

Quality Information for All – Numbers Matter

National Statistics Board

Strategic Priorities
for Official Statistics

2021 – 2026



© Copyright of the Government of Ireland 2021

Reproduction is authorised subject to acknowledgement of the source.

Further information is available at <https://www.cso.ie/en/aboutus/whoweare/copyrightpolicy/>

ISSN: 2737-7709

May 2021

Table of Contents

Chairperson’s Introduction	5
NSB Vision, Values and Goals for the Irish Statistical System	6
NSB Conclusions and Recommendations 2021–2026	7
The National Statistics Board	13
Our Role	14
Our Members	15
NSB Strategy Consultation Process	15
Official Statistics and the Irish Statistical System	17
The Importance of Official Statistics	18
The Irish Statistical System	19
The Challenges for Official Statistics	20
Key Themes for Official Statistics in Ireland	23
Environment and Climate	24
Economy and Business	25
Labour Market, Quality of Employment and the Future of Work	26
Wellbeing and Social Cohesion	27
Health and Social Care	28
Addressing the Challenges	31
Data Governance	32
Data Sources	34
User Requirements	41
Quality of Data	45
Expertise	46
Data Stewardship	48
Appendices	51

Abbreviations

API	Application Programming Interface
CHO	Community Health Organisation
CSMB	Civil Service Management Board
CSO	Central Statistics Office
DASSL	Data Access, Storage, Sharing and Linkage
DECC	Department of the Environment, Climate and Communications
EPA	Environmental Protection Agency
ESCoP	European Statistics Code of Practice
ESGAB	European Statistical Governance Advisory Board
ESS	European Statistical System
EU	European Union
GDP	Gross Domestic Product
GDPR	General Data Protection Regulation
GNI*	Gross National Income*
GNP	Gross National Product
HIPE	Hospital In-Patient Enquiry
HSE	Health Service Executive
ICT	Information and Communications Technology
IEMAG	Irish Epidemiological Modelling Advisory Group
IGEES	Irish Government Economic and Evaluation Service
IGSS	Irish Government Statistical Service
ISS	Irish Statistical System
ISSCoP	Irish Statistical System Code of Practice
MoU	Memorandum of Understanding
NDI	National Data Infrastructure
NISRA	Northern Ireland Statistics and Research Agency
NPHE	National Public Health Emergency Team
NSB	National Statistics Board
OECD	Organisation for Economic Co-operation and Development
OGCIO	Office of the Government Chief Information Officer
OGP	Office of Government Procurement
ONA	Other National Authority
OSi	Ordnance Survey Ireland
PPSN	Personal Public Service Number
PSB	Public Sector Body
PUP	Pandemic Unemployment Payment
RMF	Research Microdata File
ROS	Revenue Online Service
RTB	Residential Tenancies Board
SEAI	Sustainable Energy Authority of Ireland
SME	Small to Medium-sized Enterprise
SSCU	Statistical System Coordination Unit
SUSI	Student Universal Support Ireland
TILDA	The Irish Longitudinal Study on Ageing
IDS-TILDA	Intellectual Disability Supplement to the Irish Longitudinal Study on Ageing
UBI	Unique Business Identifier
UN	United Nations

Chairperson's Introduction



I am delighted to introduce the strategy of the National Statistics Board (NSB) covering the period 2021 to 2026. The NSB was established on a statutory basis under the Statistics Act 1993. Our role is to guide the strategic direction of the Central Statistics Office (CSO) and to establish priorities for the development of official statistics in Ireland.

This strategy was developed by the Board in consultation with a broad range of stakeholders and we are grateful for that engagement.

Our strategy 'Quality Information for All – Numbers Matter' builds on previous NSB strategies and the significant achievements to date, especially in the current challenging times, of the CSO and the wider Irish Statistical System (ISS). In this strategy we emphasise the importance of the CSO and ISS:

- Remaining a trusted, independent source of data;
- Staying relevant by monitoring the transformations taking place in the environment, society and the economy;
- Linking data sources in an innovative way, in line with the requirements and protections of the Statistics Act and GDPR, to provide the best possible insights; and
- Communicating these insights in a clear way to users of official statistics and the public generally.

The Board will monitor the progress made on this strategy over the next five years.

As chairperson, I am very fortunate to have the expertise of my Board members, a professional working relationship with the CSO led by Pádraig Dalton, and the excellent support and commitment of the Board secretary Claire Hanley. I thank you all and look forward to working with you during the implementation of this strategy.

Anne Vaughan
Chairperson

May 2021

NSB Vision, Values and Goals for the Irish Statistical System

Vision

A world-class system of official statistics using the best available data to provide high-quality, timely, independent and readily accessible information which informs an understanding of Ireland's society, economy and environment.

Values

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

A drive for a system of official statistics that meets user needs and is user-friendly.

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

Strategic Goals

To produce timely, independent, accessible and quality official statistics based on an Irish Statistical System comprising a comprehensive programme of censuses and surveys, public sector administrative data and private sector data sources to support national user needs.

To cultivate an innovative system which seeks to access and use all data sources to provide timely insights.

To implement and embed fully a National Data Infrastructure across the public sector, incorporating permanent unique identifiers and common data standards.

To communicate the importance of official statistics and the advantages that official statistics have over other sources of information.

NSB Conclusions and Recommendations 2021–2026

This section summarises the priorities and further actions recommended by the National Statistics Board (NSB) for official statistics over the period 2021-2026. The first priority is discussed in detail in Chapter 3 and the remaining are discussed in Chapter 4.

Priorities for Official Statistics

Monitor Transformations in the Environment, Economy and Society

P1. The key broad themes identified by the NSB relate to monitoring the transformations taking place in the environment, society and the economy (each widely defined in Chapter 3). The Central Statistics Office (CSO) needs to ensure that it is in line and ideally ahead of users' requirements in order to assist policy makers and inform the public generally. Important areas of action for the CSO, working with public sector agencies, are to:

Theme 1:

- Link datasets and provide a greater level of granularity in the **environmental area**;

Theme 2:

- Respond to **transformations in the economy** and the way business is changing to capture effectively a true picture of what is happening;
- Reflect and monitor the changes in the operation of the **labour market and quality of employment**;

Theme 3:

- Provide data to monitor trends in **wellbeing and social cohesion**; and
- Broaden the range of outputs, products and services it can provide across the broader **health** domain. In this context, the Department of Health should develop a comprehensive infrastructure for health and related data.

Communications

P2. In today's fast-moving and technologically advanced world, where information is readily available at the touch of a screen, the NSB recommends that the CSO takes action to **communicate to users** the advantages that official statistics have over other sources of information. The CSO must continue to promote itself as the trusted source of statistical data for all.

The NSB welcomes the progress to date by the CSO in developing a more **citizen-focused approach** to its outputs and recommends that the CSO continues to invest in this area; therefore, making statistics more meaningful and accessible for many users and the public generally.

The NSB recognises the demand for new CSO products and services such as **real-time** and so-called 'flash' estimates and recommends that the CSO explores the production of such estimates, in consultation with users, and only where relevant and appropriate to the data series.

Enhance Administrative Data for Statistical Use

P3. The NSB believes the use of **administrative data** sources is critical in meeting the challenges facing official statistics in the future and recommends that:

- the CSO develops **standards, rules and guidelines** to govern the classification, storage and management of data across government organisations; and drives the roll-out of common data classifications and standards with particular focus on strategic areas of policy and expenditure such as health, education and social protection; and
- the administrative data of government organisations should be **suitably structured** to ensure the data is fit for use for statistical purposes by their organisation and the broader Irish Statistical System (ISS) in a timely and efficient manner. These organisations should commit to the practical enhancement of the value of their data and work with the CSO to implement actions to drive the changes needed to design or adapt their systems.

P4. Previous NSB strategies have recommended the implementation of a **National Data Infrastructure (NDI)** to facilitate the linking of data across the administrative and CSO systems by incorporating unique identifiers for individuals (PPS number), businesses (unique business identifier), and locations (Eircode) in all official data collection and administrative data sets.

The NSB views the **NDI champions**¹ as well placed to drive the initiatives required to successfully implement the NDI by promoting the value of unique identifiers and common classifications on data holdings. It calls on the champions to explore the opportunities to improve coverage of these identifiers on administrative systems and processes.

The NSB welcomes the development of the **Unique Business Identifier (UBI)** by the Revenue Commissioners and recommends the completion and roll-out of phase one of the UBI project by end-2021.

The NSB recognises the importance of the CSO's **pathfinder projects** which are policy-relevant research projects that bring together data from CSO and administrative sources. As well as adding insight in particular areas, they also demonstrate the value of using the NDI to link different data sources. The NSB recommends that the CSO, public sector bodies (PSBs) and other stakeholders continue to identify useful research projects that harness linked data sets, and that deepen an appreciation of enabling such data linkages.

Embed Eircodes in all Public Sector Data Holdings

P5. The NSB strongly supports the inclusion of the **Eircode** identifier on public sector data holdings and sees this as a critical part of progressing the NDI and providing the required level of geographic breakdown sought by many users of official statistics. In order to improve the collection and integration of the Eircode by PSBs, the NSB recommends that:

- it becomes mandatory for a PSB to adopt a **'just ask'** approach when interacting with customers and request an Eircode as part of an address (where an address is required and in line with GDPR) and to facilitate this, PSBs should incorporate an Eircode application programming interface (API) to obtain and validate the Eircode when dealing with customers;
- Eircode integration becomes a mandatory requirement for all Information and Communications Technology (ICT) systems procurement;
- the frequency of Eircode assignment, dissemination and release of the Eircode database to licenced users is increased from a quarterly to a monthly cycle;
- the Department of the Environment, Climate and Communications (DECC) explores the feasibility of treating the **Eircode as a public good**, making it freely available to all users; and
- a sub-group of the NDI Champions Group is established to drive the adoption of the Eircode on public sector data holdings and that this group is chaired by an Assistant Secretary from a large data-holding government department.

¹ The NDI Champions Group, chaired by the CSO with representatives from all Departments and agencies with high-value data, monitors and promotes coverage of the unique identifiers across public sector data holdings.

Potential of Big Data

P6. The NSB views privately held **'Big' Data** sources as having a valuable role in the compilation of official statistics in the future and recommends that the CSO:

- invests further in the expansion of its Big Data Development Unit to establish the value added for official statistics;
- engages with big data providers to gain access to private data sources for statistical purposes; and
- engages in ongoing dialogue with the Data Protection Commission to address data protection concerns, where necessary.

Data Confidentiality

P7. The NSB recognises data **confidentiality** as one of the most important values of the CSO and recommends that, as the need to move further towards alternative data sources for the production of official statistics increases, the CSO raises awareness of its values around confidentiality and the legal guarantee provided by the Statistics Act 1993. It is important that the CSO promotes **trust** in the organisation and clearly communicates the fact that the data it collects or accesses can only be used for statistical purposes and that the identity of an individual or business can never be divulged to another public sector organisation.

P8. The NSB views the uncertainties around data protection and the varying interpretations applied by organisations to the implementation of the **General Data Protection Regulation** (GDPR) as posing a big challenge for official statistics in Ireland and recommends that:

- the CSO provides clear instruction and assurance to public bodies when they are providing information in order to allay data privacy concerns; and
- the CSO and Data Protection Commission should engage on issues impacting on the production of official statistics where appropriate and necessary, particularly in relation to the use of secondary data sources.

Further Actions Building on the Existing Strengths of the Irish Statistical System

Quality and Trust

A1. The NSB stresses the importance of **quality** in maintaining trust in official statistics and recommends that, in accordance with European Statistical Law², the CSO extends its statistical quality role to incorporate all European statistics produced within Ireland, ensuring best practice and support for all producers of these official statistics.

A2. The NSB recommends that the CSO should implement a programme to advance the adoption of the **Irish Statistical System Code of Practice** (ISSCoP) across public sector data, with a particular focus on the largest data holdings and that PSBs producing official statistics should aspire to the ISSCoP with the aim of reaching a stage of compliance which would see their outputs branded with the ISSCoP quality assurance mark.

A3. The NSB supports the CSO's **data stewardship** role in the Irish data ecosystem, particularly in defining and supporting the implementation of data standards and recommends that a clear demarcation of the role of the CSO in providing insight for policy making, as distinct from policy commentary, is maintained.

Users of Statistics

A4. The NSB views the practice of engaging with **users** to keep abreast of evolving needs as an important step in the production of official statistics and recommends that the CSO conducts a user and non-user survey at 3-year intervals in consultation with the NSB.

A5. The NSB views the **research community** as an important user of CSO data and recommends that:

- the CSO's approach should be to maximise access to data for researchers subject to the provisions of the Statistics Act 1993 and GDPR;
- the CSO explores ways to simplify procedures for researchers applying for access; and
- the CSO explores developing partnerships with researchers to broaden the range of insight provided to support the needs of researchers and policy makers.

