SURVEY ON INCOME AND LIVING CONDITIONS 2019

NATIONAL REFERENCE METADATA IN SINGLE INTEGRATED METADATA STRUCTURE (SIMS)

CONCEPT 1 – CONTACT

Sub-Concept 1.1: Contact organisation

National Statistics Office (NSO)

Sub-Concept 1.2: Contact organisation unit

Unit C1: Living Conditions and Culture Statistics
Directorate C - Social Statistics and Information Society

Sub-Concept 1.3: Contact name

Josianne Galea

Sub-Concept 1.4: Contact person function

Head of Unit

Sub-Concept 1.5: Contact mail address

National Statistics Office (NSO),
Lascaris, Valletta VLT 2000, Malta.

Sub-Concept 1.6: Contact e-mail address

josianne.a.galea@gov.mt

Sub-Concept 1.7: Contact phone number

+356 2599 7527

CONCEPT 2 – METADATA UPDATE

Sub-Concept 2.1: Metadata last certified

26th February 2021

Sub-Concept 2.2: Metadata last posted

26th February 2021

Sub-Concept 2.3: Metadata last update

26th February 2021

CONCEPT 3 – STATISTICAL PRESENTATION

Sub-Concept 3.1: Data description

The European Statistics on Income and Living Conditions (EU-SILC) project was launched for the first time in Malta in 2005 and has been carried out on an annual basis ever since. This survey is today regarded as the main source of national statistics on income distribution, poverty and social exclusion.

The EU-SILC is carried out under European Framework Regulation (EC) No 1177/2003, which stipulates rulings by which this survey is carried out in a harmonised way across the EU. Data collection is also coordinated by Eurostat which provides methodological guidelines by which this survey can be carried out at highest quality standards in all EU member countries. Information collected from this survey includes information related to the distribution of household income, health and disability, employment, and material deprivation. In this context, indicators derived from SILC aim to identify the population categories that are most prone to poverty and material deprivation.

The method used for EU-SILC involves personal interviews among a representative sample of households and persons living in these households at the time of data collection. Every year, more than 4,000 households are contacted for this survey. The sampling methodology used for EU-SILC incorporates a rotational panel, which requires that three quarters of the responding households in a particular year are forwarded for the next year's survey. This way, every responding household is contacted over four consecutive years. This methodology makes it possible for NSO to analyse more accurately differences in income and socio-economic situation of households over a relatively long period of time

Sub-Concept 3.2: Classification system

- International Standard Classification of Education 2011 (ISCED)
- International Standard Classification of Occupation 2008 (ISCO)
- Statistical Classification of Economic Activities in the European Community (NACE Rev. 2)
- The Nomenclature of Territorial Units for Statistics (NUTS)
- Districts (Local Administrative Unit)

Sub-Concept 3.3: Sector coverage

The target population for SILC consists of all individuals residing in private households.

Sub-Concept 3.4: Statistical concepts and definitions

Main concepts used in SILC are defined below:

1. The gross household income includes:
   - Gross employee cash or near cash income;
   - Gross non-cash employee income (only company car and associated costs included);
   - Gross cash benefits or losses from self-employment (including royalties);
   - Unemployment benefits;
   - Old-age benefits;
   - Survivors' benefits;

- Sickness benefits;
- Disability benefits;
- Education-related allowances;
- Income from rental of property or land;
- Family/Children related allowances;
- Social exclusion benefits not elsewhere classified;
- Housing allowances;
- Regular inter-household cash transfers received;
- Interests, dividends, profits from capital investments in unincorporated business;
- Income received by people aged under 16; and,
- Income received from individual private pension plans.

2. The total disposable income of a household is calculated by deducting the below from the total gross household income:
   - Regular inter-household cash transfers paid;
   - Tax on income; and,
   - Social insurance contributions.

3. Equivalent household size is calculated according to the "modified OECD" equivalence scale which gives:
   - A weight of 1.0 to the first adult;
   - A weight of 0.5 to any other household member aged 14+;
   - A weight of 0.3 to each child.

4. Equivalised disposable income (referred to also as national equivalised income) is defined as:
   - The household's total disposable income divided by its "equivalent household size", to take account of the size and composition of the household and is attributed to each household member. For example, a household with two adults and two children aged less than 14, would have an equivalised household size of (1+0.5+0.3+0.3) = 2.1. If the total disposable income earned by the household is €20,000, then the household equivalised income would result in (€20,000/2.1) = €9,523.

5. The at-risk-of-poverty threshold is also referred to as the at-risk-of-poverty line or, simply, the poverty line. This is equivalent to 60 per cent of the median national equivalised income of persons living in private households.

6. The S80/S20 ratio is the ratio between the sums of the highest and lowest 20 per cent equivalised incomes of persons within the households.

7. The Gini coefficient measures the inequality of income distribution. It may take values ranging from 0 per cent, which implies perfect equality in the income distribution, to 100 per cent, which signifies absolute inequality.

