

# **Expenditure Review Report**

**Social and Demographic Statistics Directorate**



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## Abbreviations

BLAISE	Software used in recording interview data
BNF	Birth Notification Form
CAPI	Computer Assisted Personal Interviewing
CATI	Computer Assisted Telephone Interviewing
CLFS	Community LFS Requirement
CPI	Consumer Price Index
ECHP	European Community Household Panel
EFTA	European Free Trade Association
EU SILC	EU Statistics on Income and Living Conditions
GRO	General Register Office
HBS	Household Budget Survey
IALS	International Adult Literacy Survey
ICT	Information and Communications Technology
ILO	International Labour Organisation
ISCED	International Standard Classification of Education
ISSDA	Irish Social Science Data Archive
LFS	Labour Force Survey
NACE	Statistical classification of economic activity
NAPS	National Anti-Poverty Strategy
NFS	National Farm Survey
NSB	National Statistics Board
NSI	National Statistical Institute
NUTS	Nomenclature of Territorial Units for Statistics
QNHS	Quarterly National Household Survey
SGSES	Steering Group on Social and Equality Statistics
SLAN	Survey of Lifestyles, Attitudes and Nutrition
SPAR	Statistical Potential of Administrative Records
WHO	World Health Organisation
WPI	Wholesale Price Index

## Chapter 1 Introduction

### 1.1 Background

This Expenditure Review of the Social and Demographic Statistics Directorate of the Central Statistics Office (CSO) is being conducted as part of the general programme of reviews required by Government of public expenditure across the Public Sector. The CSO is mandated under the Statistics Act, 1993 to compile and disseminate official statistical information relating to economic, social and general activities and conditions in the State. Towards this end it is organised into three statistical directorates covering Business Statistics, Macroeconomic Statistics and Social and Demographic Statistics respectively. This is the second review undertaken within the CSO – the earlier review covered the Macroeconomic Statistics Directorate.

### 1.2 Membership

For the purposes of conducting the Review, a Steering Committee was established. The membership of the Committee was as follows:

Gerry O’Hanlon, Director, Social and Demographic Statistics (Chairman)  
Pat Flynn, Assistant Principal, Demographic Statistics Division (Secretary)  
John Bohan, Principal Officer, Department of Social and Family Affairs  
Gerry Brady, Senior Statistician, Social Statistics Integration Division  
Padraig Dalton, Senior Statistician, Labour Market and Social Inclusion Division  
Eithne Fitzgerald, Senior Researcher, National Disability Authority  
Kevin McCormack, Senior Statistician, Prices and Household Surveys Division  
Kevin Moriarty, Assistant Principal, Project Office (CSO)  
Aidan Punch, Senior Statistician, Demographic Statistics Division  
Gerry Walker, Senior Statistician, Demographic Statistics Division

### 1.3 Terms of Reference

The Steering Committee agreed the following Terms of Reference for the Review:

1. Identification of the objectives, and the demand on the CSO, for social and demographic statistics; examination of the current validity of the demand and its compatibility with the overall strategy for official statistics and mandate of the Office;
2. Definition of the statistical outputs of the CSO's programme for social and demographic statistics and identification of the level and trend of those outputs;
3. Examination of the extent to which users' requirements are being met; commenting on the *effectiveness* with which they have been addressed, with particular regard to the relevance, reliability, timeliness and accessibility of the statistical outputs.
4. Identification of the level of staff and other resources required for implementing the programme; commenting on the *economy and efficiency* with which it is undertaken, taking into account, as appropriate, the situation in other countries;
5. Examination of the scope for alternative approaches to meeting users' current, and likely future, demands on a more efficient and/or effective basis, taking into account international experience and technological development, etc.
6. Specification of potential future performance indicators that might be used to monitor the efficiency and effectiveness of the programme for social and demographic statistics

## **1.4 Methodology**

This report was written under the guidance of the Steering Committee, which met on a total of five occasions between March and October 2004. A range of relevant material was examined in the course of the work. This included: information prepared by the CSO on costs, resources used and statistical outputs; the conclusions of a general survey of CSO users undertaken by the National Statistics Board in 2002; and comparative information on the production of the main social and demographic statistics in some other countries. Raymond Burke Consulting was commissioned to prepare an independent evaluation of the penultimate draft of the report. Where possible, the findings of the independent evaluator have been taken into account in the final report.

## **1.5 Structure of Report**

In chapters 2 to 4 the first three terms of reference are considered in turn. Chapter 5 covers the fourth and fifth terms of reference together. Proposals for future performance indicators, as required under the sixth term of reference, are set out in Chapter 6. A summary of the main conclusions and recommendations is presented in Chapter 7.

## Chapter 2 Objectives and Demand

### Terms of Reference 1

*Identification of the objectives, and the demand on the CSO, for social and demographic statistics; examination of the current validity of the demand and its compatibility with the overall strategy for official statistics and mandate of the Office.*

### 2.1 Objectives for Social and Demographic Statistics

The core objectives of a programme of social and demographic statistics are:

- ◆ Monitoring the well-being of the population;
- ◆ Provision of baseline data for service planning;
- ◆ Provision of data for policy formulation;
- ◆ Monitoring the implementation of public policy; and
- ◆ Detecting changes and emerging trends which have implications for policies and services.

Social and demographic statistics have an important function in monitoring the overall wellbeing of the population, how this is changing over time, and how Ireland is faring relative to comparable countries. Information such as infant mortality rates, literacy, poverty rates, and housing quality all deal with important aspects of human wellbeing.

Statistics on the size, geographical distribution and age structure of the population are essential for service planning. Such statistics are key building blocks in planning and costing services from physical planning, roads and transport to education, health and social services.

Social and demographic statistics are essential tools for public policy-making. Good quality social and demographic information is a pre-requisite for evidence-based policy formulation. Statistical analyses of data collected by the Central Statistics Office can illuminate causal factors and provide evidence on which policy can be based. For example, analysis of relevant indicators by geographical area can identify whether poverty is geographically clustered or is spatially pervasive.

Social and demographic statistics also allow progress in implementing public policy goals to be monitored and shortcomings identified. For example, regular statistics on employment and unemployment keep track of progress in addressing this important public policy area. Information on mortality by cause, age group and region points to issues for public health policy.

Social and demographic statistics allow social change to be tracked, and emerging issues of social concern to be identified. For example, information on the incidence of marriage breakdown, on the prevalence of young homelessness, or the changing ethnic composition of the state, all point to changes taking place in Irish society which have policy and service implications.

In a complex modern state whose population has diverse and changing needs, there is thus a requirement for good quality statistical information across a wide range of social areas. As social policies have developed, the requirements for statistical data have increased. Other factors of a more practical nature that influence the extent to which these statistics are produced include: its overall level of economic and social development; and the ready availability of data.



## **2.2 Changing demand for Social and Demographic Statistics in Ireland**

The Census of Population, Vital Statistics and Consumer Prices are amongst the longest established of all statistical programmes. Notwithstanding these early origins it is fair to say that, compared with macro-economic and business statistics, social statistics in general have been relatively under-developed until recent years. This has occurred for three main reasons. First, macro-economic and business statistics were afforded priority because a clear link was established at an early stage between good economic and business management and the availability of high quality information on which to base decisions and monitor progress. Secondly, the unit cost of producing social statistics was considerably higher than that for other statistics. One has only to compare the cost of enumerating every household in the country in the census using interviewers with that of a postal survey of a few thousand firms to appreciate why this is the case. Thirdly, social policy itself was relatively under-developed until recent years with the result that the articulation of statistical demands was somewhat muted in the past.

This situation has changed dramatically over the past decade or so and the demand for more and better statistics on social and demographic issues has expanded at a very rapid rate. This demand is evident at both national and EU levels and indeed these run largely in tandem with each other. In addition, the demand is comprehensive and extensive in that it ranges over the whole spectrum of social issues and seeks the provision of data on small groups and for small areas and localities. There are, of course, many reasons for this change but perhaps the greatest driving force is the movement of social policy towards centre stage in Government deliberations with an attendant focus on outcomes and accountability and related performance indicators. These developments have substantial implications for the demand for statistics since, for example, the measurement of outcomes is largely dependent on the availability of good quality statistical data.

Two developments in particular are worthy of note in regard to their impact on the demand for social statistics. The first is the inclusion since the Treaty of Amsterdam of a wider range of social issues within the remit of the EU. Subsequent EU Councils, in particular the Lisbon Council, agreed extensive programmes for action in the social field. The setting and monitoring of targets were identified as a fundamental part of the implementation of these programmes. Furthermore, the decision to follow "an open method of co-ordination" in the implementation of social policies in the Member States meant that the monitoring of outcomes, with its major impact on the demand for statistics, would become a central part of the implementation process. Concrete examples of the new environment include the National Action Plans for Social Inclusion and Employment. In line with established practice, most of the major statistical requirements arising from these developments are the subject of EU legal instruments.

The second issue of note is the evolution of social partnership in Ireland over the past couple of decades. From an initial focus on wage increases and other conditions of employment, the agreements have progressively addressed a wider range of social and community issues. The setting of mutually agreed targets by Government and the social partners have become a feature of the partnership process. In this context, the explicit identification of the need for more comprehensive statistical data across all domains, particularly in the social field, has emerged as a recurring theme.

The data demands arising from the implementation of the National Anti-Poverty Strategy (NAPS), which have both national and EU dimensions, and the Sustaining Progress agreement are clear examples of the new priority that is now attached to the availability of comprehensive social and demographic statistics.

## 2.3 Validity of current demand

The previous section has outlined the growing demand, both at national and EU levels, for social and demographic statistics. It has also clearly indicated that the underlying reason for recent developments has been the widespread move towards what is now described succinctly as “evidence based policy making”. The focus is not only on measuring the immediate “inputs” and “outputs” that flow from policy implementation but also on measuring “outcomes”. The latter measures, which cover such constructs as life expectancy, health status and educational participation, etc., are generally based either partially or entirely on official statistics.

The desirability of promoting “evidence based policy making” is almost universally accepted and thus there is, *ab initio*, an inherent validity to the increasing demand for social and demographic statistics. While the costs of providing the necessary data are high in the context of statistical budgets, they are minuscule in the context of the costs of the policy programmes they are supporting. Furthermore, the availability of good quality statistical information is essential to ensuring that the policy programmes are effective and achieving value for money. This conclusion does not imply that each and every demand for additional social and demographic statistics can and should be met but rather that the current trend towards an increased overall demand can be explained by wider developments that are not in dispute.

## 2.4 Role of CSO

Section 10 (1) of the Statistics Act, 1993 defines the mandate of the Central Statistics Office as follows:

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

This mandate is almost identical to the previous mandate set out in the earlier Statistics Act, 1926 and thus the production of Social (and Demographic) statistics has been identified clearly as a central part of the CSO’s work. This is recognised in the organisational structure of the Office with one of the three Statistical Directorates being devoted to the production of Social and Demographic statistics.

This situation is mirrored in other countries where, almost without exception, the bulk of social and demographic statistics is produced by the National Statistics Institutes (NSIs). This is particularly the case where Censuses and large-scale national surveys are involved. Departments and other agencies are, however, involved to varying degrees in the production of specific elements of the social statistics programme. For example, the Department of Education and Science produces a wide range of statistics on the educational system, particularly where the basic data are derived as a by-product of the administration of the sector (e.g. pupil/teacher ratios, expenditure profiles, etc.). Even in these situations it is usual that the Departments are reliant on the NSIs to meet large elements of their statistical needs e.g. where information is required on the whole population or on sub-sections of it that are not covered by the administrative procedures.

The National Statistics Board (NSB) has acknowledged that there has been a very substantial increase in the demand for statistical information in recent years. In partial response to this additional demand, there has been an increase in the number of surveys being undertaken independently of the CSO, with funding provided by government departments and agencies. In parallel there has also been a growth in the availability of electronic sources of administrative data in government departments and agencies that have not been exploited for statistical purposes. The Board, as a consequence, has recommended that the CSO should take a more active role in developing the Irish Statistical System particularly through: co-ordinating the development of a statistics network across government departments; generating official statistics from administrative records; and setting statistical priorities in conjunction with the statistical network and data users.

This wider role for the CSO is fully in line with Sections 10(2) and 10(3) of the Statistics Act which empower CSO to engage in such activities.