A6. The production of consistent time series is important for users trying to understand the development of the economy and other key variables over time, and to enable good forecasting models to be built. Longitudinal data which follows the same individuals, households or firms over time, enables one to understand how behaviour adapts to changing policies and circumstances. The NSB recommends that the production of **time series and longitudinal** data should be high priorities in the ISS.

Enhancing CSO Capacity

A7. The NSB stresses the importance of continuing to build the **capacity of staff**, including seconded staff working in the ISS and recommends that:

- the CSO incorporates skills such as data engineering and data science into its recruitment model and statistical training framework where appropriate; and
- the public sector considers increasing its level of investment in the recruitment of people with data analytics and technical skills in order to compete with private sector companies and encourage graduates to consider a career in the public sector.

² Regulation (EU) 2015/759 amending Regulation (EC) 223/2009. Official Journal of European Union, 19.5.2015.

A8. The NSB recognises the importance of the **seconded statisticians** working in government organisations and recommends that:

- the Memorandum of Understanding (MoU), clarifying the role and responsibilities of the seconded statistical staff, the host organisation and the CSO, is implemented in full, particularly in relation to the progression of the NDI and the application of common classifications as well as the provision of methodological and quality management assistance by the CSO; and
- a more collaborative approach is taken between the Irish Government Statistical Service (IGSS) and Irish Government Economic and Evaluation Service (IGEES) staff working in government organisations which sees both groups working in a cohesive manner towards common goals supporting evidence-informed policy making.

A9. In its statutory role of advising on **resources**, the NSB recommends that sufficient resources be made available to the CSO to pursue data collection (whether from administrative data sources, surveys, censuses or a combination) to meet priority national needs. This should include collaboration with agencies such as the Northern Ireland Statistics & Research Agency (NISRA) to support a shared-island approach to official statistics, where appropriate.

A10. The NSB supports a multi-modal method of census data collection in the future, including internet options, to be considered in planning Census 2026 and beyond. In that context, it recommends that the CSO review its **cloud strategy** to consider the role of cloud services in the organisation in the future.

1.

The National Statistics Board



1. The National Statistics Board

1.1 Our Role

The NSB is the body assigned to guide the strategic direction of the CSO which is Ireland's largest producer of official statistics and internationally recognised national statistical office. The NSB was established on a statutory basis under the Statistics Act 1993. The function of the Board in guiding, with the agreement of the Taoiseach, the strategic direction of the CSO includes –

- a) establishing priorities for the compilation and development of official statistics;
- b) assessing the resources of staff, equipment and finance which 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.

The NSB is guided by the UN Fundamental Principles of Official Statistics³ and the Statistics Act 1993 which provides a legal national framework for the fundamental values and principles that govern official statistics in Ireland. In addition, the NSB believes it is essential that the official statistics are produced to the highest quality and in accordance with the principles of the European Statistics Code of Practice (ESCoP).

The Board meets at least five times a year and at each meeting is updated by the Director General of the CSO on relevant developments within the office. The agenda and minutes of each meeting are published on the NSB website⁴ once agreed by the Board.

³ Adopted by the UN Statistical Commission (UN Economic and Social Council, 1994, Report of the Special Session of the Statistical Commission, New York, 11-15 April 1994, E/1994/29)

⁴ <https://www.nsb.ie/meetings/>

1.2 Our Members

The NSB has eight members including the Director General who is an ex officio member. The other members are appointed by the Taoiseach as defined by Section 18 of the Statistics Act 1993⁵.



Anne Vaughan
Chairperson



Eimear Cotter



Eithne Fitzgerald



Gerard Brady



John Martin



John McCarthy



John Shaw



Pádraig Dalton

1.3 NSB Strategy Consultation Process

This strategy was developed by the NSB, with input from a number of government organisations, representative groups, users of official statistics, researchers and CSO groups. Views were sought from people by way of an online survey and direct consultation virtual meetings throughout the latter half of 2020. In total, there were 35 responses to the online survey and 30 consultation meetings took place. The NSB is very grateful for this engagement. A vast amount of information was gathered throughout the consultation process with key themes emerging as the project evolved. Details of these are set out in Appendix 1. The strategy was also informed by current national and international strategies and initiatives⁶.

⁵ <http://www.irishstatutebook.ie/eli/1993/act/21/section/18/enacted/en/html>

⁶ Including: Data Sharing and Governance Act 2019, General Data Protection Regulation (GDPR), Public Service Data Strategy 2019–2023, CSO Statement of Strategy 2020–2023, IGEES Medium Term Strategy 2020–2022, Programme for Government 2020 - Our Shared Future, Civil Service Renewal Plan and Our Public Service 2020, ESGAB Annual Report 2019 and 2020, Various papers from the High-Level Group for the Modernisation of Official Statistics (HLG MOS), Various papers from the UN High-Level Forum on Official Statistics

2.

Official Statistics and the Irish Statistical System

—



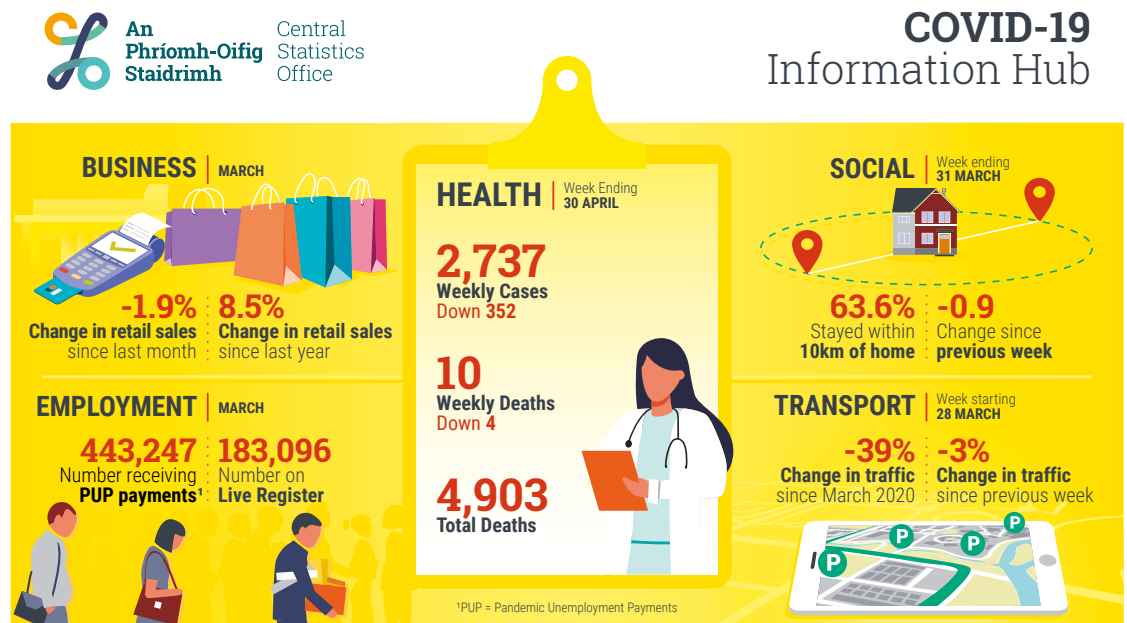
2. Official Statistics and the Irish Statistical System

2.1 The Importance of Official Statistics

Official statistics help to monitor economic and social progress, to facilitate policy planning and to ensure people live in an informed society. To be of value statistics must be produced in an independent and objective manner to ensure public trust. Accurate, relevant and timely data is essential in order to deliver services and inform decision making in both the public and private sector. As well as providing information to the Irish public, statistics and data can be used by researchers in important areas such as health and by the Government to plan for future economic, social and environmental needs, both at local and national level.

Official statistics provide an essential basis for many of the most important policy decisions that are taken in Ireland every year. Without this data we would not be able to plan public investment in schools, hospitals or infrastructure, or monitor the effectiveness of public policy initiatives. The better the information produced by the statistical system, the greater is the potential for effective decision making, long-term planning and accountability.

The need to produce independent, trustworthy high-quality statistical information is being very clearly illustrated during the COVID-19 pandemic which underlines the importance of official statistics to inform the public and assist the Government and bodies such as the National Public Health Emergency Team (NPHE) to make decisions on how best to respond to the pandemic.



Source: CSO, 7 May 2021

2.2 The Irish Statistical System

The ISS currently consists of those parts of the public sector involved in the collection, processing, compilation or dissemination of official statistics.

Central Statistics Office

The CSO is the largest producer of official statistics in Ireland and is the national statistical office whose purpose is to impartially collect, analyse and make available statistics about Ireland's people, society and economy.

At national level, CSO official statistics inform decision making across a range of areas including health, welfare, the environment and the economy. At European level they provide a consistent picture of Ireland's performance and enable comparisons between Ireland and other countries.

In addition, the CSO has a formal coordination role to play across the public service in relation to official statistics, for example through the provision of statistical services. This coordination role is defined in both national and EU legislation.

Other National Authorities (ONAs)

An ONA is the term used to describe the organisations in Ireland, other than the CSO, responsible for the development, production and dissemination of European statistics (See Appendix 2). The CSO has a responsibility for coordinating the official statistics of ONAs and under EU statistical law⁷, the CSO is responsible for ensuring ONAs adhere to quality standards for European statistics as set out in the ESCoP.

Other Compilers of Official Statistics in Ireland

There are other compilers of official statistics in Ireland which are not classified as an ONA e.g. the Revenue Commissioners. The Statistics Act defines official statistics as those which are compiled by the CSO or any other public authority⁸.

Irish Government Statistical Service

The IGSS is the name given to the network of CSO seconded statisticians working in government departments and public sector organisations. These statisticians are centrally supported by the CSO and are ideally placed to promote the value of common data standards and the use of administrative data through their work. With the number of seconded statisticians totalling 34 at the end of Q1 2021, the programme continues to grow and build a more coordinated analytical service.

⁷ 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.

⁸ Defined as Department of State, local authority, health board or other body established by any enactment.

2.3 The Challenges for Official Statistics

As the world around us continuously evolves, so too does the environment for official statistics bringing new challenges and variants of existing ones. Some of these are summarised below:

Growing demand for data

The demand for data and insight continues to grow and has reached new levels as the COVID-19 pandemic evolves. Users require accurate, relevant, timely information and policy makers need this data to facilitate decision making. In order to meet this challenge, producers of official statistics need to look to supplementary sources to meet the growing demand, such as developing the use of administrative data sources and accessing private data sources.

Remaining relevant

Competing in a data saturated world combined with the speed of, and changes to, the news cycle pose a big challenge for official statistics. Producers of official statistics need to strike the correct balance between providing relevant information for all users quickly while at the same time ensuring the value, quality and authenticity of their outputs are protected. Official statistical products, as well as being timely and topical, need to be accessible, digestible and disseminated through a broad range of fora including social media. Statisticians need to look at innovative ways to meet this challenge, speed up the process of production and communicate effectively to all users.

Official statistics as the trusted source

A challenge of the rapidly changing environment for new and more statistics, is the emergence of competition from new producers and communicators of statistics, some of which are not subjected to the quality required and expected of producers of official statistics. As a result, the concept of misinformation has become common. It is more important than ever that the quality, reliability, transparency and independence of official statistics are protected and must be promoted as the trusted source for evidence.

Increased complexity

Societies and economies are undergoing transformations, and this creates demand for new statistical outputs. Official statistics need to respond to these new realities which can be very challenging, as the definitions and measurement of the variables involved can be difficult (e.g. globalisation, wellbeing, climate).

Falling survey response rates

Changing habits relating to how we live and in more recent times the challenges of social distancing are impacting on the number of households available and willing to respond to surveys. The challenge for official statistics is to find alternative sources and methods to complement the traditional survey approach to information gathering, therefore ensuring that the gaps caused by falling response rates can be filled.

Embedding the NDI and developing alternative sources

The 2015 NSB Strategy called for the implementation of a NDI to facilitate the linking of data across the administrative and CSO systems by incorporating unique identifiers for individuals (PPS number), businesses (UBI) and locations (Eircode) in all official data collection and administrative data sets. While progress has been achieved in this regard over the period since 2015, the NDI needs to be further strengthened over the period 2021-2026.

Developing alternative data sources and modernising how data is collected, processed and published is critical in addressing some of the challenges mentioned above. One of the main challenges for official statistics in moving away from traditional data sources is maintaining the credibility and trustworthiness of statistical outputs and ensuring they are conceptually sound and methodologically accurate.

Administrative data, collected by PSBs primarily for administrative purposes, offers a valuable source for providing new statistical analysis and outputs. A coordinated approach to data integration can also lead to cost savings, greater efficiency and a reduction in duplication.

Private data sources, such as scanner and credit card data, offer great potential as an additional source for official statistics. The big challenge is getting access to such data, ensuring adherence to data protection legislation, while at the same time making sure the quality of the data is suitable for statistical purposes.