8. The Work Intensity (WI) of a household is the ratio of the total number of months that all household members aged between 18 and 59, with the exclusion of students aged between 18 and 24, have worked during the income reference year and the total number of months the same household members theoretically could have worked in the same period. Households composed only of children aged less than 18, of students aged less than 25 and/or people aged 60 or more are completely excluded from the computation of this indicator.

9. Material Deprivation - The following nine questions are asked to all households in order to determine whether they suffer from material deprivation:
   - Ability to face unexpected financial expenses;
   - Ability to pay for one week's annual holiday away from home;
   - Whether they have been in arrears on mortgage or rent payments, utility bills, hire purchase instalments or other loan payments;
   - Ability to have a meal with meat, chicken, fish or vegetarian equivalent every second day;
   - Ability to keep home adequately warm in winter;
   - Own a washing machine;
   - Own a colour TV;
   - Own a telephone (including mobile phone); and,
   - Own a car.

   Persons living in households who are not able to afford at least three of the nine deprivation items are considered to be materially deprived.

   Persons living in households who are not able to afford at least four of the nine deprivation items are considered to be severely materially deprived.

10. The at-risk-of-poverty rate refers to the share of persons with an equivalised disposable income below the at-risk-of-poverty threshold.

11. The at-risk-of-poverty or social exclusion rate corresponds to the proportion of persons who fall within at least one of the following three categories:
   - Persons whose equivalised income falls below the at-risk-of-poverty threshold;
   - Persons who live in severely materially deprived private households; and,
   - Persons aged 0-59 who live in private households with a work intensity indicator below 20% (i.e. the adults aged 18-59 have worked less than 20 per cent of their total work potential during the past year).

12. A person is defined as a dependent child if s/he is:
   - Under 18, or;
   - 18-24 years old and is economically inactive and living with at least one parent.

   Otherwise, the person is referred to as an adult.

Sub-Concept 3.5: Statistical unit

Private households in Malta.

Sub-Concept 3.6: Statistical population

The target population for EU-SILC in Malta is composed of all persons residing in private households.

Sub-Concept 3.7: Reference area

Persons residing in private households in Malta and Gozo.

Sub-Concept 3.8: Time coverage

2005 onwards.

Sub-Concept 3.9: Base period

Not Applicable.

CONCEPT 4 – UNIT OF MEASURE

- Percentage terms
- Number of persons
- Number of households
- Euro

CONCEPT 5 – REFERENCE PERIOD

- Income data refers to the year prior to the survey
- All other data collected refer to the year of the survey.

CONCEPT 6 – INSTITUTIONAL MANDATE

Sub-Concept 6.1: Legal acts and other agreements

The Malta Statistics Authority (MSA) Act empowers the NSO to collect, compile, extract and release official statistics related to demographic, social, environment, economic and general activities and conditions of Malta.

This SILC survey has been carried out in Malta since 2005, under European Regulation (EU) No. 1177/2003. This Regulation establishes criteria which ensure the production of high quality and harmonised results at European level.

Sub-Concept 6.2: Data sharing

Microdata are transmitted to Eurostat regularly on a biannual basis. The first transmission includes four cross sectional datasets and the second and final transmission includes four longitudinal datasets.

CONCEPT 7 – CONFIDENTIALITY

Sub-Concept 7.1: Confidentiality – Policy

At National level:

The NSO requests information for the compilation of official statistics according to the articles of the MSA Act – Cap. 422 and the Data Protection Act – Cap. 586 of the Laws of Malta implementing the General Data Protection Regulations (GDPR).

Article 40 of the MSA Act stipulates the restrictions on the use of information while Article 41 stipulates the prohibition of disclosure of information. Furthermore, Section IX of the Act (Offences and Penalties) lays down the measures to be taken in case of unlawful exercise of any officer of statistics regarding confidentiality of data.

Since its inception, the NSO has always assured that all data collected remains confidential and that it is used for statistical purposes only according to the articles and derogations stipulated in the laws quoted above. The Office is obliged to protect the identify of data providers and refrain from divulging any data to third parties that might lead to the identification of persons or entities.

During 2009, the NSO has set up a Statistical Disclosure Committee to ensure that statistical confidentiality is observed, especially when requests for microdata are received.

Upon employment, all NSO employees are informed of the rules and duties pertaining to confidential information and its treatment. In line with stipulations of the MSA Act, before commencing work, every employee is required to take an oath of secrecy whose text is included in the same Act.

An internal policy on anonymisation and pseudo-anonymisation is in place to ascertain that adequate methods are used for the protection of data which the office collects and shares with the public in its capacity as the National Statistics Office. The policy is meant to safeguard confidentiality of both personal and business data entrusted to the NSO. The document provides guidance for all NSO employees who process data on a daily basis as to how anonymisation and pseudo-anonymisation methods should be applied. The policy applies to all confidential, restricted and internal information, regardless of form (paper or electronic documents, applications and databases) that is received, processed, stored and disseminated by the NSO.

