including public administrative data. The appointment of a Minister of State with responsibility for Data Protection[34] in 2014 is recognition of the far-reaching significance of these issues.

Kitchin (2014) suggests that the 'privacy landscape is in flux', with some commentators suggesting that the battle for privacy has already been lost, and others arguing that privacy is an 'indispensable structural feature of liberal democratic political systems.'[35] Similarly MacFeely and Dunne (2014) discuss the 'privacy-efficiency trade-off' and the apparent contradiction between a desire for more efficient public services and a reluctance to allow greater access to and use of public data. A broad consensus is now emerging that existing privacy laws are out of touch with the realities of modern living and need to be revised.

In this context, it is important that the CSO maintains and promotes its unique role in the area of collection and use of data for statistical purposes, especially as the CSO gains access to more administrative data or Big Data. The general public needs to be aware and trust that the CSO can only use data for statistical purposes, cannot divulge the identity of any individual or enterprise and can never share individual level data with other public sector organisations. However, it is equally important that the CSO remains cognisant of public sensitivities and genuine fears around the use of secondary data and that the CSO does nothing in the pursuit or analysis of secondary data sources which would damage its reputation in the eyes of the general public.

34 — Minister of State with responsibility for EU Affairs and Data Protection, Dara Murphy T.D. was appointed in July 2014.

35 — Cohen, J. (2012) What is privacy for? cited in Kitchin, R. (2014) The Data Revolution: London: Sage.

4.5 Responding to user needs

Related to the explosion in digital activity is the way in which people now consume information and expect to have it delivered. It has been estimated that people globally spend more time consuming online media content than traditional offline content such as newspapers and television[36]; that people are more likely to access the internet using mobile devices than desktop or laptop computers; and that when online, users spend 86% of their time inside apps[37].

In today's fast-moving and technologically advanced world where information is readily available at the touch of a screen, the value of slower and more carefully produced official statistics may become less apparent to users. For the CSO and other producers of official statistics, the clear challenge over the coming years will be to remain relevant and distinct in the face of many competing sources of information while adhering to the key principles of quality, independence and objectivity.

The diversity of the users of official statistics has grown and can now range from the expert user designing government economic policy to the member of the public trying to understand the relevance of the latest crime statistics for a local neighbourhood. From the perspective of official statistics, this can make it difficult to tailor statistical output to meet the needs of both the expert and casual user of data. However, official statistics must evolve to meet the changing demands and preferences of users by embracing the opportunities offered by new data sources and technologies to create new statistical products and reach new audiences.

The importance of engaging with users has been a consistent theme in NSB strategies and the Board has overseen user surveys. The 2015 ES CoP peer review of the CSO made a number of recommendations for strengthening user orientation and recommended that the CSO and ONAs should seek out user needs more systematically and increase the regularity of user satisfaction surveys. The producers of official statistics have a responsibility to work to meet the changing needs of the modern citizen and to make users aware of the advantages that official statistics have over other, less rigorous, sources of information.

However, while there is certainly a need to make statistical outputs more user friendly, accessible and visually appealing, the Board believes strongly that official statistics must continue to be produced in a considered, professional, and methodologically sound manner, and that the temptation to sacrifice quality for faster or more expedient products is resisted.

36 — Global Web Index (2013). Retrieved from http://blog.globalwebindex.net/online-time-now-exceeds-offline-media-consumption-globally/ [October 2014].

