An Phríomh-Oifig Staidrimh
Central Statistics Office

Standard SIMS Report:

Survey on Income and Living Conditions (SILC)

Single Integrated Metadata Structure (SIMS) Report

For

Survey on Income and Living Conditions (SILC)

This documentation applies to the reporting period:
2023

Last edited: 13/10/2023

1. Table of Contents

2. Introduction

The primary focus of the Survey on Income and Living Conditions (SILC) is the collection of information on the income and living conditions of different types of households in Ireland, in order to derive indicators on poverty, deprivation and social exclusion. It is a voluntary survey (for selected households).

3. Contact

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4. Metadata Update

4.1. Metadata last certified

17/01/2025

4.2. Metadata last posted

17/01/2025

4.3. Metadata last update

17/01/2025

5. Statistical Presentation

5.1. Data Description

The EU-Statistics on Income and Living Conditions (EU-SILC) instrument is used as the EU reference source for comparative statistics on income distribution and social inclusion at national and European level.

SILC is concerned with the measurement of income and living conditions of both households and individuals in Ireland. The main poverty and social exclusion statistics presented are the 'at risk of poverty' (AROP) rate, the deprivation rate and the consistent poverty rate.

It provides two types of annual data for the 28 European Union countries, Iceland, Norway, Switzerland and Türkiye:

- Cross-sectional data pertaining to a given time or a certain time period with variables on income, poverty, social exclusion and other living conditions, and
- Longitudinal data pertaining to individual-level changes over time, observed periodically over a two, three, four, five and six-year period.

A number of other key national indicators of poverty and social exclusion are also presented.

Income statistics are primarily presented at national level, but they are also broken down by year and the following demographic characteristics;

- Sex
- Age Group
- Principal Economic Status
- Highest Education Level Attained
- Household Composition
- Number of persons at work in the household
- Tenure status
- Urban/rural location
- Region

Average income is also broken down by the composition of income. Further distribution analysis of income is conducted through the calculation of the Gini coefficient, the quintile share ratio (QSR), quintile analysis and decile analysis.

5.2. Classification System

Principal Economic Status
From 2020 the question on Principal Economic Status was standardised under Regulation (EU) 2019/1700. The categories are:

- Employed
- Unemployed
- Retired
- Unable to work due to long-standing health problems
- Student, pupil
- Fulfilling domestic tasks

Household composition
For the purposes of deriving household composition, a child was defined as any member of the household aged 17 or under. Households were analysed as a whole, regardless of the number of family units within the household. The categories of household composition are:

- 1 adult aged 65+
- 1 adult aged <65
- 2 adults at least 1 aged 65+
- 2 adults, both aged <65
- 3 or more adults
- 1 adult, with children aged under 18
- 2 adults with 1-3 children aged under 18
- Other households with children aged under 18

Number of Persons at Work in the Household
The number of persons at work in the household is the number of persons that described their Principal Economic Status as Employed.

Highest Level of Education Completed
From 2020, the highest level of education achieved is mapped using the International Standard Classification of Education (ISCED 2011) coding system and categorised as follows:

ISCED code	Highest Level of Education Classification
000 Less than primary education	Primary or below
100 Primary education	
200 Lower Secondary Education	Lower secondary (including transition year)
300 Upper secondary education (not further specified)	Upper Secondary
343 Level completion, without direct access to tertiary education	
300 Upper secondary education (not further specified)	
344 Level completion, with direct access to tertiary education	
300 Upper secondary education (not further specified)	
450 Vocational education	Post leaving certificate
400 Post-secondary non-tertiary education (not further specified)	
500 Short cycle tertiary	Third level non-degree
600 Bachelor or equivalent	Third level degree or higher
700 or equivalent	
800 Doctor or equivalent	

Tenure status
Tenure status refers to the nature of the accommodation in which the household resides. The status is provided by the respondent during the interview and responses are classified into the following three categories;

- Owner-occupied
- Rented or rent free;
    - Rent free
    - Rented: from Local Authority
    - Rented: other forms of social housing support
    - Rented: without housing supports

Households categorised as Rented: from Local Authority are those that stated they rent from the Local Authority and for whom there is no indication of a housing support in the form of Rent Supplement, Rental Accommodation Scheme (RAS), or Housing Assistance Payment (HAP). Those categorised as Rented: other forms of social housing support were in receipt of Rent Supplement, RAS, or HAP. Households Rented: without housing supports are those households paying rent but not living in local authority housing nor found to be in receipt of Rent Supplement, RAS or HAP.

Urban/rural location
From 2020 onwards, areas are now classified as Urban or Rural based on the following area populations derived from Census of Population 2016:

Urban
- Population >100,000
- Population 50,000 – 99,999
- Population 20,000 – 49,999
- Population 10,000 – 19,999
- Population 5,000 – 9,999
- Population 1,500– 4,999

Rural
- Population 199 – 1,499
- Rural areas in counties

Regional Breakdown
The regional classifications in this release are based on the NUTS (Nomenclature of Territorial Units) classification used by Eurostat. The NUTS boundaries were amended on 21st November 2016 under Regulation (EC) No.2066/2016 and took effect from 1st January 2018. Results are presented at NUTS 2 level. The composition of the regions is set out the table below:

NUTS2 Code	Nuts2 Name	NUTS3 Code	NUTS3 Name	County
IE04	Northern & Western	IE041	Border	Donegal
				Sligo
				Leitrim
				Cavan
				Monaghan
		IE042	West	Galway
				Mayo
				Roscommon
IE05	Southern	IE051	Mid-West	Clare
				Tipperary
				Limerick
		IE052	South East	Waterford
				Kilkenny
				Carlow
				Wexford
		IE053	South West	Cork
				Kerry
IE06	Eastern & Midlands	IE061	Dublin	Dublin
		IE062	Mid-East	Wicklow
				Meath
				Louth
		IE063	Eastlands	Longford
				West-Meath
				Offaly
				Laois

5.3. Sector Coverage

Not applicable.

5.4. Statistical Concepts and definitions

Poverty
The official Irish Government approved poverty measure is "consistent" poverty. The Economic and Social Research Institute (ESRI) originally developed the measure of "consistent" poverty in 1987. This measure was further refined and developed in 2007. The National Action Plan for Social Inclusion was updated in February 2017 for the period 2015 – 2017. Progress towards these targets is reported in the Social Inclusion Monitor (SIM) published by the Department of Social Protection. The purpose of the SIM is to report officially on progress towards the national social target for poverty reduction, including the sub-target on child poverty and Ireland's contribution to the Europe 2030 poverty target. (For more information, see https://www.gov.ie/en/collection/156b21-social-inclusion-monitor/

Gross Income
Income details are collected at both a household and individual level in SILC. In analysis, each individual's income is summed up to household level and in turn added to household level income components to calculate *gross household income*

Market Income

- Employee income
    - Gross employee cash or near cash income
        - Includes TWSS/EWSS Income in SILC 2021 (The Temporary Wage Subsidy Scheme (TWSS) and Employment Wage Subsidy Scheme (EWSS) were introduced in 2020 in response to the COVID-19 pandemic and related restrictions)
    - Gross non-cash employee income

- Employer's social insurance contributions and pension contributions
- Self-employment income
    - Self-Employment income other than farm income
    - Farm Income (includes direct payments received from the DAFM (Department of Agriculture, Food and the Marine) as they are subject to tax, *e.g.*, Common Agriculture Policy (CAP) entitlements).
- Private and occupational pension income
- Other market income
    - Income from rental of property or land
    - Regular inter-household cash transfers received
    - Interests, dividends, profit from capital investments in unincorporated business
    - Income received by people aged under 16
    - Foreign social transfers
    - Retirement or redundancy lump sums from employers
    - Other income not included in the national definition of social transfers

TWSS: Revenue operated the TWSS from 26 March 2020 to 31 August 2020. It enabled employees, whose employers were affected by the pandemic, to receive significant supports directly from their employer. See https://www.revenue.ie/en/employing-people/twss/index.aspx

EWSS: The EWSS replaced the Temporary Wage Subsidy Scheme (TWSS) from 1 September 2020. EWSS ended for most employers on 30 April 2022 and for everyone on 31 May 2022. See https://www.revenue.ie/en/employing-people/employment-wage-subsidy/ewss/index.aspx

Social Transfers
Refers to cash benefits received from local and state government.

- Jobseekers related payments:
- Old-age payments (note that this includes unemployment and survivor benefits paid to those aged 66 and over)
- Family/children related allowances:
    - Maternity/paternity/adoptive benefit
    - Child benefit
    - One-parent family payment

    - Carers' payments
- Housing allowances:
    - Rent supplement
    - Rental Accommodation Scheme (RAS)
    - Housing Assistance Payment (HAP)
    - Household benefit package
    - Exceptional needs payments
- Other Social transfers:
    - Survivor's benefits
    - Sickness benefits
    - Disability benefits
    - Education related allowances
    - Social exclusion not elsewhere classified

Disposable Income
Tax and social insurance contributions are also summed to household level and subtracted from the gross household income to calculate the *total disposable household income*. The components of disposable household income are gross household income *less:*

- Employer's social insurance contributions and pension contributions
- Regular inter-household cash transfer paid
- Tax (including USC (Universal Social Charge)) on employment income and social insurance contributions
- Tax on pension income
- Tax on retirement and redundancy lump sums
- Tax on rental income
- Tax on interest, dividends, profit from capital investments in unincorporated business
- Personal pension contributions to private and occupational pensions
- Local property tax

Real/Nominal income
Both nominal and real income figures are included in the release. Real income figures have been adjusted for inflation by applying a deflator to the nominal income figures. The deflator is derived from the monthly CPI (Consumer Price Index) and takes into account the rolling nature of the income data collected by SILC.

Equivalence scales
Equivalence scales are used to calculate the *equivalised household size* in a household. Although there are numerous scales, we focus on the national scale in this release. The national scale attributes a weight of 1 to the first adult, 0.66 to each subsequent adult (aged 14+ living in the household) and 0.33 to each child aged less than 14. The weights for each household are then summed to calculate the equivalised household size.

Equivalised disposable income
Disposable household income is divided by the *equivalised household size* to calculate equivalised disposable income for each person, which essentially is an approximate measure of how much of the income can be attributed to each member of the household. This *equivalised income* is then applied to each member of the household.