At European level:

Regulation (EC) No 223/2009 on European statistics (recital 24 and Article 20(4) of 11 March 2009 (OJ L 87, p. 164), stipulates the need to establish common principles and guidelines ensuring the confidentiality of data used for the production of European statistics and the access to those confidential data with due account for technical developments and the requirements of users in a democratic society.

Sub-Concept 7.2: Confidentiality – Data Treatment

The NSO follows the same publication rules as recommended by Eurostat, namely that:

- An estimate should not be published if it is based on fewer than 20 sample observations or if the item non-response exceeds 50%.
- An estimate should be published with a flag if it is based on 20 to 49 sample observations or if the item non-response exceeds 20% and is lower or equal to 50%.
- An estimate shall be published in the normal way when based on 50 or more sample observations and the item's non-response does not exceed 20%.

According to these rules, estimates based on less than 20 sample counts are not published, thus also ensuring the respondent's confidentiality. In terms of anonymisation of data, this is based on minimum frequency counts.

In addition, microdata are treated for confidentiality prior to dissemination. In specific, microdata are modified to produce a safe file. Various techniques are used for this modification, including:

- Global recording – collapsing several categories of a variable into one;
- Local suppression – suppressing values in unsafe combinations (i.e. replacing by a missing value);
- Top and bottom coding – collapsing larger values (top coding) and smaller values (bottom coding) of ordinal categorical variables or continuous variables;

The MU Argus software is used to identify confidential cells and to apply the various methods. Disclosure control methods are normally based on optimisation algorithms subject to a number of sensitive variables included in the dataset.

CONCEPT 8 – RELEASE POLICY

Sub-Concept 8.1: Release Calendar

An advance release calendar is maintained by the NSO and published on the NSO website. The calendar projects three months of news releases (including the current and two subsequent months).

Sub-Concept 8.2: Release Calendar access

https://nso.gov.mt/en/News_Releases/Release_Calendar/Pages/News-Release-Calendar.aspx

Sub-Concept 8.3: User access

An internal policy on dissemination is in place to govern the dissemination of official statistics in an impartial, independent and timely manner, making them available simultaneously to all users.

The NSO's primary channel for the dissemination of official statistics is the NSO website. Tailored requests for statistical information may also be submitted through the NSO website.

Moreover, SILC news releases and publications are available in electronic format on the NSO website. In addition, tabular information can be accessed through the Eurostat database.

CONCEPT 9 – FREQUENCY OF DISSEMINATION

Yearly. SILC data are published into 3 subject oriented news releases spread throughout the year.

CONCEPT 10 – ACCESSIBILITY AND CLARITY

Sub-Concept 10.1: News release

SILC data are published into 4 subject oriented news releases spread throughout the year. News releases with salient results from this survey may be accessed through: https://nso.gov.mt/en/News_Releases/View_by_Unit/Unit_C1/Living_Conditions_and_Culture_Statistics/Pages/Statistics-on-Income-and-Living-Conditions.aspx

Sub-Concept 10.2: Publications

Publications relating to SILC information were published in the format of one whole publication up until 2010.

Following that, data publication was then split into 4 subject-oriented news releases.

Sub-Concept 10.3: Online Database

Information on EU-SILC is not available on the NSOs online statistical database (StatDb). However, detailed EU-SILC statistics may be obtained from Eurostat's website

Sub-Concept 10.4: Micro-data access

EU-SILC anonymised microdata may be provided under strict conditions to a selected number of institutions or persons accredited as research entities or researchers respectively. Further information on access to anonymised microdata is available on the NSO website through: http://nso.gov.mt/en/Services/Microdata/Pages/Access-to-Microdata.aspx.

Researchers who require such access need to submit an application form clearly explaining the purpose of their statistical research and justifying their need for access to microdata. The application form will be evaluated internally and if considered favourably a formal contractual agreement will be drafted to explain the responsibilities of the researcher for the security of the information. Once the agreement is agreed upon and signed by both parties, access to anonymised microdata will be granted subject to the terms of reference included in the contractual agreement. Access is normally granted for a definite time period.

Sub-Concept 10.5: Other

Microdata are transmitted to Eurostat regularly on a biannual basis. The first transmission includes four cross sectional datasets and the second and final transmission includes four longitudinal datasets.

Sub-Concept 10.6: Documentation on methodology

Work processes and procedures for the compilation of the EU-SILC are documented in a standardised reporting template and aligned to the GSBPM model. The model covers all phases of the statistical production process, from the initial stages of identifying what statistics are needed and the scope of the particular survey, to the final stages of dissemination and evaluation. GSBPM is only available internally and may be accessed by all NSO employees.

Information regarding the SILC survey can be found attached in the methodology section in each SILC related news release. Furthermore, the NSO website also provides also an overview of the methodology used in the SILC survey as well as an online version of the questionnaire.

