An Phríomh-Oifig Staidrimh
Central Statistics Office

Standard SIMS Report:

Labour Force Survey

Single Integrated Metadata Structure (SIMS) Report

For

Labour Force Survey

This documentation applies to the reporting period:
Quarter 3 2024

Last edited: 20/11/2024

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2. Introduction

The Labour Force Survey (LFS) replaced the Quarterly National Household Survey (QNHS) from Q3 2017. Outputs are primarily used to produce quarterly labour force, employment and unemployment estimates for Ireland. The LFS may also be used as a means of collecting data on important social topics, included as modules in the survey for EU requirements. Outputs are also supplied to other internal users such as National Accounts, Tourism and Earnings.

3. Contact

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4. Metadata Update

4.1. Metadata last certified

13/11/2024

4.2. Metadata last posted

13/11/2024

4.3. Metadata last update

13/11/2024

5. Statistical Presentation

5.1. Data Description

The labour force survey is designed to produce quarterly labour force estimates that include the official measure of employment and unemployment in the state according to the International Labour Organisation classification.

The data which are published in the main quarterly release refer to the estimated number of persons aged 15 years or over in the state classified by various characteristics including economic status (e.g. employed, unemployed, not in the labour force) in accordance with the ILO (International Labour Organisation) definition. Three key rates are also produced from the survey: the participation rate (the proportion of all persons aged 15 or more who are in the Labour Force), the employment rate (the proportion of all persons aged 15-64 who are in employment) and the unemployment rate (the proportion of all persons aged 15-74 in the Labour Force who are unemployed.

Indicators are published by a range of classifications including sex, age, nationality, region of residence and highest level of education attained although not all indicators are published by each classification due to small cell sizes.

The calculation of the unemployment rate has been revised slightly as of Q2 2015 to ensure coherence with Eurostat. Prior to this, the Unemployment Rate was calculated as the number of unemployed expressed as a percentage of the total labour force aged 15 and over. The change introduced limits the labour force to persons aged 15-74 and this excludes a small number of persons aged 75 and over in employment from the total labour force used in the calculation. The overall impact of this change was minimal.

Economic status is in turn classified by various characteristics such as age, sex, region, educational level, etc. Some of the key indicators produced are estimates of those in employment by occupation and industry and estimates of those unemployed by duration of unemployment.
For full details of published indicators please see the latest LFS release on
http://www.cso.ie/en/statistics/labourmarket/

5.2. Classification System

There are a number of different classifications used in the LFS:

- The main classifications of economic activity are the standard ILO definitions of persons in employment, unemployment (which are summed to derive the labour force total) and persons not in labour force.
- Industry is published by the NACE Rev 2 classification.
- Occupation is primarily published using the UK SOC 2010 classification for national purposes and is also coded to ISCO-08 classification for EU purposes.
- For EU purposes, education details have been coded to ISCED 1997 (International Standard Classification of Education) up to Q4, 2013 and to ISCED 2011 thereafter. A national classification for Irish purposes is also available. Field of education is also published.
- Regional data is coded to NUTS3.

Detailed data is collected through the interview to allow outputs to be produced according to all the relevant classifications.

5.3. Sector Coverage

NACE Rev 2 - classified by divisions.

5.4. Statistical Concepts and definitions

Statistical significance
All estimates based on sample surveys are subject to error, some of which is measurable. Where an estimate is statistically significantly different from another estimate it means that we can be 95% confident that differences between those two estimates are not due to sampling error.

Usual residence and de facto population concepts
Up to and including Q1 2006 the annual population estimates were calculated using the defacto definition of population (i.e. all persons present in the state). Since Q2 2006 a new concept of usual residence has been used, i.e. all persons usually resident and present in the state plus absent persons who are usually resident in Ireland but are temporarily away from home and outside the state.

Participation, Employment and Unemployment Rates
The rates given in this release are based on the ILO classification. The Participation Rate is the number of persons in the labour force expressed as a percentage of the total population aged 15 or over. The Employment Rate is the number of employed aged 15 to 64 expressed as a percentage of the total population aged 15 to 64.

Duration of Unemployment

The duration of unemployment is the length of time since a person last had a job or began looking for work, whichever is more recent. The long-term unemployment rate is the number of persons unemployed for one year or more expressed as a percentage of the total labour force aged 15 to 74 years.

Part-time Underemployment
The calculation of part-time underemployment is based on ILO and Eurostat recommendations and uses the following criteria to derive underemployment:

1. Working part-time
2. Willing to work additional hours
3. Available to work additional hours

This indicator is only available from quarter 3 2008 onwards as estimates prior to that quarter were based on one single question which included the need for the person to be looking for additional work. From quarter 3 2008 the indicator is derived from a series of separate questions which allow this requirement to be excluded.

Potential Additional Labour Force
The Potential Additional Labour Force (PALF) is the sum of the two groups 'persons seeking work but not immediately available' and 'persons available for work but not seeking'. Persons in the PALF are not part of the standard labour force, which encompasses only employed and unemployed people but however they have a stronger attachment to the labour market than other persons not in the labour force. The new indicators have been defined by the European statistical office (Eurostat) following extensive international discussion regarding appropriate indicators to supplement the unemployment rate. Further background information regarding the methodology and approach adopted by Eurostat in building these new indicators can be found in Eurostat's website.

Monthly Unemployment
Monthly unemployment estimates were first introduced by the CSO in June 2015 for reference month May. The latest publications in this series are on the following page:
https://www.cso.ie/en/statistics/labourmarket/monthlyunemployment/

The Labour Force Survey (LFS) provides benchmark estimates of employment and unemployment for each quarter since the beginning of 1998. These quarterly benchmark estimates are then used to compile monthly data using the Proportional Denton method. The main characteristic of this method is that the monthly Live Register series is used as an indicator to disaggregate the quarterly LFS unemployment series into a monthly series in such a way as to minimise the differences between two consecutive months. It also ensures that the average of three months in a particular calendar quarter is equal to the corresponding LFS estimate.

Reliability of Estimates Presented
Estimates for number of persons where there are less than 30 persons in a cell are too small to be considered reliable. These estimates are presented with an asterisk (*) in the relevant tables.
Where there are 30-49 persons in a cell, estimates are considered to have a wider margin of error and should be treated with caution. These cells are presented with parentheses.
In the case of rates, these limits apply to the denominator used in generating the rate. In the case of annual changes, both the current year and the preceding year are taken into account when deciding whether the estimate should be suppressed or flagged as having a wider margin of error.