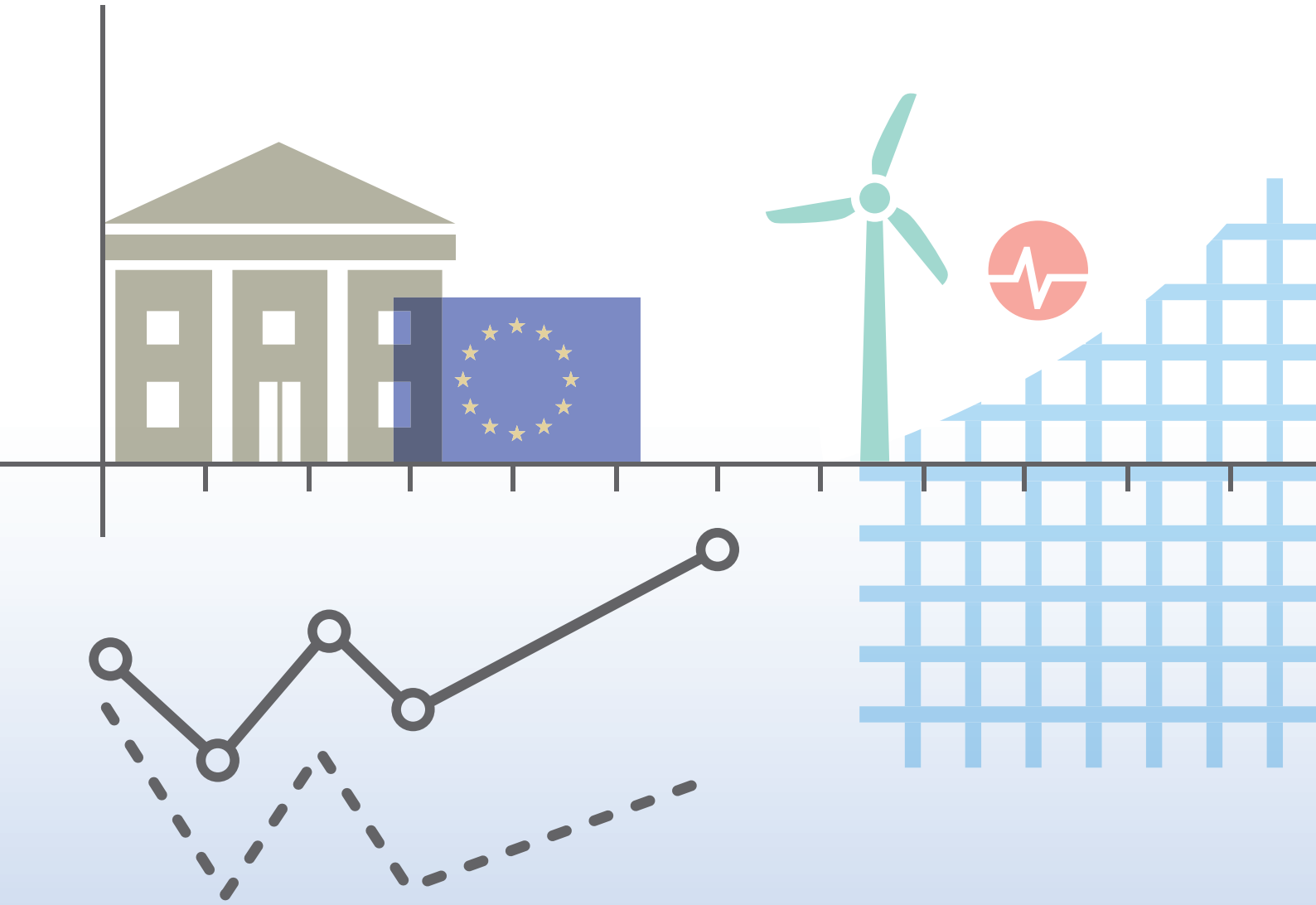
37 — Flurry Analytics (April, 2014). Apps Solidify Leadership Six Years into the Mobile Revolution. Retrieved from: http://www.flurry.com/bid/109749/Apps-Solidify-Leadership-Six-Years-into-the-Mobile-Revolution#.VFDPNFe1ry0 [October 2014].

4.6 The need to broaden the research data infrastructure

Although the availability and clarity of high quality official statistics is important, their usefulness for policy, research and decision-making is dependent on the existence of a body of analysts and academics with the capacity to engage in sophisticated quantitative analysis. While the volume and availability of official statistical information is growing all the time, and there is great potential for students and researchers to engage with data, there remains a concern that not enough use is being made of the data that is available.

The research community is one of the most important users of CSO information and adds significant analytical value to important policy areas through the use of CSO publications and data. In particular the lodgement of anonymised datasets to the Irish Social Science Data Archive and the provision of access to anonymised microdata files under controlled conditions represent a valuable resource for researchers. This is an area of the CSO's role that the Board would like to see develop even more in the years ahead, with the CSO engaging with researchers to understand their needs and to promote and facilitate their use of CSO data.

5 **Priorities** for Official Statistics in Ireland



Chapter Key Points

It has been estimated that as much as 90% of the CSO's work programme is designed to meet European regulatory demands. This creates an ongoing difficulty for the CSO as it struggles to balance the needs of national users with the compulsory demands of EU regulation.

Important gaps have emerged in the Irish statistical programme that the Board believes must be prioritised within the CSO's statistical programme. Specifically, Irish users consistently point to the need for more coherent health sector data, more information about energy and environment issues, better services data and the need for more detail in regional statistics. There is also a growing demand for new social indicators in the context of the increasing priority being given to well-being and social progress.

5.1 Balancing European and national user needs

The extent to which the breadth and sophistication of official statistics in Ireland has improved over the past five years is welcomed by the Board. As well as an increase in the overall volume of official statistics now available, administrative data has been successfully incorporated into many statistical products, the volume of data routinely made available via the CSO website has increased, the CSO has added valuable granularity to its Census data[38] and developed a number of critical new statistical products.

However, there remain a number of important areas where the availability of official statistics is limited and where progress has been slow. Although there are many reasons why the CSO and other producers of official statistics struggle to collect data on a particular subject, the Board is particularly aware of the dominating influence of the European Statistical System (ESS) on the capacity of the Irish system of official statistics to respond to national user needs.

Despite the ongoing expansion and improvement of the CSO's statistical programme, the demand for official statistics continues to grow, largely driven by the demands of the ESS. It has been estimated that as much as 90% of the CSO's work programme is designed to meet European regulatory demands.

Against a backdrop of finite national resources, it is difficult for the CSO to continue developing new statistical products or expand existing survey instruments to accommodate increasing European statistical demands. This creates an ongoing difficulty for the CSO as it struggles to balance the needs of national users with the compulsory demands of EU regulation.

While the focus and demands of the EU statistical programme have historically been more or less aligned with national user needs, some concerns have been expressed about the potential divergence of European and national user needs.