Sub-Concept 10.6.1: Metadata completeness rate

Information about all required metadata concepts (and sub-concepts thereof) are provided.

Sub-Concept 10.7: Quality Documentation

The procedures used for the analysis of data are documented in line with the GSBPM model and made available to NSO staff members only.

EU-SILC SIMS reports are available to the public on the NSO's metadata website including concepts related to metadata and quality.

The methodology of how the main indicators are computed using SILC data are published in the News Release relating to Salient Indicators. Information with regards to such computations can be found using the following link:
http://nso.gov.mt/en/News_Releases/View_by_Unit/Unit_C1/Living_Conditions_and_Culture_Statistics/Pages/Statistics-on-Income-and-Living-Conditions.aspx

A quality report is sent to Eurostat on an annual basis.

The NSO has developed an internal Quality Management Framework (QMF) which is built on common requirements of the ESS Code of Practice (ESS CoP). A document was prepared to include a set of general quality guidelines spanning over all statistical domains. Assuring methodological soundness is an integral part of the QMF, nonetheless, the document spans also on other areas related to institutional aspects.

CONCEPT 11 – QUALITY MANAGEMENT

Sub-Concept 11.1: Quality Assurance

The NSO ensures the accuracy of data released to the public and prepares clear methodological notes which explain the processes involved in the collection and production of official statistics.

The NSO has developed an internal Quality Management Framework (QMF) which is built on common requirements of the ESS Code of Practice (ESS CoP). A document was prepared to include a set of general quality guidelines spanning over all statistical domains. Assuring methodological soundness is an integral part of the QMF, nonetheless, the document spans also on other areas related to institutional aspects.

Every five to seven years, the NSO participates in a Peer Review exercise through which the compliance of its operations with principles of the ESS CoP is assessed by an expert team. Peer Reviews are indeed part of the European Statistical System (ESS) strategy to implement the ESS CoP. Each NSI is expected to provide information as requested by a standard self-assessment questionnaire. Following this an expert team visits the office to meet NSI representatives and main stakeholders. Peer Reviews result in a compliance report and the listing of a set of Improvement Actions which need to be followed up by the NSI. The next round of Peer Reviews is planned to be carried out in 2022.

Sub-Concept 11.2: Quality Assessment

The methodological manual provided by Eurostat is constantly being consulted to ensure the full conformity to Eurostat definitions.

Moreover, an ESQRS report, which is a detailed standard structure for the collection and dissemination of quality reports, is filled in annually.

The NSO recognises that the production of high-quality statistics from EU-SILC is paramount for policy making purposes. During the past years, many efforts were made to ensure accuracy of results. Great importance is also given to the production of harmonised results. In this regard, every effort is made in order to ensure that all Eurostat's recommendations and all Regulation's requirements are strictly adhered to. Apart from this a Quality Management Framework (QMF) was developed to improve the quality of the processes and the outputs from surveys lie EU-SILC.

CONCEPT 12 – RELEVANCE

Sub-Concept 12.1: User needs

EU-SILC users include institutions within the European Commission, policy makers, journalists, the European Central Bank, National Administrations (mainly those in charge of the monitoring of social protection and social inclusion), and other international organisations. EU-SILC data are also sought by Research Institutes within the socio-economic sphere as well as professionals for academic purposes.

At a European level, one of the indicators of EU-SILC data is also used to monitor the EU-2020 targets. Apart from that, EU-SILC is used to feed sectoral or transversal publications and reports such as the Annual Progress Report on the Lisbon Strategy (structural indicators), the Sustainable Development Strategy monitoring report, the Eurostat yearbook and various pocketbooks. Researchers are also given access to micro data under contract in order to allow further detailed analysis.

Sub-Concept 12.2: User satisfaction

The last User Satisfaction Survey was held in 2014 with the aim to collect information about key users' satisfaction with statistical output.

The NSO keeps record of the number of News Releases and publications disseminated on its website; the users to whom statistical products are provided; as well as the number of requests that are processed every year.

News Releases and tailor-made statistical outputs were assessed on account of their quality, timeliness, and on their ability to meet users' needs.

Sub-Concept 12.3: Data Completeness

The data completeness rate stands at 100%. All the necessary information is collected and compiled for Eurostat. Such information may be downloaded from Eurostat's website.

CONCEPT 13 – ACCURACY AND RELIABILITY

Sub-Concept 13.1: Overall accuracy

An account of the sampling error for main EU-SILC indicators is provided in sub-concept 13.2. Non-sampling errors are mainly attributed to measurement errors. Further information is provided in sub-concept 13.3.

Sub-Concept 13.2: Sampling errors

The table below illustrates the standard error and the 95% confidence interval for each sample estimate.