Please refer to the survey background notes for a comprehensive list of definitions that apply to the EU-SILC. This information is available from https://www.cso.ie/en/releasesandpublications/ep/p-silc/surveyonincomeandlivingconditionssilc2022/backgroundnotes/

List of main income variables collected and deviation from methodological guidelines (Eurostat)

Variable	Collected (Yes/No)	Any deviation from the methodological	If there is any deviation from the methodological guidelines, please explain.

		guidelines (Yes/No)	
HY010: Total household gross income	Yes	No	
HY020: Total disposable household income	Yes	No	
HY022: Total disposable household income before social transfers other than old-age and survivor's benefits	Yes	No	
HY023: Total disposable household income before social transfers including old-age and survivor's benefits	Yes	No	
HY040: Income from rental of a property or land	Yes	No	
HY050: Family/children-related allowances	Yes	No	
HY060: Social exclusion not elsewhere classified	Yes	No	
HY070: Housing allowances	Yes	No	
HY080 HY080G/HY080N: Regular inter-household cash transfer received	Yes	No	
HY081: Alimonies received	Yes	No	
HY090: Interest, dividends, profit from capital investments in unincorporated business	Yes	No	
HY100: Interest repayments on mortgage	Yes	No	
HY110: Income received by people aged under 16	Yes	No	
HY120: Regular taxes on wealth	Yes	No	
HY121: Taxes paid on ownership of household main dwelling	Yes	No	
HY130: Regular inter-household cash transfer paid	Yes	No	
HY131: Alimonies paid	Yes	No	
HY140: Tax on income and social contributions	Yes	No	
HY145: Repayments/receipts for tax adjustment	Yes	No	
HY170: Value of goods produced for own consumption	No	-	No longer collected from 2020. Not relevant in the Irish context
PY010: Employee cash or near cash income	Yes	No	
PY020: Non-cash employee income	Yes	No	
PY021: Company car	Yes	Yes	Not always possible to separate from PY020
PY030: Employer's social insurance contribution	Yes	No	
PY035: Contributions to individual private pension plans	Yes	No	
PY050: Cash benefits or losses from self-employment	Yes	Yes	Administrative self-employment for year T-1

			is not available in time for the transmission deadline
PY080: Pension from individual private plans	Yes	No	
PY090: Unemployment benefits	Yes	No	
PY100: Old-age benefits	Yes	No	
PY110: Survivor's benefits	Yes	No	
PY120: Sickness benefits	Yes	No	
PY130: Disability benefits	Yes	No	
PY140: Education related allowances	Yes	No	

5.5. Statistical Unit

The basic units of observation are individuals normally resident in Ireland and Irish households. Up until 2019 in defining a 'household', the national SILC used an 'address' concept (*i.e.* all persons living at the same address treated as a single household). From 2020 the national SILC definition of a household will use a shared income and expenditure concept. Flatmates or housemates that do not share expenditure will now be considered as separate households, and students living away from home and substantially supported by their parents will be considered members of the parent household.

5.6. Statistical Population

The target population is private households and all persons composing these households having their usual residence in the Member State. Private household means a person living alone or a group of persons who live together, providing oneself or themselves with the essentials of living.

5.7. Reference Area

Ireland

5.8. Time Coverage

2004 - 2023

5.9. Base period

Not applicable.

6. Unit of Measure

- Income figures are expressed in Euro (€).
- Rates are expressed as percentages.

7. Reference Period

2023

8. Institutional Mandate

8.1. Legal Acts and other agreements

SILC is a voluntary survey of randomly selected private households. The survey is carried out to meet Ireland's commitments under specific EU legislation.

The central piece of legislation, which establishes EU **statistics on income and living conditions (EU-SILC),** was the framework Council Regulation No 1177/2003, issued in June 2003. In 2021 the European legislative basis (Regulation No 1177/2003) to produce statistics on income and living conditions has been repealed by Regulation 2019/1700. This new framework regulation establishes a common framework for European statistics relating to persons and households, based on data at individual level collected by samples. For more information see https://ec.europa.eu/eurostat/web/income-and-living-conditions/legislation

Each year, additional three-year rolling, six-year rolling, and *ad-hoc* variables are collected as part of a non-binding European Statistical System Committee (ESSC) Agreement. For 2023 EU-SILC, a three-year rolling module on labour and housing conditions, a six-year rolling module on intergenerational transmission of advantages and disadvantages and housing difficulties and an *ad-hoc* module on household's energy efficiency were implemented.

Over and above our strict legal obligations, the Central Statistics Office (CSO) produces and disseminates key national statistics for the Department of Social Protection's SIM report and other national poverty reduction monitors. It should be noted that there is no formal legal basis for the dissemination of national statistics other than meeting Ireland's commitments under specific EU legislation outlined above.

8.2. Data Sharing

The CSO has established a Memorandum of Understanding with Revenue and a Memorandum of Agreement with the Department of Social Protection (DSP) to ensure the efficient and, more importantly, secure availability of administrative data.

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

Data Collection
Extreme precautions are taken to ensure that there are no violations of the confidentiality policy throughout the survey process. The laptops on which the data was collected are encrypted and contain several layers of password protection. To ensure confidentiality, the SILC Data Collection Unit (DCU) do not have direct access to the complete Revenue or DSP files. The ownership of these files rest with the CSO's Administrative Data Centre (ADC). Only selected variables are made available to the SILC DCU and these variables are only provided for those individuals on the SILC sample. The CSO assigns a unique identifier to link data. This number is derived and managed by the ADC section to ensure added security and confidentiality around individuals' data. Furthermore, when SILC DCU transfer data to the SILC Results and Publication (RAP) section, any information that would allow an individual to be identified is stripped from the final data sets to provide added security.

Data Published
SILC results are published as aggregated statistics on the CSO website. These aggregate statistical outputs are freely available to everyone. Publishing data in aggregate form means no individual or household is identifiable. No third party has access to any individual's data provided to the CSO. Furthermore, percentage results from SILC are published to one decimal place. Monetary results are rounded to the nearest euro and results based on a cell size of fewer than 30 unweighted observations are not published due to low reliability.

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

Annual.

12. Accessibility and clarity

12.1. News release

Not applicable.

12.2. Publications

The national results for SILC 2023 were released on the following dates:

- On 7th March 2024, Survey on Income and Living Conditions (SILC): Enforced Deprivation 2023
- On 7th March 2024, Survey on Income and Living Conditions (SILC) 2023
- On 16th May 2024, Well-Being 2023

- On 25th June 2024, Poverty Indicators by Health Status 2023
- On 14th November 2024, The Impact of Childhood Poverty Experiences on Adult Life 2023

12.3. On-line database

SILC tables are available on the CSO dissemination database PxStat. They can be accessed directly from the following links:

2004-2019: https://data.cso.ie/product/silc
2020 onwards: https://data.cso.ie/product/silc2020

12.3.1. Data tables - consultations

Analytics report on the number of users of Core SILC data 2020 to present on PxStat
Time period covered: 23 March 2022 to 22 March 2023

Table	Title	Users
SIA100	Income and Poverty Rates	91
SIA101	Income and Poverty Rates	81
SIA102	Income and Poverty Rates	19
SIA103	Income and Poverty Rates	12
SIA104	Income and Poverty Rates	32
SIA105	Income and Poverty Rates	19
SIA106	Income and Poverty Rates	36
SIA107	Income and Poverty Rates	9
SIA108	Income and Poverty Rates	50
SIA109	Household Arrears	65
SIA110	Household Arrears	29
SIA111	Household Arrears	12
SIA112	Household Arrears	15
SIA113	Impact of COVID-19 supports on Poverty Rates	10
SIA114	Impact of COVID-19 supports on Poverty Rates	3
SIA115	Impact of COVID-19 supports on Poverty Rates	12
SIA116	Impact of COVID-19 supports on Poverty Rates	1
SIA117	Impact of COVID-19 supports on Poverty Rates	3
SIA118	Impact of COVID-19 supports on Poverty Rates	2
SIA119	Impact of COVID-19 supports on Poverty Rates	16
SIA120	Impact of COVID-19 supports on Poverty Rates	1
SIA123	Composition of Average Net Equivalised Income	43
SIA123	Composition of Average Weekly Net Equivalised Income	31
SIA124	Composition of Average Net Household Income	46
SIA125	Household Financial Burdens	20
SIA126	Household Financial Burdens	3
SIA127	Household Financial Burdens	1
SIA128	Household Financial Burdens	2
SIA129	Difficulty in Making Ends Meet	17

SIA130	Difficulty in Making Ends Meet	24
SIA131	Type of Deprivation Item Experienced	22
SIA132	Type of Deprivation Item Experienced	17
SIA133	Type of Deprivation Item Experienced	11
SIA134	Type of Deprivation Item Experienced	8
SIA135	Type of Deprivation Item Experienced	25
SIA136	Type of Deprivation Item Experienced	7
SIA137	Type of Deprivation Item Experienced	7
SIA138	Type of Deprivation Item Experienced	12
SIA139	Type of Deprivation Item Experienced	18
SIA60	Income and Poverty Rates	281
SIA61	Income and Poverty Rates	132
SIA62	Income and Poverty Rates	71
SIA63	Income and Poverty Rates	12
SIA64	Income and Poverty Rates	62
SIA65	Income and Poverty Rates	25
SIA66	Income and Poverty Rates	34
SIA67	Income and Poverty Rates	15
SIA68	Income and Poverty Rates	52
SIA69	Poverty Rates	108
SIA70	Poverty Rates	17
SIA71	Composition of Average Weekly Household and Equivalised Income	151
SIA72	Composition of Average Weekly Equivalised Income	39
SIA73	Composition of Average Weekly Household Income	76
SIA74	Annual Income Measures	63
SIA75	Income Inequality Rates	45
SIA76	Nominal at Risk of Poverty Thresholds	8
SIA77	Key National Indicators of Poverty and Social Exclusion	81
SIA78	Persons Experiencing Deprivation	16
SIA79	Number of Deprivation Items Experienced	14
SIA80	Type of Deprivation Item Experienced	51
SIA81	Profile of the Population at Risk of Poverty, Experiencing Deprivation and in Consistent Poverty	10
SIA82	Profile of the Population at Risk of Poverty, Experiencing Deprivation and in Consistent Poverty	42
SIA83	Profile of the Population at Risk of Poverty, Experiencing Deprivation and in Consistent Poverty	54
SIA84	Profile of the Population at Risk of Poverty, Experiencing Deprivation and in Consistent Poverty	4
SIA85	Profile of the Population at Risk of Poverty, Experiencing Deprivation and in Consistent Poverty	10
SIA86	Profile of the Population at Risk of Poverty, Experiencing Deprivation and in Consistent Poverty	6
SIA87	Profile of the Population at Risk of Poverty, Experiencing Deprivation and in Consistent Poverty	11