The increasing globalisation of the world economy has generated a demand for statistics that span national boundaries. For example, the activities of large corporate enterprises now impact many countries simultaneously, and international policy-makers believe they need new statistical products and access to more detailed data to measure this impact properly. The ESS and Eurostat have turned their attention to designing new regulations to address these emerging needs, and it is inevitable that these regulations will have a direct effect on the focus and scope of Irish official statistics, not to mention the capacity of the CSO to meet new national user needs.

The challenge for the CSO in the face of the 'internationalisation' of official statistics is to ensure that new surveys and indicators that are designed in the first instance to meet European regulations are also providing useful information at the national level. In some instances this may require the CSO to supplement some survey instruments with additional national questions or expand survey sample sizes to accommodate more detailed local analysis. Furthermore, it is also essential that the CSO retains some capacity and flexibility to continue to meet unique national needs not necessarily covered by European regulation.

38 — Census 2011 - Small Area Population Statistics.

5.2 National user needs – strategic priorities

As discussed above a huge proportion of the CSO's programme of statistics is determined by European regulation and as a result the CSO has limited scope to pursue national-only user needs when they arise. This inevitably means that the CSO must carefully prioritise national user needs for statistics and allocate available resources to meet the most nationally important needs first.

One of the statutory functions of the NSB is establishing priorities for the compilation of official statistics in Ireland, and over many years the Board has provided guidance to the CSO to help it in establishing these priorities. In doing so the Board has always tried to identify topics and themes of national policy significance, particularly where a gap or deficit of information currently exists. The Board has also tried to identify infrastructural areas that CSO needs to focus on in the long-term strategic interests of the Irish system of official statistics.

Over recent years some important gaps have emerged in the Irish statistical programme that the Board believes must be prioritised within the CSO's statistical programme. Specifically, Irish users consistently point to the need for more coherent health sector data, more information about energy and environment issues, better services data and the need for more detail in regional statistics. There is also a growing demand for new social indicators in the context of the increasing priority being given to well-being and social progress.

Health Statistics

In its previous Strategy the NSB called for the development of a robust system of health accounts for Ireland. The size of the Health sector and its impact on so many areas of national policy[39] make this an obvious national statistical priority.

Under EU regulation[40] Ireland will be obliged to supply a System of Health Accounts (SHA) to Europe by May 2016. The purpose of the EU system of health accounts is to apply common accounting standards and definitions to national health systems to allow expenditure and financing be compared across countries. The application of these reporting standards across the Irish health sector should also improve the quality and comparability of the available data for managers and policy makers.

In April 2013 a project board, consisting of representatives from the CSO, the Health Service Executive, the Department of Health and the private sector, was convened and following the progress that this group has made, the first transmission of 2013 summary results for health expenditure on the new SHA basis were transmitted to the OECD in June 2015 on a voluntary basis.

The Board believes that it is imperative that the quality and coverage of health statistics in Ireland continues to improve and provides policy-makers with the best possible independent evidence on which to base their decisions.

39 — The Health sector in Ireland accounts for approximately 25% of all government expenditure. Source: Department of Public Expenditure and Reform (2013) Expenditure Report 2013. Retrieved from: http://www.per.gov.ie/wp-content/uploads/Expenditure-Report-2014.pdf [October 2014].

40 — Implementing regulation under article 9(1) of Framework Regulation (EC) No. 1338/2008 on Community statistics on public health and health and safety at work will require System of Health Accounts data for 2014 no later than 31 March 2016.

Environment and Energy statistics

Environment and energy data is becoming increasingly important in the policy development context, not just within the environmental policy area itself but across a range of complex and often cross-cutting areas including sustainable development and energy security, efficiency and diversity. The Board has previously highlighted the importance of environment and energy statistics to national policy and the need for CSO to collaborate with bodies such as the Environmental Protection Agency (EPA) and the Sustainable Energy Authority of Ireland (SEAI) to broaden the range of official statistics in this area.

Some good progress has been made in extending the coverage of environment statistics. In March 2012 a new environment indicators report was published and in 2013 a new report on sustainable development indicators was published by the CSO at the request of the Department of the Environment, Community and Local Government.

However, the demand for environment statistics is growing and in May 2014 a new EU Environmental Economic Accounting Regulation[41] was published bringing to six the number of modules[42] under which Ireland will be required to supply environmental data. This regulation is part of a wider EU response to the international initiative to develop an international system of environmental and economic accounts (SEEA), under the auspices of the United Nations, together with the European Commission (Eurostat), the OECD, the World Bank and the IMF.

Social statistics

The publication of the Stiglitz-Sen-Fitoussi report[43] and the European Commission's related GDP and Beyond[44] in 2009, brought the question of statistical priorities very much to the fore for official statistics in Europe. The basic premise of these reports was that while major economic indicators such as GDP are useful measures of the overall progress of an economy they tell us little about the actual economic well-being of citizens or the distribution of economic success or failure amongst citizens.

The reports argue that non-market indicators such as material living standards, health, education, social connections and relationships, for example, are needed to supplement more traditional economic indicators in measuring the progress of society. This work is being advanced internationally, with initiatives such the ESS Vision 2020, the OECD's Better Life initiative and the 2011 Wiesbaden Memorandum[45] placing social statistics and well-being indicators firmly on the international statistical agenda. In addition, some countries are now measuring well-being at a national level. For example, both the UK[46] and Canada[47] have substantial national publications that compile existing and new data to provide an indication of national well-being.