	AROPE			At risk of poverty (60%)			Severe material deprivation			Very low work intensity		
	Indicator value	Standard error	Half CI (95%)	Indicator value	Standard error	Half CI (95%)	Indicator value	Standard error	Half CI (95%)	Indicator value	Standard error	Half CI (95%)
Total	20.2	0.811	1.590	17.1	0.731	1.433	3.7	0.450	0.883	4.9	0.419	0.821
Male	18.8	0.866	1.698	16.1	0.772	1.514	3.4	0.481	0.944	4.1	0.427	0.836
Female	21.5	0.914	1.791	18.1	0.831	1.629	4.1	0.499	0.977	5.9	0.552	1.083
Age 0-17	23.6	1.657	3.247	20.6	1.593	3.123	4.8	0.837	1.641	5.1	0.725	1.421
Age 18-64	16.8	0.845	1.657	13.2	0.727	1.426	3.7	0.503	0.655	4.9	0.406	0.796
Age 65+	29.1	1.222	2.396	27.7	1.208	2.368	2.6	0.437	0.857	N/A	N/A	N/A

Sub-Concept 13.3: Non-sampling error

Main sources of non-sampling error relate to imperfections in the questionnaire, recall errors, under-reporting, errors made by interviewers during data collection, as well as during data analysis.

EU-SILC is mainly carried out by Computer Assisted Personal Interviewing (CAPI) or Computer Assisted Telephone Interviewing (CATI) which help considerably when it comes to reducing these types of errors. In addition, a large share of data on income is derived from registers, which help to reduce the effect of under-reporting.

Sub-Concept 13.3.1: Coverage error

Coverage errors are attributed to the lack of updates in the population register maintained at the NSO. Up until EU-SILC 2018, the sampling frame in use refers to the population based on the 2011 Census of Population and Housing. An element of over and under coverage is thus unavoidable. In particular the foreign component is not adequately covered in the register based on the 2011 Census. A new sampling frame was introduced from EU-SILC 2019.

Sub-Concept 13.3.1.1: Over Coverage

The database based on the 2011 Census of Population & Housing, that is held and maintained by NSO through annual updates, provides a comprehensive frame of all persons and households living in Malta and Gozo. As a result, this database is considered to be the most adequate source to be used for the Maltese EU-SILC sample selection. Within EU-SILC 2019 it served as sampling frame for households selected for the first time in 2016, 2017 and 2018. An element of over-coverage is unavoidable in view of the time lag between the Census period and the EU-SILC reference period. A new sampling frame was introduced from EU-SILC 2019.

Sub-Concept 13.3.1.2: Common Units Proportion

Not applicable. Information about all individuals is collected through a survey. Additionally, the information provided during the data collection phase is enhanced through the use of various data registers for different levels of use. These registers include data extracts from the Automated Revenue Management Services (ARMS) and data on social benefits (SABS), wages and NI data (MFSS). These registers are mainly used in order to collect reliable information on household income and housing costs.

Sub-Concept 13.3.2: Measurement error

Main sources of measurement errors relate to imperfections in the questionnaire, recall errors, under-reporting, errors made by interviewers during data collection, as well as during data analysis.

EU-SILC is mainly carried out by Computer Assisted Personal Interviewing (CAPI) or Computer Assisted Telephone Interviewing (CATI) which help considerably when it comes to reducing these types of errors. In addition, a large share of data on income is derived from registers, which help to reduce the effect of under-reporting.

Sub-Concept 13.3.3: Non-response error

Refer to sub-concepts 13.3.3.1 and 13.3.3.2.

Sub-Concept 13.3.3.1: Unit non-response

The following rates were observed at the cross-sectional level:

Address contact rate		Complete household interviews		Complete personal interviews		Household Non-response rate		Individual non-response rate		Overall individual non-response rate	
A*	B*	A*	B*	A*	B*	A*	B*	A*	B*	A*	B*
0.979	0.982	0.845	0.875	1.000	1.000	17.275	14.075	0.000	0.000	17.275	14.075

A* - Total sample
B* - New sub-sample

Sub-Concept 13.3.3.2: Item non-response

The table below provides the rates of item non-response for main income variables, both at the household and the personal level:

INCOME GROSS VARIABLES AT HOUSEHOLD LEVEL		**% of households having received an amount**	**% of households with missing values (before imputation)**	**% of households with partial information (before imputation)**
Total household gross income	(HY010)	100.0	0.1	14.9
Total disposable household income	(HY020)	100.0	0.1	15.1
Total disposable household income before social transfers other than old-age and survivors' benefits	(HY022)	100.0	0.3	13.9
Total disposable household income before all social transfers	(HY023)	100.0	0.6	13.7
Imputed rent	(HY030)	100.0	0.0	0.0
Income from rental of property or land	(HY040)	10.3	0.1	0.0
Family/ Children related allowances	(HY050)	22.9	0.0	0.0
Social exclusion payments not elsewhere classified	(HY060)	56.2	0.0	0.0
Housing allowances	(HY070)	13.3	0.6	0.6
Regular inter-household cash transfers received	(HY080)	2.9	0.0	0.0
Interest, dividends, profit from capital investments in incorporated businesses	(HY090)	100.0	13.2	0.0
Interest repayments on mortgage	(HY100)	12.7	0.4	0.0
Income received by people aged under 16	(HY110)	0.4	0.0	0.0
Regular taxes on wealth	(HY120)	N/A	N/A	N/A
Regular inter household cash transfer paid	(HY130)	3.0	0.2	0.0
Tax on income and social contributions	(HY140)	94.9	0.0	11.7
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	(PY010)	46.3	0.1	0.0
Other non-cash employee income	(PY020)	7.0	2.2	1.0
Income from private use of company car	(PY021)	1.3	0.0	0.0
Employers social insurance contributions	(PY030)	46.3	0.0	0.0