Interpretation of volume and rate changes
The overall change in the number of people employed, unemployed, in the labour force and not in the labour force is a function both of changes in the population as well as changes in the proportion of people with that status. Therefore, in interpreting changes in the volume of persons who are employed, unemployed etc, both changes in population and changes in the relevant rates should be considered.
In recent years there has been a natural decline in the number of people in younger age groups arising from the falling number of births through the 1980's until 1994 when a low of 48,255 births was recorded (compared with 74,278 in 2009). For example there were 326,030 people born in Ireland between 1982 and

1986 and, all other things being equal, these people would have been in the 20-24 age group in 2006. However between 1986 and 1990 there were nearly 50,000 fewer births which would create a natural decrease in the 20-24 age group of close to 50,000 between 2006 and 2010.

In addition to natural changes in population, net migration has been a significant feature of population change in Ireland in recent years and net migration has also been most heavily concentrated in younger age groups. Evidence shows that migration is also most heavily concentrated in the 20-24 and 25-34 age groups. As a result of both natural decrease and net outward migration, the population of persons in the younger age groups has fallen and this should be borne in mind when considering the changes in the number of people in these age groups who are employed, unemployed and in the labour force.

5.5. Statistical Unit

The survey population is individuals living in private households. It therefore excludes individuals living in institutions or communal accommodation and persons of no fixed abode. The collection units are households containing at least one individual aged 15 years or over for whom it is the main residence. Information is collected on each individual within a surveyed household.
The main units of presentation are:

- Demographic variables such as Sex, Age, Citizenship
- Other personal characteristics such as Regional classification NUTS 2 & 3 (Nomenclature of Territorial Units), Highest level of education attained etc.
- International Labour Office labour force classification (ILO Status)
- Industrial activity classification NACE Rev.2 (Nomenclature des Activités de la Communauté Européenne)
- Occupation
- Employment status

While the above are the primary presentation units for regular publication the LFS can present data according to a wide variety of classifications based on the comprehensive range of questions asked in the survey. Such analysis is often provided on an ad hoc basis following user requests.

5.6. Statistical Population

All individuals living in private households.

5.7. Reference Area

Ireland

5.8. Time Coverage

The original QNHS (re-labelled LFS) series from Q1 1998 to Q2 2017 has been adjusted to enable comparability with the new LFS for a number of headline indicators. The complete series is available from Q1 1998 to 2023.

5.9. Base period

Not applicable.

6. Unit of Measure

People in the workforce ('000s)

7. Reference Period

Quarter 3 2024

8. Institutional Mandate

8.1. Legal Acts and other agreements

The survey meets the requirements of Regulation (EU) 2019/1700 of the European Parliament and of the Council of 10 October 2019.

Please see the following link for further details:
https://ec.europa.eu/eurostat/statistics-explained/index.php?title=EU_labour_force_survey_%E2%80%93_main_features_and_legal_basis#Regulations_in_force_since_the_2021_data_collection

While Ireland as a Member State is obliged to undertake the LFS, participation in the survey is voluntary for respondents.

The survey meets the requirements of Regulation (EU) 2019/1700 of the European Parliament and of the Council of 10 October 2019. This is a new framework regulation governing the production of European Statistics on persons and households (Integration European Social Statistics framework regulation – IESS FR) which came into force on 1 January 2021.

The IESS FR regulation replaces Council Regulation (EC) No. 577/98, adopted in March 1998 and covers various domains of social statistics including labour market statistics. It aims to ensure that social statistics based on sample surveys such as the Labour Force Survey (LFS), are produced in a more harmonised and coordinated manner across Europe.

Implications of New Regulatory Framework
The CSO had to introduce changes to the LFS questionnaire in Ireland from Quarter 1 (Q1) 2021 because of the IESS FR regulation. These include changes to LFS variables collected by the LFS questionnaire with some new questions added, some questions have been removed, and others have changed in terms of response options or frequency. There have also been some changes to the order of the questions as the flow of the LFS questionnaire across Europe is now more prescribed and harmonised under the IESS regulation.
Please see the attached link for further information

https://www.cso.ie/en/releasesandpublications/in/lfs/implicationsoftheimplementationoftheintegrationofeuropeansocialstatisticsiessframeworkregulationonlabourmarketstatisticsinirelandin2021/

8.2. Data Sharing

Variables which are not published but required by Eurostat include for example work patterns, methods used in search for employment and current education involvement.

9. Confidentiality

9.1. Confidentiality – policy

All information supplied to the CSO is treated as strictly confidential. The Statistics Act, 1993 sets stringent confidentiality standards: Information collected may be used only for statistical purposes, and no details that might be related to an identifiable person or business undertaking may be divulged to any other government department or body.

These national statistical confidentiality provisions are reinforced by the following EU legislation: Council Regulation (EC) No 223/2009 on European statistics for data collected for EU statistical purposes. Further details are outlined in the CSO's Code of Practice on Statistical Confidentiality.

For more information on the CSO confidentiality policy please visit:
https://www.cso.ie/en/aboutus/lgdp/csodatapolicies/statisticalconfidentiality/

9.2. Confidentiality – data treatment

Extreme precautions are taken to ensure that there are no violations of the confidentiality principle throughout the survey process. The laptops used by field staff in the data collection process are encrypted and contain several layers of password protection. Data collected each day is transferred to the CSO using a secure encrypted tunnel. There is a dedicated area in the call centre for LFS interviewing and access to this area is restricted those who have been appointed as Officers of Statistics for the LFS. There is a dedicated server at the call centre to administer the LFS and all computers used for the LFS at this centre are password protected. Each night, the data collected that day is collated into a single zip file, encrypted and password protected. The file is then uploaded to a secure Secure File Transfer Protocol (SFTP) site at the dedicated call centre. This CSO then extracts this zip file to a secure CSO location for processing.

Data is only published in aggregate form and care is taken to ensure that the data are aggregated to avoid the indirect identification of respondents. Confidentiality is also ensured within the anonymised microdata by using coded variables instead of original values for key characteristics. For example, age groupings are provided instead of single year of age.

10. Release Policy

10.1. Release Calendar

The date of dissemination of all statistics released by CSO can be found in the Release Calendar published in CSO.ie. This calendar is regularly updated.

10.2. Release calendar access

The release calendar can be accessed via the CSO website, www.cso.ie, or directly from this link:
https://www.cso.ie/en/csolatestnews/releasecalendar/

10.3. User access

In accordance with Principle 6 of the European Statistics Code of Practice all users of CSO statistics have equal access via the CSO website at the same time of 11 am. Any privileged pre-release access to any outside user is limited, controlled and publicised. In the event that leaks occur, pre-release arrangements are revised so as to ensure impartiality.

The CSO recognises that in very limited circumstances a business need for pre-release access may be substantiated. Any form of pre-release access is a privilege and a strict CSO pre-release access policy is adhered to for these special requests. The full pre-release access policy can be accessed at
https://www.cso.ie/en/aboutus/lgdp/csodatapolicies/csopolicyonpre-releaseaccess/

The various results are published nationally in statistical release format as well as on the CSO website (www.cso.ie). Selected extracts from the results are posted on the CSO's data dissemination database, PxStat.