41 — Regulation (EU) No 538/2014 amending Regulation (EU) No 691/2011 Regulation (EU) 691/2011.

42 — Air emissions; Material flows; Environmental taxes; environmental protection expenditure accounts, environmental goods and services accounts and physical energy flow accounts.

43 — Also known as Report of the Commission on the Measurement of Economic Performance and Social Progress.

44 — Communication from the Commission to the Council and the European Parliament (2009). GDP and beyond: Measuring progress in a changing world. Retrieved from: eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2009:0433:FIN:EN:PDF [October 2014].

45 — Wiesbaden Memorandum: New conceptual design for household and social statistics, endorsed by the Director Generals of the National Statistical Institutes (DGINS) on September 28th, 2011.

46 — Measuring National Well-being: Life in the UK, 2014.Office for National Statistics: London.

47 — Indicators of Well-being in Canada. Retrieved from: http://www4.hrsdc.gc.ca/h.4m.2@-eng.jsp [December 2014].

Local and regional data

Despite the volume of complex statistical information available about Ireland, users consistently emphasise the value and importance of local-area data in the development of local policy and planning. However, this is a user demand that official statistics sometimes struggles to meet. The nature of survey data is that it is based on carefully selected samples to provide national and sometimes regional estimates but would require much larger and more expensive samples to provide robust local-level estimates. The exception to this is the Census which collects and disseminates detailed information at small area level through its SAPS application. The obvious disadvantage of Census is that it only takes place every five years and for some users the resulting data is not current enough.

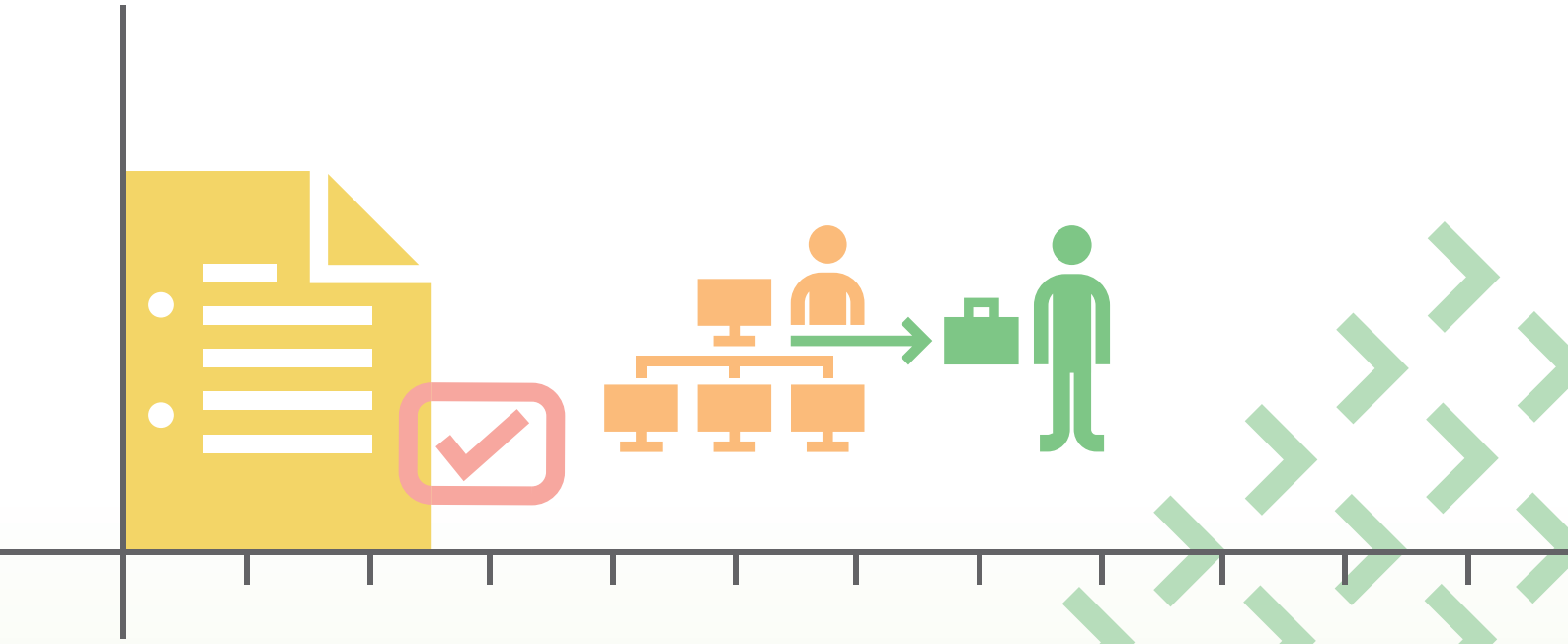
There is however another potential source of local data that is as yet underdeveloped and this is the administrative data collected and held by local authorities and agencies. In most cases local authorities have valuable information about local areas that is used for administrative purposes but not systematically released to the public. Some notable exceptions are the Fingal (data.fingal.ie) and Dublinked (www.dublinked.com) open data projects.