Data protection and the General Data Protection Regulation

The enactment of the GDPR in 2018 changes the way in which personal data is processed and has created a changed environment for official statistics. Many have seen the introduction of the GDPR as an opportunity as it ensures data collection activities are proportionate, necessary and comply with the principle of data minimisation. However, the changing culture, uncertainties around data protection and the varying interpretations applied by organisations to the implementation of the GDPR pose a challenge for official statistics. There needs to be a shared understanding of the requirements placed on PSBs by the GDPR and in particular an understanding of the exemptions that exist when data is being provided for statistical purposes.

Skills gaps

Data analytics and other technical skills including technology are in short supply, with both the public and private sectors competing for specialists in these areas. The challenge for the producers of official statistics is attracting and retaining suitably skilled staff when many private sector and large multinational organisations offer better salaries alongside other benefits.

These issues are discussed further in Chapter 4.

3.

Key Themes for Official Statistics in Ireland

—



3. Key Themes for Official Statistics in Ireland

The NSB has identified three themes for examination, drawing on the output of the consultation exercise and its own deliberations.

Theme 1:

- Environment and Climate

Theme 2:

- Economy and Business
- Labour Market, Quality of Employment and the Future of Work

Theme 3:

- Wellbeing and Social Cohesion
- Health and Social Care

Theme 1

3.1 Environment and Climate

Tackling climate change is a priority for many countries, including Ireland. It is the view of the NSB that there will be an increased need for additional data and official statistics in this area, particularly in relation to underlying drivers of emissions across all sectors of the economy. Linkage of datasets on emissions, by geographical unit, on areas such as transport patterns, energy use and household energy ratings can inform evidence-based decision making. Although the full scope of user needs is yet to emerge as more detailed climate action develops, data will be needed to underpin the development of carbon budgets, the transition to a low-carbon economy, and tackling fuel poverty. The NSB envisages that greater granularity of data will be required to assist evidence-based policy, assess the distributional impact of measures to tackle climate change, and to inform the public.

Reliable, well defined statistics will be needed by businesses and policy makers to measure production and employment in the green sector of the economy and to gain a better understanding of the impact of 'green jobs' on the labour market and ensure that effective policy measures are formulated to respond to this shift to a greener economy. The Board welcomes recent work by the CSO towards publishing statistics on the environmental goods and services sector.

While good progress has been made in widening the CSO's suite of environmental statistical outputs with the introduction of the EU Environmental Accounting Regulation⁹ in 2014, the CSO will need to collaborate further with bodies such as the Environmental Protection Agency (EPA) and Sustainable Energy Authority of Ireland (SEAI) to broaden the range of official statistics and to increase the level of granularity available, although the challenge will be in identifying or indeed creating the necessary data sources to meet the broad range of data needs. The CSO's role under the Statistics Act in linking data has the potential to widen the level of detail available

⁹ Regulation (EU) No 538/2014 amending Regulation (EU) No 691/2011

in order to meet expanding needs in this sector and adequate resources need to be assigned to develop these additional outputs.

Theme 2

3.2 Economy and Business

Economies and businesses are undergoing transformational changes, adjusting the way people and business are operating both nationally and across borders, thereby creating a demand for new statistical insights. Official statistics need to respond to these new demands which can be challenging, as the definitions and measurement of the variables involved can be difficult (e.g. globalisation) and they can impact on existing statistical indicators, such as GDP, GNP and GNI*.

The global economy is undergoing a digital transformation with the rapid expansion of e-commerce, fintech and innovative new digital technologies. There is a need to reflect better this digital transformation and ever-growing digital economy in economic statistics - as evidenced by the OECD's recent *Roadmap toward a common framework for measuring the digital economy*¹⁰. It is well documented that traditional economic statistics are not geared to measure the digital economy and as international progress is made on how to accurately do so, the NSB considers that the challenge for the CSO will be to effectively capture this information.

There is an increasing focus on productivity statistics both at national and international level and the NSB is of the view that the CSO needs to work closely with users in this area in order to determine their priority data needs. For example, the National Competitiveness and Productivity Council is identifying productivity research questions which will provide more focused information on the most appropriate policy instruments to be used in areas such as upskilling and management training. The concept of divergence between 'frontier' or 'superstar' firms and other firms in the economy has become a growing area of study internationally¹¹. It has been linked to a number of phenomena including productivity divergence, increased mark-ups, competition and wage inequality. The NSB considers that further improvements in data should focus not just on productivity aggregates but on distributions of key indicators of productivity and firm performance.

Measuring changes having an impact on external trade, the international accounts and transport statistics over the coming years needs to be high on the CSO's agenda as it strives to meet the challenges for the collection and interpretation of data brought about by Brexit. The NSB recommends that the CSO ensures that the impact on the data is effectively communicated to users and recommends that collaboration projects with agencies such as NISRA, taking a shared-island view, should be carried out where appropriate.

10 OECD (2020). The roadmap toward a common framework for measuring the digital economy. <http://www.oecd.org/sti/roadmap-toward-a-common-framework-for-measuring-the-digital-economy.pdf>

11 The OECD Review of SME and Entrepreneurship Policy in Ireland identified it as a key finding on the issues facing business policy makers. OECD (2019). SME and Entrepreneurship Policy in Ireland. <https://www.oecd.org/publications/sme-and-entrepreneurship-policy-in-ireland-e726f46d-en.htm>

Trade Statistics data collection post-Brexit

From 1st January 2021 all trade in goods with Great Britain (excluding Northern Ireland) needs to be declared to Revenue's customs declaration systems. This presents a key challenge as the data source for trade in goods with Great Britain moves from the intra-EU Intrastat survey to the administrative customs system.

Under the Revised Protocol on Ireland and Northern Ireland, Northern Ireland will legally remain part of the customs territory of the UK, but will effectively remain within the EU Single Market for the movement of goods only. Data on trade with Northern Ireland will continue to be collected on the Intrastat survey of intra-EU trade in goods.

3.3 Labour Market, Quality of Employment and the Future of Work

A theme of increasing importance relates to issues around the labour market, the quality of employment and the future of work. The NSB welcomes the progress made by the CSO in this area and recommends the continued cooperation with users particularly in relation to the following:

- Hours worked:
The NSB stresses the importance of having up-to-date data on the number of hours worked which is a key input to the measurement of productivity. The NSB considers that the inclusion of hours worked on Revenue's Online Service (ROS) would greatly enrich this data source and enhance the analysis and insight produced. The Board acknowledges that this would require broader consultation with stakeholders including payroll providers.
- Contractual and working conditions:
The NSB welcomes the progress made on agency worker employment estimates by the CSO and considers that more needs to be done to improve coverage on how contractual and working conditions are changing e.g. contract workers, growth in self-employed (especially solo self-employment) and gig workers. The Board recommends the development of linked employee/employer surveys¹² as a framework to assess employee working conditions and to measure how these conditions evolve with organisational changes. Such surveys could also provide valuable data on training and reskilling initiatives at the workplace which are an important component of lifelong learning. They could also provide useful insights on frontier and other firms referenced above.
- The future of work:
The way we work is evolving all the time and changes to the work environment accelerated during the COVID-19 pandemic. The NSB considers that timely data on areas such as remote working and employment ramifications at sector level due to the pandemic will be required to inform the decisions taken by Government, as well as measuring the impact of any structural economic changes following the COVID-19 experience, e.g. increased home production, less commuting and business travel, increased working from home.

¹² Surveys where employees' individual data are linked with information on their employers to measure the impact of changes in working conditions, tasks and occupational status and career trajectories.

Theme 3

3.4 Wellbeing and Social Cohesion

The NSB, in its 2015 strategy, highlighted the growing importance of social statistics in measuring the progress of society and made specific recommendations around developing the measurement of wellbeing. Since then there has been good progress in placing social statistics and wellbeing indicators on the international statistical agenda and the Board considers that measuring national wellbeing should remain a priority in the CSO's future work programme.

All public bodies in Ireland have a responsibility to promote equality, prevent discrimination and protect the human rights of their employees, customers, service users and those affected by their policies and plans. The European Commission has advised that member states conduct an audit of their equality statistics and create an Equality Data Hub as a resource¹³.

The NSB considers that the CSO, which has already been proactive in this area¹⁴, is well placed to host such a hub.

It is important that official statistics enable analysis of the degree to which different subgroups of the population experience social inclusion or otherwise, be that in employment, educational outcomes, income, health or other measures of wellbeing and social participation, and that progress over time can be monitored. For example, as Ireland is a multi-ethnic society, it is important to monitor measures of social integration and exclusion across lines of ethnicity and nationality, and to facilitate linkages between such data on measures like education, poverty, health, housing status, geographical location and concentration, perceptions of discrimination, and experiences of the criminal justice system.

In ratifying the UN Convention on the Rights of Persons with Disabilities¹⁵, Ireland is committed to the development of statistical information to enable identification of issues for people with disabilities, monitoring progress being made under the Convention and presenting this information to people with disabilities in ways that are accessible to them. The NSB recommends that the 2022 census definition of disability be incorporated, as far as practicable, into all survey data collection, and disabled/non-disabled analyses of relevant statistics be made readily available.

On some of the equality grounds set out in legislation, it can be more sensitive or difficult to gather data. The NSB would welcome a study to identify best-practice on how to ask about sexual orientation and gender identity in surveys/censuses, as recommended in the LGBTI+ youth strategy¹⁶.

13 Guidelines on Improving the Collection and Use of Equality Data, Equality Sub-Group, High Level Group on Non-Discrimination, Equality and Diversity, European Commission, DG Justice and Consumers, Brussels, 2018.

14 <https://www.cso.ie/en/methods/methodologicalresearch/rp-eda/equalitydataaudit2020/>

15 <https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities/convention-on-the-rights-of-persons-with-disabilities-2.html>

16 LGBTI+ National Youth Strategy 2018-2020, Action 15

3.5 Health and Social Care

Health and social care are vital to individual wellbeing. The health service is one of the largest areas of public expenditure. It is a complex environment which involves a mixture of providers (public, voluntary and private); public and private care; and primary care, acute hospital, rehabilitation and long-term care provision. It encompasses physical and mental health, and social care. A strong approach to data collection, analysis and management will underpin the delivery of our health and social care services¹⁷.

While significant progress has been made through developments like the production of a system of national health accounts, legislation for a single health identifier and the production of an integrated data hub to monitor the COVID-19 pandemic, there remain significant gaps in the data infrastructure, and a formal data strategy for the health area has not yet been adopted.

Among data gaps which are important for policy and planning are:

- a lack of comprehensive information on activity and outcomes in the private sector¹⁸ (including prescribing information) and from primary care, particularly General Practice;
- while information is available on hospital episodes through the Hospital In-Patient Enquiry (HIPE) Scheme, the lack of widespread adoption of the Individual Health Identifier makes it impossible to link events across different sectors of healthcare, e.g. linking hospital events with events in the primary care sector; and
- a lack of workforce data such as staffing in Section 39 organisations¹⁹ and in the private sector, and the number of people qualified and working (full-time equivalents) in different therapy specialities.

Since the establishment of the Health Service Executive (HSE) in 2004, there have been several realignments of geographical units. Currently there are nine Community Health Organisation (CHO) units for delivery of community and social care, alongside hospital groups with different geographical alignments. It is planned to rationalise these into six Regional Health Areas. It is important that health service delivery structures are themselves organised in a way that can utilise the wider national statistical infrastructure such as the Census of Population and other sources of information that is vital to health planning and health service delivery. The NSB notes the decision to ensure geographical alignment which supports population-based planning.

The NSB acknowledges the innovation used to inform the COVID-19 pandemic and the critical role the CSO is playing in bringing data together by providing a safe and legal infrastructure under the Statistics Act 1993 which allows for the linking of health data files in support of the epidemiological modelling group. The Board recommends that the CSO, in consultation with all relevant stakeholders, explores how the CSO can build on the experiences gained during the pandemic. In particular, this assessment should focus on the potential for the CSO to broaden the range of outputs, products and services it can provide across the broader health domain e.g. health care, health status, health determinants and more timely vital events data. It is important that the CSO continues to play a central part to enable further the effective use of health data in the future and the Board recommends that adequate resources should be allocated to facilitate this.

The Board also recommends that the Health Data Strategy (encompassing social care) be finalised by mid-2022, that an implementation plan to deliver on that strategy with timelines and responsibilities be developed; that an annual report be produced jointly by the Department of Health and the CSO on progress in delivering on that strategy; and that the strategy be reviewed and updated in 2027.

¹⁷ Sláintecare Implementation Strategy
<https://assets.gov.ie/9914/3b6c2faf7ba34bb1a0e854cfa3f9b5ea.pdf>

¹⁸ 43% of the population hold private health insurance.

¹⁹ Section 39 organisations relates to Non-Acute/Community Agencies being provided with funding under Section 39 of the Health Act, 2004.

The COVID-19 Data Hub

The COVID-19 data hub which was established in March 2020 to support statistical collaboration between the CSO and organisations involved in the Irish Epidemiological Modelling Advisory Group (IEMAG) of NPHE, is now available to health researchers from academic institutions to facilitate statistical analysis in the area of COVID-19.