SIA871	Profile of the Population at Risk of Poverty, Experiencing Deprivation and in Consistent Poverty	6
SIA88	Population Decile Distribution	29
SIA89	Population Decile Distribution	33
SIA90	Population Decile Distribution	6
SIA91	Population Decile Distribution	1
SIA92	Population Decile Distribution	7
SIA93	Population Decile Distribution	10
SIA94	Population Decile Distribution	17
SIA95	Population Decile Distribution	5
SIA96	Population Decile Distribution	12
SIA97	Difficulty in Making Ends Meet	82
SIA98	Difficulty in Making Ends Meet	31

12.4. Micro-data Access

SILC RMF
The cross-sectional SILC RMF (Researcher Microdata File) is available through the CSO. This is the most detailed SILC datafile available to researchers and access is tightly controlled. Access to the RMF is available to national users only, whereby the organisation one represents must be approved, and each researcher attends training and agrees to the terms of becoming an "Officer of Statistics" before being granted access to data. Data is made available to approved researchers via a VDI (Virtual Desktop Infrastructure) and users must have any outputs (*e.g.* tabulations) approved by a CSO statistician. For more information see
https://www.cso.ie/en/aboutus/lgdp/csodatapolicies/dataforresearchers/rmfapplicationprocedure/

ISSDA AMF
An AMF (Anonymised Microdata File) of cross-sectional SILC data is available via the Irish Social Science Data Archive (ISSDA), at University College Dublin. These files have a high degree of statistical disclosure control applied and are primarily aimed at students. Data is disseminated as csv files. Access is granted via ISSDA, see https://www.ucd.ie/issda/data/eusurveyofincomeandlivingconditionseu-silc/

LIS AMF
An AMF (Anonymised Microdata File) of cross-sectional SILC data is available via the Luxembourg Income Study Database (LIS). These files have a high degree of statistical disclosure control applied. Access is granted via the LIS, see https://www.lisdatacenter.org/data-access/ [dead link]

12.5. Other

Eurostat issue releases and statistics that use SILC data. The central repositories for Eurostat information and data are located at
http://ec.europa.eu/eurostat/web/income-and-living-conditions/overview

The SWITCH model, Ireland's tax-benefit microsimulation model created and maintained by the Economic & Social Research Institute (ESRI) is based on SILC data, for more information see
https://www.esri.ie/publications/switch-a-tax-benefit-model-for-ireland-linked-to-survey-and-register-data

The Department of Social Protection publish the Social Inclusion Monitor annually. The purpose of the Social Inclusion Monitor is to report officially on progress towards the National Social Target for Poverty Reduction, including the sub-target on child poverty and Ireland's contribution to the Europe 2030 poverty target. This annual Monitor uses the latest statistical data available from the SILC and from Eurostat (SILC micro-data) to analyse trends in official poverty measures and other supporting indicators. See
https://www.gov.ie/en/collection/156b21-social-inclusion-monitor/

12.5.1. 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/socialconditions/silc/

12.6.1. Metadata completeness – rate

Not calculated.

12.7. Quality Documentation

For more information on the quality of the SILC please refer to the SILC Methods page on https://www.cso.ie/en/methods/socialconditions/silc/

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 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.

All staff working on SILC are trained in best practise and their work is quality reviewed by more senior team members. Detailed documentation in the form of a section manual exists outlining the routine tasks, duties and responsibilities of section members. These documents act as the store of collective organisational knowledge regarding the processes. The documentation also acts as training material to help new staff move up the learning curve faster.

An annual self-assessment is undertaken each year following the national SILC publication where any improvements and recommendations are implemented the following year.

13.2. Quality Assessment

A review of the Sampling and Calibration Methodology of the Survey on Income and Living Conditions (SILC) 2010-2013 was published in 2014 by the CSO's Methodological Division. This paper is available on the CSO's website at
http://www.cso.ie/en/media/csoie/methods/surveyonincomeandlivingconditions/ReviewsamplingcalibrationmethodologySILC2010-2013.pdf

In 2022, a further review of the SILC sampling methodology was undertaken to meet the precision requirements for SILC as set by Eurostat. As a result, going forward for SILC sampling, the design changed from a stratified two-staged cluster methodology, where households were stratified into clusters based on NUTS4 and quintiles derived from the Pobal HP (Haase and Pratschke) Deprivation Index, to a Stratified Simple Random Sample (SSRS), stratified by income and county. Waves 1 and 2 of the SILC 2023 sample were selected using this methodology. In SILC 2023 Wave 3, 4, 5 and 6 comes from the 2018 sampling frame.

The sampling design for SILC was further refined in SILC 2023. In 2023, households were selected using probability proportional to size (PPS) of each strata, whereas in 2022 households were selected using Neyman allocation. This involved allocating the sample across the strata according to the variability of income, where strata with large variance were allocated more of the sample.

The CSO conducts self-assessment reviews on all their published processes on an annual basis. The last iteration of this review carried out in 2022 showed that the platform currently used is suitable to produce the main SILC and associated modules, including the methodology used which is sound in accordance with the latest European standards.

We are aware of user demands for additional products that we currently cannot meet. However, we do avail of ongoing dialogue with several of our principal users to ensure that we can act upon any emerging user needs as quickly as possible.

14. Relevance

14.1. User Needs

CSO's SILC data and derived statistics are used nationally and internationally by a broad range of interested groups in society to measure income, inequality and social exclusion indicators for other official purposes. As such, it is of interest to economists, social scientists, government departments, policy advocates, central bankers, trade unions and the media. For example:

- The United Nations International Children's Emergency Fund's (UNICEF) recent report Innocenti Report Card 14 used Irish SILC data, see https://www.unicef-irc.org/files/documents/d-3943-RC14_factsheet_FINAL.pdf
- The Review of Ireland, by the United Nations Committee on the Rights of the Child, Geneva – 14th January 2016, used CSO's SILC data to measure Ireland's adherence to the UN Convention on the Rights of the Child.

Two important statistics usually presented when measuring income, poverty and social exclusion are not included in the national release, namely:

- Persistent Poverty;
- Transition of the population between income deciles – Income mobility.

The reason these measures have been excluded from the national release is that the longitudinal sample has not been robust enough to provide reliable estimates of the statistics at national level.

The main users of EU-SILC are:

- Institutional users like other Commission services, other European institutions (such as the ECB), national administrations (mainly those in charge of the monitoring of social protection and social inclusion), or other international organisations;
- Statistical users in Eurostat or in Member States' National Statistical Institutes to feed sectoral or transversal publications such as the Annual Progress Report on the Lisbon Strategy (structural indicators), the Sustainable Development Strategy Monitoring Report, the Eurostat Yearbook and various pocketbooks, among other reports;
- Researchers having access to microdata;
- End users - including the media - interested in living conditions and social cohesion in the EU.

14.1.1. Main National Users

Below is a non-exhaustive list of some of the users of SILC statistics:

- The Technical Advisory Group (TAG), established under the National Action Plan for Social Inclusion 2007-2017
- Department of the Taoiseach
- Department of Social Protection - Social Inclusion Monitor
- Department of Children and Youth Affairs
- Department of Finance
- Department of Health
- Department of the Environment, Community, & Local Government
- Department of Education and Skills
- Department of Justice and Equality
- Department of Public Expenditure and Reform
- Department of Agriculture, Food and the Marine
- The Central Bank of Ireland
- National Economic & Social Development Office
- Pobal
- Irish Human Rights and Equality Commission
- The Housing Agency
- National Disability Authority
- Focus Ireland
- Economic and Social Research Institute
- European Anti-Poverty Network Ireland
- Nevin Economic Research Institute (NERI)
- Institute of Public Health Ireland
- Health Service Executive
- TUSLA
- Teagasc
- The Irish Farmers Association
- The Irish Cattle & Sheep Farmers' Association (ICSA)
- Irish Government Economic and Evaluation Service (IGEES)
- The Irish Social Science Data Archive (ISSDA)
- Social Justice Ireland
- Society of St. Vincent de Paul
- Simon Communities in Ireland
- Barnardos, Ireland
- Age Action Ireland
- Alone
- ICTU
- Threshold
- IBEC
- Publicpolicy.ie
- Low Pay Commission
- Pension Authority
- Members of the Oireachtas, Councillors, MEPs and other members of political parties and groupings
- County councils
- Local, national and international media
- Other research agencies and advocacy groups interested in monitoring poverty, income and social exclusion.
- Other CSO divisions and surveys, including: Quarterly National Household Survey; Irish Health Survey; Household Budget Survey; National Accounts; *etc*.

- Economic and social science researchers based in national and international universities and research institutes.

14.1.2. Principal External Users

- United Nations (International Labour Organisation)
- Organisation for Economic Co-ordination and Development (OECD)
- Euromod
- Income and Living Conditions Division (F4), Eurostat
- European Commission, primarily DG Health and Consumers (SANCO), DG Employment, Social Affairs and Inclusion (EMPL) and DG Regional Policy (REGIO).

14.2. User Satisfaction

No user satisfaction survey has been conducted.

14.3. Data Completeness

Data requirements and ancillary Eurostat data requirements are met.

14.3.1. Data Completeness rate

There was only one core variable not collected in SILC 2023:

- HY170 - Value of goods produced for own consumption. Ireland stopped collecting this variable since SILC 2020 as it is not relevant in the Irish context.

15. Accuracy and reliability

15.1. Overall accuracy

As SILC is a sample survey it is subject to sampling error. The table below shows estimated standard errors and confidence intervals for some of the key estimates for SILC in respect of SILC 2023 results. The 95% confidence intervals indicate the range within which we can be 95% confident of the true value of the estimate. 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 SILC.

The availability of administrative data from Revenue and the DSP has greatly improved the reliability of SILC data. Measurement errors in the overall income levels of individual respondents have greatly reduced and the reliability of the overall social welfare income for each individual on the dataset has also greatly improved. Anomalies may still arise in these data sources. However, these are identified and resolved using SILC DCU's comprehensive micro-editing system.

15.2. Sampling Error

The precision estimates for SILC 2023 were calculated in statistical software R applying the laeken and survey packages, see table 15.2.1. For the at-risk-of-poverty rate, the laeken package was used, and for the deprivation rate and median equivalised disposable income the survey package was used.

Eurostat's requirements with regard to precision estimates in SILC are detailed in their 2013 working paper '*Standard error estimation for the EU–SILC indicators of poverty and social exclusion'* which is available to download at,
http://ec.europa.eu/eurostat/documents/3888793/5855973/KS-RA-13-024-EN.PDF/cfef2973-4675-4df4-bf6d-e15ef1d3c060

Due to the change in the sampling methodology in SILC 2022 the calculations of the precision estimates have been adjusted to account for the combined methodology of a Stratified Simple Random Sample (SSRS), stratified by income and county, for waves 1 and 2, and a stratified two-staged cluster methodology, where household were stratified into clusters based on NUTS4 and quintiles derived from the Pobal HP Deprivation Index, for waves 3 to 6.