11. Frequency of Dissemination

Quarterly

12. Accessibility and clarity

12.1. News release

There is no news release associated with the Labour Force Survey.

12.2. Publications

LFS statistics are disseminated by CSO on a quarterly basis on our website. The most recent release can be found directly from this link https://www.cso.ie/en/statistics/labourmarket/labourforcesurveylfs/

12.3. On-line database

Data from Labour Force Survey is available in various formats via the CSO's main dissemination database PxStat. The tables can be accessed directly from this link: https://data.cso.ie/product/lfs

12.3.1. AC 1. Data tables – consultations

The total number of consultations to the release for the period comprising quarter 4 2020 was 14262 hits, out of which 6631 were unique hits.

12.4. Micro-data Access

Anonymised microdata (for all calendar quarters) is made available to researchers via the Irish Social Science Data Archive (ISSDA). Such data is accessible by researchers applying directly to the ISSDA.
For further information see: http://www.ucd.ie/issda/

Access to a Research Microdata Files (RMFs) can be requested from the CSO under the CSO's microdata access policy. Extensive use is made of this facility by the research community.
For further information see:
http://www.cso.ie/en/aboutus/lgdp/csodatapolicies/dataforresearchers/researchmicrodatafilesrmfs/.

12.5. Other

LFS contributes data to several statistical releases in the office such as Men and Women in Ireland, Measuring Ireland's Progress, the CSO Yearbook etc.

Eurostat issue many releases which use LFS data and the central repository for such data can be found at this link http://ec.europa.eu/eurostat/web/lfs/publications/results

Additional data series previously included in the QNHS release can still be accessed through the CSO website.

Labour market data can also be accessed from PxStat, the CSO's main data dissemination service which can be accessed through the CSO website.

12.5.1. AC2. Metadata consultations

Not calculated.

12.6. Documentation on Methodology

Further documentation on the methodology used to compile this release can be found in the CSO methods page directly from this link https://www.cso.ie/en/methods/labourmarket/labourforcesurvey/

12.6.1. AC3 – Metadata completeness – rate

Not calculated.

12.7. Quality Documentation

For more information on the quality of the Labour Force Survey please refer to the CSO's Methods page on https://www.cso.ie/en/methods/labourmarket/labourforcesurvey/

13. Quality Management

13.1. Quality Assurance

Quality Management Framework
The CSO avails of an office wide Quality Management Framework (QMF). This framework allows all CSO processes and outputs to meet the required standard as set out in the European Statistics Code of Practice (ESCOP). The QMF foundations are based on establishing the UNECE's Generic Statistical Business Process Model (GSBPM) as the operating statistical production model to achieve a standardised approach to Quality Management. All and any changes implemented to CSO processes and outputs require adherence to the QMF.

13.2. Quality Assessment

A series of audits are carried out each quarter to verify the quality of the individual data being collected by interviewers during face to face interviews with respondents. Interviewers receive regular feedback on the quality of the data they are producing, and any unusual trends are highlighted and followed-up. Interviewers undergo training when first employed and regular meetings are held with field co-ordinators to ensure standards are maintained. Further training is also provided to interviewers where appropriate.

Call centre interviewers also undergo training before commencing work on the LFS. Interactions between the call centre and survey respondents are audited on a random selection of cases. The audit process involves listening back to the telephone interaction and then rating the quality of the interviewer's work on a standardised score sheet. Interview outcomes such as complete or partial interviews and refusals are checked during the audits. When auditing an interview, the questionnaire is reviewed to ensure that the data gathered was entered accurately. Any issues that arise are addressed initially with the call centre supervisor and subsequently at the quarterly training sessions where members of the CSO based staff deliver detailed training on any questionnaire changes.

At an aggregate level, account is taken of other national economic indicators (e.g. Live Register trends, taxation trends) when quality checking the data produced from the LFS.

14. Relevance

14.1. User Needs

Each Member State in the EU must undertake a Labour Force Survey (LFS) to provide information on key labour market indicators under EU Council Regulation No 577/98.

The LFS is the primary source of a number of key national indicators including official estimates of employment and unemployment. In addition to the main labour market estimates published on a quarterly basis, LFS (formerly QNHS) data is used in a number of other reports and publications produced by the CSO.

In the period between each Census of Population, the LFS provides estimates of various demographic and other social indicators such as levels of educational attainment. Given the critical nature of estimates produced the relevance of the LFS can be taken as very high.

14.1.1. Main National Users

- National accounts
- Construction
- Earnings and Labour Costs
- Tourism
- ESRI
- Central Bank
- SOLAS
- Health and Safety Authority
- The Oireachtas
- Department of Finance
- Department of Public Expenditure and Reform
- Department of Business, Jobs and Innovation
- Department of Education and Skills
- Department of Health and Children
- Department of Social Protection
- National media organisations

14.1.2. Principal External Users

- Eurostat
- OECD

14.2. User Satisfaction

Not measured

14.3. Data Completeness

All data requested by users is disseminated.

14.3.1. Data Completeness rate

100%

15. Accuracy and reliability

15.1. Overall accuracy

The overall accuracy of the disseminated statistics comply with the parameters determined by the Eurostat regulation. A breakdown of the sampling errors is provided in this report.

15.2. Sampling Error

As the LFS is a sample survey it is subject to sampling error. Precision estimates are calculated using Jackknife replication for key variables. The table below shows estimated standard errors and confidence intervals for some of the key estimates for the LFS in respect of the most recent quarter. The 95%

confidence intervals indicate the range within which we can be 95% confident the true value of the estimate in question will lie based on measurable sampling error.
Variance estimation for stratified household surveys is complex and there are a number of different methods. Further information is also available from the following links regarding variance analysis. It can also be noted that CSO continues to examine alternative methods of estimation and will expand the availability of measures for which such data is produced.

http://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/KS-RA-13-029?inheritRedirect=true&redirect=%2Feurostat%2Fpublications%2Fmanuals-and-guidelines%3Fp_p_id%3D101_INSTANCE_8v4nUYMbAXCj%26p_p_lifecycle%3D0%26p_p_state%3Dnormal%26p_p_mode%3Dview%26p_p_col_id%3Dcolumn-2%26p_p_col_count%3D1%26_101_INSTANCE_8v4nUYMbAXCj_delta%3D20%26_101_INSTANCE_8v4nUYMbAXCj_keywords%3D%26_101_INSTANCE_8v4nUYMbAXCj_advancedSearch%3Dfalse%26_101_INSTANCE_8v4nUYMbAXCj_andOperator%3Dtrue%26p_r_p_564233524_resetCur%3Dfalse%26_101_INSTANCE_8v4nUYMbAXCj_cur%3D3