The lack of a comprehensive infrastructure for secure data access, storage, sharing and linkage of routinely collected health, social care and related data has been a challenge for health research to date causing policy-relevant studies to be abandoned or inordinately delayed. The Health Research Board publication in May 2016 voiced these difficulties for health research and proposed the DASSL (data access, storage, sharing and linkage) model.

The COVID-19 data hub is seen as a demonstrator of the DASSL concept and while it is restricted to research and data related to COVID-19, the principles, processes and safeguards that have been put in place should be viewed in the context of permitting the sharing, accessing and linking of a broader set of health and social care data, as is commonplace in most European countries.

Conclusions and Recommendations

The key conclusions of this chapter relate to monitoring the transformations taking place in the environment, society and the economy. The CSO needs to ensure that it is in line and ideally ahead of users' requirements in order to assist policy makers and inform the public generally. Important areas of action for the CSO, working with public sector agencies, are to:

Theme 1:

- Link datasets and provide a greater level of granularity in the environmental area;

Theme 2:

- Respond to transformations in the economy and the way business is changing to capture effectively a true picture of what is happening;
- Reflect and monitor the changes in the operation of the labour market and quality of employment;

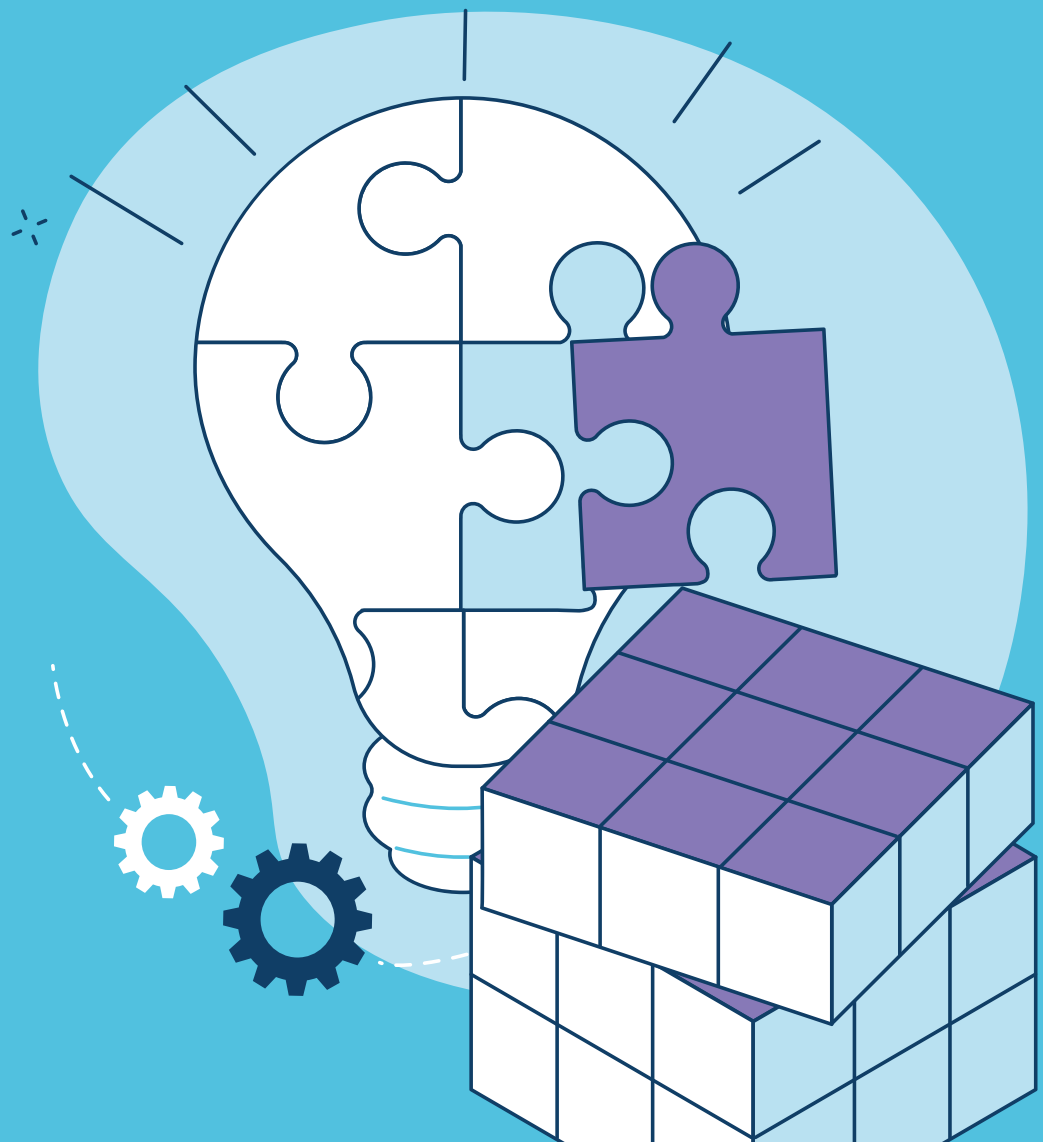
Theme 3:

- Provide data to monitor trends in wellbeing and social cohesion; and
- Broaden the range of outputs, products and services it can provide across the broader health domain. In this context, the Department of Health should develop a comprehensive infrastructure for health and related data.

4.

Addressing the Challenges

—



4. Addressing the Challenges

In this chapter the NSB considers the challenges which were set out in Chapter 2 and recommends actions to address these. These challenges relate to:

- **Data Governance**
- **Data Sources**
- **User Requirements**
- **Quality of Data**
- **Expertise**
- **Data Stewardship**

4.1 Data Governance

4.1.1 Data Confidentiality and Data Privacy

Confidentiality²⁰ is a core value of the CSO and forms the basis of the functioning of the office. When supplying information to the CSO, an individual is guaranteed that the information provided will be protected at every stage of the statistical process as the legal guarantee of confidentiality is a key foundation stone for official statistics under the Statistics Act 1993.

“We apply the highest standards of confidentiality and respect for data privacy. We comply with the terms of the Statistics Act, 1993 and the GDPR and we legally guarantee to only ever use data provided to us for statistical purposes”

CSO Statement of Strategy 2020-2023

In contrast, when disclosing personal information to private sector companies, individuals may see little choice as they ‘opt-in’ to allowing the use of their data; in a lot of cases this ‘opt-in’ approach is unavoidable in order to avail of an app or service and perhaps people see a trade-off in the service they receive in allowing the use of their data. The confidentiality of data collected by the CSO for statistical purposes and privacy of data provided to private sector companies are not the same thing; confidentiality is not an ‘opt-in’ condition for data provided to the CSO, it is guaranteed by law.

The Board believes that this absolute commitment to confidentiality 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 privacy debate about the appropriate use of administrative and private data sources 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. 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 private data sources is an invasion of privacy, even if used exclusively for statistical purposes in line with statistical and data protection legislation.

The NSB considers the challenge for the CSO is how to highlight the benefits of increasing the use of alternative data sources, such as administrative data and privately held data, for statistical purposes while reassuring the public that the highest standards of confidentiality still apply and remain guaranteed under law.

²⁰ Principle 6 of the UN Fundamental Principles of Official Statistics states ‘Individual data collected by statistical agencies for statistical compilation, whether they refer to natural or legal persons, are to be strictly confidential and used for statistical purposes only’.

Conclusions and recommendations:

The NSB recognises data confidentiality as one of the most important values of the CSO and recommends that, as the need to move further towards alternative data sources for the production of official statistics increases, the CSO raises awareness of its values around confidentiality and the legal guarantee provided by the Statistics Act 1993. It is important that the CSO promotes trust in the organisation and clearly communicates the fact that the data it collects or accesses can only be used for statistical purposes and that the identity of an individual or business can never be divulged to another public sector organisation.

4.1.2 Statistics and the GDPR

The enactment of the GDPR in 2018 changed the way in which personal data is processed and has created a different environment for official statistics. Data collection activities, as well as having a legal basis, now need to be proportionate, necessary and comply with the principle of data minimisation. This in effect means that the CSO needs to ensure that the data it obtains is necessary and proportionate, having regard to the statistical aggregates which need to be produced. The GDPR recognises the use of data for statistical purposes²¹ where appropriate safeguards are in place. It includes specific provisions relating to statistics, allowing the further processing and retention of data for statistical purposes, where the data was originally obtained for another purpose. This applies, for example, to the use of administrative data to compile official statistics.

The NSB has identified, throughout its consultation to inform this strategy, a far greater need for clarification around how the GDPR applies to official statistics including gaining access to administrative data and the linking of such data. The changing culture and uncertainties around data protection, if left unchecked, appears to be one of the biggest challenges emerging for official statistics in Ireland and the Board views this challenge as potentially having quite a negative impact on the value added by the CSO and the ISS in providing insights for users into the economy and society. As the need for data sharing across government organisations increases, the NSB considers that full clarity around the application of the GDPR and ensuring this is not left open to varying interpretations is of critical importance.

The NSB recognises that some of this clarity will have to come about at EU level but considers that more needs to be done at the national level to clarify how the GDPR and data protection legislation interact with the Statistics Act 1993. The Board considers that it is the role of the CSO to provide clear instruction and assurance to public bodies when they are providing information to the CSO²² in order to allay data privacy concerns. In addition, the NSB recommends that the CSO and Data Protection Commission should engage on issues impacting on the production of official statistics where appropriate and necessary, particularly in relation to the use of secondary data sources.

21 Recital 163, Article 5 and Article 89; and derogations from articles 15, 16, 17, 18, 19, 20 and 21 when data is being used for statistical purposes.

22 <https://www.cso.ie/en/aboutus/lgdp/csodatapolicies/informationfordataproviders/>

Conclusions and recommendations:

The NSB views the uncertainties around data protection and the varying interpretations applied by organisations to the implementation of the GDPR as posing a big challenge for official statistics in Ireland and recommends that:

- the CSO provides clear instruction and assurance to public bodies when they are providing information in order to allay data privacy concerns; and
- the CSO and Data Protection Commission should engage on issues impacting on the production of official statistics where appropriate and necessary, particularly in relation to the use of secondary data sources.

4.2 Data Sources

4.2.1 Demand for Data

The CSO estimates that about 60% of its statistical outputs are prescribed under the requirements of the European Statistical System (ESS). While most of these outputs also meet national requirements for data, the resources involved to meet EU requirements may limit the scope to develop new statistical products or add questions to existing surveys to meet national user needs. In its statutory role of advising on resources, the NSB recommends that sufficient resources be made available to the CSO to pursue data collection (whether from administrative data sources, surveys, censuses or a combination) to meet priority national needs. This should include collaboration with agencies such as NISRA to support a shared-island approach to official statistics, where appropriate.

Conclusions and recommendations:

In its statutory role of advising on resources, the NSB recommends that sufficient resources be made available to the CSO to pursue data collection (whether from administrative data sources, surveys, censuses or a combination) to meet priority national needs. This should include collaboration with agencies such as NISRA to support a shared-island approach to official statistics, where appropriate.

4.2.2 Population and Census Taking

Internationally, the traditional approach to census enumeration is going through a process of change with pressure on statistical offices to meet demands for more timely data, reduce costs and address difficulties around falling response rates. To respond to these pressures there is an increase in the use of administrative and other data. In this regard, the Board supports the CSO's planned pilot of an administrative census in 2021 and the production of initial experimental estimates of the population in 2021 and looks forward to the lessons learnt using this new approach.

The census is a key tool for economic, social and spatial planning. It is also of general interest to the public. It provides a level of geographical detail and information on population attributes involving relatively small numbers of individuals that would not otherwise be collected reliably. The Board considers that, while the census will remain a cornerstone of the CSO's data collection in the medium term, it is possible that a mixed approach using administrative data backed up by a large household survey could provide equally reliable data on a timelier basis and at less cost. This approach should be explored by the CSO in consultation with the NSB.

The CSO needs to consider its operational approach to future censuses looking towards 2026 and beyond. The NSB supports a multi-modal method of census data collection in the future, including internet options and, by implication, recommends that the CSO reflects on its cloud strategy to consider the role of cloud services in the organisation in the future.

The NSB intends to hold a seminar in the second half of 2021 on the future of census taking in Ireland.

Conclusions and recommendations:

The CSO needs to consider its operational approach to future censuses looking towards Census 2026 and beyond. The NSB supports a multi-modal method of census data collection in the future, including internet options and, by implication, recommends that the CSO reflects on its cloud strategy to consider the role of cloud services in the organisation in the future.

4.2.3 Secondary Data Sources – Administrative Data

The challenges set out in Chapter 2 have highlighted the importance of incorporating the use of secondary data sources²³ into the production of official statistics but care needs to be taken for these sources to be effectively blended with census and survey data.