15.2.1. State Level Precision Estimates

SILC 2023 Precision Estimates								
	Estimate	95% CI		CV	Design Effect	Standard Error	Variance	Sample size
		Lower CL	Upper CL					
AROP	10.6	9.9	11.3	0.034	4.0	0.36	0.13	10,199
Deprived	17.3	14.1	20.5	0.094	7.8	1.62	2.62	10,199
Median Equivalised Disposable Income	27,597	26,917	28,277	0.013	2.4	347	120,409	10,199

15.2.2. Coefficient of Variation

The coefficient of variation (CV) is a relative measure of precision. It shows the extent of variability in relation to the population. The lower the value of the coefficient of variation, the more precise the estimate. The statistic is calculated as follows:

$$CV = \frac{standard\ error}{statistic}$$

The coefficient of variation for SILC 2023 was found to be in the range of 0.003 to 0.094 - depending on the statistic being investigated.

15.2.3. Design effect

The design effect is a basic quality assurance metric used to measure the efficiency of a sampling plan. In SILC it is measured as:

$$d_{effect} = \frac{Variance\ using\ survey\ sampling\ methodology}{Variance\ using\ simple\ random\ sampling}$$

There were two types of survey sampling methodologies applied in SILC 2023, a Stratified Simple Random Sample (SSRS) for wave 1 and 2, and a stratified two-staged cluster methodology for waves 3 to 6.

The design effect for SILC 2023 was found to be in the range of 2.4 to 7.8 - depending on the statistic being investigated. A design effect of 2.4 means that 2.4 times as many observations were needed in the SILC 2023 sample to achieve the same level of precision than from a similarly sized simple random sample.

15.3. Non-sampling Error

Non-sampling errors are of 4 types:

- Coverage errors: errors due to divergences existing between the target population and the sampling frame;
- Measurement errors: errors that occur at the time of data collection. There are a number of sources for these errors such as the survey instrument, the information system, the interviewer and the mode of collection;
- Processing errors: errors in post-data-collection processes such as data entry, keying, editing and weighting;

- Non-response errors: errors due to an unsuccessful attempt to obtain the desired information from an eligible unit. Two main types of non-response errors are considered:
    - Unit non-response: refers to absence of information of the whole units (households and/or persons) selected into the sample;
    - Item non-response: refers to the situation where a sample unit has been successfully enumerated, but not all required information has been obtained.

15.3.1. Coverage error

Coverage errors include:

- **Over-coverage** relates either to wrongly classified units that are in fact out of scope, or to units that do not exist in practice. This can occur in SILC when the sampling frame contains properties that are vacant;
- **Under-coverage** refers to units not included in the sampling frame. This is not applicable in SILC;
- **Misclassification** refers to incorrect classification of units that belong to the target population. This is not applicable in SILC.

15.3.1.1. Over-coverage rate

The over coverage error for SILC 2023 was 2.7%.

15.3.1.2. Common units – proportion

This is the proportion of units covered by both the survey and data from an administrative source or sources in relation to the total number of units in the survey. The proportion of common units for SILC 2023 was 99.2%.

15.3.2. Measurement error

No formal evaluation of measurement error is available, although measures are in place to minimise this error:

- **Building process of questionnaire** - The SILC questionnaire was fully reviewed for SILC 2020, taking on board feedback from field staff, the questionnaire design unit, and testing within the CSO. Field staff can also feedback any issues experienced with the questionnaire or the wording of questions.
- **Interview training** - 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 are invited from field staff regarding the wording of certain questions. Comprehension errors -most of the terms used by the survey are readily understood, although some issues occasionally arise.
- **Proxy interview rate** – 50.2% for SILC 2023.

15.3.3. Non-Response Error

Non-response errors are errors due to an unsuccessful attempt to obtain the desired information from an eligible unit. Two main types of non-response errors are considered:

1. **Unit non-response** which refers to the absence of information of the whole units (households and/or persons) selected into the sample;
2. **Item non-response** which refers to the situation where a sample unit has been successfully enumerated, but not all the required information has been obtained.

15.3.3.1. Unit non-response rate

The unit non-response rates for SILC 2023 are:

- Total cross-sectional – 44%
- Wave 1 – 60%
- Waves 2-6 – 23%

15.3.3.2. Item non-response rate

The computation of item non-response is essential to fulfil the precision requirements. Item non-response rate is provided for the main income variables both at household and personal level. Item non-response refers to the situation where a sample unit has been successfully enumerated, but not all the required information has been obtained.

INCOME GROSS VARIABLES AT HOUSEHOLD LEVEL		Cross-sectional data		
		% of households having received an amount	% of households with missing values (before imputation)	% of households with partial information (before imputation)
Total hh gross income	(HY010)	100	0	1.91
Total disposable hh income	(HY020)	99.98	0.02	1.91
Total disposable hh income before social transfers other than old-age and survivors benefits	(HY022)	95.54	0	4.46
Total disposable hh income before all social transfers	(HY023)	74.28	0	0.93
Imputed rent (every 3 years)	(HY030G)	94.37	0	0
Income from rental of property or land	(HY040G)	11.52	0.43	0
Family/ Children related allowances	(HY050G)	32.43	0	0
Social exclusion payments not elsewhere classified	(HY060G)	2.51	0.12	0
Housing allowances	(HY070G)	99.74	0	0
Regular inter-hh cash transfers received	(HY080G)	2.41	0	0
Alimonies received	(HY081G)	0.93	0	0
Interest, dividends, profit from capital investments in incorporated businesses	(HY090G)	7.9	0	0
Interest repayments on mortgage	(HY100G)	27.37	0	0
Income received by people aged under 16	(HY110G)	0.43	0	0
Regular taxes on wealth	(HY120G)	80.77	0	0
Taxes paid on ownership of household main dwelling	(HY121G)	80.6	0	0
Regular inter household cash transfer paid	(HY130G)	4.34	0	0
Alimonies paid	(HY131G)	0.69	0	0
Tax on income and social contributions	(HY140G)	81.77	0.07	1.07

Repayments/receipts for tax adjustment	(HY145G)	18.35	0	2.17
Value of goods produced for own consumption	(HY170G)	0	n/a	n/a
INCOME GROSS VARIABLES AT PERSONAL LEVEL		% of persons 16+ having received an amount	% of persons 16+ with missing values (before imputation)	% of persons 16+ with partial information (before imputation)
Cash or near-cash employee income	(PY010G)	57.5	0	0
Other non-cash employee income	(PY020G)	14.17	1.37	0.32
Income from private use of company car	(PY021G)	1.1	0.18	0
Employers social insurance contributions	(PY030G)	56.42	0	0
Cash profits or losses from self-employment	(PY050G)	13.49	0.04	0.01
Pensions from individual private plans	(PY080G)	1.11	0.1	0
Unemployment benefits	(PY090G)	7.4	0.04	0.05
Old-age benefits	(PY100G)	29.65	0.26	1.05
Survivors benefits	(PY110G)	0.98	0	0
Sickness benefits	(PY120G)	10.11	0	0
Disability benefits	(PY130G)	4.76	0	0
Education-related allowances	(PY140G)	2.58	0	0

15.3.4. Processing error

No formal evaluation of processing error is available, although measures are in place to minimise this error through data entry and editing controls.

Data entry and coding
Data entry controls are set within the questionnaire. Most questions are set so that only certain values can be entered as a response. Some coding is done within the questionnaire *e.g.* country coding for country of birth, country of citizenship, country of birth of the mother/father. Only valid country codes can be chosen for entry. Education level is also coded within the questionnaire. Industry and occupation coding are done using a coding application before the data gets to the processing team. It reads the text strings for industry and occupation and assigns the relevant code.

Editing controls
Administrative data is used when the survey data is not available. It is assumed administrative data is correct as it tends to be a clean data source. Outliers are always checked. For respondents who select a very high income estimate band, their occupation is then checked to see if it is plausible. If not, it is treated as a missing value. The main check with income is checking that respondents who declared they have a particular type of income have either an administrative value, a survey value or get an estimated value if the first two are unavailable.
The area where the largest number of errors are found (are corrected??) is the relationship matrix. This would include missing and incorrect entries. Checking that children have a father/mother/both assigned,

checking that the spouse is assigned if marital status is married *etc*. Households must be individually examined if the edit checks fail. The correct codes must then be manually assigned often based on logic and what makes the most sense.

15.3.5. Model assumption error

Not applicable.

16. Timeliness and punctuality

16.1. Timeliness

The relevance of SILC data does suffer somewhat from issues of timeliness. Overcoming these timeliness failings was one of the main driving forces behind Eurostat's revision of the EU-SILC legal basis. Under Regulation No 1177/2003 the SILC cross sectional data transmission deadline from the Member States to the Commission (Eurostat) for a data collection year T was November 30 of year T+1. From 2022, under Regulation 2019/1700 there will be improved timeliness, with shorter deadlines for SILC data submission, the new transmission deadline being December 31 of year T (the current survey year). See https://www.cso.ie/en/releasesandpublications/in/silc/informationnote-breakintimeseriessilc2020/

Up until 2019 the SILC income reference period was the 12-month period immediately preceding the sample household's interview date. This resulted in a 24-month income reference period for each annual SILC survey. From 2020, the income refence period has been the previous the calendar year T-1. For SILC 2023 the income reference period is the calendar year 2022.

16.1.1. Time lag – First results

The first and final stage of results for national SILC 2023 were released on the CSO website on the 7th of March 2024.

16.1.2. Time lag – Final results

The first and final stage of results for national SILC 2023 were released on the CSO website on the 7th of March 2024.

16.2. Punctuality

SILC 2023 data for Ireland was transmitted to Eurostat on the 20th December 2023. The agreed deadline was the 31st of December 2023.

16.2.1. Punctuality – delivery and publication

The release is published on time in accordance with the date indicated in the release calendar.

- Number of months between end of data collection (30 June 2023) to final release (7th of March 2024 of national results: 9 months
- Number of months between end of income reference period (31 December 2022) final release (7th of March 2024 of national results: 15 months

17. Comparability

17.1. Comparability – Geographical

Comparability of data between Member States is a fundamental objective.

Eurostat disseminate their own statistics using EU-SILC data. The definitions adopted by Eurostat differ slightly from national definitions and concepts. Therefore, when making international comparisons to ensure consistency Eurostat SILC statistics should be used. The central repositories for Eurostat information and data are located at:
http://ec.europa.eu/eurostat/web/income-and-living-conditions/overview

17.1.1. Asymmetry for mirror flow statistics

Not applicable.