Cash profits or losses from self-employment	(PY050)	6.8	0.2	0.0
Value of goods produced for own consumption	(PY070)	N/A	N/A	N/A
Pension from individual private plans	(PY080)	0.7	0.1	0.0
Unemployment benefits	(PY090)	1.1	0.0	0.0
Old-age benefits	(PY100)	33.6	0.0	0.0
Survivors benefits	(PY110)	0.6	0.0	0.0
Sickness benefits	(PY120)	8.9	0.0	0.0
Disability benefits	(PY130)	2.0	0.0	0.0
Education-related allowances	(PY140)	6.4	0.3	0.2

Percentages for households/persons having received an amount are out of the total number of households/persons for which the interview was accepted for the database in that wave.

Percentages for households/persons with missing values/partial information are out of the total number of households/persons having received an amount for that income variable in that wave.

Sub-Concept 13.3.4: Processing error

Possible sources of processing errors include data entry errors and an element of human error in the processing of results. EU-SILC is collected through computer-assisted methods that lessen the possibility of such errors through automatic routing of questions and in-built validations.

Sub-Concept 13.3.5: Model assumption error

Not applicable. Data obtained from registers is used wholly as reported in the source. Any imputations made are based on the figures available in the survey and are not based on models relating to the register used.

CONCEPT 14 – TIMELINESS AND PUNCTUALITY

Sub-Concept 14.1: Timeliness

Cross-sectional and longitudinal EU-SILC micro-data and associated indicators are made available to Eurostat by August N+1 (where N = year of data collection), although provisional data on material deprivation is sent by February N+1. Salient results pertaining to EU-SILC year N are generally published in Malta a couple of months after data submission through a news release.

Sub-Concept 14.2: Punctuality

Three news releases relating to SILC are published on a yearly basis. All News Releases were published on time.

CONCEPT 15 – COHERENCE AND COMPARABILITY

Sub-Concept 15.1: Comparability – Geographical

Data collection, data cleaning and data submission are fully regulated by Eurostat; this is done to ensure that the SILC data are fully comparable throughout all participating countries.

Sub-Concept 15.2: Comparability – Over Time

EU-SILC data has been collected in a consistent manner since 2005. In view of this, the data can be compared or reconciled over time.

Sub-Concept 15.3: Coherence – Cross Domain

EU-SILC follows international standards classifications to further ensure coherence: ISCO, NACE, ISCED and Degree of Urbanisation.

The sets of weights available in EU-SILC datasets are obtained using calibration techniques which ensure basic coherence of estimates obtained from EU-SILC micro datasets and demographic counts.

Further coherence analysis with other domains like Labour Force Survey, National Accounts and Social Protection Accounts is also accounted for. Coherence tests on household income variables are made with National Accounts data and information provided by the IRD. These tests ensure that the data being submitted falls in line with the aggregate values provided from these sources, thus ensuring coherence throughout. Should coherence not be established, the data are rechecked, and anomalies found will be corrected until the data falls in line.

Sub-Concept 15.3.1: Coherence – Sub-Annual and Annual statistics

Not applicable.

Sub-Concept 15.3.2: Coherence – National Accounts

When analysing SILC cross-sectional data, National Accounts figures are used as benchmarks and serve as checks through the data cleaning process.

Sub-Concept 15.4: Coherence – Internal

All outputs in the dataset are coherent and reconcilable.

CONCEPT 16 – COST AND BURDEN

Not available.

CONCEPT 17 – DATA REVISION

Sub-Concept 17.1: Data revision – Policy

Revision of data is compliant with the ESS Code of Practice principles.

At the NSO, there is currently no internal policy governing revisions that occur for all statistics produced. Nonetheless, a revisions policy is being drafted to safeguard a coordinated revisions system across statistical domains.

This policy will take account of the need and causes for revisions; time and frequency of revisions; data and other statistical products affected by such revisions; and length of periods revised.

Sub-Concept 17.2: Data revision – Practice and Data Revision

A major revision was carried out to correct for the under coverage of foreigners in the sampling frame. The revision included updates in the weighting methodology along with updates of the population figures.