The conclusion overall, therefore, in regard to the role of the CSO must be that it is appropriate that the Office should expect to be responsible for meeting the greater part of the increasing demand for social and demographic statistics. This can be effected either directly through its surveys or indirectly through the active co-ordination of and/or the provision of assistance to others engaged in the production of social statistics.

## Chapter 3 Statistical Outputs

### Terms of Reference 2

*Definition of the statistical outputs of the CSO's programme for social and demographic statistics and identification of the level and trend of those outputs*

### 3.1 Introduction

The high level organisational chart of the CSO is set out in Appendix 1 and shows that the Social and Demographic Statistics Directorate is one of three such statistical directorates within the office (the other two deal with macroeconomic statistics and business statistics). The CSO's existing programme for Social and Demographic Statistics may be broken down into the following four sub-programmes for ease of presentation and analysis:

- ♦ **Demographic Statistics** (including the Census of Population, Vital Statistics, population and migration estimates and projections);
- ♦ **Labour Market and Social Inclusion** (including the Quarterly National Household Survey (QNHS), the EU Survey on Income and Living Conditions (EU SILC) and the Live Register);
- ♦ **Prices and Household Expenditure** (including the Consumer Price Index (CPI), the Wholesale Price Index (WPI) and the Household Budget Survey (HBS)); and
- ♦ **Social Statistics Integration** (including the Statistical Potential of Administrative Records (SPAR) project, the implementation of the Report of the Steering Group on Social and Equality Statistics<sup>1</sup>, and liaison with Government Departments and Public Agencies involved in the production of statistics on social issues).

The above sub-programmes fall under the remit of the Social and Demographic Statistics Directorate, which is the focus of this Expenditure Review. They include some items, such as the Wholesale Price Index, that would not normally come under the heading of Social and Demographic Statistics. Equally there are some areas of the Office's work undertaken elsewhere, such as statistics on earnings, that are not included even though they might be deemed appropriate for consideration. However, these "discrepancies", which are due to the organisational structure within the CSO, are not significant and do not detract from this being considered as a review of the Office's social and demographic statistics programme. It should also be noted that statistics produced or commissioned by some Government Departments and Agencies relating to social issues are not covered. These include not only statistics derived from administrative sources but also a range of surveys such as the Survey of Lifestyles, Attitudes and Nutrition (SLAN), commissioned by the Department of Health and Children, and the International Adult Literacy Survey (IALS) sponsored by the Department of Education and Science.

### 3.2 Demographic Statistics

With the exceptions of 1976 and 2001<sup>2</sup>, Censuses of Population have been conducted every five years since 1946 in years ending in a '1' or '6'. In view of the scale of the operation, the decision to undertake a census has been taken by Government on each occasion. Every census has involved the delivery and collection of census forms by temporary Enumerators who are specially recruited for the purpose (over 4,000 were deployed on the 2002 Census).

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<sup>1</sup> NSB (2003): *"Developing Irish Social and Equality Statistics to meet Policy Needs"*, Stationery Office, Dublin.

<sup>2</sup> The 1976 census was cancelled due to budgetary constraints but a special census, with a limited number of questions, was undertaken in 1979. The 2001 Census was postponed to 2002 due to the Foot and Mouth outbreak.

In the absence of a population registration system, the Census is seen as the only possible source of comprehensive information on demographic change at national, regional and local levels. To meet the demand in this area, an extensive dissemination programme for results is undertaken for each census. In 2002, three summary reports and thirteen detailed volumes were published (see Table 5.3) – all are available in both hardcopy and electronic forms. In addition, special analyses are prepared and disseminated for each of the approximately 3,400 Electoral Divisions in the State.

The Census is also of fundamental importance to the statistical system itself as it is frequently used as the population frame for the conduct of sample surveys and as the basis for calibrating statistical estimates prepared on the basis of incomplete information (e.g. the annual population and migration estimates).

Vital Statistics, covering births, deaths and marriages, are compiled on the basis of data collected as part of the registration of vital events. The results are published in quarterly and annual reports that are issued by the CSO. Following the completion of each census, Life Tables are compiled on the basis of the census results and the information on deaths taken from the vital statistics for the three years centred on the census year.

Annual population and migration estimates are compiled on the basis of data taken from a number of sources (e.g. Census of Population, Vital Statistics, QNHS, Passenger Card Survey and various administrative sources). The annual series is calibrated every five years to agree with the results of the most recent census.

Finally, the Office prepares and publishes national population and labour force projections every five years, covering a period of up to 35 years following the most recent census. In response to the increasing focus on spatial developments, regional population projections, consistent with the most recent national estimates, were published for the first time in 2001.

Unlike most other areas, none of the statistical programmes outlined in this section are covered, as of yet, by specific EU legislation. This does not imply that they are of a lower priority but rather that they are of fundamental importance to every statistical system and hence are assumed (correctly) to be available already for national purposes.

### **3.3 Labour Market and Social Inclusion**

The QNHS was introduced as a continuous quarterly survey in September 1997 following Government support for its introduction and in anticipation of EU legislation that would make such surveys mandatory<sup>3</sup>. The new quarterly survey replaced the annual Labour Force Surveys that had been in place since the early 1980s. The principal purpose of the QNHS is the provision of comprehensive and timely information on developments in the labour force. The nature of this demand is such that a very large sample is required in order to provide results with an acceptable level of accuracy. Accordingly, the QNHS covers almost 3,000 households each week and is by far the largest household survey conducted in the State.

The core results from the survey covering the labour force are published in a quarterly release within approximately three months of the quarter to which they relate. The content of the release, which has been developed in response to users' needs, currently covers 24 tables dealing with various aspects of the labour force.

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<sup>3</sup> Council Regulation (EC) No 577/98 on the organisation of a labour force sample survey was subsequently adopted in March 1998 (OJ L 77, 14.3.1998, p.3).

From the outset the QNHS was designed so that additional issues could be covered on a periodic basis. These "social modules" have now become an established feature of the survey and a list of the modules undertaken and planned since 1997 is given in Appendix 2.

A new EU Regulation<sup>4</sup> was adopted in 2003 requiring annual surveys to be undertaken on income and living conditions. This survey has replaced the European Community Household Panel Survey (ECHP) that had been organised previously on a voluntary basis by Eurostat – the Irish survey was undertaken as the Living in Ireland Survey by the Economic and Social Research Institute. As the name of the survey suggests, the objective is to provide comprehensive statistics on income and living conditions and thus serve as the main source of information for the development and implementation of national and EU policies to combat poverty and social exclusion. The Irish survey commenced in mid-2003 and first results are expected towards the end of 2004.

Statistics on the registered unemployed, the Live Register, have been a regular feature of the statistical system for a number of decades. The analyses are compiled on the basis of data received monthly from the Department of Social and Family Affairs.

Table 3.1 summarises the current statistical outputs of this sub-programme.

**Table 3.1 Statistical Outputs for Labour Market and Social Inclusion**

Survey	Year	Outputs
QNHS	1997	1 quarterly release, 1 ad-hoc module
	1998	4 quarterly releases, 2 ad-hoc modules
	1999	4 quarterly releases, 2 ad-hoc modules
	2000	4 quarterly releases, 4 ad-hoc modules
	2001	4 quarterly releases, 2 ad-hoc modules
	2002	4 quarterly releases, 5 ad-hoc modules
	2003	4 quarterly releases, 6 ad-hoc modules plus one thematic release on Education (retrospective)
EU SILC	2003	First publication on basis of 2003 survey should be available towards the end of 2004. Current expectations are that there will be an annual statistical release
Live Register	Ongoing	12 monthly releases, 2 Age by Duration releases

### 3.4 Prices and Household Expenditure

In line with EU Regulations<sup>5</sup> the frequency of the Consumer Price Index was increased from quarterly to monthly in 1997. Two releases are issued each month: the main release containing the overall index and the main sub-indices; and a supplementary release containing more details of the price movements underlying the changes.

The Wholesale Price Index<sup>6</sup> currently consists of five separate price indices, which are published monthly: a General Wholesale Price Index reflecting overall changes in the price levels of industrial output, agricultural output and imports; industrial producer price indices classified by NACE sector; wholesale price indices for building and construction materials; wholesale price indices for capital goods; and wholesale price indices for energy products purchased by manufacturing industry.

The Household Budget Survey is now conducted every five years with the principal purpose of providing estimates of household expenditure in order to calculate the weighting basis of the CPI.

<sup>4</sup> Regulation (EC) No 1177/2003 of the European Parliament and of the Council of 16 June 2003 concerning Community statistics on income and living conditions (EU SILC) (OJ L 165, 3.7.2003, p.1).

<sup>5</sup> Council Regulation (EC) No 2494/95 of 23 October 1995 concerning harmonised indices of consumer prices (OJ L 257, 27.10.1995, p.1).

<sup>6</sup> A considerable amount of the output from the WPI meets the requirement for short term information on prices contained in Council Regulation (EC) No. 1165/98 concerning short-term statistics.(OJ L 162, 5.6. 1998 p.1).

The last survey was undertaken in 1999/2000 and plans are in train to commence the fieldwork on the next survey before the end of 2004. The results of the surveys are published in a small number of detailed volumes.

### **3.5 Social Statistics Integration**

This small Division was established in 2002 and the focus to-date has been on improving liaison with producers and users of social statistics. The Division has contributed significantly to: the preparation of the Report of the Steering Group on Social and Equality Statistics; the CSO project on the Statistical Potential of Administrative Records; and the recently published indicators report – *Measuring Ireland's Progress*<sup>7</sup>. The Division also plays an active co-ordinating role with government departments and users, particularly in relation to areas of statistics less well covered by the existing CSO programme such as: disability, gender, and culture. The Division is currently compiling a new social indicators report as recommended by the Steering Group on Social and Equality Statistics.

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<sup>7</sup> CSO(2003): "*Measuring Ireland's Progress – Volumes 1 and 2*", Stationery Office, Dublin.

## Chapter 4 Users' Requirements

### Terms of Reference 3

*Examination of the extent to which users' requirements are being met; commenting on the effectiveness with which they have been addressed with particular regard to the relevance, reliability, timeliness and accessibility of the statistical outputs*

#### 4.1 Extent to which users' requirements are being met

The demand for statistics, insofar as it impacts on the CSO's programme for social and demographic statistics, may be broken down according to three main sources or levels:

1. Traditional demand for basic reference point social and demographic statistics;
2. Compliance with the existing EU statistical programme; and
3. Emerging national and EU demands for more surveys and extensive analyses.

The existing statistical outputs, as described in chapter 3, provide a very good basis for satisfying the need for basic data, particularly at national level, on the population, labour force, social inclusion and prices. At sub-national level there may be some concern that, in the absence of a system of population registration, there is an undue reliance on the Census of Population for providing basic data on small areas and minority groups. As against this, Ireland is one of a small number of countries that conduct censuses at five-year intervals and thus may be better placed to respond to this demand than comparable countries.

The EU statistical programme for social and demographic statistics, particularly that element underpinned by legislation, has been expanding rapidly over the past decade or so. The Regulations on the harmonised index of consumer prices, the continuous labour force survey and the more recent survey on income and living conditions are the prime examples of this expansion. In all of these mandatory cases, the CSO has been provided with the resources to respond to the increased demand and it is generally accepted that it is complying with the requirements. In relation to the other elements (generally voluntary) of the current EU programme, the CSO compliance is mixed. Some recommended surveys, such as those on Time Use and Adult Education, have not been undertaken to date, while the level of detail available for some sectors falls somewhat short of that available in the most advanced countries. This situation is mirrored in most other member states to a greater or lesser extent depending on the stage of development and the individual circumstances. In short, the conclusion would be that the CSO is compliant in broad measure with the current requirements of the EU statistical programme for social and demographic statistics and, in particular, is not in breach of any mandatory provisions.