17.2. Comparability over time

Dissemination of SILC statistics started in 2004, however changes in regulation for the SILC 2020 resulted in a break in the time series. For more information, please refer to
https://www.cso.ie/en/releasesandpublications/in/silc/informationnote-breakintimeseriessilc2020/

17.2.1. Length of Comparable Time series

3 years

17.3. Coherence – cross domain

SILC social protection transfers coherence with published Department of Social Protection statistics
SILC weighted social protection transfers are compared with published DSP statistics for calendar year 2022. The SILC year T refers to the T-1 income reference year, therefore for SILC 2023 the income reference year is 2022.

Expenditure on Social Welfare by Programme - €billion		Income Reference Year	
		2022	2021
State and widow's pension	DSP	9.4	8.9
	SILC	8.3	7.9
Jobseekers & farm assist	DSP	2.2	2.0
	SILC	1.9	1.7
Back to work, back to education, community employment	DSP	0.4	0.4
	SILC	0.4	0.3
Illness, disability & carers	DSP	5.0	4.5
	SILC	5.0	4.8
One parent, child benefit & family income	DSP	3.3	3.0
	SILC	3.2	2.9
COVID-19 income supports	DSP	1.0	8.6
	SILC	0.8	6.2

SILC 2023 is underestimating for State and widow's pension, Jobseekers & farm assist, and COVID-19 income supports when compared to the published DSP 2021 report. For Back to work, education and community employment and One parent, child and family benefits SILC 2023 matched that of the DSP 2021 report. Illness, disability & carers were overestimated for SILC 2023. See
https://www.gov.ie/en/publication/9262a-2021-annual-statistics-report/

SILC employee income compared with Revenue PMOD income

When comparing SILC employee income with Revenue administrative employee income, the Revenue variable used in the comparison was the Gross Pay (for USC purposes). SILC 2023 income (T-1 income reference period of 2021) was compared to the Revenue income for calendar year 2021.

Revenue income where the Class of PRSI (Pay Related Social Insurance) paid was A8/A9, S, K or M classes was not considered when comparing SILC employee income with Revenue administrative employee income. Income from PRSI class A8/A9 relates to Community Employment Scheme (CES) income, which for SILC is included with PY090 unemployment benefits. Income from PRSI class K & M relates primarily to pension income. Income from PRSI class S is treated as self-employment income in SILC. Income from the Temporary Wage Subsidy Scheme (TWSS) and the Employment Wage Subsidy Scheme (EWSS) was excluded from this analysis. It should also be noted records on Revenue's PMOD file are by employment. For this analysis, the records were summed by employee and those with a total less than €500 were excluded.

Income Reference Year	Source	Sum (€ Billion)	Mean (€)	Lower Quartile (€)	Median (€)	Upper Quartile (€)
2022	**SILC***	104.38	40,626	11,627	30,306	54,818
	Revenue**	104.24	39,526	10,940	28,274	48,513
	Difference	0.1%	2.7%	5.2%	3.5%	6.4%
2021	**SILC***	97.32	39,575	14,834	31,332	53,778
	Revenue**	89.35	37,297	14,067	30,236	50,354
	Difference	8.2%	5.8%	5.9%	6.7%	11.5%
* SILC employee gross excluding TWSS/EWSS						
** Revenue employee gross income (excluding TWSS/EWSS; PRSI class A8/A9, S, K & M income; total gross values < €500), employments summed by employee						
T-1 income reference period: SILC 2022 has an income reference year of 2021.						

Figures above show that the estimated total employee income for SILC 2023 is slightly overestimating when compared with the Revenue 2021 administrative data file.

SILC self-employed income compared with Revenue Form 11 data

From SILC 2020 the processing methodology of self-employment income was updated to meet IESS EU-SILC transmission deadlines. Because of the reporting deadline under the new regulation, from SILC 2020 onwards, only the first 'cut' of the Form 11 administrative data is available in time to meet the regulatory requirements related to data transmission. This first cut of the form 11, contains approximately 25% of all Form 11 records. The processing methodology was thus updated to take administrative T-1 income data where available, and adjusted T-2 administrative data or survey data.

Below compares SILC estimates for self-employment income, excluding that gathered from PRSI class S PMOD data, to Form 11 totals for profit/loss and exempt income. Note the income reference period for SILC from 2020 onwards is the T-1 calendar year, thus SILC 2023 (income reference year 2022) is compared to the 2022 Form 11, and so on.

Income Reference Year	Source	Sum (€ Billion)	Mean (€)	Median (€)
2022	**SILC**	11.44	29,805	11,368
	Form11	9.95	32,095	16,125
2021	**SILC**	8.36	24,766	11,753
	Form11	9.00	28,847	12,924

Figures above show that the estimated total self-employed income for SILC 2022 is overestimating when compared to the Form 11 2022 administrative data file.

SILC statistics compared to the Household Budget Survey publication
The below table is a comparison of EU-SILC 2015 and HBS (Household Budget Survey) 2015, extracted from Eurostat's 2015 HBS quality report, published in 2020. See
https://ec.europa.eu/eurostat/documents/54431/1966394/HBS_EU_QualityReport_2015.pdf

The table provides a comparison between five EU-SILC indicators compiled from two independent data sources, namely the 2015 EU-SILC data and the 2015 Household Budget Survey (HBS) data.

Comparison EU-SILC 2015/HB2015										
Country	At risk of poverty threshold (EUR)		At risk of poverty rate (%)		Relative at risk of poverty gap (%)		Income quintile share ratio S80/S20		Gini coefficient	
	EU-SILC	HBS	EU-SILC	HBS	EU-SILC	HBS	EU-SILC	HBS	EU-SILC	HBS
Austria	13,956	13,687	13.9	15.8	20.5	19.7	4.0	3.9	27.2	26.2
Belgium	12,993	12,937	14.9	12.2	17.4	14.2	3.8	3.4	26.2	24.1
Bulgaria	1,999	1,761	22.0	15.2	30.3	19.5	7.1	4.0	37.0	26.9
Cyprus	8,276	8,154	16.2	16.0	19.8	21.1	5.2	4.7	33.6	30.7
Czech Republic	4,454	4,666	9.7	7.0	19.2	14.3	3.5	2.8	25.0	20.3
Germany	12,401	12,245	16.7	14.9	22.0	18.0	4.8	4.2	30.1	28.5
Denmark	17,019	21,072	12.2	13.8	22.0	16.0	4.1	3.8	27.4	26.5
Estonia	4,733	4,320	21.6	16.9	21.0	16.1	6.2	4.2	34.8	30.1
Greece	4,512	4,857	21.4	20.3	30.6	30.7	6.5	6.5	34.2	34.5
Spain	8,011	6,840	22.1	20.4	33.8	28.9	6.9	5.7	34.6	32.1
Finland	14,258	14,689	12.4	10.5	13.2	14.8	3.6	3.5	25.2	25.3
France	12,849	12,287	13.6	17.1	15.7	21.7	4.3	5.0	29.2	31.2
Croatia	3,272	3,268	20.0	19.5	26.4	24.6	5.2	5.0	30.4	30.6
Hungary	2,734	2,882	14.9	14.6	21.8	18.9	4.3	4.3	28.2	28.3
Ireland	13,013	14,237	16.3	16.3	18.5	19.4	4.5	4.4	29.8	29.0
Lithuania	3,108	2,512	22.2	19.4	26.0	12.2	7.5	4.5	37.9	29.8
Luxembourg	21,162	19,680	15.3	14.4	17.4	18.9	4.3	4.3	28.5	29.4
Latvia	3,497	2,899	22.5	16.2	25.5	22.7	6.5	4.7	35.4	30.6
Malta	8,131	8,309	16.6	16.7	17.5	19.3	4.1	4.2	28.1	28.3
Netherlands	12,775	13,466	11.6	13.1	16.8	17.3	3.8	4.0	26.7	27.2
Poland	3,333	3,097	17.6	17.7	22.3	24.3	4.9	5.2	30.6	31.5
Portugal	5,061	5,070	19.5	19.1	29.0	22.2	6.0	6.1	34.0	35.0
Romania	1,389	1,543	25.4	21.8	38.2	27.2	8.3	5.5	37.4	32.0
Sweden	15,184	15,555	16.3	14.7	19.9	20.6	4.1	3.8	26.7	25.6
Slovenia	7,399	7,175	14.3	15.7	20.3	21.4	3.6	3.9	24.5	26.0
Slovakia	4,158	4,409	12.3	8.8	28.9	17.1	3.5	3.0	23.7	21.6
United Kingdom	12,617	15,017	16.6	19.5	20.4	22.6	5.2	5.2	32.4	31.9
Norway	24,890	23,675	11.9	8.5	19.7	18.5	3.5	3.2	23.9	22.9

North Macedonia	1,272	1,318	21.5	22.3	33.1	35.8	6.6	6.3	33.7	33.1
Serbia	1,429	1,553	26.7	21.0	37.5	26.9	10.7	5.9	40.0	32.7
Turkey	2,031	2,645	22.5	22.1	27.8	30.0	8.6	8.3	41.9	41.1

Source: Eurostat "Household Budget Survey 2015 Wave EU Quality report". DOC HBS/2020/01/EN.

An older CSO report was published in 2015 comparing 2010 EU-SILC data and the 2010 HBS data. See https://www.cso.ie/en/media/csoie/methods/surveyonincomeandlivingconditions/A_Consistency_Check_between_SILC_2010_and_HBS_2010.pdf

17.3.1. Coherence – Sub annual and annual statistics

Not applicable.

17.3.2. Coherence with National Accounts

Comparing SILC income statistics to Gross Household Disposable Income as calculated in the Institutional Sector Accounts

It is internationally recognised that there exists a gap between disposable household income as measured under the national accounts framework and as measured in micro sources such as SILC. At the centre of this measurement gap is the concept of household income. In the national account concept, disposable income considers additional income in the form of social transfers in kind (STik). STiK are expenditures on individual goods and services of general government and Non-Profit Institutions Serving Households that directly benefit households. Examples of STiKs include the provision of healthcare and education. SILC on the other hand is concerned more with 'spendable' income as outlined in section 3.10.1. For further information see https://www.oecd-ilibrary.org/a-cross-country-comparison-of-household-income-consumption-and-wealth-between-micro-sources-and-national-accounts-aggregates_5k3wdjrnh7mv.pdf?itemId=%2Fcontent%2Fpaper%2F5k3wdjrnh7mv-en&mimeType=pdf

The table below highlights the similarities and differences of the competing measures of household disposable income. Note the income reference period for SILC from 2020 onwards is the T-1 calendar year, thus SILC 2023 (income reference year 2022) is compared to the 2022 Institutional Sector Accounts, and so on.