The Local Government Act 2014 requires local authorities to produce a six-year Local Economic and Community Plan designed to promote the economic and community development of their area. As part of each plan the local authority is required to monitor progress and implementation with reference to identified "benchmarks and indicators". This should lead to more emphasis on the collection of local data and its utility for measuring progress, and make local authorities more conscious of the statistical potential of information currently used for administrative purposes.

Fingal Open Data Project

The project aims to provide citizens with access to data and information about the Fingal area in Dublin. The website (data.fingal.ie) contains datasets from many different sources relevant to the Fingal area, including the county council, the local government management agency and the CSO. The information presented ranges from the location of playgrounds in the council area, to detailed local election results and the Fingal County Council annual budget.

6 Actions Needed to Achieve the NSB's Vision for the Irish Statistical System



Achieving the Vision

6.1 Public sector leadership

The Board has stressed the importance of leadership and public sector data governance to achieving its vision of a world class system for official statistics throughout this strategy document. Considerable progress has been made in recent years in recognising public data as a valuable resource for policy-makers, administrators and citizens and a number of strategic initiatives and new legislation are in the pipeline which can help to create an effective Irish Statistical System (ISS) underpinned by a robust and secure National Data Infrastructure (NDI). Strong leadership will be needed to oversee and deliver the many parts of the ISS.

Action Points

- **The NSB believes the Department of Public Expenditure and Reform should provide this leadership. This Department has already spearheaded important changes across the wider public service and the NSB believes that it is ideally placed to provide leadership and ensure delivery of effective public sector data governance. This will involve commitment to overseeing the introduction and delivery of the Data Sharing and Governance legislation, implementing the Public Service ICT Strategy, facilitating the establishment of an IGSS, as well as promoting the development of a NDI.**
- **The Board regards the proposed Data Sharing and Governance legislation as crucial to the delivery of an effective ISS. The legislative framework should ensure that security and confidentiality are central to all data sharing activities, and more broadly that strong data governance procedures are implemented by all public bodies. The legislation should also take due cognisance of the existing relevant legislation (e.g. Statistics Act 1993, Data Protection Acts 1998 and 2003) and ensure that the principles enshrined in these Acts are not compromised, particularly as they relate to the use and exchange of sensitive information.**
- **DPER's Office of the Government Chief Information Officer (OGCIO) with responsibility for implementing the data element of the Public Service ICT Strategy could bring significant system-wide improvements and consistency to the management and use of public sector data.**

The NSB's vision is of an ISS aligned with leading international systems where surveys remain central to the production of official statistics, but where more of the raw data is increasingly drawn from secondary sources, primarily administrative records. Realising this vision in Ireland will require the creation of a NDI involving the consistent use of permanent unique identifiers on public data sources so as to enable linkage of data sets and creation of a system of integrated base registers for statistical purposes.

This will require the use of the Personal Public Service Number in interactions between the individual and the public sector; the mandatory usage of a unique business identifier in interactions between enterprises and the state and the use of standard geo-spatial codes on all public data sources. Some progress has been made on these issues at both strategic and operational level but a number of key steps are essential to build on the progress of recent years.

Action Points

- As a priority, the public sector through the proposed Data Sharing and Governance legislation, needs to establish a clear legal and ethical framework that clarifies the use of unique identifiers and sharing of administrative data for all public bodies, while ensuring that citizens' personal privacy considerations are respected.
- Issues like organisational reticence and lack of data harmonisation are likely to remain persistent barriers to data sharing. The Board believes that responsibility for the implementation of a NDI should be assigned to the Office of the Government's Chief Information Officer (CIO) along with sufficient resources to encourage and support public bodies to adjust their data management practices. The CIO should have the authority to require compliance with common data standards and protocols so as to achieve better administrative efficiency and improved public services.

6.2 CSO leadership

The CSO has an important role to play in providing leadership and support for the production of official statistics by other organisations across the public system and advice and encouragement to public bodies seeking to publish their own official statistics. The strength of the ISS will be greatly enhanced if more public bodies produce high quality and independent statistics from their own data sources.

Section 31 of the Statistics Act 1993 requires that public bodies cooperate with any request from the Director General of the CSO to develop their 'recording methods and systems for statistical purposes' where practicable and that public bodies consult with the Director General of the CSO if they propose to 'introduce, revise or extend' any information system or introduce a new survey. To date, this section of the Statistics Act has never been formally used, but together with the new requirements under Regulation (EU) 2015/759 and Section 10(2)[48] of the Statistics Act, it gives the CSO a central role in the development of existing and new public sector data holdings.

Action Points

- The NSB considers that the CSO should use its strong legislatively based coordination role to actively encourage and support the production and quality of official statistics by other public bodies to broaden the base of the ISS. The Office should engage directly with public bodies on data related issues on the basis of the powers given to it under Section 31 of the Statistics Act.
- The Board believes that the CSO should play an active role in advising DPER and the OGCIO on the implementation of a common data model and in setting standards that apply to data used for the purposes of official statistics across the public sector, as outlined above.

48 — The Office shall have authority to co-ordinate official statistics compiled by public authorities to ensure, in particular, adherence to statistical standards and the use of appropriate classifications. 'Statistics Act 1993, Section 10(2).