Unfortunately, it is not possible to be as positive in regard to the extent to which the CSO, and indeed the wider public service, is currently in a position to meet the emerging new demand for statistics on social and demographic issues. The Steering Group on Social and Equality Statistics in the introduction to its recent report identified the background to this demand as follows:

*"In recent years, there have been moves towards evidence-based policy making and the acceptance of the need for greater transparency and accountability in decisions regarding the determination and delivery of public services. These developments apply not only at national level but are also increasingly evident at international, and most especially, at EU level.*

*At national level, the particular form of social partnership adopted in Ireland has brought policy-making into a more public forum and has created increased pressure for accountability and measurement of the success of national programmes. Furthermore, recent legislation in the Freedom of Information and Equality areas, combined with*



*ongoing developments in social inclusion policy, also create pressure for greater accountability and a need to benchmark and measure developments...*

*At an international level, membership of the EU has made demands on domestic policy in terms of measuring progress and of meeting new targets and obligations in the social and equality spheres. At EU and UN level, we are seeing an increasing importance being attached to social inclusion and social cohesion and a corresponding need to be able to measure progress in these areas.*

*These developments have substantially increased the demand for statistics and indicators relating to social and equality issues at all levels. Responding to this demand is a major challenge to public administrations as a whole and to national statistical offices in particular.”*

Any assessment of the extent to which CSO is responding to this increased demand would conclude that significant progress has been made in recent years. Obvious examples include: the social modules in the QNHS; the initiation of the EU SILC; and the publication of the first report on national progress indicators. The SGSES report concluded that much more is required, with a particular focus placed on the exploitation of administrative records and working in a co-ordinated and integrated manner. Recent decisions, such as the sanctioning by Government of a post-censal survey on disability in 2006 and the assignment of responsibility for crime statistics to the CSO, clearly indicate that there is a commitment to responding to these needs through the further development of the statistical system.

It is not the purpose of an Expenditure Review such as this to make the case for an expansion in activities. Nevertheless, it is important that the overall context with regard to the current state of development within which the current programme must operate is recognised in making any evaluation of its effectiveness. The general conclusion that may be drawn from the preceding paragraphs is that the CSO is generally meeting the current demands following a significant increase in its capacity in recent years. However, it is clear that further development and expansion will be required to meet the new demands that are already known or that can be expected to emerge.

## **4.2 Effectiveness in meeting users' needs**

The effectiveness of statistical outputs can be most usefully assessed in the context of the following dimensions of statistical quality:

- ◆ **Relevance** – in the context of an expenditure review this may be taken as an assessment of the extent *within the existing programme* to which the focus is on addressing the most important needs i.e. is the “right” information being collected;
- ◆ **Reliability** – an assessment of the credibility and reliability of the statistical outputs;
- ◆ **Timeliness** – this is usually a high priority for users but often involves a trade off between it and reliability; and
- ◆ **Accessibility** – the extent to which all categories of users can make optimal use of the statistical outputs.

## Relevance

The National Statistics Board commissioned two surveys of CSO users, in 1997 and 2002, to assess the extent to which the Office was responding to their needs. A total of 170 responses were received from a representative cross-section of users in 2002 – the corresponding figure in 1997 was 151. The following table summarises their response in respect of their use of CSO outputs.

**Table 4.1 CSO statistical series used by survey respondents<sup>8</sup>**

<b>Statistical series</b>	<b>2002</b>	<b>1997</b>
Demography	113	133
Labour market	98	114
Economic	91	126
Prices	90	113
Industry	42	73
Services	25	57
Building and Construction	23	27
Agriculture	19	46
General publications	19	43
Tourism and Transport	17	27
Other areas	19	23
<b>Total respondents</b>	<b>170</b>	<b>151</b>

*Source: Survey of CSO Users 2002, National Statistics Board (2003)*

It may be seen from the table that the statistical outputs from the Social and Demographic statistics programme are amongst the most widely used of the CSO's products. This is particularly the case in respect of the Census, QNHS and Consumer Price Index<sup>9</sup>. This is, of course, no more than a crude indicator of relevance but nevertheless it confirms anecdotal evidence that there is widespread interest in these products. Another crude indicator is the significantly increased coverage of social and demographic statistics (particularly from the census and the QNHS) in the media in recent years.

The extent to which the statistics are used in a policy context is, of course, a fundamental indicator of the relevance of official statistics and the following examples, which are by no means exhaustive, demonstrate that the outputs from the social and demographic statistics programme are in constant demand:

- ◆ Census results were a major input to the development of the National Spatial Strategy;
- ◆ Data on poverty and social inclusion from the QNHS and the EU SILC are used to set and monitor targets in the National Anti-Poverty Strategy (NAPS);
- ◆ Many of the outputs are the main data sources for policy monitoring at EU level e.g. Laeken Indicators, Social Cohesion Indicators and the EU Structural Indicators (the Laeken Indicators are reproduced in Appendix 3 and provide a comprehensive example of policy data needs in the social sphere);
- ◆ Numerous references are made to CSO outputs in Sustaining Progress and earlier national partnership agreements (e.g. in the context of the provision of indicators to monitor progress on the challenge of delivering a fair and inclusive society); and

<sup>8</sup> There were 151 survey responses in 1997 and 170 responses in 2002.

<sup>9</sup> In comparison with the 1997 user survey, respondents reported reduced usage in 2002. There was significantly reduced usage of the Census of Population, External Trade, Services and Agricultural statistics. The delayed census and an element of non-response (8 per cent) to this question in the 2002 survey explains much of the reduction in usage. The very significant increase in the use of the CSO website and the electronic availability of data may also have impacted on the respondents answers.

- ◆ Data from the Consumer Price Index are in regular demand in the context of policy and other initiatives to monitor and control inflation.

The content of much of the individual programmes is fixed, either by legislation in the case of EU requirements or by precedent in the case of the Census and other longstanding series. Despite this the CSO takes a number of steps to ensure that the real needs of users are addressed. These include:

- ◆ A public canvass of users via the media to ascertain their priority needs in respect of the 2002 and 2006 censuses – this resulted in around 80 substantive replies being received on each occasion and resulted in a number of new questions (e.g. disability, carers and Irish Travellers in 2002) being tested and in some cases, following an examination by an expert Consultative Committee, included in the Census questionnaire;
- ◆ A Labour Market Liaison Group, representative of the main users of labour market statistics, has advised on the development of the core outputs from the QNHS;
- ◆ Proposals have been sought from users to establish priorities for the programme of social modules to be included in the QNHS and expert groups have been convened to advise on the preparation of the questionnaires for individual modules; and
- ◆ An Expert Group was convened prior to the last re-basing of the CPI in 2001 to advise on the re-design and presentation of the national index.

On the basis of the evidence above, it may be concluded that the statistical outputs of the social and demographic statistics programme are substantially addressing the priority needs of users. Furthermore, it is clear that the CSO has a number of mechanisms in place to ensure that their continued relevance is kept under consideration on an ongoing basis. This conclusion does not infer that all unmet needs have been considered and deemed to be of lower priority. Rather it is suggesting that there is little or no scope for discontinuing or substantially reducing the extent of the existing programme in order to free up resources to meet other needs.

## **Reliability**

The CSO has a long tradition of putting a strong emphasis on ensuring the accuracy of its outputs through the employment of sound methodologies and the adoption of appropriate quality assurance measures at all stages of the statistical process. Some examples are given in the following paragraphs.

Field-staff undertaking the census or household surveys receive comprehensive training and their work is monitored closely to ensure that standards are adhered to at all times. In addition, the approach in the Irish census up to now has been to employ Enumerators for both the delivery and collection of the household forms, thus putting a premium on ensuring a full count of the population throughout the State.

Prior to its introduction in 1997, the CSO engaged the services of an internationally respected expert on sampling to recommend a design for the QNHS that would achieve the EU accuracy criteria<sup>10</sup> in a cost-effective manner (see section 5.4.1 below). The recommended design also forms the basis for the new EU SILC and thus the accuracy of both surveys compares very favourably with international equivalents.

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<sup>10</sup> The QNHS is designed so that the relative standard errors of the estimates of employment and unemployment at State level are 0.5% and 2.1% respectively.

The CPI, which must meet very exacting accuracy standards, is subject to an intensive EU sponsored audit process to ensure that the sources and methods used meet the requirements in full.

In general, the public perception of the reliability of the CSO's products is positive. The NSB survey asked respondents to indicate their level of satisfaction on a scale from 1 (good) to 7 (poor) with the quality of CSO products. The following table shows that the area which respondents rated most highly was accuracy, with an average score of 1.9 being registered across all respondents.

**Table 4.2 Average rating<sup>11</sup> of level of satisfaction with the quality of CSO products**

<b>User category</b>	<b>Level of detail</b>	<b>Timeliness</b>	<b>Accuracy</b>	<b>Relevance</b>	<b>Style of Presentation</b>	<b>Overall cost</b>	<b>Requirements fulfilled</b>
Consultants; Market Research	1.7	2.3	1.9	2.0	2.0	2.2	2.0
Third Level; Research	2.5	3.3	2.0	2.4	2.2	2.3	2.4
Financial; Stockbrokers	2.1	3.0	1.6	2.1	2.3	1.8	2.4
Government Departments	1.6	2.5	1.6	2.3	2.7	2.2	2.3
Media; Political; Business	2.0	2.9	1.7	2.9	2.6	2.5	2.3
Local Administration	2.1	2.4	2.0	2.0	2.6	2.5	2.4
Representative Bodies	3.2	4.0	2.6	2.8	2.8	2.4	3.4
State Sponsored Bodies	2.5	3.1	2.1	2.2	2.0	2.0	2.7
<b>All organisations 2002</b>	<b>2.2</b>	<b>2.9</b>	<b>1.9</b>	<b>2.3</b>	<b>2.4</b>	<b>2.2</b>	<b>2.5</b>
All organisations 1997	2.6	4.2	2.0	2.2	2.8	2.6	3.1

### Timeliness

Table 4.2 indicates that timeliness was still the area of least satisfaction among CSO users in 2002. However, there was a marked improvement since 1997 with the rating improving significantly from a somewhat poor 4.2 in that year to a more respectable 2.9 in 2002.

The timeliness of the outputs from the Social and Demographic Programme has improved dramatically over the past decade and in many cases now compares more than favourably with international standards. The following is a summary of the situation for the main outputs:

- ♦ The dissemination programme for the 2002 Census was completed within two years of census day (see Table 5.3 for details). This compares with almost three years in 1996 and over six years in 1991;
- ♦ The core results from the QNHS have been published consistently since 1999 within three months of the reference quarter whereas the delays in the publication of old annual Labour Force Survey varied from six to eighteen months in the mid 1990s;
- ♦ The monthly Live Register report is produced within one week of the day to which it refers (see Timeliness monitor in Appendix 4); and
- ♦ The monthly CPI is published consistently within 8 to 18 days of the end of the month while the WPI is published with a delay of around 25 days. In both cases the timeliness is well within the recommended international standards of 36 and 45 days respectively.

Much of the improvement in timeliness has been due to the adoption of new technology e.g. the scanning and automatic recognition of the 2002 Census forms and the use of computer assisted interviewing in the QNHS. Further developments such as the implementation of the CSO IT

<sup>11</sup> Scale of 1 to 7 (1="Good", 7="Poor").

strategy and the modernisation of the registration of vital events should lead to additional improvements in the future.

In conclusion, therefore, it is clear that users place a very high value on the availability of timely statistics and considerable progress has been made in this regard in the dissemination of social and demographic data in recent years.

## **Accessibility**

The availability of data to users and the ease with which it can be accessed are issues of critical importance. While always keeping the confidentiality requirements in mind, the Office has attempted to meet the access requirements of all users (expert and other) in a variety of ways. Traditionally the only output was the hard copy statistical release/publication. However all statistics are now released in a number of different ways/formats with an increasing focus on electronic dissemination. The following is an overview of the current arrangements:

- ◆ Hard copy statistical releases and reports, many of which contain user friendly commentary and analysis of the tabular data;
- ◆ Releases and publications available in pdf format simultaneously on the CSO website at 11.00 am on release day;
- ◆ All published tables from the 2002 Census are available in electronic form on the CSO website where they can be manipulated interactively using a specific software product to meet the needs of individual users more precisely;
- ◆ Special analyses for users where requested; and
- ◆ Public-use anonymised microdata files are made available for a sample of the census records and for all the main household surveys (including QNHS modules) to the Irish Social Science Data Archive (ISSDA) for access by researchers.

The more widespread coverage of CSO outputs in the media, particularly those relating to social and demographic issues, and the positive response from users in the NSB survey are firm indicators that the CSO strategy on accessibility is proving to be effective.