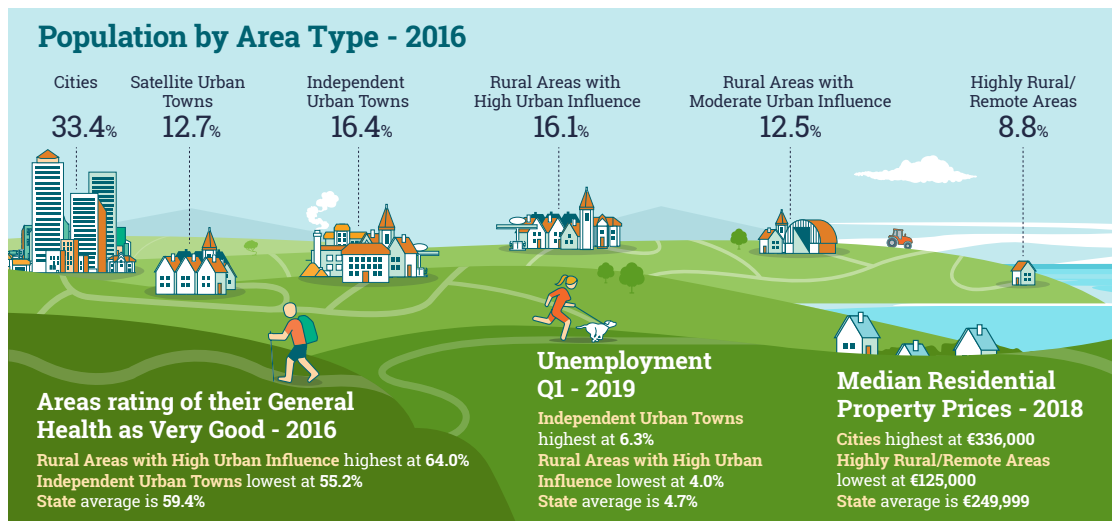
The innovative use of administrative data by the CSO to meet the additional data needs throughout the COVID-19 pandemic has highlighted the real potential in linking these data sources in order to provide up-to-date, timely outputs to meet the needs of policy makers and inform the public. The Board considers this innovation will be a key feature of the ISS in the future and to support this, the administrative data of government organisations should be suitably structured to ensure the data is fit for use in a timely and efficient manner. The following needs to happen:

- The NDI needs to be developed further to improve the coverage of unique identifiers, particularly the Eircode, on administrative data files. This will facilitate the effective linking of data providing the required level of detail, including geographic granularity and insight.
- The CSO has a key role in driving and facilitating the roll-out of common data standards and classifications on administrative data across government organisations. Data collection by government and funded organisations is often a by-product of a system designed to deliver a service and this has led to siloed IT systems with disconnected datasets which cannot be used effectively for comparing and merging data. The NSB considers that PSBs should work with the CSO on practical steps to enhance the value of their data for statistical purposes and progress the required changes to their systems to achieve that. Better data can improve both internal decision making in these bodies and meet the needs of wider public policy requirements.

A good example of the advantage of incorporating administrative data with data collected for statistical purposes, is the CSO's publication on *Urban and Rural Life in Ireland 2019*²⁴ which examines social and economic characteristics of life in Ireland using a mix of CSO data and administrative data sources from Revenue, Department of Social Protection, HSE, Residential Tenancies Board (RTB) and Student Universal Support Ireland (SUSI). The report examines themes such as income, housing, health, education and commuting patterns using an urban/rural classification.

²³ Secondary data is information that has been collected for a purpose other than the generation of official statistics, an example being administrative or private 'big' data holdings. Primary data, by contrast, is information collected specifically for the purpose of official statistics, usually by way of survey.

²⁴ <https://www.cso.ie/en/releasesandpublications/ep/p-uri/urbanandrurallifeinireland2019/>



Source: CSO Urban and Rural Life in Ireland 2019

Conclusions and recommendations:

The NSB believes the use of administrative data sources is critical in meeting the challenges facing official statistics in the future and recommends that:

- the CSO develops standards, rules and guidelines to govern the classification, storage and management of data across government organisations; and drives the roll-out of common data classifications and standards with particular focus on strategic areas of policy and expenditure such as health, education and social protection; and
- the administrative data of government organisations should be suitably structured to ensure the data is fit for use for statistical purposes by their organisation and the broader ISS in a timely and efficient manner. These organisations should commit to the practical enhancement of the value of their data and work with the CSO to implement actions to drive the changes needed to design or adapt their systems.

4.2.4 Secondary Data Sources - Big Data

While there are many definitions of ‘big data’, often taking the ‘three Vs’ of volume, variety, and velocity as their starting point, from an ISS perspective any data sources which challenge traditional statistical processing environments are considered big data²⁵. In 2017 the CSO established a Big Data Development Unit which it plans to expand as it identifies and captures the value from big data.

The NSB views these data sources as having a valuable role in the compilation of official statistics in the future and recommends that the CSO harnesses the opportunities created by the expanding volume of these data sources e.g. scanner data²⁶, artificial intelligence and machine learning, and web scraping. This data could facilitate the timely production of innovative, relevant statistical products and increase capacity to provide new insights. It could also be a key step in the CSO’s

²⁵ ‘Undefined By Data: A Survey of Big Data Definitions’, Jonathan Stuart Ward and Adam Barker, School of Computer Science, University of St Andrews, UK <https://arxiv.org/pdf/1309.5821.pdf>
<https://statswiki.unece.org/display/bigdata/Big+Data+in+Official+Statistics>

²⁶ Retail point-of-sale barcode transactions data which automatically records the quantity sold and the price paid for each item is known as “scanner data”. This data has been used for the production of the Consumer Price Index (CPI) in many European countries and is a good example of the shift from collecting information using a traditional field force approach towards using alternative sources (primarily scanner data and in some cases web-scraped data).

effort to remain relevant in an environment of ever-growing data sources.

There have been many examples of statistical projects based on big data sources e.g. the Department of Finance publishes *Emerging economic developments – real-time economic domestic indicators* compiled using real-time data supplied to the Department from Revolut and LinkedIn; the OECD published a paper in 2020 using a model to nowcast weekly GDP growth based on Google Trends²⁷. The CSO uses Transport Infrastructure Ireland traffic sensor data and Port Authorities data to produce statistical indicators on road and port traffic. As a response to COVID-19, the Central Bank of Ireland began collecting and publishing daily Credit & Debit Card Statistics, supplementing their existing monthly data. This high-frequency transactions data is an early indicator for household consumption and economic activity.

The CSO's *Frontier Series* outputs, compiled using new methods which are under development and/or use incomplete data sources, allow the CSO to provide useful new information to users and get informed feedback on these new methods and outputs whilst at the same time making sure that the limitations are well explained and understood. One of the more recent in the series was the report on mobility during COVID-19 which used anonymised and aggregated Three Ireland Mobile users' data.

CSO COVID-19 Frontier Insight Series: Mobility During the Pandemic

Using anonymised and aggregated Three Ireland Mobile users' data provided to the Department of Health and limited to informing the COVID-19 pandemic only, the CSO's Staying Local Indicator provides daily estimates for the percentages of county populations that have stayed within 10km of their home, averaged over the preceding seven days.

The CSO receives and manages this data on behalf of the Department of Health. Only aggregate data is provided by Three Ireland and at no time do either the Department of Health or the CSO have access to personal data or individuals' movements. The outputs from this analysis provide important insights for decision makers and the public in the midst of a global pandemic.

Access to private data sources can be difficult and the NSB recommends that the CSO engages with private sector big data providers to gain access to this data, and in ongoing dialogue with the Data Protection Commission to address data protection concerns, where necessary. The Board also recommends that the CSO continues its efforts at a European level with regard to access to privately held data for statistical purposes. The CSO must also provide clarity to the public when using such data sources on how the data is used and protected by the confidentiality guaranteed under the Statistics Act. In addition, from a data quality perspective, it is important to make clear that, as is the case for all data not collected for the specific purpose of official statistics, these data sources may need to be reviewed with appropriate statistical techniques and methodologies applied to ensure that they are fit for statistical use purposes.

Conclusions and recommendations:

The NSB views privately held 'Big' data sources as having a valuable role in the compilation of official statistics in the future and recommends that the CSO:

- invests further in the expansion of its Big Data Development Unit to establish the value added for official statistics;
- engages with big data providers to gain access to private data sources for statistical purposes; and
- engages in ongoing dialogue with the Data Protection Commission to address data protection concerns, where necessary.

27 (Woloszko 2020) Tracking GDP using Google Trends and machine learning: A new OECD model

4.2.5 Further Embedding the National Data Infrastructure

The NSB recognises the importance of the CSO’s pathfinder projects which are policy-relevant research projects that bring together data from CSO and administrative sources. As well as adding insight in particular areas, they also demonstrate the value of using the NDI to link different data sources. The NSB recommends that the CSO, PSBs and other stakeholders continue to identify useful research projects that harness linked data sets, and that deepen an appreciation of enabling such data linkages.

Pathfinder Projects

The first pathfinder project, focussing on third-level education outcomes in partnership with the Higher Education Authority, was published in 2018 and since then the NDI has facilitated policy-relevant research in areas including post-primary education; geographic profiling of income; urban and rural life in Ireland and many others.

The most recent pathfinder project, made possible by the NDI, is the work undertaken by the CSO in response to the COVID-19 pandemic. The amalgamation by the CSO of new and existing health data sources using common identifiers facilitated the development of a COVID-19 Data Research Hub. The Hub enables specialised experts such as epidemiology and related subject matter experts to collaborate with CSO teams in analysing sensitive health data sources in a safe environment. This work helps to inform the response to the pandemic and support the data needs of NPHET.

Another key element of the NDI is the development of a UBI which will facilitate the efficient linking of business data across PSBs when permitted by legislation. When implemented by Revenue, the UBI will be an administrative number linking to a company’s existing Prem registration, Value Added Tax or Companies Registration Office number. The Board would welcome the completion and roll-out of phase one of the UBI project by end-2021.

Good progress has been made on the collection of the Personal Public Service Number (PPSN) on public sector data holdings, but the same progress has not been seen in relation to the Eircode. As a result, the functionality of the NDI, most notably the geographic detail, has been significantly limited due to the absence of an Eircode for the full population. The Board considers that a stronger commitment from PSBs is required to improve the Eircode coverage on public data holdings.

In addition to the leadership required at the highest level in public organisations, the NSB sees the role of the NDI Champions in each government department as key to the further development of the NDI. Along with the seconded statistical staff, the NDI champions are well placed to drive the initiatives required to successfully implement the NDI by promoting the value of unique identifiers and common classifications on data holdings. It calls on the champions to explore the opportunities to improve coverage of the PPSN and Eircode in administrative systems and processes. In addition, the NDI champions group has a strategic role to play in the identification of pathfinder projects to support policy making and the promotion of an active system-wide engagement on issues relating to data sharing and analysis.

Conclusions and recommendations:

The NSB views the NDI champions as well placed to drive the initiatives required to successfully implement the NDI by promoting the value of unique identifiers and common classifications on data holdings. It calls on the champions to explore the opportunities to improve coverage of these identifiers on administrative systems and processes.

The NSB welcomes the development of the UBI by the Revenue Commissioners and recommends the completion and roll-out of phase one of the UBI project by end-2021.

The NSB recognises the importance of the CSO’s pathfinder projects for the development of the NDI and recommends that the CSO, PSBs and other stakeholders continue to identify useful research projects that harness linked data sets, and that deepen an appreciation of enabling such data linkages.

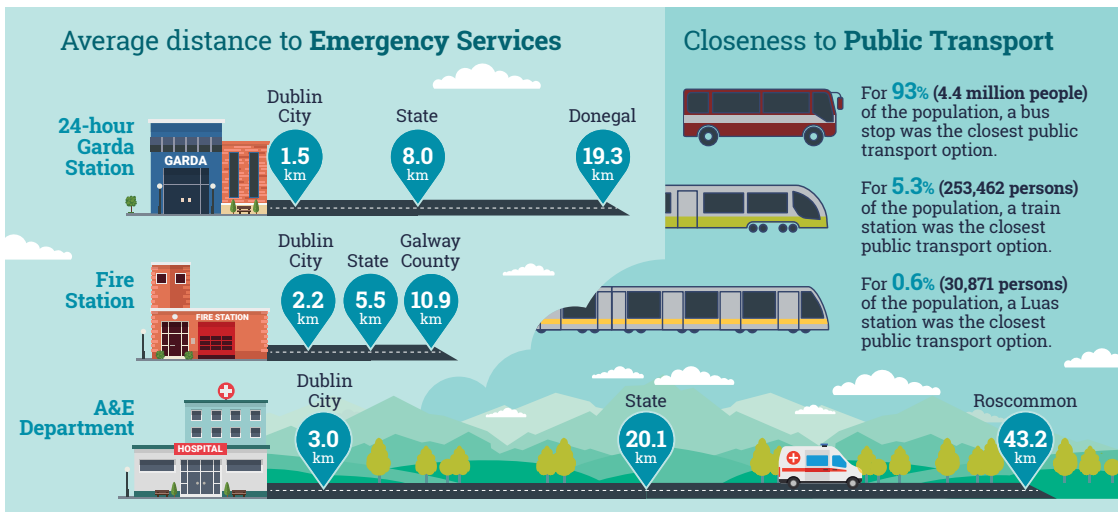
4.2.6 Advancing the Collection of the Eircode on Public Sector Data Holdings

One of the most regular requests the CSO receives from policy makers, researchers and the wider public is to produce statistics at various levels of geography e.g. county, electoral division. The ability to meet these demands depends very much on the extent to which administrative systems organise and capture their data and the NSB considers that the collection and inclusion of the Eircode on public sector data holdings would greatly facilitate the provision of official statistics broken down by area or region. Recording the Eircode assigns a unique location identifier to each household or business address and, as over 35% of addresses in Ireland are non-unique, collecting the Eircode enables the accurate identification of the location of these addresses.