Under EU statistical law[49] the CSO now has responsibility to ensure that other producers of European statistics (ONAs) are adhering to quality standards for European statistics and adhering to the European Statistics Code of Practice (ES CoP). The 2015 ES CoP peer review recommended that the CSO should decisively strengthen coordination of statistical activities across the producers of European statistics and the ISS and that Irish national authorities develop a data infrastructure to facilitate the use of administrative data sources for statistical purposes and the inclusion of unique identifiers of persons and businesses as well as postcodes.

The Board believes that the introduction of the Irish Statistical System Code of Practice (ISS CoP) for official statistics authorities in Ireland is an important development that will ultimately support the quality of official statistics. While adherence to the ES CoP will be assessed by means of European Peer Review of both CSO and ONAs, the CSO has yet to put in place a robust framework to monitor compliance with the ISS CoP. In the Board's view, it is desirable that the ISS CoP should become a quality assurance mark for Irish official statistics published by public bodies. Over time, and with wider compliance among producers, statistics that are ISS CoP compliant should be distinguished by their quality and trustworthiness in the public mind.

Action Points

- **The CSO should introduce a framework to monitor compliance with the ISS CoP as widely as possible across the public sector and initiate a robust system of peer reviews to ensure observance with the Code. The aim should be to reach a stage where compliance becomes a quality mark for users. CSO should work towards branding official statistics so that statistical outputs branded as "Official Statistics" are recognised as being of the highest quality.**
- **The Board believes that the establishment of an Irish Government Statistical Service (IGSS) would promote and support the ISS and give effect to the coordination role of the CSO. This would strengthen the statistical service being provided to public bodies as well as supporting and enhancing the roles of statisticians currently working in government departments.**

49 — Regulation (EU) 2015/759 amending Regulation (EC) 223/2009.

6.3 CSO resources

The CSO, like all other public bodies, has been operating within a constrained budgetary environment since the onset of the economic crisis. While admirable cost saving and efficiencies have been achieved, the demand for new and better statistics, and the challenges of new technology and new data sources do require resources. The CSO has an excellent reputation for its ability to respond to demands while maintaining quality and to be at the cutting edge in key areas of official statistics. It must also be able to demonstrate its effectiveness in giving value for money through the adoption of appropriate accounting systems.

Changes to the coordination role of the CSO brought about by Regulation (EU) 2015/759 amending Regulation (EC) 223/2009 formally assigns responsibility to the CSO for the coordination of the producers of European statistics. Furthermore, the 2015 ES CoP Peer Review recommended that the CSO assign human resources and a dedicated budget to implement its coordination role. The tasks involved include coordinating statistical programming, ensuring uniformity of classification and dissemination policies and practices, and regular monitoring of data submissions to Eurostat. This is a significant resource and staffing requirement.

Action Points

- **The Board believes it is of critical importance that the CSO has adequate resources so that the quality and reputation of Irish official statistics are not compromised in any way.**
- **The CSO should ensure that it acquires the additional resources needed to effectively carry out its obligation under Regulation (EU) 2015/759 and to respond to the recommendations of the ES CoP Peer Review. These resource requirements should be included in its annual workforce planning submissions to the Department of Public Expenditure and Reform.**
- **The Board considers that the CSO should adopt more effective cost accounting systems by introducing a systematic product-based and process-based accounting approach as recommended by the 2015 Peer Review.**

6.4 CSO skills base

The skills required to analyse data and produce official statistics are evolving. The overall skills profile of the CSO will have to change to take account of the new skills required to engage with secondary data sources and new technologies. Furthermore, staff training on statistical quality was one of the recommendations of the 2015 peer review of Ireland's compliance with the European Statistics Code of Practice (ES CoP). It is important that the CSO continue to develop its capacity to exploit technological and methodological advancements through the upskilling of existing staff and the recruitment of staff with relevant skills.

Action Points

- It is the view of the Board that the CSO must remain proactive in workforce planning and recruitment to ensure that the loss of skills due to retiring and departing staff members does not jeopardise the quality and trusted nature of the statistical output.
- The CSO should develop a culture of continuous professional development and upskilling to ensure that the Office remains abreast of international advances in statistical production and well-placed to implement new technologies and methodologies when they become available.
- The CSO should also ensure its own and ONAs staff receive appropriate training in quality management.
- The Board believes that the CSO should explore strategic alliances with the private and academic sectors to take advantage of technological progress being made in these areas and enhance its production capacity. Similarly, the CSO should remain cognisant of international developments that could have relevance for statistical production here.

6.5 CSO and Big Data

The Board regards Big Data as potentially having a very significant role in the creation of official statistics in Ireland in coming years, but the nature and extent of that role is as yet uncertain. The Board is encouraged by the CSO's ongoing pilot projects such as the use of mobile phone data for tourism statistics and the use of smart metering, and expects that these will provide a useful basis to explore the utility of Big Data and to scope the skills required to analyse it.