### **4.3 Cost to customers**

Traditionally the CSO has recouped only a small proportion of its expenditure on statistical production through charging its customers for outputs. In regard to its hardcopy publications and releases, the charges have tended to cover only the costs of reproduction, handling and postage. Where customers have requested special analyses requiring significant CSO input, a cost-recovery policy covering the extra effort has been in place. In effect this minimalist charging policy implicitly reflects the treatment of statistics as a “public good” by the Office. The advent of the internet has reinforced this approach in that all mainline CSO outputs can now be obtained free of charge via the CSO website ([www.cso.ie](http://www.cso.ie)). The CSO policy is very much in line with international practice where it is increasingly recognised that statistics are a good whose value is best realised through their effective and widespread use rather than through the direct recoupment of some of their costs of production.

The provision of small area statistics from the Census of Population (SAPS) is an exception to the general approach outlined in the previous paragraph. For earlier censuses these statistics were treated as “special analyses” and the cost reflected the additional costs incurred by the CSO in their production. However, with the arrival of Geographic Information Systems (GIS) a more

commercial approach has been adopted involving outside re-sellers. Under this approach, the re-sellers are licensed to sell the SAPS, usually bundled with other small area data and maps, in a form that can be readily accessed using GIS software. In addition to the licence fees paid by the re-sellers, the CSO also receives a royalty payment in respect of each sale. The market for such products has increased dramatically in recent times and revenue from the 1996 census exceeded €700,000. The prices charged by the re-sellers reflect market conditions and as such can be out of reach for researchers and other users that have limited resources. This situation is, of course, at variance with the “public good” status of official statistics and in response the CSO now makes the basic SAPS available free of charge through the Irish Social Survey Data Archive for pure research and related non-commercial purposes. The policy in regard to the SAPS is reviewed on a census by census basis taking into account both developments in the general dissemination policy environment for statistics and advances in technology.

#### 4.4 Perceived value for money

In view of the CSO charging policy, price is not a significant issue for customers in assessing the perceived value for money of CSO outputs and services – although some users indicated that the cost of publications was too high in the NSB Survey of Users in 2002. Table 4.3, which is taken from that survey, indicates that the vast majority (around 90 per cent) of users consider that the CSO provides “very good” or “good” value for money

**Table 4.3 Evaluation of CSO Services**

User category	Value for money				
	Very good	Good	Middle	Bad	Very bad
Consultants; Market Research	5	6	1	–	–
Third Level; Research	9	13	2	1	1
Financial; Stockbrokers	4	8	–	–	–
Government Departments	3	10	–	1	–
Media; Political; Business	1	5	1	–	–
Local Administration	3	27	3	–	–
Representative Bodies	–	7	2	1	1
State Sponsored Bodies	9	16	1	–	–
<b>All organisations 2002</b>	<b>34</b>	<b>92</b>	<b>10</b>	<b>3</b>	<b>2</b>
All organisations 1997	18	75	26	2	1

The favourable assessment of the value for money is consistent with the general satisfaction expressed in regard to the perceived quality of existing CSO products (see Table 4.2). Indeed the NSB survey would tend to suggest that the most common source of dissatisfaction was the lack of statistics in certain areas that were of particular interest to some users. Many of the areas cited in this regard related to the social statistics area (e.g. education and travellers) and again this just goes to confirm that there is still a significant unmet demand for these statistics despite the recent improvements.

## Chapter 5 Resources and Scope for Alternative Approaches

### Terms of Reference 4 and 5

*Identification of the level of staff and other resources required for implementing the programme; commenting on the economy and efficiency with which it is undertaken taking into account, as appropriate, the situation in other countries;*

*Examination of the scope for alternative approaches to meeting users' current, and likely future, demands on a more efficient and/or effective basis taking into account international experience and technological development, etc.*

### 5.1 Introduction

Terms of Reference 4 and 5 are taken together since in most cases an examination of the efficiency of current systems leads ultimately to the consideration of possible alternatives. The principal focus of this section is on examining the main cost drivers and how methodologies and organisational structures have been developed to ensure value for money. Comparisons with other countries, particularly in regard to comparing the overall cost of specific activities, are fraught with difficulty. Efforts at international level at making such comparisons have not been very successful<sup>12</sup>. Different institutional arrangements for statistics, the availability of registers for statistical purposes, economies of scale, variations in population densities and wage levels are examples of factors that make cross-country comparisons difficult to interpret. This is particularly the case where projects such as censuses and large household surveys account for most of the costs. Notwithstanding these difficulties, an attempt will be made in the following sections to make some tentative comparisons of the cost of the main components of demographic and social statistics in Ireland compared with a number of other countries.

### 5.2 Identification of staff and other resources required

Table 5.1 summarises the staff deployed, and related cost, together with the direct field costs involved in collecting the basic data for all ongoing activities in 2004. The comparable costs for the HBS (which is undertaken every five years) are shown separately for completeness. Staff and field costs are by far the most important elements of the CSO budget and typically account for over 80% of annual expenditure. They are also the most relevant from the point of view of assessing the economy and efficiency with which the activities are being undertaken since other fixed costs such as buildings, central IT resources, etc. cannot be readily allocated and analysed in a meaningful way for the purposes of this exercise.

Details of the cost of the 2002 Census project (excluding the cost of the census core staff shown in Table 5.1) are given in Table 5.2, along with comparisons with 1996. In this case a wider range of costs are given as the census, because of its size, is very much a stand-alone operation within the CSO.

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<sup>12</sup> A UN study of the cost of censuses in four different countries, which was carried out in 1996, contained the following reference: "With respect to methodological studies, the importance of undertaking a study of the cost of population and housing censuses at the regional level was mentioned. Based on the previous experience of the Secretariat, such studies were complex and the results could easily be misinterpreted. That was due to the great variation among countries in the way censuses were carried out in the terms of the use of personnel and other resources of national, provincial and local government departments, as well as volunteer enumerators and contributions from the private sector. Consequently, the total cost was difficult to obtain on a comparable basis across countries."

**Table 5.1 Direct staff numbers and direct collection costs, 2004**

Section	Number				€000
	HQ	Field	HQ	Field	Total
<b>Ongoing annual activities</b>					
Census core staff	28	-	1,072	-	1,072
Vital statistics	14	-	431	-	431
QNHS	25	130 <sup>13</sup>	997	4,167	5,164
EU SILC	15	34 <sup>14</sup>	565	735	1,300
CPI	21	200 <sup>15</sup>	724	430	1,154
WPI	8	-	263	-	263
Social Statistics Integration	3	-	199	-	199
<b>Total: ongoing activities</b>	<b>114</b>	<b>364</b>	<b>4,251</b>	<b>5,332</b>	<b>9,583</b>
<b>Periodic Activity</b>					
HBS <sup>16</sup>	34	55	1,081	2,532	3,613

**Table 5.2 Census Costs, 1996 and 2002**

Category	€m	
	Census 2002	Census 1996
HQ salaries	5.7	8.5
Field salaries	14.5	7.5
Travel	2.7	1.2
IT	7.1	0.5
Office equipment	1.0	0.2
Premises	0.7	0.2
Printing	1.2	0.3
Advertising	1.4	0.4
Consultant	0.2	0.0
Postal & Telecommunication	0.2	0.1
Incidental	1.4	0.5
<b>Total</b>	<b>36.1</b>	<b>19.5</b>

In the following sections the expenditures on the four sub-programmes are examined in turn with the main focus on the most expensive components, namely: the census and the household surveys. Alternative approaches are considered as part of this review.

<sup>13</sup> Includes 120 interviewers who work on average 25 hours per week.

<sup>14</sup> Includes 32 interviewers who work on average 25 hours per week.

<sup>15</sup> Input is one day per month.

<sup>16</sup> The HBS is conducted over a two-year period with fieldwork lasting 12-15 months. The number of HQ staff varies over the period and the figure given in the table represents the peak numbers employed.



## 5.3 Demographic Statistics

### 5.3.1 Census of Population

The census is the largest statistical project undertaken by the Central Statistics Office. Table 5.2 shows that the three-year project cost of the 2002 Census was €36 million, with the main costs relating to field costs and travel, HQ staffing and IT.

The field operation accounts for the most significant proportion of overall census costs - estimated at 48 per cent for Census 2002 compared with 45 per cent for the previous census. Costs are a function of the number of field staff employed and the pay rates they receive. The methodology used for the census field operation consists of enumerators delivering blank census forms to households in the five-week period before census day and collecting completed forms in the five-week period after census day. For the 2002 Census approximately 4,000 enumerators were employed for a period of about ten weeks to undertake this work. A team of 350 Field Supervisors and 35 Regional Supervisors managed the field operation and were employed for periods ranging from six to nine months. On average, an urban based enumerator had a workload consisting of 350 households while her rural counterpart covered 290 households.

Enumerators were paid a fee to cover their time input and also an allowance to cover travel expenses incurred in the course of their work. The fee was structured to cover the different phases of the work i.e. training, delivery of forms, collection of forms and summarisation of returns and part of it was paid as a bonus at the end to ensure the quality and completion of the work. In setting the overall level of the fee per household enumerated, the CSO must have regard for the need to attract candidates capable of doing the work and, in the case of the 2002 Census, to the prevailing national minimum wage. On the basis of work returns completed in earlier censuses it was possible to estimate the average time taken to complete all aspects of the enumeration. An imputed hourly rate of £1.00 (€1.27) in excess of the national minimum wage was ultimately adopted as the basis for setting the fees. Overall, enumerators earned fees of approximately €2,000 each for ten weeks work where they worked 20-25 hours per week on average. In addition, a flat rate travel allowance of €190 was paid to urban enumerators while a pre-determined allowance, based on the internal mileage of the Enumeration Area, was paid enumerators in rural areas.

Supervisors, who were employed on a temporary whole-time basis, were paid a salary linked to the Civil Service Staff Officer Grade and were recouped their travel and subsistence expenses in line with Civil Service practice.

The main conclusion to be drawn from the foregoing analysis is that the “rate for the job” paid to the field force is quite moderate and that there is therefore little or no opportunity to lower costs without fundamentally changing the enumeration model itself. Indeed, in the context of the current Irish labour market it is likely that the unit costs will increase more rapidly than other costs in the future. The CSO is also satisfied that the average time taken to enumerate a household is realistic and that it too is likely to rise in the future as an increasing proportion of households become more difficult to contact or less amenable to co-operating with the census. The issue of changing the current methodologies is discussed below in the context of examining alternatives.

When the census project is being carried out, the number of headquarters staff in the CSO is increased significantly to handle the various aspects of the census over the three-year period. The various stages that applied to the 2002 Census were as follows:

- ◆ Planning stage including consultation with public, conduct of a Census Pilot test in September 1999 and getting Government agreement to questionnaire content;
- ◆ Selection of supplier to provide hardware and software solution using scanning and recognition technology to capture information from census forms;

- ◆ Locating, equipping and staffing a centre for processing the census returns;
- ◆ Determining census collection geography to underpin the field work;
- ◆ Recruiting temporary staff to carry out the field operation and additional HQ staff to process the census information;
- ◆ Paying field staff and providing administrative and logistical support for the census operation;
- ◆ Processing completed census forms; and
- ◆ Disseminating census results.

The HQ staff input required for Census 1996 was approximately 634 person years over the three years 1995 to 1997 while the corresponding requirement for Census 2002 was 373 person years<sup>17</sup>. The reduction of over 40 per cent, which occurred against a backdrop of an increased number of households (and therefore census forms) of about 15 per cent, was facilitated by increased technology usage and particularly the use of scanning and recognition. The increased IT utilisation and the move to a dedicated processing site are reflected in the increases in the costs of computer, office equipment and premises. The use of scanning placed a higher premium on precision printing which necessitated a more tightly defined census form. There were resultant printing cost increases.

Overall, the introduction of new technology in 2002 was broadly budgetary neutral in the context of the total cost of the census. However, as will be seen, it led to significant improvements in timeliness. Furthermore, the investment in technology in 2002 can be expected to yield a significant dividend in terms of reduced costs in future censuses.

### **Efficiency of resource utilisation**

Efficiency refers to the relationship between inputs and outputs. Census output consists mainly of published reports and analyses. Table 5.3 sets out the reports published along with the publication time lag for the 1996 and 2002 censuses. The time lag is given in months from census date. The publication programme for the 2002 Census was concluded within 24 months of census day – a 25 per cent improvement compared with the 1996 Census. The average time lag for the 11 subject matter reports issued for the 1996 Census was 23 months. The corresponding publications were published with a time lag of 18.3 months for the 2002 Census, representing a 20 per cent improvement.