Reliability limits of quarterly figures published by Eurostat

Estimated size of population group below which figures must be:

Suppressed CV (%)	Suppressed Size	Published with warning CV (%)	Published with warning Size
na	5222	na	8704

15.2.1. A1. Sampling error indicator

Sampling error - indicators - Coefficient of variation (CV), Standard Error (SE) and Confidence Interval (CI)

	Employment rate Age group: 15 - 74	Unemployment-to-population ratio Age group: 15 -74	Youth unemployment rate as a percentage of labour force Age group: 15 -24
CV	0.48	4.84	11.09
SE	0.34	0.15	0.77
CI	69.04 - 70.36	2.81 - 3.41	9.57-12.60

		Unemployment-to-population ratio (NUTS 2 regions) Age group: 15 -74		
Regional Code	**Region**	**CV**	**SE**	**CI**
IE01	Northern and Western	12.58	0.35	2.08-3.45
IE02	Southern	8.47	0.26	2.52-3.53
IE03	Eastern and Midland	6.29	0.21	2.88-3.69

Q2 2024 Estimates of Standard Error, Coefficient of Variation and 95% Confidence Interval for key ILO results

ILO Classification	Actual measure (Thou)	Standard Error (Thou)	CV (%)	95% CI – Lower Limit (Thou)	95% CI – Upper Limit (Thou)
Employed	2821.1	13.5	0.48	2794.7	2847.5
Unemployed	125.0	6.0	4.84	113.1	136.8

Total Labour Force	2946.0	12.6	0.43	2921.3	2970.8
Not in the Labour Force	1443.4	12.6	0.88	1418.7	1468.2

Q4 2023 Estimates of Standard Error, Coefficient of Variation and 95% Confidence Interval for NACE Rev.2 Sector of Employment

Sector of Employment	Actual measure (Thou)	Standard Error (Thou)	CV (%)	95% CI – Lower Limit (Thou)	95% CI – Upper Limit (Thou)
A Agriculture, forestry and fishing	116.1	5.8	5.00	104.7	127.4
B – E Industry	342.7	9.2	2.69	324.7	360.8
F Construction	174.6	6.9	3.95	161.0	188.1
G Wholesale and retail trade; repair of motor vehicles and motorcycles	321.6	8.5	2.64	304.9	338.3
H Transportation and storage	116.8	5.4	4.61	106.2	127.3
I Accommodation and food service activities	186.2	8.5	4.57	169.5	202.9
J Information and Communication	189.1	7.0	3.73	175.3	202.9
K-L Financial, insurance and real estate activities	144.9	6.2	4.28	132.7	157.0
M Professional, scientific and technical activities	210.9	6.8	3.25	197.5	224.3
N Administration and support service activities	97.3	5.5	5.70	86.4	108.2
O Public administration and defence; compulsory social security	165.1	5.9	3.55	153.6	176.6
P Education	246.1	7.0	2.83	232.5	259.8
Q Human health and social work activities	380.0	9.1	2.38	362.3	397.8
R-U Other NACE activities	125.0	5.5	4.44	114.1	135.8

15.3. Non-sampling Error

In addition to known sampling errors, any survey will be subject to other non-sampling errors (for example measurement errors arising from questions not capturing the desired information accurately). Non-sampling error is far more difficult to measure than sampling error and no formal estimate of non-sampling error is available in the LFS.

Information on the interviews is collected and analysed to help minimise non-sampling effects (including, for example, when interviews were conducted and their duration). This information is compared across the interview teams to ensure no unusual variation in interviewer performance exists. Co-ordinators, as an additional check on the quality of the interviewer's work, call back to around 2% of households to check the quality of the collected data. Audit checks are also carried out on interviews carried out at the call centre.

15.3.1. Coverage error

The entire stock of private households at the time of the most recent Census of Population in the country represents the full sampling frame for the LFS. The sample based on the 2011 Census was first introduced on a wave by wave basis in Q1 2016 and was fully in effect as of Q1 2017. Effective from Q2 2019, a new

sample based on the 2016 Census of Population was introduced incrementally on a quarterly basis and was fully operational in Q2 2020.

15.3.1.1. A2. Over coverage rate

Not calculated.

15.3.1.2. A3. Common units – proportion

Not calculated.

15.3.2. Measurement error

No formal evaluation of sources of measurement error is available, although measures are in place to minimise error (details below).

- The quality of the data collected is improved using regular field staff training (including the use of video recording of training interviews) and debriefings – for example, suggestions from field staff regarding the wording of certain questions. The office audits the interactions between the call centre and survey respondents on a random selection of cases. The audit process involves listening back to the telephone interaction and then rating the quality of the interviewer's work on a standardised score sheet. Interview outcomes such as complete or partial interviews and refusals are checked during the audits. When auditing an interview, the questionnaire is reviewed to ensure that the data gathered was entered accurately. Any issues that arise are addressed initially with the call centre supervisor and subsequently at the quarterly training sessions where members of the CSO based staff deliver detailed training on any questionnaire changes.
- Respondent effects - most of the requested information is readily available to respondents. Proxy responses are not allowed for certain questions (for example income). A lot of the national modules only allow direct responses to improve data quality.
- Comprehension errors - most of the terms used by the survey are readily understood, although some issues occasionally arise.

15.3.3. Non-Response Error

Non-response occurs when households that are sampled, and that are eligible for the survey, do not provide the requested information. This can lead to biased survey estimates if specific groups within the population are over- or under-represented and if these groups behave differently with respect to the survey variables (i.e. labour market outcomes). To correct for this, the CSO has introduced a non-response adjustment into the weighting procedure for the LFS.

The adjustment involves estimating response rates or propensities to respond as functions of characteristics available for responding and non-responding households, as well as characteristics of the areas where the households are located. Basically, the design weights have to be inflated by the inverse of the response propensities in order to compensate for the loss of units in the sample.

Linking the LFS sample with the Census of Population at household level provides a set of auxiliary variables which are available for both responding and non-responding LFS households. These include a mix of personal characteristics as well as characteristics of the dwelling and location (e.g. gender, age, marital status, education, personal employment status, dwelling type, area etc.). This allows the CSO to compare responding and non-responding households with respect to the characteristics available from the Census. This auxiliary information allows the use of “response propensities” to model non-response and adjust the grossing factors to compensate for non-response.