An example of what the Eircode enables is the CSO’s publication ‘*Measuring distance to everyday services in Ireland*’, which analyses how close or far away people in Ireland live from everyday facilities (such as schools, hospitals, public transport and post offices) and provides insights on the differences in service accessibility at regional and local level.



Distance to everyday services in Ireland 2019

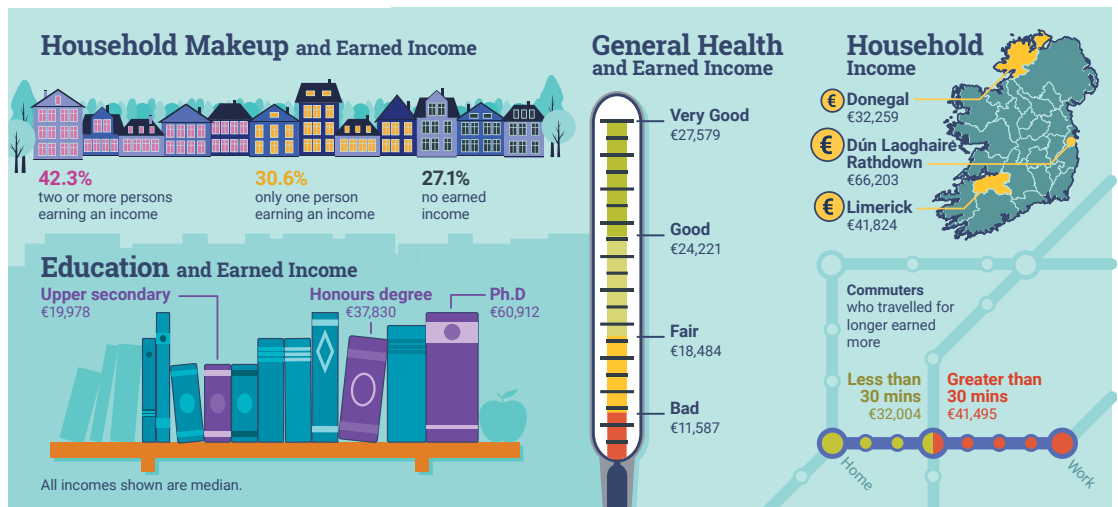


Source: CSO

Another example is the CSO’s publication ‘Geographic Profiles of Income in Ireland 2016’, which examines income in Ireland by county and by Electoral Division across the areas of housing, health, education, occupation and commuting.



Geographical Profiles of Income in Ireland 2016



Source: CSO

The Eircode, if widely collected in administrative systems, also offers the possibility of organising individual data into households which is crucial for supporting future censuses. It would also facilitate government departments to publish and analyse administrative data on a household basis in future instead of administrative concepts such as dependency or sole/joint assessment.

In addition, the inclusion of the Eircode on the COVID-19 Vaccination Information System will facilitate the analysis of COVID-19 vaccination levels on a geographic basis.

Since it was first introduced in Ireland in 2015, public awareness and use of the Eircode has grown significantly. This is mainly due to the combination of Eircode usability campaigns run by DECC and the increasing use of the Eircode by commercial businesses, particularly in the courier and deliveries sector. The Board feels that more needs to be done by PSBs to mirror the progress seen in the private sector. Some PSBs have made considerable progress in the collection of the Eircode when interacting with customers, among the most notable is the online passport application system which has a 90% success rate and the Department of Social Protection Pandemic Unemployment Payment (PUP) application system which has 95% of online applicants providing an Eircode. The success of both systems can be attributed to applying a simple ‘just ask’ approach.

The NSB acknowledges that challenges exist, the most prominent of these being the legacy ICT systems in some government organisations which cannot be easily adapted to facilitate the collection of the Eircode as a standalone variable. Notwithstanding this, the Board considers that improving the collection of the Eircode is critically important for the provision of geographical insight and recommends that:

- PSBs prioritise the necessary adaptations to their ICT systems to facilitate the collection of the Eircode when interacting with customers;
- facilitating the collection of the Eircode on ICT systems which are being developed (or upgraded) becomes a required standard for ICT systems procurement, in line with existing Office of the Government Chief Information Officer (OGCIO) requirements²⁸; and

28 OGCIO issued Circular 19/2017 requires that ICT systems, being developed or upgraded, include Eircodes in the address field.

- it becomes mandatory for a PSB to adopt a 'just ask' approach when interacting with customers and request an Eircode as part of an address (where an address is required and in line with the GDPR) and, to facilitate this, PSBs should incorporate an Eircode API to obtain and validate the Eircode when dealing with customers.

Given the importance of the Eircode in providing valuable regional insight for public policy, the NSB recommends that the frequency of assigning Eircodes, along with the release of the Eircode database to licenced users, moves from a quarterly to a monthly cycle. The DECC should explore the feasibility of treating the Eircode as a public good, making it freely available to all users and therefore simplifying the process of its adoption for PSBs. The Board strongly supports this approach while recognising that there is a financial impact which needs to be considered.

The NDI Champions Group leads the development of the NDI which includes promoting initiatives developed to assist with Eircode encoding on public sector data holdings – the Ordnance Survey Ireland (OSi) shared-service Eircode API and the Office of Government Procurement (OGP) Eircode Encoding Framework (see Appendix 3). The NSB recommends that a sub-group within the NDI Champions group is established to drive the adoption of the Eircode on public sector data holdings and that this group is chaired by an Assistant Secretary from a large data-holding government department.

Conclusions and recommendations:

The NSB strongly supports the inclusion of the Eircode identifier on public sector data holdings and sees this as a critical part of progressing the NDI and providing the required level of geographic breakdown sought by many users of official statistics. In order to improve the collection and integration of the Eircode by PSBs, the NSB recommends that:

- it becomes mandatory for a PSB to adopt a 'just ask' approach when interacting with customers and request an Eircode as part of an address (where an address is required and in line with GDPR) and to facilitate this, PSBs should incorporate an Eircode API to obtain and validate the Eircode when dealing with customers.
- Eircode integration becomes a mandatory requirement for all ICT systems procurement;
- the frequency of Eircode assignment, dissemination and release of the Eircode database to licenced users is increased from a quarterly to a monthly cycle;
- the DECC explores the feasibility of treating the Eircode as a public good, making it freely available to all users; and
- a sub-group of the NDI Champions Group is established to drive the adoption of the Eircode on public sector data holdings and that this group is chaired by an Assistant Secretary from a large data-holding government department.

4.3 User Requirements

4.3.1 Communications

"Statistics is the powerful tool that guides us when we do not have complete knowledge"
Carlo Rovelli, The Guardian, Oct 2020

It seems more important than ever for the CSO to strive to meet the changing demands of users and in doing so, compete for users' attention among the ever-growing availability of information and in some cases, misinformation. In today's fast-moving and technologically advanced world where information is readily available at the touch of a screen, the value of official statistics may become less apparent to some users. The challenge for the CSO is to remain relevant and distinct in the face of competing sources of information.

In its 2019 annual report, the European Statistical Governance Advisory Board (ESGAB) recommended that national statistical offices design appropriate actions of communication and outreach to citizens to highlight the trustworthiness of official statistics in view of the increasing risks of third-party dissemination of non-validated or ‘fake’ information. In 2020, the same board recommended that the ESS develops a coordinated approach to retain and strengthen trust in official statistics²⁹. The NSB considers that the CSO must strive to make users aware of the advantages that official statistics have over other sources of information and recommends that it develops a communications strategy around official statistics for Ireland. The quality, reliability and independence of the CSO in producing official statistics to inform society are huge assets to be protected and how these qualities transform into a trusted source for statistical information should be highlighted to all.

In addition, the NSB considers that the CSO must rely heavily on its use of social media platforms to remain relevant to its users and the effective communication of its products should be a high priority. The Board welcomes the considerable efforts the CSO has made through active dissemination of its statistics, user-friendly infographics, and innovations like the COVID-19 Data Hub, to provide reliable statistical information to the public at large, and inform citizens of key developments in our society, economy and environment. The development of alternative measures of national output like GNI* provides users with a better indication of what is really happening in our globalised economy than the standard international measure, GDP. The NSB recommends that the CSO, in presenting the National Accounts, should continue to highlight the trends in the aggregates that best measure activity in the real economy in Ireland.

The NSB considers that the CSO should progress further its citizen-focused outputs, informing the public of the experience of different groups throughout the population across social, economic and cultural areas. These statistical products should be accessible for all users using interactive tools and improved dissemination and communication channels, including the CSO website; capturing users’ attention with information which they feel is more relevant to everyday life. The CSO should build on the success of themed products such as *Urban and Rural Life in Ireland* and the well-received increased use of infographics; and develop further a ‘narrating Ireland’ approach to its more general statistical outputs.

Conclusions and recommendations:

In today’s fast-moving and technologically advanced world, where information is readily available at the touch of a screen, the NSB recommends that the CSO takes action to communicate to users the advantages that official statistics have over other sources of information. The CSO must continue to promote itself as the trusted source of statistical data for all.

The NSB welcomes the progress to date by the CSO in developing a more citizen-focused approach to its outputs and recommends that the CSO continues to invest in this area; therefore, making statistics more meaningful and accessible for many users and the public generally.

4.3.2 Real-time and ‘Flash’ Estimates

To date, the CSO has not engaged in the practice of compiling real-time data or so-called “flash” estimates³⁰. Nor has it engaged generally in the publication of statistics based on nowcast or forecast models. However, the changing demands of users and the increasing availability of information discussed in the last section, has opened up a debate on the role of CSO in this area. Some users feel that it is vital for the CSO to compete in this space in order to remain relevant

29 2020/4. ESGAB recommends that the ESS develop a coordinated approach to retain and strengthen trust in official statistics, at the national and EU levels, by implementing a transparent and proactive approach to communication with all types of users, on both methodological and emerging issues. In this regard, a survey on the public’s trust in official statistics should be launched, using Eurobarometer, as done in the past.

30 A flash estimate is an early estimate for a variable of interest over the most recent reference period and is normally calculated on the basis of a statistical or econometric model.

whereas others consider that the CSO must focus on the values which make it the trusted source of official statistics in Ireland.

On balance, the NSB considers that there is a need for more timely estimates for key macro-economic aggregates such as GDP and GNI and, in order to compete and remain relevant in a world of extensive sources of information, the CSO should explore the production of such estimates. The Board recommends that this should be done in consultation with users and only where relevant and appropriate to the data series. It does not recommend that the CSO engages in the publication of forecast statistics and is of the view that any attempt to move to a more expedient product should be clearly identified as such and accompanied by explanatory notes on how these estimates should be interpreted.

Conclusions and recommendations:

The NSB recognises the demand for new CSO products and services such as real-time and so-called 'flash' estimates and recommends that the CSO explores the production of such estimates, in consultation with users, and only where relevant and appropriate to the data series.

4.3.3 Providing Time Series and Longitudinal Data

The production of consistent time series is important for users trying to understand the development of the economy and other key variables over time, and to enable good forecasting models to be built. At the same time, longitudinal data which follows specific individuals over time provides extremely valuable insights for policy.

The CSO is taking over the operation of the Growing Up in Ireland (GUI) survey from the ESRI. This, and other longitudinal surveys like The Irish Longitudinal Study on Ageing (TILDA) and the Intellectual Disability Supplement to the Irish Longitudinal Study on Ageing (IDS-TILDA), are key sources for understanding social dynamics and what factors influence future wellbeing across many domains. Shorter panel surveys like the Labour Force Survey have also facilitated an understanding of the dynamics of movements into and out of the labour force, and what are the characteristics of those most vulnerable to losing a job or those who regain employment most rapidly.

Conclusions and recommendations:

The production of consistent time series is important for users trying to understand the development of the economy and other key variables over time, and to enable good forecasting models to be built. Longitudinal data which follows the same individuals, households or firms over time, enables one to understand how behaviour adapts to changing policies and circumstances. The NSB recommends that the production of time series and longitudinal data should be high priorities in the ISS.