The increased topic coverage of the 2002 Census is reflected in a greater number of publications (18 in 2002 compared with 14 in 1996). Housing and religion questions, which have traditionally been asked in end-decade censuses, account for some of the difference. The remaining publications derive from new questions (i.e. disability and carers, and membership of the traveller community).

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<sup>17</sup> At peak there were 228 staff working on the 2002 Census compared with 312 staff on the 1996 Census.

**Table 5.3 Census publication schedules, 1996 and 2002***months*

Census 1996		Census 2002	
Report	Time-lag	Report	Time-lag
Preliminary	3	Preliminary	3
Principal Demographic	15	Principal Demographic	14
Area	16	Area	15
Ages and marital status	18	Ages and marital status	15
Households and families	19	Households and families	16
Usual residence and migration	20	Principal Socio-Economic	18
Principal Socio-Economic	24	Usual residence and migration	18
Principal Economic Status and Industry	26	Principal Economic Status and Industry	19
Travel to work, school and college	27	Occupations	20
Occupations	28	Education	21
Education	29	Irish Travellers	21
Irish language	32	Travel to work, school and college	22
		Disability and carers	23
		Irish language	23
		Religion	24
		Housing	24
Small area population statistics	24	Small area population statistics	19
Sample of anonymised data	63	Sample of anonymised data	26

A major addition to the 2002 Census output was to make the published data available on the CSO website at the time of release of the hardcopy publication. This was made possible by the acquisition of specialised dissemination software (Beyond 2020). Information at the level of Electoral Division was also published on the website for a number of the more important national tables while the opportunity was also taken to make all 1996 tables available in electronic format.

### Census practice elsewhere

A number of countries carry out traditional censuses in which all of the field work is conducted by enumerators who deliver and collect census forms. In some of these cases the enumerators collect the required information by interview while in others the form is completed by an adult in each household and retained for collection. A variant on the traditional census is where the householder mails the completed form back to the census office.

Register based censuses are taken in countries which have well-developed register information systems. These are mainly the Scandinavian countries. Data collection is based on merging the information from a number of disparate registers such as those for inhabitants, buildings and dwellings, school-goers, employees (tax and social security) and companies. The ability to conduct a census in this way is heavily dependent on the existence of a unique personal identifier and on the extent to which this is used in the administration of the various registers. It is of interest to note that Sweden – a country with a reasonably well established register system - has been attempting to move towards an entirely register-based population and housing census over a period of about thirty years but has not yet managed to do so.

Some countries are attempting to use their censuses to assist in developing registers which they hope will in time enable them to adopt a register based approach to census taking. These censuses are termed mixed censuses.

In a study<sup>18</sup> of 30 European countries carried out by the University of Thessaly for Eurostat after the 2000 round of censuses, 20 countries were identified as having carried out a traditional census, 6 countries (Austria, Belgium, Latvia, Liechtenstein, Slovenia and Switzerland) had a mixture of traditional censuses and registers, 3 countries (Denmark, Finland and Norway) used registers only and Netherlands used administrative registers and household sample surveys.

While undoubtedly register based censuses score highly in terms of cost-effectiveness they are, however, constrained by the comprehensiveness of the relevant registers on which they depend. In particular, variables such as ethnicity and means of travel to work along with time taken and distance travelled cannot be deduced from these sources.

As regards a possible “best method” of conducting censuses the University of Thessaly study found that:

*“What constitutes the best mix of methods and technologies, in any particular country and at a particular point of time, remains a matter for consideration for those responsible. It is obvious, and confirmed by the information contained in this report, that no one solution fits all.”*

Most of the countries covered in the study conduct their censuses every ten years. Ireland is one of the few remaining countries to undertake a census every five years. The main reason for this is the rapid pace of population change in this country and the impact which migration flows have exerted on this population change. For instance, in the 1986-1991 inter-censal period average annual net *outward* migration was 27,000 compared with an average annual natural increase of 24,000 while for the most recent inter-censal period 1996-2002 average annual net *inward* migration was 26,000 compared with an average annual natural increase of 23,000. The changing population mix with increasing numbers of residents who are non-Irish nationals, along with rapidly changing inter-regional population movements all point to the need for the retention of the five yearly frequency for censuses. Indeed, the decision to cancel the 1976 Census on cost saving grounds was soon perceived as being short-sighted given that it occurred at a period when the long standing outward migration trends were changing to an inward direction. This was recognised by Government and, in an unprecedented move, it was decided to hold an additional census in 1979 to collect basic demographic information<sup>19</sup> just two years in advance of the next full-scale census in 1981.

Table 5.4 provides a preliminary indication of the relative cost of the Irish census vis-à-vis the costs operating elsewhere. Traditional censuses were carried out in the three countries selected i.e. Northern Ireland, Switzerland and Portugal. However, in Switzerland use was made of the national address database to post out pre-printed forms to householders while the information was largely collected by officials in the local cantons. A facility was also put in place to allow householders to return their forms over the internet. The Northern Ireland census was carried as part of the overall UK census and used a post back methodology.

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<sup>18</sup> Documentation of the 2000 Round of Population and Housing Censuses in the EU, EFTA and Candidate Countries, University of Thessaly, Greece, May 2003.

<sup>19</sup> Name, sex, relationship to head of household, date of birth, marital status and change of residence from outside the State.

**Table 5.4 Cost of 2000 round censuses in Ireland, Northern Ireland, Portugal and Switzerland**

Category	Unit	Ireland	Northern Ireland	Portugal	Switzerland
Cost of census	€m	39.3	17.7	47.1	105.4
Population	m	3.917	1.685	10.329	7.261
Number of households	m	1.291	0.627	3.391	3.006
Purchasing power parity (2000)	EU15=100	1.04	1.13	0.73	1.33
Cost per person	€	10.03	10.50	4.56	14.51
Cost per person (adjusted for PPPs)	€	9.65	9.29	6.25	10.91
Cost per household	€	30.44	28.2	13.89	35.06
Cost per household (adjusted for PPPs)	€	29.27	24.96	19.03	26.36

On a cost per person basis, Ireland's census was about 45 per cent cheaper than Switzerland's, 5 per cent less expensive than Northern Ireland's and over twice as expensive as Portugal's. When adjusted for PPPs the cost per person for the NI census is less than that for Irish census while the variation in price between the cost in Portugal and Switzerland is reduced considerably. However, because the household is the statistical observation unit used in the census, a more meaningful comparison is got by comparing the costs per household surveyed. On this basis and following adjustment for PPPs, Ireland is the most expensive of the countries studied. A mitigating factor is the high fixed overhead involved in staging a census. The smaller a country's population, the greater the impact of this overhead will be on unit costs. This is the case in Ireland while in Northern Ireland participation in the UK census helped to considerably reduce overheads (e.g. processing was carried out in partnership with England and Wales).

### Alternative approaches to census taking

As mentioned above a number of countries have made the transition from the traditional census model, in which enumerators deliver and collect census forms, to other variants such as:

- (a) delivery of forms by enumerators and post back of completed forms with field follow-up for non-respondents; and
- (b) post out and post back of forms with field follow-up.

Experience in these countries has shown that the quality of completed forms returned by post is inferior to those which the enumerator collects as in the latter case enumerators are instructed to thoroughly check the completed census form on the door step prior to accepting the form as complete. In particular the enumerator checks the accuracy of the headcount with the householder i.e. confirming those present in the household on census night.

Statistical techniques have to substitute for incomplete information returned by post. Using these techniques imputations are made for missing items (individual questions on the form), missing persons and missing households. The method of imputing for missing households is to hold a post census coverage survey in which a sample of households are interviewed and the results compared at an individual level with the census information. To conduct such a survey in this country, given its relatively small size, would require a significant sample with appropriate area coverage. In addition there may be a reluctance on the part of the public to accept the veracity of complicated statistical techniques used to impute for missing persons and households<sup>20</sup>.

Posting back completed questionnaires suffers from a number of other drawbacks. The non-compliant households are likely to be the most difficult ones to enumerate. It would not be

<sup>20</sup> A major debate took place in the UK after their 2001 Census about the completeness of the headcount information produced using the "One Number Census" methodology. Similar debates have also taken place in the United States in the past.

attractive for enumerators to engage in an exercise where the number of households covered would be relatively small (say, 10% to 20% of the total) and the degree of difficulty much higher than for the more compliant households. The remuneration package offered would have to be considerably enhanced to attract a sufficient number of enumerators of the right calibre. There would also need to be an enhanced public awareness campaign to remind members of the public to complete and post their forms back to the CSO. The degree of local control, which the enumerator exerts in the traditional delivery/collection census model, would be missing with post back. The provision of early headcount population figures based on clerical extractions by local enumerators would no longer be an option. These preliminary figures are usually published within 3 months of census day and have been shown to be extremely accurate.

Posting out blank forms in advance of the census would require an up-to-date and comprehensive national address database. The Geodirectory product, which is being developed by An Post and Ordnance Survey, has as its objective to be able to uniquely identify the exact address of every residential and commercial building in the country and to provide accurate co-ordinates for these addresses. The accuracy and currency of the Geodirectory is being enhanced on an ongoing basis in urban areas. However, the absence of unique addressing in rural areas is a major obstacle to the utilisation of the Geodirectory as a national address data base.

A further area where a small number of countries have made progress to date is the ability to be able to cater for the return of completed census forms over the Internet. There are no major technological impediments to being able to offer this service other than the capacity to be able to handle the peak load which the return of census forms around census day would give rise to. The main benefit is the facilitation of respondents and the fact that data would not need to be captured subsequently. The same quality issues would arise as for posted back questionnaires although it could be argued that those most likely to use the service would be the more compliant respondents. In any event, contact would have to be made with each householder to impart a secure user identification and password to ensure the integrity and confidentiality of the information returned and to validate that complete coverage has been obtained. The resultant system could be a combination of a number of different modes i.e. enumerator delivery or post out with internet collection supplemented by enumerator collection and/or post back of completed questionnaires. A full assessment would need also to be made of the risks associated with introducing a "mixed mode" approach to census collection (i.e. danger of duplication, poor communications, etc).

In summary, the preceding paragraphs indicate that a move to post-back (with or without an Internet option) would give rise to cost savings compared with the current enumerator only model. However, these savings would be mitigated to a significant extent by the need to conduct supplementary surveys and to compensate enumerators for the difficult task of following up non-respondents. In addition the expected negative impact on the quality of the census results would have to be fully taken into account before a change in approach could be contemplated. Any change of this magnitude would have to be fully examined before implementation and thus it must be seen as a medium to longer term option rather than one that could be introduced in the context of the next census in 2006.

In this context it is important to bear in mind that the census project is one with a long planning cycle. As illustrated above, most countries conduct their censuses at ten-year intervals. This allows them the opportunity to test and introduce major changes from census to census. Because of the five year frequency of the Irish census, methodological and operation changes tend to be more incremental. However, this is partially compensated for by the greater institutional memory among management staff members because of the relatively lower staff turnover.

### **5.3.2 Vital Statistics**

Vital Statistics are prepared by the CSO on the basis of administrative data collected by the General Register Office (GRO). Results are published both on a quarterly and annual basis in accordance with the provisions of the Vital Statistics and Births, Marriages and Deaths Act, 1952.

Prior to September 2003 the collection of the data by the GRO was purely a paper-based process. Since September 2003 a new electronic registration system has and is still being introduced on a gradual basis. The phased implementation of the new system is providing CSO with new challenges and in particular there are some concerns in relation to the quality of the data in terms of its completeness. At present the Office receives data in both electronic and paper format. There are particular problems with the paper-based returns with key data items not being provided in some cases (e.g. father's date of birth, number of previous live births, nationality of the mother/father). Furthermore, it appears that there are multiple versions of the Birth Notification Form (BNF) in use at present. However, this will be resolved once the new system is fully implemented.

It may be assumed that when the transition to the new electronic system is complete that it will be possible to achieve efficiencies in the processing of the returns and improve the timeliness with which results are made available. At present one of the most labour intensive activities is the coding of cause of death and the introduction of automatic, or computer assisted, coding should realise significant savings in processing costs.

## **5.4 Labour Market and Social Inclusion**

### **5.4.1 Household surveys (QNHS and EU SILC)**

#### **Data collection/field-force**

Table 5.1 shows that expenditure on the QNHS and the EU SILC accounts for almost all the budget for the Labour Market and Social Inclusion sub-programme. Furthermore, field costs are the dominant cost component. There are three basic determinants of the field costs, namely: sample size and design; method of collecting the data i.e. personal interviewing, telephone, etc; and unit labour costs.