The response propensities are calculated using a logistic regression model where the dependent variable (Y) is an indicator variables corresponding to response (if the household responded then Y=1 and if the household did not respond then Y=0) and the independent variables are the set of auxiliary variables available from the Census. The estimated response propensities are then used to form adjustment cells or strata which are made up of respondents and non-respondents with similar estimated response propensities. Respondents within each cell/stratum are then weighted by the inverse of the observed response rate in that cell. This non-response adjusted weight is then used to inflate the original survey design weight to account for non-response. This approach is referred to as response propensity classification.

An adjustment for non-response was introduced into the weighting procedure for the LFS from Q3 2017 onwards. The adjustment applies extra weight to the groups who tend to be less likely to respond to the survey to make the results from the achieved sample more representative of the target sample and target population. The table below gives a breakdown of the response and non-response in recent LFS reference quarters:

	Q2 2023	Q3 2023	Q4 2023	Q1 2024	Q2 2024	Q3 2024
Target households	32500	32,500	32,500	32,500	32,500	32,500
Houses dropped*	10524	9564	9375	8492	7670	8584
Revised household target	21976	22936	23125	24008	24830	23916
Vacant - CAPI	931	981	1122	1155	1355	1123
Uncontactable - CAPI	1976	2307	2292	2316	2312	2230
Uncontactable - CATI	2863	2922	2987	3499	3607	3693
Refusal – CAPI	1959	2239	2491	2492	2774	2343
Refusal - CATI	496	562	422	508	579	458
Other non-interview - CAPI	607	693	541	664	707	666
Other non-interview - CATI	517	436	450	489	406	409
Actual houses interviewed	12584	12796	12820	12863	13090	12994
Insufficient data to assign grossing factor	43	30	17	22	17	23
Final total number of houses used to generate outputs	12541	12766	12803	12863	13073	12971

* Households are sometimes dropped due to staffing shortages and unforeseen local circumstances.

For reference purposes, the table below gives a break-down of the response and non-response to the now defunct QNHS:

	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017
Target households	26,000	26,000	26,000	26,000	26,000
Houses dropped*	3,560	4,338	3,960	3,859	4,921
Revised household target	22,440	21,662	22,040	22,141	21,079
of which:					
Vacant	2,377	2,478	2,458	2,391	2,337
Uncontactable	1,930	1,913	2,063	1,892	1,854
Refusal	1,687	1,623	1,691	1,734	1,594
Actual houses interviewed	16,446	15,648	15,828	16,124	15,294
of which:					

Insufficient data to assign grossing factor	26	18	20	8	7
Final total number of houses used to generate outputs	16,420	15,632	15,808	16,116	15,287

* Households are sometimes dropped due to staffing shortages and unforeseen local circumstances.

15.3.3.1. Unit non-response rate

Total (%)	Refusals (%)	Non-contacts (%)	Other (%)
56.56	15.24	32.22	5.85

15.3.3.2. Item non-response rate

Not calculated

15.3.4. Processing error

Processing errors for the LFS can categorised into 2 groups:

a) Data capture errors: These errors are minimised by logic checks and limits on values that can be keyed for each question in the electronic questionnaire at the data collection point.

b) Coding error: Checks are in place to minimise this risk, particularly with respect to Industry and occupational coding. The coding is conducted in-house at the CSO using an automated coding facility which is reviewed by a small team of coding experts. This approach reduces subjectivity and coding error. Overall it increases the quality and standard of coding of these key variables.

15.3.5. Model assumption error

Not applicable.

16. Timeliness and punctuality

16.1. Timeliness

Since the third quarter of 2022, the deadline for submission of EU LFS microdata to Eurostat is T + 8 weeks. As a result, the publication of LFS results to national users has been ahead of this deadline.

16.1.1. TP1. Time lag – First results

No provisional results are published.

16.1.2. TP2. Time lag – Final results

Final results for Q2 2024 were published within the target timeframe, at T+52 days.

16.2. Punctuality

The statistics were released in accordance with the dates set out on the CSO Release Calendar.

16.2.1. TP3. Punctuality – Punctuality - delivery and publication

0 days. The Labour Force Survey for Q1 2024 were published on 22 August 2024 at 11am.

17. Comparability

17.1. Comparability – Geographical

To ensure coherence with Unemployment Rates produced by Eurostat, the CSO changed the method of calculation of the Unemployment Rate as of Q2 2015. Prior to this, the Unemployment Rate was calculated as the number of unemployed expressed as a percentage of the total labour force aged 15 and over. The change introduced limits the labour force to persons aged 15-74 and this excludes a small number of persons aged 75 and over in employment from the total labour force used in the calculation. The overall impact of this change was minimal.

17.1.1. CC1. Asymmetry for mirror flow statistics

Not applicable.

17.2. Comparability over time

Up to and including Q1 2006 the annual population estimates were calculated using the de facto definition of population (i.e. all persons present in the state). From Q2 2006 onwards a new concept of usual residence was implemented, i.e. all persons usually resident and present in the state plus absent persons who are usually resident in Ireland but temporarily away from home and outside the state. This again ensures comparability with other demographic statistics where usual residence is taken as the most appropriate population definition.

In 2008 revisions were produced to implement this change in methodology (see Revisions).

17.2.1. Length of Comparable Time series

24 Years. The original QNHS (re-labelled LFS) series from Q1 1998 to Q2 2017 has been adjusted to enable comparability with the new LFS for a number of headline indicators. The complete series is available from Q1 1998 to 2022.

17.3. Coherence – cross domain

To ensure comparability with other official statistics, standard classifications are used for LFS estimates (e.g. NACE Rev 2 for industry, UK SOC 2010 for occupation). The classifications used are in the main set by EU regulation. The classification of industrial activity changed from NACE Rev 1.1 to NACE Rev 2. from Q1 2009. The classification used for occupation coding changed from UK SOC 90 to UK SOC 2010 in Q1 2011. In the main these changes were required due to changes in the applicable EU regulation. To facilitate users, the CSO back-casted industrial coding data to Q1 1998 and back-casted occupation coding data to Q1 2007.

The LFS is undertaken on a calendar basis. This ensures greater comparability with other quarterly data which is typically compiled on a calendar quarter basis (for example quarterly national accounts).

Up to and including Q1 2006 the annual population estimates were calculated using the de facto definition of population (i.e. all persons present in the state). From Q2 2006 onwards a new concept of usual residence was implemented, i.e. all persons usually resident and present in the state plus absent persons who are usually resident in Ireland but temporarily away from home and outside the state. This again ensures comparability with other demographic statistics where usual residence is taken as the most appropriate population definition. In 2008 revisions were produced to implement this change in methodology (see Revisions)

Coherence checks are regularly carried out with auxiliary sources – for example other CSO publications/releases such as Census of Population, Live Register, Retail Sales and external sources such as taxation trends, redundancy information etc. The following section illustrates details on coherence

between the Labour Force Survey and Census of Population in relation to Labour Force and Unemployment rates.