Action Points

- The CSO should develop its own Big Data strategy to enable the organisation to exploit the potential of Big Data opportunities for official statistics. It should seek strategic alliances with educational institutes and publicly funded research centres such as Insight[50], CeADAR[51] and the ESRI[52] as well as with private enterprise (in Ireland) to leverage skills and expertise in this field.
- The CSO should build on its work to develop the potential of mobile devices as sources of data, data collection tools and dissemination channels.
- With a focus now being placed on the usage of Big Data sources and other private sector data sources the CSO should engage with the Data Protection Commissioner to construct a framework that sits comfortably both within the statistical legislative environment and the Data Protection environment that ensures access to these sources at the required level of detail to support efficient compilation of aggregate statistical outputs while at the same time satisfying any perceived data protection concerns.

50 — Insight Centre for Data Analytics.

51 — Centre for Applied Data Analytics Research at University College Dublin.

52 — The Economic Social and Research Institute.

6.6 CSO and user engagement

From the perspective of official statistics it can be difficult to tailor statistical output to meet the needs of both the expert and casual user of data but official statistics must evolve to meet the changing demands and tastes of users, embracing the opportunities offered by new data sources and technologies to create new statistical products and reach new audiences. The producers of official statistics have a responsibility to work to meet the changing needs of the modern citizen and to make users aware of the advantages that official statistics have over other, less rigorous, sources of information.

The 2015 ES CoP peer review makes a number of recommendations for strengthening user orientation and recommends that the CSO and ONAs should seek out user needs more systematically and increase the regularity of user satisfaction surveys.

Action Points

- **The CSO should develop a new communication strategy based on a review of the suitability of its existing provision, exploring new dissemination channels and methodologies. The CSO should also develop integrated horizontal publications that seek to explain the interactions between statistical indicators in more visually attractive forms.**
- **The NSB will oversee the conduct of a new user survey and recommend that it be repeated regularly.**
- **The CSO should instigate a review and evaluation of its website including the use of its online data and publications with a view to improving content and presentation.**
- **The CSO should continue to promote the use of official statistics and the development of statistical literacy through its schools programmes. It should consider more formal links with third-level institutions offering relevant courses or promoting the use of official statistical data sources.**
- **The CSO should seek to facilitate researchers' access to microdata consistent with the requirements of the Statistics Act, including remote access where feasible.**

6.7 CSO priorities

There will always be a demand from users for more and more information and the CSO will at all times have to balance its resources between the needs of national users and the regulatory demands of the European Statistical System. However, the Board believes that it is essential that the CSO continues to be proactive in its interactions with Eurostat to ensure that European regulatory requirements are aligned with national user needs and priorities, in so far as possible.

The Board also believes that there are certain gaps in the national statistical programme that the CSO needs to address.

Action Points

- **The Board considers that the CSO needs to assign significant weight to the areas of environment and energy in its work programme. As currently available, official statistics lag behind what is required for effective policy decision-making and adherence to international regulatory requirements in this sector.**
- **The Board's view is that it would be worthwhile for the CSO to develop an annual Well-being publication that would harness available information across areas such as, health, education, job satisfaction, personal finances, and the physical environment, to provide a barometer of Ireland from a Well-being perspective.**
- **The Board believes that the CSO should continue to seek additional granularity in its data to address the user demand for more local level data through the exploitation of administrative data sources at local level. Furthermore, local authorities should be supported and encouraged by the OGCIO or IGSS, once established, to release more local level data, through the development of local data portals and the agreement of a local data framework for data collection and analysis that would be based on a set of common local data indicators.**

Appendix 1

CSO and NSB Functions under the Statistics Act, 1993

Section 10 - Functions of Central Statistics Office:

(1) The functions of the Office shall be the collection, compilation, extraction and dissemination for statistical purposes of information relating to economic, social and general activities and conditions in the State.

(2) The Office shall have authority to co-ordinate official statistics compiled by public authorities to ensure, in particular, adherence to statistical standards and the use of appropriate classifications.

(3) The Office shall have authority to assess the statistical potential of the records maintained by public authorities and, in conjunction with them, to ensure that this potential is realised in so far as resources permit.

Section 19 - Function of National Statistics Board:

Section 19 of the Statistics Act, 1993 describes the function of the Board:

(1) The function of the National Statistics Board in guiding, with the agreement of the Taoiseach, the strategic direction of the Office shall include in particular –

(a) establishing priorities for the compilation and development of official statistics;

(b) assessing the resources of staff, equipment and finance that should be made available for the compilation of official statistics;

(c) arbitrating, subject to the final decision of the Taoiseach, on any conflicts which may arise between the Office and other public authorities relating to the extraction of statistics from records or to the co-ordination of statistical activities.

Appendix 2

National Statistics Board members

The members of the Board were appointed by the Taoiseach in March 2014 and will serve a term that will expire on December 31 2016.

Dr Patricia O'Hara
Chairperson, Adjunct Professor, National Institute for Regional and Spatial Analysis, NUI Maynooth

Rowena Dwyer
Chief Economist, Irish Farmers' Association

Tom Geraghty
Secretary General, Public Service Executive Union

Helen Johnston
Senior Policy Analyst, National Economic and Social Council

Gerard O'Neill
Chairman, Amárach Consulting

John Callinan
Assistant Secretary, Department of the Taoiseach

John McCarthy
Chief Economist, Department of Finance

Pádraig Dalton
Director General, Central Statistics Office

Donal Kelly
Secretary to the Board to April 2015 (Statistician, Central Statistics Office)

Claire Hanley
Secretary to the Board from April 2015 (Statistician, Central Statistics Office)

Appendix 3

Principles of the Irish Statistical System Code of Practice

Principle 1: Professional Independence
The production of official statistics is based on the application of independent, transparent and objective standards and free from any political or other external interference. The objective is to ensure credibility and public trust in official statistics.