During the planning phase of the QNHS, prior to its introduction in September 1997, the CSO brought in an outside expert on sample design, Dr. David Steel from the University of Wollongong in Australia, to review the proposed CSO design. Dr Steel was asked to propose an optimal sample size and design that would simultaneously meet the necessary data quality criteria while taking cognisance of overall costs. His recommendations were fully adopted by the CSO in the subsequent implementation of the survey. In short, his design involved interviewing approximately 3,000 household every week (39,000 in a quarter) with the households spread over 2,600 local areas. A field-force consisting of 10 co-ordinators and 130 part-time interviewers was established to undertake the survey. Each interviewer works on average 25 hours per week with a considerable amount of the work being undertaken in the evening time or at weekends.

In 2003 when the decision to go ahead with the EU SILC was taken, a review of the household survey area was undertaken. The outcome was the decision to integrate the field activities for the QNHS and EU SILC to realise all the resource and cost savings stemming from the obvious synergies between the two surveys. Such an approach allowed the Office to benefit from the knowledge gained on the QNHS (all aspects of the survey process), economies of scale and improved efficiency through the elimination of duplication of effort. Other advantages included:

- ◆ The development of an integrated field-force for the QNHS and EU SILC;
- ◆ Standardised data collection techniques (Blaise);
- ◆ Standard data-flow system for transfer of data from field to central office;

- ◆ One processing system for all household surveys (allowing for differing functionality where required);
- ◆ Significant 'de-clustering' of the EU SILC sample – leading to a much more statistically efficient sample – compared with what could normally be achieved in surveys of this size.

The target sample for the EU SILC is in the range 6,000-7,000 households per annum, or 120-140 households per week spread out over the entire field-force. To cope with the increased workload, two additional co-ordinators were employed while the number of interviewer posts was increased by twenty. In terms of cost, the CSO estimates that it saved approximately 25% of the cost of a stand-alone EU SILC through the integration of the two surveys.

At present in the QNHS and the EU SILC all data are collected using Computer Assisted Personal Interviewing (CAPI) i.e. employing the BLAISE software package. Compared with the more traditional "paper and pencil" interviewing methods the computer assisted approach has many advantages, most notably the substantial reduction in processing that has been done subsequently prior to the dissemination of results. Other advantages include better quality data (e.g. inconsistent responses can be identified by the computer at the time of interview and corrected immediately) and large reductions in the time taken to produce results because of the reduced processing.

Despite the use of computer assisted techniques, personal interviewing is still relatively expensive because of the time and travel involved for the interviewers. At present, households in the QNHS are surveyed over five consecutive quarters (or waves) and Ireland may be unique in using CAPI for all waves. Other countries have tended to use Computer Assisted Telephone Interviewing (CATI) for the second and subsequent waves in order to reduce costs.

Up to now the CSO has been unable to consider the use of CATI because of the need to upgrade its overall IT infrastructure to support such an approach. However, in anticipation of this upgrading being completed within the next two years, the CSO is currently investigating the issues surrounding the use of CATI for waves 2 to 5 in the QNHS. The investigation includes a CSO team examining in detail the CAPI/CATI approaches used in the Netherlands and the UK. In addition to cost, other issues will be addressed as part of the review including assessments of the possible impact on the quality of the results and on the scope of the surveys. The latter will be a particularly important issue for the CSO since the QNHS has developed into a much broader survey than the standard Labour Force Survey. It is now also one of the most important survey instruments for the collection of data on a variety of social issues with the additional data obtained at quite low marginal cost. Any curtailment of this feature of the QNHS in order to facilitate the introduction of CATI would, therefore, have to be taken into account in deciding on the future approach.

When the QNHS field-force was established, the CSO recruited the personnel directly, with those appointed becoming unestablished civil servants with fixed term contracts. The pay and conditions were set by reference to market rates for comparable work. This was the standard approach adopted by the CSO for the census and household surveys such as the annual Labour Force Survey and the periodic Household Budget Survey. However, unlike the earlier surveys the QNHS (and also the EU SILC) involves continuous employment and, following claims from the staff and having regard to new employment law governing contract and part-time working, the co-ordinators and interviewers became established civil servants in 2003. This change has had implications for the cost of the surveys as pay and conditions have now to be set by reference to the situation in the wider civil service. The unit labour costs, mainly covering pay and travel costs, rose by approximately 15% due to the change in status. In mitigation, however, it may be noted that the change in status facilitated the integration of the two surveys with the consequential savings noted above. There is also less turnover in staff and thus a greater emphasis can be put on standards and quality than would be the case with less experienced staff. In the current Industrial Relations environment, outsourcing is not a practical proposition. In the event of this changing the issues to be examined, in addition to that of cost, would include: capacity of contractors to provide service; quality of the work; and public acceptability.



## HQ staff

Table 5.1 shows that a total of 40 HQ staff are deployed on work associated with the surveys. Approximately 60% are deployed directly in supporting the field activity and in processing the returns. The duties of the staff supporting the fieldwork include survey organisation, recruitment, training, administration and processing. The last two activities are the most resource intensive as they may involve, on the one hand, the checking of individual travel claims and, on the other, the processing of individual forms. The introduction of CAPI has significantly reduced the volume of the latter but there are still labour intensive tasks such as the coding of industry and occupation strings in the QNHS while the imputation for missing information in the EU SILC also requires considerable input from clerical staff.

The remainder of the staff are engaged in the analysis of the results and in the dissemination of the data. The work covers the assessment of the results, the preparation of commentary, responding to queries from users, and the provision of additional analyses. This section also handles the monthly Live Register and related analyses.

The clear division of HQ staff between survey support and analysis units follows the recommendation of consultants Deloitte & Touche<sup>21</sup> for the greater adoption of the “process based” organisational structure within the CSO (as opposed to the pre-dominant “product based” structure traditionally followed). This structure was deemed by the consultants to be more efficient in the use of resources and also to be preferable in the context of exploiting new methodologies and the development of skills. Experience to-date would tend to support the consultants’ conclusion and considerable progress has been made over a relatively short period by the CSO in developing these two major surveys to meet exacting EU standards.

The maintenance of large continuous household surveys such as the QNHS and EU SILC is quite demanding, particularly the QNHS where a very tight quarterly cycle must be respected. The inclusion of social modules, which vary from quarter to quarter, adds to the challenge. The CSO is continuing to examine methods, principally based on the exploitation of technology, to respond to these challenges in a more efficient and effective manner. Such developments, however, are unlikely to lead to any substantial reductions in the overall staff support cost as such. Instead, the gains are more likely to be reflected in more timely and extensive statistical outputs. The achievement of the latter may however involve a re-profiling of the staff complement to employ greater numbers of professional and analytical staff.

## International Comparisons

International comparisons in cost terms are difficult to make given the different methodologies that are applied by different countries (e.g. CAPI versus CATI). The CSO is also atypical in terms of the QNHS as it has become much more than a quarterly Labour Force Survey, given the number of social modules that are conducted each year. For example the Office for National Statistics in the UK conduct both a Labour Force Survey (quarterly) and a general Household Survey (annually). The QNHS in Ireland is in effect a mix of these two surveys.

The comparison in terms of methodologies etc. with other member states is very much an on-going project and recently the CSO has been examining the data collection methodologies being applied in the U.K. and the Netherlands with a particular focus on CAPI/CATI approaches used in these countries. While this work is not yet complete it is clear that there are a number of issues that need to be examined in detail before a complete cost-benefit analysis can be prepared. To provide a broad cost comparison it is worth noting that the cost of the Labour Force Survey alone in the UK is in the region of Stg£7.4 million (€11 million) for a sample of approximately 240,000 households annually (or approximately 60,000 households per quarter). The UK LFS contains 5 waves each

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<sup>21</sup> Report to the National Statistics Board: Review of the Organisational Performance and Capability of the Central Statistics Office – Deloitte & Touche, May 1997.

quarter (with approximately 12,000 households per wave) with the first wave collected using CAPI technology and the remaining four waves using CATI technology. If this cost is adjusted for the size of sample, it is broadly comparable to the overall cost of the QNHS. However, it is likely that the cost profiles differ significantly. It was not possible to obtain more precise information for the purpose of this Review from either the UK or the Netherlands.

In the case of the EU-SILC, most countries will introduce the survey in the period 2003-2006 with Ireland amongst a small number of countries starting in 2003. It is therefore too early to obtain information on costs in other countries.

## **Conclusions**

The examination of the survey methodology shows that the CSO took a pro-active approach towards identifying an optimal design for implementing the QNHS. Equally, its decision to integrate the EU SILC with the QNHS has realised clear efficiencies in the conduct of both surveys. Any efforts to reduce costs must therefore focus on one or more of the following: reducing the scale of the surveys (i.e. the sample size); changing the way in which interviewing is conducted (e.g. introduction of CATI); or perhaps outsourcing the field work.

Some reductions in the QNHS sample size have been made recently in the face of a tight budgetary situation and the average weekly sample is now close to 2,500 households. Further reductions of this nature are not feasible without breaching the EU legal precision requirements particularly in regard to producing reliable estimates at sub-national level. The introduction of CATI, which is currently being investigated, may achieve some savings but these must be assessed in the context of possible negative impacts on the quality of the results and the scope of the surveys. Finally, the scope for outsourcing should be examined according as opportunities arise.

The deployment of staff on field support, processing, analysis and dissemination has been effected in line with recommended structures. Further efficiencies due principally to technology can be expected on a modest scale. It would seem desirable, however, to use these to improve the range and quality of the statistical outputs in order to meet the increasing needs of users and to maximise the return from the large expenditure on collecting the data.

### **5.4.2 Live Register**

The cost of the Live Register in any given year is small, especially in comparison with the overall household survey costs, and is estimated to be approximately €100,000 per year in current prices. The Office is currently investigating a number of options with the Department of Social and Family Affairs to improve the efficiency of the production of the Live Register releases. The Live Register is an example of the potentially low costs involved in the extraction, compilation and dissemination of data from an administrative source. A particular strength is the ability to obtain information at a relatively fine geographic level.

Following the widespread adoption of modern technology, the Department of Social and Family Affairs now produces many of these statistics directly themselves for internal management purposes and for briefing Government, etc.. This raises the question of possible duplication of effort and whether the Department should take over responsibility for producing the analyses. One argument against the latter, which would have to be taken into account, is that public confidence in the objectivity of the results may be reduced through the withdrawal of CSO.

## **5.5 Prices and Household Expenditure**

### **5.5.1 Consumer Price Index**

The CPI is compiled monthly to a very tight deadline. Staffing and field collection costs amount to just over €1 million annually with staff costs accounting for around three quarters of the total. The main fieldwork involves the collection of approximately 50,000 price quotations from 3,500 retail outlets throughout the country. This is done on the second Tuesday of every month by a team of 200 part-time collectors. These retail price surveys are complemented by a series of postal and telephone inquiries to obtain information on the prices of a wide range of consumer services (e.g. electricity, telephone, doctor, insurance, etc.).

Most of the HQ staff time is absorbed in organising and processing the above-mentioned surveys and thus any consideration of the efficiency of the CPI operation must focus on identifying alternatives. Two approaches have been examined, and adopted to varying degrees, in a number of countries, namely: the acquisition and use of scanner data from the retail trade; and the use of computers during the pricing operation. The widespread use of price scanning in retail outlets was initially seen as having major potential for the compilation of the CPI. However, closer examination has been far less positive in this regard. In short, a substantial amount of highly skilled work would be necessary in order to adjust the scanner data as currently available to meet the very precise requirements of the CPI. Thus use of scanner data would not necessarily lead to a reduction in cost but rather to replacing one type of cost with another. The use of hand held computers, on the other hand, is considered to hold out the possibility of significant savings in both time and resources. Some countries are already using them to good effect and, while initial assessments by the CSO did not produce a cost-effective solution to meet current needs, it is anticipated that they will be introduced for the CPI in the short to medium term.

### **5.5.2 Wholesale Price Index**

The main element of the WPI involves the measurement in some considerable detail of the output prices of manufacturing industry. Over 7,000 price quotations, covering some 1,500 products, are collected each month in postal surveys of 1,200 firms. A small staff unit consisting of 8 persons, half of whom are clerical staff, undertakes this work and the total annual expenditure is less than €400,000. It is likely that this unit will have to be expanded to cope with increased demand for prices on inputs and services to enterprises.