The following table illustrates the differences in rates calculated between the census in 2016 and 2022 and the corresponding LFS quarterly results.

Rate	Census (PES)		LFS (PES)		LFS (ILO)	
	Q2 2016	Q2 2022	Q2 2016	Q2 2022	Q2 2016	Q2 2022
Labour Force rate	61.4	61.2	60.5	61.7	62.6	65.3
Unemployment rate	12.9	8.3	10.3	6.0	9.1	4.5

One of the main reasons for the differences is that the LFS uses the International Labour Organisation (ILO) classification, which is based on a wider range of questions than used in the census to identify economic status. In contrast the census uses a self-declared Principal Economic Status (PES) question.

Furthermore, the census form is completed by a responsible adult in each household throughout the State in respect of everyone present in the household on Census Night, while the LFS is by face to face or telephone interview.

The census relates to the *defacto* population at the time of the census (enumeration of entire population where they were on census night) while the LFS covers persons *usually resident* in Ireland in a sample survey. Coherence checks will continue to ensure differences in rates do not fluctuate as the contrasts have been relatively consistent over time for recent censuses and LFS findings.

17.3.1. Coherence – Sub annual and annual statistics

Not applicable.

17.3.2. Coherence with National Accounts

Data is supplied to National Accounts

17.4. Coherence – internal

All tables published are checked for coherence amongst them prior to publication.

18. Cost and Burden

Estimates of Cost and Burden can be obtained from the Response Burden Barometer
https://www.cso.ie/en/statistics/enterprisestatistics/responseburdenbarometer/

Survey specific information is available via CSO's dissemination database PxStat.
https://data.cso.ie/product/RBB

19. Data Revision

19.1. Data Revision Policy

Published statistics are subject to correction and revision for a variety of reasons. The most common reasons include the receipt of additional information (for example, late survey responses) and updated seasonal factors. Occasional revisions also occur as a result of changes to definitions, methodology, classifications and general updating of statistical series.

It is recognised internationally that the existence of a sound revisions policy maintains credibility in official statistics. The CSO General Revisions Policy, which details how revisions should be managed and communicated to users, outlines the three main types of revisions:

- Planned Routine Revisions
- Planned Major Revisions
- Unplanned Revisions.

One reason for unplanned revisions occurring can be when errors are detected after publication. The 'CSO Error Correction Policy – How to deal with Publication Errors' outlines the steps taken when these errors are detected. As required under Principle 6.3 of the European Statistics Code of Practice, errors detected in published statistics are corrected at the earliest possible date and users are informed. An important step in the process is the documentation and analysis of errors that have occurred and their causes. This allows the CSO to take measures preventing similar errors from occurring in the future and uniformity in dealing with them when they do.

The data revision policy that CSO statistics adheres to can be found via the following link: https://www.cso.ie/en/methods/quality/treatmentofrevisions/

19.2. Data Revision Practice

The most recent revisions to the LFS data series were carried out following the 2022 Census of Population. New population estimates were calculated on a quarterly basis using the 2022 Census of Population figures as a base. These new population estimates were then used as a new grossing frame for the quarterly LFS data and as a result, the estimates previously published were revised to take account of these new grossing frames for each quarter. This work was completed in 2024 and results for the entire new set of data are issued with the publication of result for Q4 2023 on 22nd February 2024.

Inter-censal revisions of the type described above are completed every 5 years after each Census of Population.

Census 2022 population updates
As the LFS is a sample survey, independent population estimates are required each quarter to provide a weighting basis for the labour market statistics produced. The process of deriving these population totals involves using the population counts from the most recent Census of Population as a base, and updating these each quarter using information on births, deaths and migration for that quarter. These population estimates are then revised once a new Census of Population has been completed.

With the availability of results from the Census of Population 2022, the CSO has revised the population estimates for the period Q3 2016 to Q3 2023 using the new benchmark population totals. The introduction of the difference would be expected to be cumulative in nature, with relatively small differences in the earlier periods with the difference increasing over time.

Given the critical importance of accurate labour market estimates, the CSO also revises labour market estimates using the updated population estimates. Therefore, from the publication of the Q4 2023 LFS, the results published incorporate the new population estimates for each quarter since Q3 2016 into the weighting methodology.

The updated population estimates are slightly higher than the original estimates. The difference between the updated estimate and the old estimate, for persons aged 15 and over, was at its highest in 2023 Quarter 3, when it was 60,400 people, or 1.4% of the old population estimate. Accordingly, the estimated number of persons classified as employed, unemployed and not in the labour force are adjusted upwards. The overall impact is low however, with the peak difference for headline employment rate, unemployment rate or labour market participation rate estimates being just +/- 0.1 percentage point.

Back-casting of QNHS data series

Because of the move to the LFS, the previously published labour market series was revised. In order to minimise the breaks in the series to the key survey estimates, the CSO created a back-casted QNHS series from Q1 1998 to Q2 2017. These back-casted series were created using scaling factors from a comparison of data captured from a parallel run of the QNHS and LFS at the beginning of 2017. Therefore, in Q3 2017, separate scaling factors were calculated for ILO status by age and sex together with the fifteen economic sector categories (table 2 of this release) by sex:

- ILO status (Employed, Unemployed, Inactive) by sex (Male and Female) and by age (15-24 years and 25+ years)
- NACE Rev. 2 groups (table 2 of this release) by sex (Male and Female)

In Q1 2018, additional scaling factors were calculated for the eight NUTS3 regions by Labour Force ILO status, occupation categories (table 4 of this release) and highest level of education completed (supplementary table 8 of this release) by sex: NUTS3 Regions (pre-Q1 2018 groupings) by Labour Force ILO status (Employed and Unemployed) Occupation groups (table 4 of this release) Highest level of education completed supplementary table 8 of this release) by sex (Male and Female). It should be noted that there may be changes in the levels of other series not included in this solution from Q3 2017 onwards. Consequently, such series before and after the introduction of the LFS may not be comparable and users should therefore note this when examining annual and quarterly changes.
Please refer to the following information notes for further details:
https://www.cso.ie/en/releasesandpublications/in/lfs/informationnotice-labourforcesurveyquarter32017/
https://www.cso.ie/en/releasesandpublications/in/lfs/informationnotice-labourforcesurveyquarter12018/

19.3. Data Revision – Average size

Not calculated.

20. Statistical processing

20.1. Source Data

Information is collected from individuals in households using questionnaires. The mode of collection varies between CAPI (Computer Aided Personal Interview) and CATI (Computer Aided Telephone Interview) depending on the wave.

20.1.1. Population and sampling frame

The reference population is all individuals living in private households in Ireland. It therefore excludes persons with no usual address or those with a usual residence in a public institution, such as hospitals, nursing homes etc. All usual residents in each household are included.