CONCEPT 18 – STATISTICAL PROCESSING

Sub-Concept 18.1: Source data

Information about all individuals is collected through a survey. Additionally, the information provided during the data collection phase is enhanced through the use of various data registers for different levels of use. These registers include data extracts from the Automated Revenue Management Services (ARMS) and data on social benefits (SABS), wages and NI data (MFSS). These registers are mainly used in order to collect reliable information on household income and housing costs.

Sub-Concept 18.2: Frequency of data collection

Annually.

Sub-Concept 18.3: Data Collection

The method of data collection in Malta is through face-to-face interviews, mainly by means of CAPI, with an element of CATI and proxy interviews when this is unavoidable. The following is the distribution for types of interview in cross-sectional SILC 2019:

Face to face interview (CAPI) (% of total)	Telephone interview (CATI) (% of total)	Face to face interview with proxy (% of total)	Telephone interview with proxy (% total)
68.4	5.7	23.1	2.8

Despite every effort to reduce proxy interviews these are very often unavoidable. In view of difficulties related to response burden and the sensitivity of SILC questions, in some cases interviewers are allowed to use proxy and telephone interviews to reduce non-response. In such cases interviewers are to request household members who could not be present during the interview to leave documentation such as pay slips and tax returns with the person who will be responding on their behalf, so that as much as possible, the proxy effect does not result in a loss in quality.

Furthermore, the availability and use of register data helps offset the proxy effect to some extent. Register data are available for income components like employment & self-employment income, income tax and social benefits. Other registers supply demographic characteristics and partial information on levels of education attained. Register data are incorporated into SILC variables as much as possible, particularly in the case of persons who are interviewed by proxy. This is done through ID card linking. Consequently, the rate of proxy interviews must be evaluated in this context.

The mean interview duration per household is calculated as the sum of the duration of all household interviews plus the sum of the duration of all personal interviews, divided by the number of

household questionnaires completed. Only households accepted for the database are considered. The average interview duration is equal to 45 minutes.

Sub-Concept 18.4: Data Validation

Several work processes are carried out during data collection in order to ensure that data are collected in a proper manner. Measures that are regularly implemented include: checks on the questionnaires, interviewer audits, follow-ups on non-responding households, etc.

The EU-SILC dataset is further validated through several checking rules during the analysis stage. Through this process, trained statisticians identify misleading information in the dataset. The final transmission files are also validated through a validation program which is provided by Eurostat specifically for this purpose.

Aggregate data are then compared with auxiliary sources (e.g. income data provided by the IRD) before the indicators are computed.

Sub-Concept 18.5: Data Compilation

The methodology of how the main indicators are computed using SILC data are published in the News Release relating to Salient Indicators. Information with regards to such computations can be found using the following link:
http://nso.gov.mt/en/News_Releases/View_by_Unit/Unit_C1/Living_Conditions_and_Culture_Statistics/Pages/Statistics-on-Income-and-Living-Conditions.aspx

Imputation procedure:

Imputation is normally done by making use of already existing information in conjunction with several methods. For respondents taking part for the second, third or fourth time, imputation is done by using data collected in the previous years. This method is preferred since it ensures consistency with the previous years' data. When considering new respondents or when information from previous years is not available, information from other persons or households with similar characteristics is used. In cases where these two methods are not possible, mathematical imputation methods, such as regression-based techniques, are used.

Estimation of imputed rent values directly from EU-SILC data is not possible. This is due to the fact that the proportion of tenants renting at market prices in Malta is rather low to enable the estimation of rent figures at reliable quality levels. Based on 2011 Census data, the National Accounts Unit of the NSO compiled a table of average imputed rent values for dwellings classified by size and type. These values were then attached to the EU-SILC datasets and used as estimates for the imputed rent. The basis for these estimates has changed from SILC 2013, since previously the imputed rent values were based on the 2005 Census data.

The annual value for a company car fringe benefit is estimated according to methodology used by the Inland Revenue Department (IRD) for tax purposes. Through the SILC questionnaire, respondents who have such a benefit are asked to specify the car make, model, year of registration, engine type, whether they are compensated for fuel costs and the number of months they made use of the vehicle during the income reference year. The car value can then be computed by using information provided by the Price Statistics Unit at NSO. Finally, the annual fringe benefit value is estimated by scaling down the car value by a percentage which can be derived from the variables collected in the questionnaire as per IRD specifications.

Weighting procedure:

For information about the weighting procedure see Annex A.

Sub-Concept 18.5.1: Imputation

Refer to sub-concept 18.5.

Item non-response is high for some income components that are still collected from the households, which include self-employment income (approx. 10%) and income from interests (approx. 20%).

On the other hand, income data which is derived directly from administrative registers (e.g. social benefits and employee income) is less subject to item non-response.

Furthermore, the level of item non-response in non-income variables is minimal.

Sub-Concept 18.6: Adjustment

Not applicable.