### **5.5.3 Household Budget Survey**

The HBS is undertaken every five years and involves the surveying of almost 8,000 households throughout the country over the course of a year. The next survey is due to commence before the end of 2004 and it is estimated that it will cost approximately €4 million.

The cost per household surveyed in the HBS is much higher than for other surveys but this reflects its unique characteristic of requiring all adults in co-operating households to keep detailed diaries of all expenditures incurred over a period of a fortnight. To assist and encourage households to complete the task it is necessary for interviewers to visit them on at least five occasions over the two-week period which, of course, is very expensive in terms of both time and travel costs. Accordingly, approximately 50 interviewers and five supervisors have to be employed for over a year. In addition, a substantial clerical input is required to capture the extensive data collected, assess its completeness, impute for missing information and to ensure consistency between income and expenditure information as reported by the households.

In the context of the very demanding data requirements from the survey, there is very little opportunity for finding more cost-efficient alternatives. One notable exception to this, however, has been the direct linking of the HBS to the National Farm Survey conducted by Teagasc. Under this arrangement farm households included in the ongoing NFS are invited to participate in the HBS. Following this approach high quality information on income from farming is available for co-operating HBS households at no additional cost while Teagasc researchers have access ultimately to an enhanced database of information on the farm households participating in both surveys.

The traditional “paper and pencil” interviewing methodology is still used for all aspects of the HBS. Some progress has been made recently in adopting CAPI procedures for aspects of the survey in other countries (mainly those that undertake the survey on a more frequent basis). The CSO is monitoring these developments and would propose to actively consider the introduction of CAPI for the next survey in five years time. The main cost savings to be anticipated from such a move would come from a reduction in the amount of clerical processing required. These would be offset to a certain degree by the additional capital, development and training costs that would be involved in introducing the new technology. However, the main advantages to be gained from the introduction of CAPI are likely to be in the areas of data quality (i.e. through the ability to validate data at the interview stage) and timeliness.

## **5.6 Social Statistics Integration**

There are just three staff in this division. As indicated earlier much of the work to-date has focussed on co-ordinating activities in the area of social statistics undertaken by the CSO and other agencies. Notable outputs in this regard are the SGSES and SPAR Reports.

Work on the integration of data has resulted in the publication of the Monitoring Ireland’s Progress report and in co-ordinating the Irish data for the EU Structural Indicators project. The Division is also working on a new social indicators report for Ireland.

The work of the Division is closely linked to the implementation of the National Statistics Board's 2003-2008 strategy. NSB proposals for the development of a statistics network across the public sector and for individual government departments to devise data/statistics strategies are directed towards ensuring that Ireland can meet the demands for new statistics in an efficient and effective way. A key objective will be to ensure that the full potential of existing data sources is realised, while ensuring that the burden of data collection on individuals and enterprises is not excessive. This work should also result in better informed policy-making especially in relation to cross-cutting inter-departmental issues. However, in the context of responding in particular to the recommendations of the SGSES Report for greater exploitation and integration of data sources, there must be some concern that a unit of this size has the necessary critical mass to contribute in an effective and sustainable manner.

## **5.7 Assessment of overall value for money**

The standard assessment of value for money involves examining the *economy, effectiveness and efficiency* with which activities are undertaken. In the context of this review of social and demographic statistics: economy is taken to refer to the quality and cost of the resource inputs employed; effectiveness covers the perceived value and quality of the statistical outputs; and efficiency addresses the relationship between the outputs and inputs.

### **Economy**

The main question relating to economy raised in this chapter is the practice of using enumerators and interviewers for all aspects of the fieldwork for the Census of Population and the household surveys. While the review indicates that the work undertaken in this way is of a high quality it is quite clear that it is also an expensive option in both absolute and relative monetary terms. Lower cost options are reviewed on a regular basis taking account of not only the possible savings but also the expected impact on the quality of the inputs themselves and, more importantly, on the quality of the statistical outputs. At a more general level, the CSO has made considerable gains in recent years in regard to the economy with which it deploys its resources particularly through the adoption of new technology in the collection and processing of data. Economies have also been

achieved through the re-organisation of working practices and procedures and through the increased use of administrative data sources.

### **Efficiency**

The nature of statistics does not lend itself readily to the compilation of simple measures of efficiency. This is due in the main to the fact that it is not possible to put an actual monetary value on statistical outputs. The problem is compounded in the case of Social and Demographic Statistics overall by the rapid expansion that has taken place in recent years thus making comparisons over time somewhat meaningless. However, in some longstanding areas, such as the Census of Population, the analysis in this chapter demonstrates that the system has become much more efficient with, for example, more outputs being produced more quickly without a corresponding increase in the overall volume of resources used. These improvements can be attributed in large measure to the adoption of new technology at most stages of the statistical process chain.

In the context of value for money, the key future challenge for the CSO is to develop an appropriate efficiency type measure(s) to evaluate the trade-off between the adoption of lower cost field methods and the likely reduction in the quality of the outputs that would ensue.

### **Effectiveness**

Chapter 4 examined the statistical effectiveness of the Social and Demographic Statistics Programme in meeting users' needs and also brought forward some evidence regarding the value placed by users' on the programme. In general there is a high level of satisfaction with both the range and statistical quality of the existing programme. While some users might give greater priority to certain unmet needs there is no consensus on this and there would appear to be an acceptance that further development is required rather than a re-focussing of the existing programme to any significant extent.

## Chapter 6 Future Performance Indicators

### Terms of Reference 6

*Specification of potential future performance indicators that might be used to monitor the efficiency and effectiveness of the programme for social and demographic statistics*

#### 6.1 Performance Indicators

Performance indicators based on inputs, outputs and outcomes are the standard measures of the efficiency and effectiveness of expenditure programmes in general. In this review the CSO has been able to demonstrate that it has much of the basic information available on which to construct such measures for its programme of social and demographic statistics. In the case of inputs it was possible to identify the main direct costs associated with each activity and also to give more comprehensive information for the Census of Population. Simple measures of outputs were also obtainable in terms of, for example, the number of census volumes and the timeliness and periodicity of the various statistical releases and reports. In the case of outcomes, however, a proxy measure is required since statistics are not an end in themselves. While it is possible to compile some information of the use of statistics for specific purposes, it is not easy to quantify in concrete terms the value added of using statistics for policy purposes, etc. The proxy measures must therefore be based on the demonstrated statistical quality of the outputs and the user satisfaction with them. The user surveys conducted by the National Statistics Board in 1997 and 2002 provided a useful basis for assessing overall user satisfaction with the quality of CSO outputs. In addition, CSO was able to provide a range of information on which to assess its performance to some extent in regard to the dimensions of statistical quality (i.e relevance, timeliness, accuracy and accessibility).

The following recommendations are made to improve the basis on which performance can be measured and monitored in future:

- ◆ The CSO should avail of the opportunity afforded by the development of its Management Information Framework to provide data on the indirect costs associated with individual activities in a systematic way throughout the Office. This would give a more complete picture of the cost of sub-programmes.
- ◆ Procedures should be put in place to measure the volume and quality of individual statistical outputs on a planned and ongoing basis – e.g. number of tables disseminated, range of variables collected, accuracy of estimates, timeliness, frequency and extent of revisions, range of formats in which disseminated.
- ◆ The usage of statistical outputs should be measured at least on a periodic basis e.g. number of releases issued, number of publications sold, hits on the CSO website, mentions in the media, etc.
- ◆ User satisfaction with particular programmes and outputs should be assessed in addition to the overall user survey conducted by the NSB.
- ◆ Users should be canvassed at regular intervals to determine their needs and priorities and the extent to which unmet needs are being addressed should be monitored. This should include progress in meeting the data needs identified in the SGSES report.

It is not considered useful to recommend the construction of single indicators of efficiency and effectiveness. Instead, it is proposed that a range of information on inputs, outputs and outcomes as discussed above should be produced. Such data should be monitored over time and,

notwithstanding the difficulties mentioned earlier, benchmarked against performance elsewhere where comparable data can be obtained for broadly similar processes and methodologies.

Most of these proposals can be implemented in the short to medium term. However, in the case of periodic activities such as the census and HBS, it may take longer to assemble sufficient information to construct useful indicators.

## **Chapter 7 Conclusions**

### **7.1 Summary of conclusions on individual statistical areas**

The following conclusions and specific recommendations were drawn in respect of the individual sub-programmes.

#### **Census of Population**

In the absence of a population registration system the Census is a unique source of comprehensive statistics on the population at national, regional and local levels. However, in the context of the statistical budget it is extremely expensive and therefore the frequency and methodology applied, particularly for the fieldwork, should be reviewed on an ongoing basis. Such reviews should take into account not only the costs involved but also the need for the information, the adequacy of alternatives to meet the requirements and the availability of relevant information from other (e.g. administrative) sources. It is also recommended that a longer term planning horizon (i.e. five to ten years) should be adopted for the census so that the introduction of major changes can be thoroughly examined and assessed prior to implementation.

#### **Vital Statistics**

These basic statistics on vital events are of fundamental importance to the system of social and demographic statistics. They are produced at relatively low marginal cost as they are derived directly from administrative sources. The current modernisation programme for the registration of vital events provides an opportunity to review current procedures and practices with a view to: adopting new technology; widening the scope of the statistics; and disseminating results in a more timely manner.

#### **Household Surveys (QNHS and EU SILC)**

The principal purpose of the QNHS is to produce comprehensive and timely statistics on the labour market. The survey has also been developed by the CSO to produce a wide range of valuable data on a range of social and demographic issues. The recently introduced EU SILC is designed to provide good quality information on income and living conditions. Both surveys are mandatory under EU legislation and are also valued by national users.

The integration of the fieldwork on both surveys has been beneficial both in terms of cost and operational efficiency. However, the overall cost of the surveys is very high both in absolute and relative terms. This is due principally to the fact that personal interviewing is used for the collection of all survey data. Consideration should, therefore, be given to introducing telephone interviewing, where appropriate, for at least part of the survey work. As for the census, such an assessment should take into account, in addition to cost, possible impacts on data quality and the scope of the surveys.

#### **Live Register**

In the past the Live Register served as the principal source of regular information on the unemployed but has now been overtaken by the QNHS. The Register does, however, provide a useful indicator of those in receipt of social welfare due to their labour market situation. A question that needs to be addressed is whether the CSO should continue to compile the register in view of the duplication of analyses performed by the Department of Social and Family Affairs.



## **Consumer Prices**

The CPI is a key economic indicator that is now compiled on a monthly basis to high quality standards required under EU legislation. While the index is produced in an efficient and timely manner, it is recommended that all opportunities should be taken to exploit the use of modern technology in the collection and processing of the data.

## **Wholesale Prices**

The WPI is an important economic and business indicator and most of the output is mandatory under EU legislation. Since most of the data is assembled through postal and telephone inquiries, the cost of production is relatively small.

## **Household Budget Survey**

The principal purpose of the HBS is to provide information on household expenditure as an input to the weighting basis of the CPI. Traditionally it has also provided detailed information on household incomes and on the usage of certain household appliances and services. The availability of information on incomes from the new EU SILC raises the possibility that some of the detail collected in the HBS could be dropped or reduced. It is not possible, however, to completely drop questions on income from the survey as it is an important classification variable for analysing (and indeed verifying the plausibility of) expenditure data.

## **Social Statistics Integration**

The need to take a “whole of system” approach to the development of social statistics to meet the increasing needs of users has been stressed by the National Statistics Board. In this scenario the need for an integrated and co-ordinated approach is of paramount importance in order to ensure the adoption of common standards and methodologies and to avoid duplication of effort.

One important issue that needs to be addressed at an early stage is the determination of the best division of labour between the CSO and individual Departments and Agencies in the production of social and demographic statistics. Cost efficiency, availability of skilled resources and effectiveness in meeting overall user requirements are the main criteria on which to base decisions in this respect.

## **7.2 Final remarks**

The programme for social and demographic statistics is implemented within the environment of an ever increasing demand that is being driven by developments in the wider political and administrative environments both at national and EU levels. At an overall level the validity of this emerging trend must be accepted while noting that individual demands must always be examined on their merits, taking into account the costs and benefits. It is entirely consistent with the CSO's mandate that the Office should endeavour to respond to the demands placed on its programme for social and demographic statistics.