4.3.4 The Research Community

The research community is one of the most important users of CSO information and adds significant analytical value to important policy areas through this use. The following table shows the level of access to CSO Research Microdata Files (RMFs) which has increased significantly in recent years:

RMF usage report	2009	2014	2015	2016	2017	2018	2019	2020 ³¹
RMF projects	25	20	63	92	124	120	122	129
Total researchers	61	78	163	239	361	406	489	470
Unique researchers ³²			121	163	222	259	305	253
Research organisations	14	12	18	37	43	48	40	34

Source: CSO

The NSB recommends that (with full respect to the legal requirements under the GDPR, including the exemptions provided therein for scientific and academic use and the CSO's strong commitment to and safeguard of confidentiality, underpinned by the strong provisions of the Statistics Act 1993) the CSO's approach should be to maximise access to data for bona-fide researchers subject to these strong confidentiality requirements and safeguards. In this regard, the CSO should explore ways to simplify procedures for researchers applying for access.

Exploring partnerships with researchers will be an essential part of the CSO's data steward role in the future and one that the NSB considers will be necessary to meet the growing demand for data and insight. In developing new services via partnerships, the CSO must clearly establish its role in providing insight for policy making.

Conclusions and recommendations:

The NSB views the research community as an important user of CSO data and recommends that:

- the CSO's approach should be to maximise access to data for researchers subject to the provisions of the Statistics Act 1993 and GDPR;
- the CSO explores ways to simplify procedures for researchers applying for access; and
- the CSO explores developing partnerships with researchers to broaden the range of insight provided to support the needs of researchers and policy makers.

4.3.5 CSO – Monitoring User Needs

The importance of engaging with users has been a consistent theme in NSB strategies and the Board considers that the CSO has a responsibility to work to meet the changing needs of the modern user both in terms of the information required and the form in which it is disseminated.

As new themes emerge, the CSO needs to ensure it is in a position to keep abreast of these and respond to the demand for new statistical products. The 2015 ESCoP peer review³³ recommended that the CSO should seek out user needs more systematically and increase the regularity of user satisfaction surveys. The NSB considers that the CSO should carry out a regular survey of users and non-users of official statistics and that due to the pace at which

31 The 2020 figures were impacted by the COVID-19 pandemic as access to business RMFs was restricted for a period of time until the CSO was in a position to facilitate access to RMFs via the Virtual Data Infrastructure.

32 Some researchers are named on multiple research projects and are included more than once in the figure for "Total researchers". The total for "Unique researchers" counts each researcher only once even if named on multiple projects.

33 <https://ec.europa.eu/eurostat/documents/64157/4372828/2015-IE-improvement+actions/b3aa45e2-68f1-4ce3-8655-c2665bf2238b>

users' needs are changing in the current environment, these surveys should be carried out at 3-yearly intervals in consultation with the NSB. The survey should seek to collect information on themes such as:

- Information on the types of users;
- Quality of statistics/services;
- Trust in statistics;
- Use of statistics, including the extent to which they influence policy and decision making;
- Dissemination of statistics; including usability of the CSO website and PxStat;
- Future statistical needs.

In addition, the NSB considers the existing CSO working groups and liaison groups as a useful framework to explore user needs at sector level and supports plans by CSO to incorporate a new geographical unit into their methodology unit. This unit should interact with users, taking a strategic approach to determining the level of geographical insight required for key statistics and exploring ways to deliver on these requirements.

Conclusions and recommendations:

The NSB views the practice of engaging with users to keep abreast of evolving needs as an important step in the production of official statistics and recommends that the CSO conducts a user and non-user survey at 3-year intervals in consultation with the NSB.

4.4 Quality of Data

4.4.1 CSO Quality Strategy and Quality Management Framework

Statistical quality is one of the most important aspects of maintaining trust in official statistics which the NSB considers is now more important than ever. In an ever-changing statistical environment, which brings an increased need for new and more complex statistical outputs, it is essential that the CSO continues to comply with the highest international standards and deliver high quality products ensuring users have full confidence in the statistical outputs. To this end, the NSB considers that the CSO should examine:

- presenting confidence intervals and highlighting whether results in consecutive surveys are statistically different from one another;
- providing consistent data series over time, or where discontinuities occur, providing overlapping data to enable consistent time series to be constructed by linking related data; and
- conducting periodic testing of the psychometric properties of survey questions (reliability, validity, test-retest consistency).

The CSO's role with regard to statistical quality extends beyond its own activities. In 2015, the European Parliament and Council adopted an amendment to the 'European Statistical Law' (Regulation (EU) 2015/759)³⁴ which included giving the Director General of the CSO legal responsibility 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 these.

³⁴ 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 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.

Conclusions and recommendations:

The NSB stresses the importance of quality in maintaining trust in official statistics and recommends that, in accordance with European Statistical Law, the CSO extends its statistical quality role to incorporate all European statistics produced within Ireland, ensuring best practice and support for all producers of these official statistics.

4.4.2 Codes of Practice

The ESCoP is the cornerstone of the quality framework for European statistics which sets the standards for NSIs in developing, producing and disseminating these statistics. Adherence to the ESCoP is assessed by means of European peer review, the third round of which will be conducted from 2021 to mid-2023.

The ISSCoP, a subset of the ESCoP, was initiated by the CSO to introduce standards for the compilation of official statistics by public authorities other than the CSO. To date, the Revenue Commissioners statistical outputs and Department of Finance *Exchequer Returns* have been approved for the ISSCoP logo, confirming that their official statistics are being produced in a manner that is professional, independent and of the highest quality. A number of other PSBs have committed to the ISSCoP audit process and the NSB would like to see all producers of official statistics aspiring to an ISSCoP certification by the CSO over the coming years.

In its 2020 Annual Report, ESGAB recommends that during the upcoming round of peer reviews that a strong emphasis is placed on the compliance by ONAs with the ESCoP. The Board considers that the CSO should implement a programme to advance the adoption of the ISSCoP across public sector data, with a particular focus on the largest data holdings.

Conclusions and recommendations:

The NSB recommends that the CSO should implement a programme to advance the adoption of the ISSCoP across public sector data, with a particular focus on the largest data holdings and that PSBs producing official statistics should aspire to the ISSCoP with the aim of reaching a stage of compliance which would see their outputs branded with the ISSCoP quality assurance mark.

4.5 Expertise

4.5.1 Building Skills and Capacity

The skills required to analyse data and produce official statistics are evolving and it is important that the CSO continues to build the capacity of staff by continuing to support professional and personal development, including seconded staff working in the ISS. As the volume and utilisation of new data sources such as big data increases, creating opportunities for official statistics, so too does the need for advanced analytical skills. The NSB recommends that the CSO incorporates skills such as data engineering and data science into its recruitment model and statistical training framework in recognition of the growing use of secondary data sources and associated challenges around topics such as data ingestion and machine learning. The Board welcomes the growth in the innovative culture emerging through CSO's new outputs and themed reports and considers that this culture should be further developed.

The need for data analysis skills goes beyond the CSO and, with almost all public bodies now having to rely on data, there should also be a focus on building the capacity of the system.

The NSB considers that there is a need for a continuum of skills which sees statisticians, economists and policy analysts work together to inform policy makers and create valuable insights for users. This approach has proved very successful in some government departments, such as the Department of Health and the Department of Social Protection, where IGEES and IGSS staff work together on projects towards a common goal. In addition, the NSB considers that the public sector, rather than contracting experts to work on specialised data projects, should explore a different approach focusing on building the skills within the system and empowering existing staff to carry out such projects.

Data analytics and other technical skills are in high demand, with both the public and private sector competing for these specialists. The CSO has experienced difficulties in its recruitment and retention of statisticians and this is largely due to the competition for skills in sectors such as ICT and data analytics, where private sector organisations are investing substantially to compete, and PSBs do not have the same scope of salary and benefits on offer. The NSB considers that in the competition for skills, the public sector needs to consider increasing its level of investment in recruitment in order to encourage graduates to consider a career in the public sector.

Conclusions and recommendations:

The NSB stresses the importance of continuing to build the capacity of staff, including seconded staff working in the ISS and recommends that:

- the CSO incorporates skills such as data engineering and data science into its recruitment model and statistical training framework where appropriate; and
- the public sector considers increasing its level of investment in the recruitment of people with data analytics and technical skills in order to compete with private sector companies and encourage graduates to consider a career in the public sector.

4.5.2 Irish Government Statistical Service

The 2015 NSB strategy recommended the formal establishment of the IGSS: a programme of seconding CSO statisticians to government organisations to build a more coordinated analytical service for Government. The Board envisaged that these statisticians, ideally placed to highlight and promote the value of common data standards and the NDI, would complement the existing IGEES bringing together the statistical and economic skills to effectively support policy decision making.

The creation of the Statistical System Coordination Unit (SSCU) in CSO in 2016 led to the formal establishment of the IGSS in 2017. Seconded staff from the CSO to external departments now operate under a common MoU which covers the roles and responsibilities of seconded statisticians and outlines the responsibility of the CSO and the host organisation to the seconded statistical staff. The MoU clearly outlines the contribution expected of IGSS staff to progress the NDI in their host organisation in order to benefit the host as well as the wider ISS. The Board strongly welcomes the establishment of the IGSS and MoU arrangements.

As well as promoting data standards such as the NDI and common classifications, IGSS staff have a key role in implementing Sections 31.1 and 31.2 of the Statistics Act 1993 which deal with co-operation between the CSO and public authorities on assessing the statistical potential of records as well as the development of its recording methods and systems for statistical purposes.

The CSO is responsible for the supply, where resources permit, and support of the seconded staff. The Board welcomes the growing demand for IGSS staff in the context of progressing the NDI and the benefits to the ISS and recommends that the CSO regularly monitors the capacity of the programme and the resources needed within the CSO to cope with this growing demand.

The Board sees significant value in increasing the collaboration between IGSS and IGEES staff

to support evidence-informed policy making. In its medium-term strategy,³⁵ IGEES commits to supporting the CSO and IGSS in the development of the NDI and highlights the importance of cohesion between the work of each group.

Conclusions and recommendations:

The NSB recognises the importance of the seconded statisticians working in government organisations and recommends that:

- the MoU, clarifying the role and responsibilities of the seconded statistical staff, the host organisation and the CSO, is implemented in full, particularly in relation to the progression of the NDI and the application of common classifications as well as the provision of methodological and quality management assistance by the CSO; and
- a more collaborative approach is taken between the IGSS and IGEES staff working in government organisations which sees both groups working in a cohesive manner towards common goals supporting evidence-informed policy making.

4.6 Data Stewardship

4.6.1 CSO's Data Stewardship role in the Irish Data Ecosystem

The Irish data ecosystem comprises the data holdings across the Irish Civil and Public Service and these data holdings offer significant insights to decision makers and the people of Ireland if they are structured and organised according to agreed standards and classifications.

In its Statement of Strategy 2020-2023, the CSO defines itself as the data steward in the Irish data ecosystem, a role which is encapsulated in the Statistics Act 1993³⁶ and one which will influence the improvement of the quality of administrative data sources by:

- Defining and developing standards, rules and guidelines to govern the classification, storage and management of data across the Civil and Public Service;
- Supporting the development of Public Service data strategies;
- Continuing to develop the system for the secondment of professional statistical staff to government departments;
- Offering data services such as RMFs to researchers;
- Developing policy-relevant 'pathfinder' research projects;
- Developing new services via partnerships e.g. with OSi to develop an Eircode API;
- Providing necessary assurance on data governance;
- Supporting policy analyses.

The NSB considers the leadership provided by the CSO within the ISS and the work carried out by the SSCU within the CSO, is central to the further development of the Irish data ecosystem. The CSO should extend its leadership role in practice to encompass all public authorities producing official statistics as defined by the Statistics Act 1993.

Conclusions and recommendations:

The NSB supports the CSO's data stewardship role in the Irish data ecosystem, particularly in defining and supporting the implementation of data standards and recommends that a clear demarcation of the role of the CSO in providing insight for policy making, as distinct from policy commentary, is maintained.

³⁵ <https://igees.gov.ie/wp-content/uploads/2020/04/IGEES-Medium-Term-Strategy-2020-2022.pdf>

³⁶ Sections 10(2), 10(3), and 31 of the Statistics Act 1993

Appendices

—

Appendix 1

Consultation Process for NSB Strategy 2021-2026

Questions asked in the NSB consultation survey:

1. What data do you think you or your organisation will require over and above what is already available?
2. What do you think should be the key themes and priorities emerging for official statistics in Ireland?
3. What, in your opinion, are the main challenges and opportunities for the development of official statistics in Ireland?
4. What are your main concerns about official statistics in Ireland and how do you think these may develop?
5. Other feedback you would like to provide?

In developing this strategy, aimed at guiding official statistics for the next five years, the NSB built on the key themes identified in the consultation process which included:

- The importance of promoting official statistics as the trustworthy source and remaining relevant in a fast-moving environment of multiple sources of information and in many cases misinformation.
- Developing alternative sources of data, including administrative and private data sources, to meet the growing demands for insight and assist with addressing the challenges emerging around survey data collection such as falling response rates.
- The importance of the NDI and the need for further work on ensuring unique identifiers such as the Eircode are captured on all public sector data holdings and the successful introduction of the UBI.
- The need for common data standards and classifications across all PSBs as well as compatible ICT systems to facilitate the linking of data and provide more meaningful, targeted insight to inform evidence-based policy decisions.
- The importance of the role and work of the IGSS statisticians in the development of the NDI and collaboration with their IGEES colleagues.
- The level of understanding around the GDPR; how this is impacting on the production of official statistics and the need for guidance to ensure a consistent approach across PSBs to data protection requirements.
- The need to develop analytical skills across all PSBs including building the capacity to analyse large administrative datasets.
- The difficulties for researchers in accessing and using CSO research micro-data files.
- The importance of effective engagement and communication with users of official statistics.