The sampling frame is all private households in Ireland. Beginning in Q1 2019 a new sample for the LFS based on the 2016 Census of Population was introduced incrementally and this sample will be fully operational by Q2 2020.

20.1.2. Sampling design

Sample size and design was initially determined after consultation with relevant experts who considered a mix of factors including cost, levels of precision of estimates etc. See http://www.cso.ie/en/media/csoie/qnhs/documents/steel_report_qnhs_sample_design.pdf.

The LFS sampling approach is based on the review by Haase Pratschke. See Steel report, http://www.cso.ie/en/media/csoie/methods/quarterlynationalhouseholdsurvey/Haase_Pratschke_Report_on_Optimising_the_Sampling_Methodology_for_CSO_Household_Surveys.pdf

With this design, a two-stage sample design is used. The sample frame of households is clustered into blocks (small areas) with each block containing a minimum of 60 occupied households on the night of the 2016 Census of Population. The sample is stratified using administrative county and the Pobal HP (Haase and Pratschke) Deprivation Index. In the first stage 1,300 blocks are selected using Probability Proportional to Size (PPS) sampling and in the second stage 20 households are selected using Simple Random Sampling (SRS).

To account for the additional attrition due to the introduction of mixed mode data collection, the LFS sample was increased incrementally from Q3 2017. An additional 1,300 households have been included in each Wave 1 resulting in a total final design sample of 32,500 from Q3 2018 onwards. The actual achieved sample varies over time depending on the level of response.

Households are asked to take part in the survey for five consecutive quarters and are then replaced by other households in the same block. Thus, one fifth of the households in the survey are replaced each quarter and the LFS sample involves an overlap of 80% between consecutive quarters and 20% between the same quarters in consecutive years.

Households which contain only respondents who are aged 75 or over who are each classified as Inactive (Not in the Labour Force) are not re-interviewed. This is to reduce unnecessary burden and instead answers are copied forward from the last available interview.
It is important to note that there is no overlap in sample between the QNHS and the LFS.

20.1.3. Survey size

The original quarterly sample 26,000 households was increased incrementally by 1,300 households from Q3 2017 to account for the additional attrition as a result of the introduction of mixed mode data collection. This has resulted in a total sample of 32,500 from Q3 2018 onwards.

The sample is designed to be representative on a quarterly basis with a target of 2,500 households to be surveyed each week. The reference quarters for survey results are: Q1- January to March, Q2- April to June, Q3- July to September and Q4- October to December. (i.e. calendar quarters).

20.1.4. Survey technique

Participating households are surveyed over five successive quarters (waves). The first interview is carried out with a CSO interviewer using CAPI on encrypted laptop computers and every night the data collected is transferred to the CSO using a secure encrypted data tunnel.

All 'usual residents[1]' in responding households are surveyed. Where a particular individual is not available for interview, information can be provided by another member of the household in most circumstances via a proxy interview. A proxy interview refers to data which is collected from another member of the household due to the unavailability of the specific respondent at the time of the interview.

The four follow-up interviews are conducted using CATI from a dedicated call centre, where householders have agreed to conduct a telephone interview. In circumstances where householders have not agreed to conduct a telephone interview, the interviews are conducted using face-to-face interviews.

20.2. Frequency of data collection

Quarterly

20.3. Data Collection

20.3.1. Type of Survey/Process

The survey is carried out using mixed mode data collection. No administrative data is used.

20.3.2. Questionnaire (including explanations)

The LFS questionnaire contains approximately 200 questions on a range of topics including the respondents economic status (i.e. employed, unemployed, not in the labour force), industry of employment, nationality, employment status, occupation, education level, length of time unemployed etc. It can be noted that not all questions are asked of all respondents as questions are filtered based on the responses given by the interviewee.

Additional questions on a particular topic may be included for modules which are run in individual quarters to meet EU requirements.

The LFS core questionnaire is published at the following link:
https://www.cso.ie/en/methods/surveyforms/labourforcesurvey/

20.3.3. Survey Participation

Participation in the survey is voluntary.

20.3.4. Data Capture

Each night, the data collected that day is collated into a single zip file, encrypted and password protected. The file is then uploaded to a Secure File Transfer Protocol (SFTP) site at the dedicated call centre. This CSO then extracts this zip file to a secure CSO location for processing.
As mentioned above, households which contain only respondents who are aged 75 or over who are each classified as Inactive (Not in the Labour Force) are not re-interviewed.

Please note that from mid-March 2020, all direct face-to-face interviewing for the LFS was suspended due to COVID-19. As a result, all interviews are carried out by telephone only.

20.4. Data Validation

Most of the survey questions only allow answers to be entered to a limited set of predefined categories and therefore the number of edits required is limited. Questionnaire routing is used to ensure questions are only asked to relevant respondents e.g., unemployment questions are only asked to those who are unemployed. In addition, invalid responses are prevented at the point of capture where appropriate (for example a flag is raised to an interviewer if the date of birth captured implied a derived age of more than 110) and this ensures that implausible data is prevented from being captured. The most significant data editing done is the quality checking review of the industry and occupation coding.

20.5. Data Compilation

Coding
In the LFS interviewers collect from respondents a detailed description of the business of their place of work and their own occupation. This information is then coded in-house at the CSO by an automated process which is reviewed by a small, dedicated team of coding experts using a series of consistency checks.

Field of education data is captured and coded in the field to the relevant classification while the region of place of work is coded using the 34 administrative counties.

Output results are aggregated to produce the various totals published. These aggregations are usually produced using key variables such as sex, age region, ILO status etc. In general, all aggregations produced are done by way of various SAS procedures. The aggregate results produced for any given set of classifications will be the sum of the individual grossing factors of the valid responses which belong to

that set of classifications and no estimates are made unless the data itself has been captured within the survey.

Calculation of Rates and Estimates of Change
Rates and estimates of change presented in this release are calculated from whole unrounded numbers. Due to rounding, these may differ from the rates and estimates of change calculated from the rounded volumes presented in the tables.