Coherence with National Accounts for income variables				
EU-SILC variables	**National Accounts item (S14)**	**Coverage rate (calculated as EU-SILC and NA ratio)**	**EU-SILC growth rate (nominal, year to year)**	**National accounts growth rate (nominal, year to year)**
Employee income: PY010G Employee cash or near cash income+ PY021G Company car	D11/rec Wages and salaries	0.96	5.3%	9.9%
Income from self-employment: PY050G Cash benefits or losses from self-employment	B3g Mixed income, gross	0.74	28.4%	18.3%

Social benefits other than social transfers in kind: HY050G Family/children related allowances +HY060G Social exclusion not elsewhere classified +PY090G Unemployment benefits + PY100G Old-age benefits + PY110G Survivor' benefits + PY120G Sickness benefits + PY130G Disability benefits +PY140G Education-related allowances + HY070G Housing allowances	D62/rec: Social benefits, other than social transfers in kind	0.71	9.1%	-3.2%
Social contributions and taxes on income paid: HY140G Tax on income and social contributions	D61/use: net social contributions + D51/use: taxes on income	0.45	8.8%	19.2%
Total disposable household income HY020	B6 Gross disposable income	0.34	6.9%	11.1%

17.4. Coherence – internal

Not applicable.

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

SILC average interview duration:

- Mean (average) interview duration per household = 39.5 minutes.
- Mean (average) interview duration per person = 13.2 minutes.

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

Census Revision to SILC 2020 - SILC 2022
Results from the Census of Population 2022 provide the most timely and accurate population estimates available for the intercensal period 2017 to 2022. The revisions to population benchmarks impacted the overall SILC results by increasing the estimate of median household disposable income and equivalised disposable income while decreasing estimated poverty rates. Intercensal household composition benchmarks over-estimated the proportion of households composed of a single adult. Household income is highly correlated with household size and as a consequence, published average household income values in SILC 2020, 2021, and 2022 were lower than the revised values. To address this for future iterations of SILC, the CSO has changed its method of calculating benchmark estimates in the intercensal period. See Information Note: Census Revisions - SILC 2020 to 2022 - Central Statistics Office

Revisions prior to SILC 2023

- SILC 2022 (first published 23rd November 2022) was revised on 22nd February 2023. Following the processing of the income data and coherence checks with administrative data sources, the weights used for SILC 2022 data were refined.
- SILC 2020 (first published December 17th 2021) was revised on May 6th 2022. Survey weights for 2020 SILC results were adjusted to better reflect the estimated household distribution within the rental sector.
- SILC 2012-2016 data was revised on December 17th 2018. Data was reweighted to account for the new NUTS3 groupings and new population estimates.
- SILC 2012-2014 was revised on February 1st 2017 due to processing error which resulted in disposable income being underestimated over the period (2012-2014).
- SILC 2010 was revised on February 13th 2013 due to a processing error which affected income estimates.
- SILC 2003 was revised on December 12th 2005. The results were revised following the application of improved re-weighting and calibration methods in line with EU recommendations.

Further information on revisions prior to SILC 2023 can be found here https://www.cso.ie/en/media/csoie/methods/surveyonincomeandlivingconditions/SILC_Revisions_Document.pdf

Regular inter-censal revisions
Inter-censal revisions had not been completed for SILC after the 2006, 2011 and 2016 Census of Population. Tests were run to see if the revised population totals had any effect on the main SILC statistics and it was found they remained unchanged. However, the fact that these revisions have not taken place means that population and sub-population totals in SILC cannot be published as they do not correspond with the official CSO estimates. This is most notable when comparing year-on-year numbers.

20. Statistical processing

20.1. Source Data

The annual SILC survey is the main data source for SILC. Information is collected from the head of household and all household members, aged 16and over, on tablet computers by trained interviewers, using Computer-Assisted Personal Interview (CAPI) or Computer-Assisted Telephone Interview (CATI) software.

In addition, the CSO has access to two primary micro-data sources. These are the Department of Social Protection (DSP) social welfare data and the Revenue Commissioners' employee income data. The Administrative Data Centre (ADC) division within the CSO securely manage the ownership of these data sources and SILC's Data Collection Unit has only limited access to the data. The CSO works with the DSP and Revenue, on a continuing basis, to ensure good quality data is available on a timely basis.

Other sources of administrative data include:

- Direct payments paid to farmers *e.g.* Common Agriculture Policy (CAP) entitlements provided by the Department of Agriculture, Food and the Marine (DAFM) thus enabling the CSO to capture these payments as part of the SILC income calculation https://www.ifa.ie/basic-payment-scheme/
- Student Universal Support Ireland (SUSI) provides Ireland's single national awarding authority for all higher and further education grants https://susi.ie/
- Local Property Tax (LPT) data which is liable on all residential properties in Ireland https://www.revenue.ie/en/property/local-property-tax/index.aspx
- Residential Tenancies Board (RTB) provides private residential rental income data https://www.rtb.ie/
- Housing Assistance Payment (HAP) provides social housing support provided by all local authorities http://hap.ie/

The CSO is continuously expanding the use of administrative data for SILC.

20.1.1. Population and sampling frame

The target population is private households and all persons composing these households having their usual residence in the Member State. Private household means a person living alone or a group of persons who live together, providing oneself or themselves with the essentials of living.

The sampling frame (for the SILC 2023) was the register of all private dwellings occupied on the night of the 2016 Census of Population for waves 1, 2, 3, 4, 5 and 6.

The final sampling frame used for sample selection excludes all the Island communities, and individuals living in public institutions (*e.g.* prisons, hospitals, nursing homes, *etc.*), communal accommodation and persons of no fixed abode.

20.1.2. Sampling design

The SILC sample is a rotational sample. Up until 2019 SILC was a four-year rotational panel survey, i.e. respondents remained in the survey for four consecutive years, with respondents from waves 1 to 4 in any given year. Given the demand that the new regulation puts on precision requirements for key indicators, and a need to boost the sample size, the rotation pattern has been gradually increased to a six-year rotation pattern. SILC 2020 was the first year in which five waves were included in the survey. From 2022 the rotation pattern was increased to six waves.

In 2022 a new sampling methodology was introduced to ensure SILC will be able to meet the precision requirements specified in the IESS regulation. Waves 1 and 2 were selected using this methodology in SILC 2023. Waves 3, 4, 5 and 6 come from the 2018 sampling frame, using the previous sample selection methodology in place since 2014.

The following is a brief overview of the revised SILC sample methodology, from which wave 1 of SILC 2023 was selected:

- The SILC sample is a Stratified Simple Random Sample (SSRS).
- The sample is stratified by county and 10 equivalised income bands.
- Households are selected using probability proportional to size (PPS) of each strata.
- The sampling frame is the 2016 Census, excluding households previously sampled for other social surveys.
- Including longitudinal cases from the older sample selection methodology (waves 3-6), a target of 12,000 households are selected for interview.

The following is a brief overview of the revised SILC sample methodology, from which wave 2 of SILC 2023 was selected:

- The SILC sample is a Stratified Simple Random Sample (SSRS).
- The sample is stratified by county and 10 equivalised income bands.
- Households are selected using Neyman allocation.
- The sampling frame is the 2016 Census, excluding households previously sampled for other social surveys.
- Including longitudinal cases from the older sample selection methodology (waves 3-6), a target of 12,000 households are selected for interview.

The following is a brief overview of the 2014 SILC sample methodology, from which waves 3-6 of SILC 2023 were selected:

- The SILC sample is a multi-stage cluster sample resulting in all households in Ireland having an equal probability of selection.
- The sample is stratified by NUTS4 and quintiles derived from the Pobal HP (Haase and Pratschke) Deprivation Index.
- In the 2018 sample the clusters are based on Census Enumeration Areas, rather than the Household Survey Collection Unit Small Areas used in the 2014 sample.
- A sample of 1,200 blocks (i.e. Census Enumeration Areas, Census 2016) from the total population of blocks is selected.
- Blocks are selected using probability proportional to size (PPS), where the size of the block is determined by the number of occupied households on Census night 2016. 100 households from each block are selected at random to be retained for selection within each block.
- All occupied households on Census night 2016 within each block are eligible for selection in the SILC sample.
- Households within blocks are selected using simple random sampling without replacement (SRS) for inclusion in the survey sample.

Rotational pattern

The SILC sample is a rotational sample. Up until 2019 SILC was a four-year rotational panel survey, *i.e.* respondents remained in the survey for four consecutive years, with respondents from Wave 1 to 4 in any given year. Given the demand that new regulation puts on precision requirements for key indicators, and a need to boost the sample size, the rotation pattern has been gradually increased to a six-year rotation pattern. SILC 2020 was the first year in which five waves were included in the survey. From 2022 the rotation pattern was increased to six waves.

There is both a cross-sectional and a longitudinal element to the SILC sample. The table below illustrates the rotational sample design adopted by the CSO. Households interviewed for the first time are Wave 1 households. Households who are interviewed in subsequent years are Wave 2 households (2nd year in the sample), Wave 3 households (3rd year in the sample), Wave 4 (4th year in the sample), Wave 5 (5th year in the sample) or Wave 6 (6th and final year in the sample).

The rotational sample design in 2023 results in five longitudinal datasets consisting of:

a) a two-year panel data set that contains households and individuals that are in both the 2023 and 2022 cross-sectional data sets,
b) a three-year panel data set that contains households and individuals that are in the 2023, 2022, and 2021 cross-sectional data sets,
c) a four-year panel data set that contains households and individuals that are in the 2023, 2022, 2022, and 2020 cross-sectional data sets,
d) a five-year panel data set that contains households and individuals that are in the 2023, 2022, 2021, 2020, and 2019 cross-sectional data sets, and
e) a six-year panel data set that contains households and individuals that are in the 2023, 2022, 2021, 2020, 2019 and 2018 cross-sectional data sets.

The panels are represented in the table below. The rotational group (RG) indicates the year a household was first selected for the sample. RG4 (Wave 1) households were introduced for the first time in the sample in 2023 and will remain in the sample until 2028. In 2023 RG3 (Wave 6) represents the households that were first introduced into the sample in 2018 and these households were in the sample for the sixth time in 2022.

SILC Rotational Sample Design												
Rotational Group	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
RG3	W4											
RG2	W3	W4										
RG1	W2	W3	W4	W5								
RG4	W1	W2	W3	W4	W5	W6						
RG3		W1	W2	W3	W4	W5	W6					
RG2			W1	W2	W3	W4	W5	W6				
RG5				W1	W2	W3	W4	W5	W6			
RG1					W1	W2	W3	W4	W5	W6		
RG6						W1	W2	W3	W4	W5	W6	
RG4							W1	W2	W3	W4	W5	W6
RG3								W1	W2	W3	W4	W5
RG2									W1	W2	W3	W4
RG5										W1	W2	W3
RG1											W1	W2
RG6												W1

20.1.3. Survey size

Number of sampling units selected in sample: 11,676
Achieved sample size (*i.e.* accepted interviews):

- Achieved households: 4,191
- Persons aged 16+ who completed a personal interview (including by proxy): 8,178
- Total number of persons (all ages) in achieved sample: 10,199

20.1.4. Survey technique

The annual SILC survey is the main data source for SILC.