Stakeholders also identified key priority topics for consideration which included:

- Environment and climate change
- Health and social care
- Wellbeing and mental wellness
- Disability
- Human rights and equality
- Gender identity and sexual orientation
- Labour market and earnings, including the shadow economy; income and wealth distribution
- Economy including digitalisation, productivity and trade
- All-island statistics
- Skills and education
- Housing
- Crime and victimisation
- Agriculture
- Heritage
- Pensions
- Research & Innovation
- Transport and Travel
- Remote working and commuting
- Greater geographic detail at local and regional level for key areas of official statistics

Some of the more operationally focussed feedback received from stakeholders was communicated to the relevant areas in the CSO for further consideration.

Appendix 2

Other National Authorities (ONAs) Compiling European Statistics in Ireland

Apart from the CSO, ONAs are involved in the production of European statistics in Ireland. These are:

- Bord Iascaigh Mhara
- Commission for Communications Regulation
- Department of Agriculture, Food & the Marine
- Department of the Environment, Climate and Communications
- Department of Education
- Department of Health
- Department of Justice
- Department of Housing, Local Government and Heritage
- Department of Social Protection
- Environmental Protection Agency
- Department of Enterprise, Trade and Employment
- Health and Safety Authority
- Sea-Fisheries Protection Authority
- Sustainable Energy Authority of Ireland
- Road Safety Authority

Appendix 3

Initiatives available to Public Sector Bodies to assist in Eircode encoding on data holdings

Eircode validation application (API) developed by OSi

In order to facilitate the collection of Eircodes on public sector data holdings, DECC requested OSi to develop a public sector wide Eircode validation and lookup API.

The API allows users to:

- Validate addresses based on the entry of a valid Eircode. This will also allow auto-population of address fields in online forms when a user/member of the public types in a valid Eircode;
- Input an address to obtain and validate an Eircode for that address. The API can allow predictive address text searches;
- Allow predictive address text searches;
- Provision of an Eircode and address based on the entry of an XY geo-coordinate; and
- Provision of an OSi background mapping interface to allow users to search and identify properties from OSi base mapping. Once identified, the end user will receive a valid Eircode and/or address returned for that property.

The application, launched by OSi in May 2019, is available to PSBs and non-commercial state agencies to integrate into existing and new address capture ICT system applications. The Eircode API validates in real-time all incoming Eircodes captured from correspondence or customer transactions against the latest Eircode database. This ensures all Eircodes captured are correct for use and searchable across ICT systems and databases. It permits auto-population of address fields when capturing addresses from customers and geo-locates every property in the state, including the c.35% of non-unique addresses predominately in rural Ireland.

OGP Eircode Encoding Framework service

In addition to the Eircode API, the OGP Eircode Encoding Framework service was made available to PSBs in August 2019. This enables PSBs to draw down, from a list of commercial organisations on the framework, a service of Eircode address matching and appending Eircodes to existing address databases.

It allows existing ICT systems that cannot integrate the OSi Eircode API, to append existing addresses with an Eircode. The service will speedily increase the number of Eircode addresses in existing active databases and therefore increase usability of these databases. The framework provides many benefits to PSBs as it alleviates the administrative burden on running individual low value competitions; the maximum fee is known from the outset; and PSBs will only be charged for those records matched to an Eircode.

Appendix 4

Details of progress since NSB Strategy 2015–2020³⁷

The NSB has seen good progress in relation to the recommendations outlined in its previous strategy 'A World Class Statistical System for Ireland' with almost all of the 27 actions considered to be achieved or ongoing as part of the process for producing official statistics. This section summarises the key developments during the period since 2015.

Public Sector Leadership

- Action 24 of the *Civil Service Renewal Plan*, Action 7 of *Our Public Service 2020* and the *Public Service ICT Strategy*, have placed a real focus on considering data as a strategic asset to the public service while at the same time acknowledging that improvements must be made to the collection, management and sharing of data. A key milestone in progressing the NDI came in 2017 when the Director General of the CSO, along with five Civil Service Management Board (CSMB) co-sponsors³⁸, took leadership of Action 24.
- The Data Sharing and Governance Act 2019³⁹ provides a general legal basis for public bodies to share data for specified purposes in a manner that is compliant with the GDPR, thereby reducing administrative burden and simplifying the provision of services.
- The Public Service Data Strategy 2019–2023⁴⁰ outlines a vision to improve the governance, management and re-use of data across the public service in a secure, efficient and transparent way, for the benefit of citizens and businesses.
- A NDI cross-departmental Champions Group, chaired by the CSO, was established in 2017. The group monitors and promotes coverage of three key identifiers on public sector data holdings.
- In 2019, OSi launched their Eircode API and the OGP made available the Eircode Encoding Framework service. Both initiatives were launched to improve and facilitate the collection of Eircodes on public sector data holdings by PSBs.

CSO Leadership

- In 2016 the CSO established a new directorate and established structures to oversee and lead the provision of a broader range of data and statistical related services.
- The CSO engaged in policy-relevant research 'pathfinder' projects developed in collaboration with policy makers on specific policy questions which demonstrate the value of administrative data by linking data sources using a common identifier.
- The expansion of the Irish Government Statistical Service (IGSS) programme continued, developing a more coordinated analytical service for Government.

³⁷ https://www.nsb.ie/media/nsbie/pdfdocs/NSB_Strategy_2015-2020-1.pdf

³⁸ Secretaries General of the Department of Public Expenditure & Reform, Revenue Commissioners, Department of Social Protection, Department of Business, Enterprise & Innovation, Department of Environment, Climate & Communications.

³⁹ <http://www.irishstatutebook.ie/eli/2019/act/5/enacted/en/html>

⁴⁰ <https://www.gov.ie/en/publication/1d6bc7-public-service-data-strategy-2019-2023/>

CSO Resources and Skills

- The CSO was allocated an increase in its budgetary resources in the period since 2015 which facilitated the establishment of the new SSCU Directorate.
- The CSO developed a Statistical Training Framework which aligns the knowledge, skills and expertise for each role within the organisation based on the Generic Statistical Business Process Model (GSBPM)⁴¹.
- Quality Management Framework training, based on the GSBPM and ES CoP, was delivered to CSO staff and continues to be rolled out to the wider ISS.

CSO and Big Data

- Growth in the demand for data has continued unabated since 2015 and to meet these demands, the CSO has developed available data sources including secondary data sources – administrative and big data. The focus to date, has been on gaining access to and developing the quality of administrative data holdings.
- The introduction of the GDPR in 2018 has required some changes to CSO data acquisition and governance procedures. The CSO has developed governance structures with associated rules, policies, procedures and tools to support their activities in this area.

CSO and User Engagement

- In 2016, the CSO developed a communications strategy which brought about the establishment of a press office function; a CSO rebrand; and a media relationship programme. The use of visualisation tools and user applications by the CSO has increased and a new style of infographic was developed to support the communication of statistical outputs.
- The CSO launched a Remote Access to microdata solution for researchers in 2017. All access for researchers to RMFs is controlled in the CSO by means of a Research Data Portal.

CSO Priorities

- A new Environment and Climate division was established at CSO in 2015 which brought about a significant expansion of outputs in this area, a number of which were based on administrative data.
- The Income, Consumption and Wealth Division was established at CSO in 2017 with responsibility for publishing a suite of social indicators to complement macroeconomic indicators.

⁴¹ The Generic Statistical Business Process Model (GSBPM) describes and defines the set of business processes needed to produce official statistics. For further information visit <https://www.cso.ie/en/methods/gsbpm/>

Appendix 5

National Statistics Board members

Ms. Anne Vaughan (Chairperson)

Anne Vaughan was Deputy Secretary in the then Department of Employment Affairs and Social Protection for almost 8 years where she had responsibility for policy development and service delivery in relation to working age payments. As Deputy she also had a particular focus on governance issues. She retired in 2018. During her civil service career of 38 years she also worked in the Department of Finance and in the Department of The Taoiseach. Anne has a special interest in pensions policy and was a member of The Pensions Authority. She is a member of the Commission on Pensions, and of the Commission on Taxation and Welfare. Anne is a graduate of UCD, TCD and the UCD Smurfit Business School. She holds a M.Sc. in Public Sector Analysis.

Dr. Eimear Cotter

Eimear Cotter was appointed in 2017 as a Director of the EPA initially with responsibility for the Office of Environmental Sustainability. She is currently Director of the Office of Evidence and Assessment. Eimear has a wide range of experience in supporting evidence-based decision making in environmental protection, climate change, sustainable energy and sustainability using research, statistics, modelling and policy analysis. She previously worked in the EPA and Sustainable Energy Authority of Ireland. Eimear holds a PhD in atmospheric chemistry from Oxford University, an MBA from UCD Michael Smurfit Graduate Business School and BA (Mod) in Natural Sciences from Trinity College Dublin. She is a 2019 Eisenhower Fellow.

Mr. Gerard Brady

Gerard Brady is the Chief Economist at Ibec, Ireland's largest business representative group. His role involves regular analysis of economic issues for a business audience, shaping Ibec's economic, tax and fiscal policy positions and advising companies and sectoral organisations. He is a current member on the National Statistics Board as well as representing Irish business in a number of international economic and tax fora such as Business at the OECD (BIAC) and Business Europe. Prior to joining Ibec in 2013, Gerard worked as a Lecturer in Economics in University College Cork. He is a previous winner of the Miriam Hederman O'Brien prize awarded by the Foundation for Fiscal Studies.

Mr. John Martin

John Martin is currently the Chair of the Government's Labour Market Advisory Council. He was Director for Employment, Labour and Social Affairs at the OECD from 2000 to early 2013; his brief as Director also covered OECD work on health and international migration. John Martin joined the OECD in 1977 and held many posts in the Organisation during his 36-year stint including in the Economics Department. Other professional responsibilities include being: a Research Fellow of the Institute of Labor Economics (IZA) in Bonn; an Adjunct Research Fellow, UCD Geary Institute for Public Policy; a member of the French Prime Minister's "Conseil d'orientation pour l'emploi" from 2005 to January 2017; a member of the ESRI Council. He taught economics at universities in Dublin, Oxford, Buckingham and Paris. He holds an MA from UCD and an MPhil from Oxford.

Ms. Eithne Fitzgerald

Eithne Fitzgerald is an economist who has specialised in social policy and disability issues. Head of Policy and Research with the National Disability Authority to 2016, she previously lectured in Social Policy in both UCD and TCD and is a former Minister of State who has served in economic policy roles. Her research publications include work on employment, housing, social welfare, forecasting, statistical portraits and indicators. She has been a member of a number of expert policy groups including the Commission on Social Welfare, and the Make Work Pay group, and served on the board of the National Council for Special Education.

Mr. John Shaw

John Shaw is Assistant Secretary General in the Department of the Taoiseach (Prime Minister) with responsibility for the Economic Division. From 2012 to September 2016 he was Assistant Secretary General responsible for Social Policy, Public Service Reform, and Corporate Affairs in the Department. He previously worked in a range of areas across the Department of the Taoiseach, as well as in the Department of Foreign Affairs. He has a Bachelor of Business Studies from Trinity College Dublin and a Diploma in Legal Studies from Dublin Institute of Technology.

Mr. John McCarthy

John McCarthy is Chief Economist in the Department of Finance and has responsibility for the Economic Policy Division. He was previously a senior economist in the Department heading up the macroeconomic analysis unit. He has worked in the Department on domestic economic and fiscal policy issues. At EU level he was the deputy member of the Economic and Financial Committee for a number of years, including during the crisis years. He is a member of the Economic Policy Committee of the OECD and the Oversight Board for the Irish Government Economic and Evaluation Service. Prior to joining the Department, he was a senior economist in the Central Bank.

Mr. Pádraig Dalton (an ex-officio member)

Pádraig Dalton was appointed to the role of Director General of the Central Statistics Office (CSO) at the end of May 2012. Pádraig is a career statistician having joined the CSO in November 1991 as a Statistician. He worked in Structural Business Statistics, Statistical Methodology and Balance of Payments between 1991 and 2001. In 2001 Pádraig was appointed Senior Statistician in the Labour Market and Social Inclusion Division. Between 2007 and 2010 Pádraig was Director of Statistical Support & Innovation and Assistant Director General, Social & Demographic Statistics from September 2010 to May 2012. Pádraig is a member of the European Statistical System Committee (ESSC) which provides professional guidance to the European Statistical System (ESS) for developing, producing and disseminating European statistics.