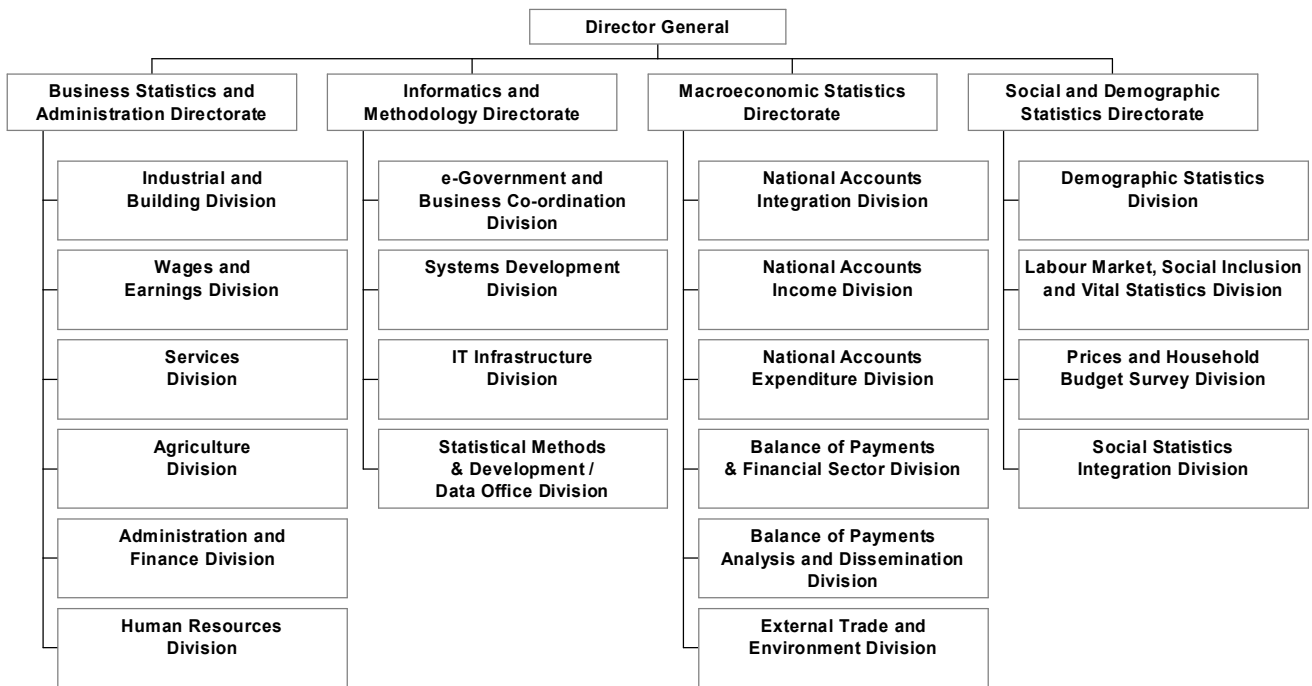
In practice there has been a major expansion in the programme of statistics covered by the Social and Demographic Statistics Directorate in recent years. The most notable additions have been the introduction of the Quarterly National Household Survey in 1997 and the EU Survey on Income and Living Conditions last year. Most of these developments have arisen as a result of new EU requirements. However, increasingly, the latter are matched by policy related and other demands at national level. While it is clear that there are still significant unmet needs, the current outputs are

being delivered in an effective manner in terms of their overall relevance, reliability, timeliness and accessibility. The National Statistical Board has identified addressing unmet needs in the area of social and demographic statistics as a priority issue for future attention. The recommendations of the Steering Group on Social and Equality Statistics, which was established by the Board, were endorsed by Government and will serve as the basis for developing the statistical system throughout the public service in a co-ordinated way to meet the valid needs of users.

The production of social and demographic statistics has benefited considerably from the adoption of new technologies in recent years. Striking examples include the scanning and recognition of census forms in 2002 and the use of CAPI for the surveying of households in the QNHS and EU SILC. It is clear that further advances can be made in this regard in the future across the whole programme.

Notwithstanding these developments, social and demographic statistics are relatively expensive particularly where they require the conduct of surveys of households using interviewers or enumerators. In addition, these costs are likely to rise in the future as the costs of labour rises. Alternative data sources and methodologies must therefore be exploited to the fullest extent in a co-ordinated manner.

# Appendix 1 CSO Organisational Chart



## Appendix 2 Quarterly National Household Survey Modules

QNHS modules undertaken or agreed 1997-2007

Year	Q1	Q2 Community LFS requirement (CLFS)	Q3	Q4
1997				Nursing
1998		Accidents and illnesses	Housing & households	Crime and Victimization I
1999	Recycling and energy	CLFS Occupational Accidents and Illnesses		
2000	Travel to work I	Occupational Accidents and Illnesses / Transition from school to work		Home computing
2001		Length and pattern of working time	Health I	
2002	Pension provision / Accidents and illnesses	CLFS Disability at work	Voter registration and participation	Childcare
2003	Accidents and illnesses	CLFS Life long learning	Housing ICT household survey (1 wave)	Crime and victimisation II
2004	Annual update module	CLFS Work organisation and working time arrangements	Travel to Work II ICT household survey (1 wave)	Equality
2005	Annual update module	CLFS Work and family life	ICT household survey (1 wave) Recycling and energy (3 waves) <sup>22</sup>	Pensions (Sustaining Progress commitment)
2006	Annual update module	CLFS Transition from work into retirement	ICT household survey (1 wave) Social capital and sport (3 waves) <sup>22</sup>	Health II <sup>22</sup>
2007	Annual update module	CLFS module (to be decided)	ICT household survey (1 wave) Family issues and career plans of parents <sup>22</sup>	Childcare II <sup>22</sup>

<sup>22</sup> Subject to approval of the National Statistics Board.

## Appendix 3 EU Laeken Indicators for Social Inclusion

Indicator	Definition
Primary Indicators	
1a. At-risk-of-poverty rate with breakdown by age and gender	<p>Percentage of individuals living in households where the equivalised total net household income is below 60% of the national median equivalised total net household income.</p> <p>Age groups are:</p> <ul style="list-style-type: none"> <li>0-15</li> <li>16-24</li> <li>25-49</li> <li>50-64</li> <li>65+</li> </ul> <p>Gender breakdown for:</p> <ul style="list-style-type: none"> <li>all categories</li> <li>total</li> </ul>
1b. At-risk-of-poverty rate with breakdown by most frequent activity status and gender	<p>Percentage of individuals aged 16+ living in households where the equivalised total net household income is below 60% of the national median equivalised total net household income.</p> <p>Most frequent activity status:</p> <ul style="list-style-type: none"> <li>Employed</li> <li>Self- employed</li> <li>Unemployed</li> <li>Retired</li> <li>Inactives-other</li> </ul> <p>Gender breakdown for:</p> <ul style="list-style-type: none"> <li>all categories</li> <li>total</li> </ul>
1c. At-risk-of-poverty rate with breakdown by household type	<p>Percentage of individuals living in households where the equivalised total net household income is below 60% of the national median equivalised total net household income.</p> <p>Household types are:</p> <ul style="list-style-type: none"> <li>1 person household, under 30 yrs old</li> <li>1 person household, 30-64</li> <li>1 person household, 65+</li> <li>2 adults without dependent child; at least one person 65+</li> <li>2 adults without dependent child; both under 65</li> <li>other households without dependent child</li> <li>single parent, 1+ dependent children</li> <li>2 adults, 1 dependent child</li> <li>2 adults, 2 dependent children</li> <li>2 adults, 3+ dependent children</li> <li>other households with dependent children</li> <li>Total</li> </ul>
1d. At-risk-of-poverty rate with breakdown by tenure status	<p>Percentage of individuals living in households where the equivalised total net household income is below 60% of the national median equivalised total net household income.</p> <p>Tenure status categories are:</p> <ul style="list-style-type: none"> <li>Total</li> <li>Owner occupier</li> <li>Paying tenant</li> <li>Other tenant</li> </ul>
1e. At-risk-of-poverty threshold (illustrative values)	<p>The value of the at-risk-of-poverty threshold (60% of the national median equivalised total net household income) in PPS, Euro and national currency for:</p> <ul style="list-style-type: none"> <li>Total population</li> <li>Single person household</li> <li>Household with 2 adults, 2 children</li> </ul>

Indicator	Definition
2. Inequality of income distribution S80/S20 quintile ratio	Ratio between the sum of equivalised total net household income of the top 20% of the income distribution to the bottom 20%.
3. At-persistent-risk-of-poverty rate with breakdown by gender	Percentage of individuals living in households where the equivalised total net household income was below 60% of the national median equivalised total net household income in year N and at least two years from years N-1, N-2, N-3: Gender breakdown + total
4. Relative at-risk-of-poverty gap	Difference between the median equivalised total net household income of individuals below the at-risk-of-poverty threshold and the at-risk-of-poverty threshold, expressed as a percentage of the at-risk-of-poverty threshold: Gender breakdown + total
5. Regional cohesion	Coefficient of variation of employment rates at NUTS 2 level.
6. Long term unemployment rate	Total long-term unemployed population (more than 12 months; ILO definition) as proportion of total active population: Gender breakdown + total
7. Persons living in jobless households	Persons aged 0-65 (0-60) living in households where none is working out of the persons living in eligible households. Eligible households are all except those where everybody falls in one of these categories: aged less than 18 years old aged 18-24 in education and inactive aged 65 (60) and over and not working
8. Early school leavers not in education or training	Share of total population of 18-24 year olds having achieved ISCED level 2 or less and not attending education or training: Gender breakdown + total
9. Life expectancy at birth	Number of years a person may be expected to live, starting at age 0, for Males and Females.
10. Self defined health status by income level	Ratio of the proportions in the bottom and top quintile groups (by equivalised income) of the population aged 16 and over who classify themselves as in a bad or very bad state of health on the WHO definition: Gender breakdown + total
Secondary Indicators	
11. Dispersion around the at-risk-of-poverty threshold	Percentage of individuals living in households where the equivalised total net household income is below 40%, 50% and 70% of the national median equivalised total net household income.
12. At-risk-of-poverty rate anchored at a moment in time	Base year ECHP 1995: At-risk-of-poverty rate for year N calculated using the at-risk-of-poverty threshold for year N (=indicator 1) At-risk-of-poverty rate for year N calculated using the at-risk-of-poverty threshold for base year multiplied by the inflation factor between base year-1 and year N-1
13. At-risk-of-poverty rate before transfers with breakdown by gender	At-risk-of-poverty rate where total net household income is calculated as follows: Income excluding all social transfers Income including retirement pensions and survivors pensions but excluding all other social transfers Income including all social transfers (= indicator 1) Gender breakdown + total
14. Inequality of income distribution Gini coefficient	The ratio of cumulative shares of the population arranged according to the level of their equivalised total net household income, to the cumulative share of the total amount received by them.
15. At-persistent-risk-of-poverty rate (alternative threshold) with breakdown by gender	Percentage of individuals living in households where the equivalised total net household income was below 50% of the national median equivalised total net household income in year N and at least two years from years N-1, N-2, N-3: Gender breakdown + total
16. Long term unemployment share	Total long-term unemployed population (more than 12 months; ILO definition) as proportion of total unemployed population: Gender breakdown + total
17. Very long term unemployment rate	Total very long-term unemployed population (more than 24 months; ILO definition) as proportion of total active population: Gender breakdown + total
18. Persons with low educational attainment	Educational attainment rate of ISCED level 2 or less for adult education by age groups (25-34, 35-44, 45-54, 55-64): Gender breakdown + total

## Appendix 4 Timeliness Monitor

Publication	Reference Period	Last Release	
		Reference Period	Actual Lag
<b>Labour Market and Social Inclusion</b>			
Live Register			
Analysis	Month	Mar 2004	5 days
Age by Duration	Half year	Oct 2003	9 weeks
Industrial Disputes	Quarter	Q4 2003	13 weeks
QNHS	Quarter	Q4 2003	3 months
<b>Prices</b>			
CPI	Month	Feb 2004	8-18 days
WPI	Month	Feb 2004	25 days
<b>Vital Statistics</b>			
Release	Quarter	Q3 2003	17 weeks
Publication	Year	2001	23 months
Population/migration estimates (April)	Year	2003	8 months
Irish Babies Names	Year	2002	4 months