Household data is collected from the nominated head of household and personal data is collected from individuals. A dwelling may contain multiple 'households', and all houses within the dwelling are invited to participate. If a household is to be included, then data is collected on everyone within the household.

All 'usual residents' in responding households are surveyed (including students living away from home and substantially supported by parents). Information on the household and certain household members' information is collected from the designated head of household.

Detailed personal information, income information and more complex information is collected from all household members aged 16 and over. Where a particular individual is not available for interview, information can be provided by another member of the household in some 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 sample design is based on the availability of 100 permanent interviewers and 10 field coordinators/supervisors. In recent years, sample implementation has suffered from a shortage of interviewers. Back-up interviewers are used whenever possible to cover areas where no permanent interviewer is available. Each field co-ordinator manages 10 field interviewers. Permanent field interviewers are allocated 16 SILC interviews per month. This allocation may be reduced due to, for example, planned leave when some of the allocation may be assigned to a back-up interviewer if one is available.

Each quarter the Field Administration Unit (FAU) organises one-day training meetings with each of the ten interviewer groups. Occasionally, SILC statisticians participate in these training days where modifications to the questionnaire, new SILC modules and any issues around the sample implementation are discussed. These training days form part of the open communication policy that exists between the interviewer field force and the FAU team. Detailed management reports are used to monitor and improve (if necessary) the performance of the interviewer field force. Level of completion payments are also linked to the response rates achieved by interviewers. To minimise non-response interviewers are instructed to make at least three attempts to contact each house to get a response.

20.2. Frequency of data collection

The annual data collection period spans the 6 months of the year from January to June. The sample allocation is distributed evenly throughout the six months with household interviews being conducted on a weekly basis.

20.3. Data Collection

Information is collected from all household members on tablet computers by trained interviewers, using Computer-Assisted Personal Interview (CAPI) software. Some interviews for waves 2-6 were conducted through Computer-Assisted Telephone Interview (CATI).

20.3.1. Type of Survey/Process

The process to compile the EU SILC is multimode comprising of a sample survey which is then supplemented by administrative data.

20.3.2. Questionnaire (including explanations)

The SILC questionnaire contains several hundred questions on a range of topics relating to both the household and individual respondents. Topics measured in the questionnaire include:

- Gender
- Nationality
- Age
- Income

- Material deprivation
- Social exclusion
- Economic status
- Industry of employment
- Employment status
- Occupation
- Education level
- Health
- Housing conditions
- Childcare
- Quality of life
- Access to services
- Well-being

The information is collected from either the head of the household or the individual members as follows:

i. Variables measured at the household level. These variables are collected from the head of household;

ii. Information on household size, household composition and the basic characteristics of household members are also collected from the head of household;

iii. Income and other more complex variables, termed 'basic variables' (education, basic labour information and second job), are measured at the personal level, but normally aggregated to construct household-level variables. These variables are collected by personal interview from all household members aged 16 and over; and

iv. Variables collected and analysed at the person-level 'the detailed variables' (health, access to health care, detailed labour information, activity history and calendar of activities'). These variables are collected by personal interview from all household members aged 16 and over.

The questionnaire is reviewed annually. As part of the review the previous module(s) is dropped and the new module is added to the questionnaire. At this stage, any updates to the questionnaire are also implemented. The CSO SILC team completed a full questionnaire review in 2019 to guarantee the integrity of the questionnaire, to standardise questions and answers across national household surveys and to remove any redundant questions.

A review of the SILC questionnaire was completed in 2019 to guarantee the integrity of the questionnaire, to standardise questions and answers across national household surveys and to remove any redundant questions from the 2020 SILC questionnaire. For further information see https://www.cso.ie/en/media/csoie/methods/surveyonincomeandlivingconditions/SILC_2020_Questionnaire_Review.pdf

20.3.3. Survey Participation

Ireland's commitment to provide SILC data to Eurostat is governed by the regulations outlined in Section 8.1. However, it is worth noting that participation in the survey, on the part of the household, is voluntary.

20.3.4. Data Capture

The questionnaire is completed using the Blaise application and data is transferred to the CSO's head office in Cork via a 'secure tunnel'. To ensure security and confidentiality encrypted data is synchronised on a daily basis using the REACH interface.

In addition, the CSO has two primary micro data sources. These are the Department of Social Protection (DSP) social welfare data and Revenue Commissioners' employee and self-employed income data. The CSO continues to work with DSP and Revenue to ensure data is available on a timely basis.

20.4. Data Validation

Many 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 of relevant respondents. In addition, invalid responses are prevented at the point of capture and there are certain points in the questionnaire where interviewers are prevented from proceeding with the interview unless valid answers are provided. This ensures that the capture of implausible data is prevented and that only completed interviews are returned.

Much of the income micro-data comes directly from administrative sources such as Revenue and DSP. The availability of such good quality micro-data considerably reduces the possibility of measurement error in the compilation of direct income and social transfers. This also reduces the burden on the SILC DCU section in micro-editing these complex variables.

SILC DCU statisticians start editing the SILC data in Q2 and Q3 of a given year. Editing of the SILC data begins at the earliest opportunity. Below is a list of some of the edits performed in the initial stages of SILC processing:

1. If respondent indicated that they had employee income then the employee gross income field or the employee gross income estimate field must be filled.
2. If respondent indicated that they had directors fee income then the directors fee income field must be filled or the directors fee estimate field must be filled.
3. If the respondent indicated that they had self employed farming income then the gross farm income field must be filled or the gross farm income estimate field must be filled.
4. If the respondent indicated that they had self employed farming income then the size of the farm in hectares must be filled.
5. If the respondent indicated that they had self employed farming income then the farm system variable must have a value of one of the following: (1, 2, 3, 4, 5, 6).
6. If the respondent indicated that they had non-farming self employed income then the gross self employed income must be filled or the gross self employed income estimate must be filled.
7. If the respondent indicated that they had self employed income then the size of their firm (in number of people working there) must be filled.
8. If the respondent said that they are working, then the number of hours worked must be filled.
9. If the respondent indicated that they had a second job then then number of hours worked in the second job must be filled.
10. The PPS number needs to be checked and validated.
11. Check if person is under 18 and either married, widowed, divorced, separated?
12. Age must be entered for respondent.
13. Date of birth must be entered for respondent.
14. If respondent is working the NACE sector must not be missing.
15. If respondent is working the NACE code must be valid.
16. If respondent is working the occupation must not be missing.
17. If respondent is working the occupation code must be valid.
18. If respondent has indicated that they have a foreign pension then the amount must be filled.
19. If respondent indicated that they have pension income then the pension type must be entered.
20. If respondent has indicated that they have income from an occupational pension then the amount must be filled.
21. If the respondent has indicated that they have income from a private pension then the amount must be filled.
22. If farm income > €200,000 check that it is not a miskey.
23. If self-employed income > €200,000 check that it is not a miskey.
24. If foreign pension income > €200,000 check that it is not a miskey.
25. If gross occupational pension income > €200,000 check that it is not a miskey.

26. If gross private pension income > €200,000 check that it is not a miskey.
27. If directors fee income > €200,000 check that it is not a miskey.
28. If the interview is a proxy interview, then the proxy ID must be filled.
29. If PPSN status is set to confirmed the PPSN must be filled.
30. Check cases where PPSN is entered but status is not confirmed.
31. If PPS number is confirmed then date of birth must be entered.
32. If respondent is an employee then the size of the firm (in no. of people working there) must be filled.
33. If respondent has indicated that they have directors fees but has not provided an amount then there must be an estimate entered in one of the income estimate categories 1 to 20.
34. If respondent has indicated that they have self employed income but has not provided an amount then there must be an estimate entered in one of the income estimate categories 1 to 20.
35. If respondent has indicated that they have self employed farm income but has not provided an amount then there must be an estimate entered in one of the income estimate categories 1 to 20.
36. If the respondent has indicated that they work as an employee the Full Time/Part Time indicator must be filled.

Once the data is cleaned using the edits above, more detailed checking of data is conducted using SAS statistical software. At this stage, outliers in the micro-data are reviewed and inconsistencies in the longitudinal data are further investigated. The cleaned data is then forwarded to the SILC RAP section where extensive macro-editing is completed to benchmark SILC results against Revenue and DSP aggregated data thus ensuring coherency with these known figures. At this final stage, any discovered anomalies in the data (or process) are reviewed and resolved where possible.

20.5. Data Compilation

The Blaise dataset is available in the form of relational tables in SQL, and these are converted into a SAS dataset before being further processed. A key determinant of the timeliness of SILC is the availability of DSP and Revenue data.

A 'clean' dataset was first provided to the SILC RAP team in November 2023and this dataset was finalised after extensive macro-editing. Quality approved micro-data was transmitted to Eurostat by end of December 2023. •On 7th March 2024 the national results for SILC 2023 were released in two parts:

- The SILC Enforced Deprivation 2023
- The Survey on Income and Living Conditions (SILC) 2023

20.5.1. Computation of outputs

At risk of poverty rate
This is the share of persons with an equivalised income below a given percentage (usually 60%) of the national median income. It is also calculated at 40%, 50% and 70% for comparison. The rate is calculated by ranking persons by equivalised income from smallest to largest and then extracting the median or middle value. Anyone with an equivalised income of less than 60% of the median is considered at risk of poverty at a 60% level.

Deprivation rate
Households that are excluded and marginalised from consuming goods and services which are considered the norm for other people in society, due to an inability to afford them, are considered to be deprived. The identification of the marginalised or deprived is currently achieved on the basis of a set of eleven basic deprivation indicators:

1. Without heating at some stage in the last year
2. Unable to afford a morning, afternoon, or evening out in last fortnight

3. Unable to afford two pairs of properly fitting shoes in good condition that are suitable for daily activities
4. Unable to afford a roast once a week
5. Unable to afford a meal with meat, chicken, fish, or vegetarian equivalent every second day
6. Unable to afford new (not second-hand) clothes
7. Unable to afford a warm waterproof coat
8. Unable to afford to keep the home adequately warm
9. Unable to afford to replace any worn out furniture
10. Unable to afford to have family or friends for a drink or a meal once a month
11. Unable to afford to buy presents for family or friends at least once a year

Individuals who experience two or more of the eleven listed items are considered to be experiencing enforced deprivation. This is the basis for calculating the deprivation rate.