Back-casting methodology
The introduction of the LFS in Q3 2017 constituted a break in series for the labour market estimates published by the CSO. In an effort to mitigate the effect of the introduction of the LFS on the coherence of the historic data series, a back-casting exercise was carried out to link the QNHS and the LFS. The result of this is that the published QNHS series from Q1 1998 to Q2 2017 has been revised.
As part of the roll-out of the LFS, a parallel run of the two surveys was carried out. This allowed the estimation of the effect of the introduction of the new survey on the various labour market estimates. Quarter 1 of 2017 was used as the reference period to calculate scaling factors which were used to link the results from the two surveys. Labour market estimates were calculated from both surveys for a range of cohorts (age, sex, ILO status etc.) and the ratio of the two estimates provided a scaling factor which was applied to the historic QNHS series to create a back-cast series.
In Q3 2017, separate scaling factors were calculated for ILO status by age and sex together with the fifteen economic sector categories (table 2 of this release) by sex:

- ILO status (Employed, Unemployed, Inactive) by sex (Male and Female) and by age (15-24 years and 25+ years)
- NACE Rev. 2 groups (table 2 of this release) by sex (Male and Female)
- In Q1 2018, additional scaling factors were calculated for the eight NUTS3 regions by Labour Force ILO status, occupation categories (table 4 of this release) and highest level of education completed (supplementary table 8 of this release) by sex:
- NUTS3 Regions (pre-Q1 2018 groupings) by Labour Force ILO status (Employed and Unemployed)
- Occupation groups (table 4 of this release)
- Highest level of education completed (supplementary table 8 of this release) by sex (Male and Female)

Therefore, adjustments have been made to this historic data to enable comparability with the new LFS for these indicators. However, as a result of changes to the questionnaire, the interview mode, the introduction of a new sample, data processing changes and other methodological enhancements there are changes in the levels of some series from Q3 2017 onwards. As a consequence, the series before and after the introduction of the new survey may not be directly comparable and users should therefore note this when examining annual and quarterly changes.

Please refer to the following information notes for further details:
http://www.cso.ie/en/releasesandpublications/in/lfs/informationnotice-labourforcesurveyquarter32017/
http://www.cso.ie/en/releasesandpublications/in/lfs/informationnotice-labourforcesurveyquarter12018/

20.5.1. Imputation (for Non-Response or Incomplete Data Sets)

No imputation for non-response currently takes place on the LFS, either for entirely missing households or missing data for particular individuals. Proxy interviews are allowed to obtain data for respondents who are not present in the house at time of interview. Up to 50% of interviews are proxy interviews where information has been provided by another resident of the household due to unavailability of the person in question. There are known issues with the quality of data for proxy responses for certain information. For example, while a proxy respondent may know the age of other residents in the household, they may not know how long they have worked with their current employer (particularly in shared households where residents are not related).

20.5.1.1. A7. Imputation rate

Not calculated.

20.5.2. Grossing and Weighting

Once a final dataset has been created, the data is weighted to population totals. To derive grossing factors, population estimates are produced by the CSO's Demography Unit each quarter by sex, age (5-year age groups) and region (8 NUTS 3 regions). In addition, the Demography unit produce estimates of population for each quarter by sex, broad age (less than 15 and 15 or more) and nationality (5 nationality groups including Ireland, UK, EU13, EU13 (the EU excluding the EU15) and Rest of World). The individual returns are matched to these population estimates, and the grossing factor is calculated by dividing the total estimates population in a given cell by the number of valid responses in that cell - i.e., if there are 1,000 respondents from the sample in a given cell and an estimated population of 40,000 then each of the respondents in this cell will have a grossing factor of 40.

The grossing procedure is carried out using the SAS CALMAR statistical software routine, which was developed by the French National Statistical Institute, INSEE.

As the eight NUTS3 regions changed in Q1 2018, the data is now weighted to these new regions. Data for Q1 2012 to Q4 2017 were also reweighted to these new regions.

The CSO introduced a non-response adjustment into the weighting procedure for the LFS from Q3 2017 onwards. The adjustment applies extra weight to the groups who tend to be less likely to respond to the survey to make the results from the achieved sample more representative of the target sample and target population.

The grossing factors (now inclusive of the non-response adjustment) calculated for each individual cell are a function of the number of valid responses in that cell. It can be noted that the overall number of valid responses and the revised average grossing factor assigned in the LFS (formerly the QNHS) for recent quarters was as follows:

Period	Total valid responses	Total valid responses – persons age 15+	Average grossing factor assigned – persons aged 15+
Q4 2023	31,435	25,725	167.9
Q1 2024	30,893	25,488	170.1
Q2 2024	31,122	25,821	169.2
Q3 2024	30,635	25,216	174.1

21. Adjustment

21.1.1. Seasonal Adjustment

To correct for typical seasonal patterns, some of the series have been seasonally adjusted. The seasonal adjustment of data from the QNHS between Q2 2011 and Q2 2017 was completed by applying the X-12-ARIMA model, developed by the U.S. Census Bureau.

This seasonal adjustment methodology has been reviewed following the introduction of the new LFS in Q3 2017. As a result of this review, from Q3 2017 onwards, the seasonal adjustment of the LFS is conducted using the X-13ARIMA-SEATS software also developed by the U.S. Census Bureau. The adjustments are carried out by applying the X-13-ARIMA model to the unadjusted data.

This methodology estimates seasonal factors while also taking into consideration factors that impact on the quality of the seasonal adjustment, such as:

- Calendar effects e.g. the timing of Easter
- Outliers, temporary changes, and level shifts in the series

For additional information on the use of X-13ARIMA-SEATS see:
http://www.census.gov/srd/www/x13as/

The X-13-ARIMA method has the X-11 moving averages process at its core, but builds on this by providing options for pre-treating the series using a regARIMA approach for prior adjustment and series extension. In essence this methodology will estimate seasonal factors while taking account of calendar effects (e.g. timing of Easter), outliers, temporary changes and level shifts.
The seasonal adjustment is designed and implemented in full accordance with the ESS Guidelines (2015)

Seasonal adjustment is conducted using the direct approach, where each individual series is independently adjusted. As a result of this direct seasonal adjustment approach it should be noted that the sum of any component series may not be equal to seasonally adjusted series to which these components belong, e.g. the seasonally adjusted number of males in employment and the seasonally adjusted number of females in employment will not necessarily add up to the total employment on a seasonally adjusted basis.

22. Comment

Implications of Census 2022 Final Results

Labour Force Survey (LFS) results for Q4 2023, published on 22 Feb 2024, incorporated updated population estimates for the period 2016 Q3 to 2023 Q3, based on the results of Census 2022. LFS results are updated in this way following each Census of Population. From that day, labour market estimates in the Q4 2023 publication and PxStat reflected the updated Census 2022 population estimates.

The updated population estimates are slightly higher than the original estimates. The difference between the updated estimate and the old estimate, for persons aged 15 and over, was at its highest in 2023 Quarter 3, when it was 60,400 people, or 1.4% of the old population estimate. Accordingly, the estimated number of persons classified as employed, unemployed and not in the labour force are adjusted upwards. The overall impact is low however, with the peak difference for headline employment rate, unemployment rate or labour market participation rate estimates being just +/- 0.1 percentage point.

Participating Households
The Central Statistics Office wishes to thank the participating households for their co-operation in agreeing to take part in the survey and for facilitating the collection of the relevant data.