Principle 2: Timeliness and Punctuality
Official statistics are released in a timely and punctual manner.

Principle 3: Accessibility and Clarity
Official statistics are presented in a clear and understandable form, released in a suitable and convenient manner, available and accessible on an impartial basis with the appropriate supporting information.

Principle 4: Commitment to Quality
All compilers of official statistics systematically and regularly review processes to support continual improvement in process and product quality.

Principle 5: Confidentiality
Public authorities that produce official statistics ensure that statistical outputs do not lead to the direct or indirect identification of an individual person or entity

Retrieved from: http://www.isscop.ie/codeofpractice/ [January 2015]

Appendix 4

'CSO 2020' Values and Vision

In September 2013 the Central Statistics Office published a new strategy for the organisation: 'CSO 2020'. The strategy outlined four vision statements that reflect the broad objectives of the organisation.

1. The CSO is the trusted advisor on data issues
Primary provider of statistical information and services for policy making.
High level of awareness, among public sector organisations and others, of its products and capabilities.
Ability to respond flexibly to customers' needs.
Strong relationships with key public sector departments, ensuring that we are consulted on relevant matters.
Respect for the CSO's mandate regarding public sector data.

2. Acceptance that the CSO produces accessible and impartial statistics
Recognition that the CSO is independent and impartial.
Production of timely and accurate outputs.
Key messages identified and clearly explained.
Maintain an open professional relationship with the media, who are aware of its values.
Range of dissemination channels used to maximise access to data.

3. The CSO is highly influential within the international statistical system
Strong professional relationships with colleagues in Eurostat and other statistical offices.
Influential during all stages of EU proposals.
Respected for constructive contributions on international statistical matters.
Ability to withstand the highest levels of scrutiny of its processes and methods.

4. Researchers have efficient access to microdata
A remote access system to microdata from a range of sources.
Maximise access subject to legal and confidentiality provisions.
Strong systems and metadata in place to support a responsive service for researchers.
Feedback actively sought from the research community.
Continual assessment of the value of microdata along with the resource implications.

As part of its 2020 Strategy the CSO outlined the core values that underpin its work programme. These are:

- Independence and Integrity
- Statistical professionalism
- Respect for statistical confidentiality
- Excellent service to customers
- Respect for data providers
- Value for money

Retrieved from: http://www.cso.ie/en/releasesandpublications/corporatepublications/ [January 2015]

Appendix 5

Government strategies that reference public data (not listed in Section 2.3.1)

Open Data

In July 2014 the Government published Ireland's first Open Government Partnership (OGP) National Action Plan[53] which listed as one of its core principles the development of an Open Data strategy for Ireland. The plan suggests that releasing public datasets for general consumption has "the potential to drive innovation and economic growth, improve public services, strengthen democracy and increase transparency and accountability of government".

While the key actions of the OGP plan around open data are specifically aimed at identifying and releasing high-value public datasets for public consumption, this can also be expected to have a significant effect on the quality and comparability of all datasets within public bodies as attention is directed to appropriate data standards and structures to make data accessible and useful to the public.

eGovernment Strategy

The eGovernment Strategy 2012-2015 targets the increased digitalisation of public services in order to improve the delivery of public services. Many of the actions in the eGovernment Strategy 2012-2015[54] echo those of the OGP plan and the NSB's 2009-2014 strategy; emphasising the importance of properly managed and joined-up public data, and the advantages for the public service of maintaining single registers of business and personal identities. The eGovernment strategy encourages the use and re-use of public data across the public sector to avoid duplication of data collection effort and to improve the quality of information available for decision-making.

National Digital Strategy

In a similar vein the National Digital Strategy[55] also recognises the important cross-cutting issues of data sharing, open data, privacy, and trust and confidence in the activities of public bodies within a digital medium.

53 — Department of Public Expenditure and Reform (2014). Open Government Partnership Ireland: National Action Plan. Retrieved from: http://per.gov.ie/wp-content/uploads/OGP-National-Action-Plan.pdf [September 2014].

54 — Department of Public Expenditure and Reform (2014). Supporting Public Service Reform: eGovernment 2012-2015. Retrieved from http://egovstrategy.gov.ie/ [October 2014].

55 — Department of Communications, Energy and Natural Resources 2013.

Appendix 6

Other National Authorities (ONAs) responsible for European Statistics

Bord Iascaigh Mhara

Commission for Communications Regulation

Department of Agriculture, Food & the Marine

Department of Communications, Energy and Natural Resources

Department of Education and Skills

Department of the Environment, Community and Local Government

Department of Health

Department of Jobs, Enterprise and Innovation

Department of Justice and Equality

Department of Social Protection

Environmental Protection Agency

Health and Safety Authority

Sea-Fisheries Protection Authority

Sustainable Energy Authority of Ireland

Published by the National Statistics Board
Website: **www.nsb.ie**
Email: **nsb@cso.ie**

ISBN 978-1-4064-2757-8

Designed by **www.scale.ie**