Consistent poverty
The consistent poverty measure looks at those persons who are defined as being at risk of poverty and experiencing enforced deprivation (experiencing two or more types of deprivation).

An individual is defined as being in 'consistent poverty' if they are:

- Identified as being at risk of poverty and
- Living in a household deprived of two or more of the eleven basic deprivation items listed above.

Relative at risk of poverty gap
This is the difference between the median equivalised income of persons 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. The purpose of the indicator is to measure how far below the poverty threshold the median income of people at risk of poverty is. The closer the median income of those at risk of poverty is to the at-risk-of-poverty threshold the smaller the percentage will be.

At risk of poverty rate before social transfers
This indicator is calculated based on an alternative measure of equivalised income, excluding all social transfers. From 2020, social transfers in SILC refers to cash benefits received from local and state government. Any person with an equivalised income before social transfers of less than 60% of the median after social transfers is considered at risk of poverty before social transfers (*i.e.* the same threshold is used for calculating the rate before and after social transfers).

At risk of poverty after rent and mortgage interest
This indicator is calculated based on an alternative measure of equivalised income, excluding the total rent paid and mortgage interest. The total rent paid includes housing supports such as the Housing Assistance Payment (HAP), Rent Supplement, Rental Assistance Scheme (RAS) which were included in the household income. Any person with an equivalised income after rent and mortgage interest of less than 60% of the median before rent and mortgage interest is considered at risk of poverty after rent and mortgage interest (*i.e.* the same threshold is used for calculating the rate before and after rent and mortgage interest is deducted).

At risk of poverty rate anchored at a moment in time
For a given year, the "at-risk-of-poverty rate anchored at a moment in time" is the share of the population whose income in a given year is below the at-risk-of-poverty threshold calculated in the standard way for a previous base year and then adjusted for inflation. The purpose of this indicator is to get some indication of the changes in 'absolute poverty' over time. The deflator is derived from the monthly CPI and takes into account the rolling nature of the income data collected by SILC.

Gini coefficient
This is the relationship between cumulative shares of the population (ranked according to the level of income from lowest to highest) and the cumulative share of total income received by them, *i.e.* the Lorenz Curve. If there was perfect equality (*i.e.* each person receives the same income) the Gini coefficient would

be 0%. A Gini coefficient of 100% would indicate there was total inequality and the entire national income was in the hands of one person.

Inequality of income distribution (S80/S20) quintile share ratio
This is the ratio of the total equivalised income received by the 20% of persons with the highest income (top quintile) to that received by the 20% of persons with the lowest income (lowest quintile).

Comparison with Eurostat EU-SILC estimates
Estimates produced from SILC data by the CSO are based on national definitions of income, equivalence scale, deprivation *etc*. These are not directly comparable with EU-SILC estimates produced on the Eurostat website. See https://ec.europa.eu/eurostat/web/income-and-living-conditions/overview

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

Unit non-response
No imputation for unit non-response currently takes place for Wave 1 households in the SILC sample. For Wave 2-6 households, weights are adjusted at both the household and individual level to take account of non-response based on the characteristics of the non-respondents from the previous Wave.

Item non-response
Item non-response is primarily only conducted for missing direct income values and missing housing/utilities costs. For missing private sector pay, a form of hot-decking is employed to impute missing data. In the case of public sector pay, estimation of missing pay is based on public sector pay scales utilising information on grade and years of service. Due to the ready availability of PPSNs for SILC respondents and administrative income data very few imputations are required for direct income variables.

From reference year 2020, a new imputation system was introduced to estimate for item non- response for rent paid, utility costs, home insurance and home maintenance costs variables. The system uses "PROC survey impute" to perform "hot deck" imputation in SAS to estimate missing values for these variables.

Proxy interviews are allowed to obtain data for respondents who are not present in the house at time of interview. Up to 50.2% 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 variables. 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).

20.5.2.1. Imputation rate

2%.

20.5.3. Grossing and Weighting

The calculation of the SILC weights is carried out in accordance with the Eurostat requirements outlined in Doc-065. According to the Commission Regulation on sampling and tracing rules (EC No 1982/2003, §7.4): *Weighting factors shall be calculated as required to take into account the units' probability of selection, non-response and, as appropriate, to adjust the sample to external data relating to the distribution of households and persons in the target population, such as by sex, age (five-year age groups), household size and composition and region (NUTS II level), or relating to income data from other national sources where the Member States concerned consider such external data to be sufficiently reliable*.

A design weight is assigned to each household which is calculated as the inverse proportion to the probability with which the household was sampled. For SILC, the probability of the selection of a household is based on two elements: the probability of the selection of a block; and the probability of selection of a household within that block. The design weights were calculated for Wave 1 households each year as outlined in Section 20.1.2.

Design weights are adjusted each year, for each wave separately, for non-response to bring the weights up to the current year. These weights are combined and scaled back and then calibrated to population totals for the current year.

In accordance with Eurostat recommendation, CALMAR was used to calculate the household cross-sectional weights. Benchmark information was used to gross up the data to population estimates. The benchmark estimates were based on:

- Age by sex: Individual population estimates are generated from population projections from census data. Age is broken down into four categories: 0-14; 15-34; 35-64; and 65 and over;
- Region: Household population estimates in each of the eight NUTS3 regions are generated using Labour Force Survey (LFS) data;
- Household composition: Household composition estimates are also generated from the LFS. The following categories are used:
    - One adult, no children
    - Two adults, no children
    - Three or more adults, no children
    - One adult, one or more children
    - Two adults, one to three children
    - Other households with children
- Tenure status: Due to the COVID-19 pandemic the data collection process for SILC changed (see section above on the impact of the COVID-19 pandemic). The tenure distribution of the resulting achieved sample differed from previous SILC surveys. In the absence of a robust external benchmark, 2020 tenure distributions were applied to the 2021 weighting process using the following categories:
    - Owner-occupied: without outstanding mortgage
    - Owner-occupied: with outstanding mortgage
    - Rented, in receipt of HAP/RS/other rent subsidy
    - Rented, Local Authority
    - Rent free
    - Rented, without state housing assistance

Due to the "integrative" calibration method, the personal weight generated in CALMAR is equal to the household weight. Because there is no individual non-response within a household, the weights for personal cross-sectional respondents aged 16 and over are the same as the overall personal weight.

Longitudinal weights
Separate longitudinal weights are calculated for each set of panel data, *i.e.*, the two-year, three-year, four-year, five-year and six-year panels.

20.6. Adjustment

Not applicable.

20.6.1. Seasonal Adjustment

Not applicable.

21. Comment

Prior to EU-SILC, for the period 1994-2004, income, poverty, social exclusion, and standards of living were measured across the European Union (EU) using the European Community Household Panel (ECHP) survey as the main data source. The Living in Ireland Survey (LIS), conducted and compiled by the ESRI,

served as the Irish component of the ECHP. (For a more detailed discussion on the differences between the LIS and EU-SILC approaches, see: http://www.cso.ie/en/media/csoie/releasespublications/documents/eusilc/2003/eusilc_2003.pdf and *Reconfiguring the measurement of deprivation and consistent poverty in Ireland*, Maitre B., Nolan B. and Whelan C.T., ESRI, Dublin, 2006).

The SILC survey was launched in 2003. Ireland was one of six member states (Belgium, Denmark, Greece, Ireland, Luxembourg and Austria) and Norway that carried out SILC in 2003. The 2003 results are based on data collected in the 6-month period from June 2003 to December 2003. The results were published in January 2005 (see: http://www.cso.ie/en/media/csoie/releasespublications/documents/eusilc/2003/eusilc_2003.pdf).

The start date for the EU-SILC instrument under the Framework Regulation was 2004 for 12 Member States (Belgium, Denmark, Ireland, Greece, Spain, France, Italy, Luxembourg, Austria, Portugal, Finland and Sweden), Estonia, Norway and Iceland. The first official Irish SILC statistics based on twelve months of data were published in December 2005 with 2004 as the reference year. A derogation was provided in the cases of Germany, the Netherlands, the UK and nine of the then ten new Member States (all except Estonia) permitting them to begin in 2005. Bulgaria and Turkey started the full implementation of the EU-SILC instrument in 2006 while Romania and Switzerland began to implement the instrument in 2007. Croatia conducted SILC for the first time in 2011.

Differences between Eurostat EU-SILC and national SILC definitions
The key differences between the national and EU definitions of income are:

- The EU definition of gross income does not include non-cash employee income except for company car benefit-in-kind, nor does it include employer's social insurance contributions such as PRSI and employer pension contributions.
- All contributions to pension plans, except for those to private pension plans, are deducted from gross income when calculating disposable income under the EU definition. All contributions to pension plans, including for those to private pension plans, are deducted from gross income when calculating disposable income under the national definition.

For EU at risk of poverty rates, the equivalised disposable income for each person is calculated as the household total net income divided by the equivalised household size according to the modified OECD scale (which gives a weight of 1.0 to the first adult, 0.5 to other persons aged 14 or over who are living in the household and 0.3 to each child aged less than 14).

In the CSO publication, the national equivalence scale and definition of income are used to calculate at risk of poverty rates. The national equivalence scale used to obtain the equivalised household size attributes a weight of 1 to the first adult in a household, 0.66 to each subsequent adult (aged 14+ living in the household) and 0.33 to each child aged less than 14.

Definitions of Income Formulae
Gross Household income

1. Eurostat definition:
HY010 = PY010 + PY021 + PY050 + PY080 + PY090 + PY100 + PY110 + PY120 + PY130 + PY140 + HY040 + HY050 + HY060 + HY070 + HY080 + HY090 + HY110

2. National definition (up to 2019):
nat_totinc = PY010 + PY020 + PY030 + PY050 + PY070 + PY080 + PY090 + PY100 + PY110 + PY120 + PY130 + PY140 + HY040 + HY050 + HY060 + HY070 + HY080 + HY090 + HY110

3. National definition (2020 onwards):
nat_gross_hh_inc = PY010 + PY020 + PY030 + PY050 + PY080 + PY090 + PY100 + PY110 + PY120 + PY130 + PY140 + HY040 + HY050 + HY060 + HY070 + HY080 + HY090 + HY110

Disposable Household income

1. Eurostat definition:
HY020 = HY010 – HY120G – HY130G – HY140G.

2. National definition (up to 2019):
nat_dispinc = nat_totinc - PY030 - HY130 - HY140 - (PY080G - PY080N) + employee pension contribution (adds back pension contributions contained in HY140)

3. National definition (2020 onwards):
nat_disp_hh_inc = nat_gross_hh_inc - PY030 - HY120 - HY130 - HY140 – other pension contributions not contained in HY140