Sub-Concept 18.6.1: Seasonal Adjustment

Not applicable.

CONCEPT 19 – COMMENT

No further comments.

ANNEX A

Weighting procedure

1. Design factor

The computation of weights is based on the distribution of the household population which is provided by NSO's Population and Migration unit. This distribution is estimated by first deriving total population counts, through a series of annual population updates based on 2011 Census data. This is followed by an estimation of the population living in institutional households. The required household population counts are then derived by dividing the number of persons living in private households by the average household size (which is also updated by the NSO's Population and Migration Unit).

By definition, household design weights are calculated as the inverse of the selection probability of households.

The household design weight for households interviewed for the first time in the EU-SILC 2019, was calculated by dividing the total number of eligible households in Malta as at December 2017 by the number of new households in the EU-SILC 2019 sample. Eligible households do not include households with non-residential address, permanently vacant dwellings and institutional households.

The base weight for sample persons living in households interviewed for the second, third or fourth time was derived from the cross-sectional weight computed in SILC 2017. Sample persons in split households were given the same weight they had in the corresponding 'parent' household. On the other hand, co-residents are given a weight of 0.

In the EU-SILC 2019 reconciled file, the design weight was submitted for all households in 2016 and for those households who featured for the first time in 2017, 2018 and 2019. The total sum of design weights for each panel was inflated so that it equals the total number of households in the cross-sectional component for the corresponding year.

2. Non-response adjustments

Correction for non-response was carried out separately for each panel. For new households, the adjustment for non-response at individual level was incorporated in the calculation of design weights.

For old households, i.e. for the remaining three panels, the adjustment for attrition was carried out through post-stratification at personal level. The values of the variables for SILC 2019 used in the post-stratification were as at 2018 (since these may not be necessarily the same as in the current situation). Specifically, the variables used were age-groups (0-17, 18-24, 25-49, 50-64, 65+), sex and district (NUTS 4), also as at 2018. Non-sample persons in SILC 2018 were excluded from non-response adjustments.

This non-response coefficient was applied to the previous year's cross-sectional weight. By averaging over all household members, a mean base weight is derived for each household and its members.

As part of the longitudinal weighting procedure, the personal base weight (RB060) is computed by multiplying the non-response coefficients (averaged at household level) by the previous year's base weight (for old households) and by the cross-sectional weight (for new households) at personal level.
For new-borns in old households, the mother's weight is attached. In each panel the resulting weights are inflated to reflect the cross-sectional population for that year. For persons moving in from outside the sample, RB060=0.

3. Adjustments to external data (level, variables used and sources)

To obtain 2018 cross-sectional weights, an initial weight was created as

- initial_weight = mean base weight *for old households and new splits*
- initial_weight = design weight *for new households*

This weight was normalised to reflect the total population as it stood in December 2017 and trimmed so as to lie within the lowest and highest deciles, thus reducing the range of the weights. The resulting weight was normalised again for each panel separately so that the sum in each panel was equal to ¼ of the number of households in the 2018 population. This was then used as the initial weight for calibration. SAS-based CALMAR software was used for the calibration which was run for each panel separately.

The logit method was applied, and the calibrating variables used were:

- Household size (1,2,3,4,5+)
- District (NUTS 4 level – LAU1)
- Household type
  - Household without dependent children
  - Single parent household
  - Households with 2 adults, 1 - 2 children
  - Other households with dependent child
- Number of persons in households by
  - Sex and 5-year age-groups

The limits used for convergence varied across the 4 panels, as follows:

- Panel 1: lower limit = 0.6, upper limit = 1.6
- Panel 2: lower limit = 0.6, upper limit = 1.8
- Panel 3: lower limit = 0.5, upper limit = 2.3
- Panel 4: lower limit = 0.4, upper limit = 2.7

The range of values for the resulting weights had to be narrowed for panels 2, 3 and 4 since they did not lie in the required interval [0.3×mean weight, 3×mean weight]. Hence, trimming was carried out again as necessary for each of these panels, and *calib* was re-run. Each time, narrower convergence limits were achieved.

Calibration was also carried out on the personal base weights (RB060) to derive the longitudinal weights RB062, RB063 and RB064. These longitudinal weights were only computed for the final year of the reconciled file, 2019, as per instructions in SILC doc 065. The same *calib* function was used and the logit method was applied. Below is the list of variables used for these calibrations:

- Sex (Male, Female);
- Age group (0-9, 10-19, 5-year age groups after that);
- District (Southern Harbour, Northern Harbour, South Eastern, Western, Northern, Gozo & Comino)
- Number of persons at-risk-of-poverty in cross-sectional SILC 2018 by age group (0-17, 18-24, 25-49, 50-64, 65+)

The number of persons at-risk-of-poverty was included as a calibrating variable in order to ensure that the longitudinal dataset reflects the cross-sectional one accurately. Benchmarks were produced from 2018 cross-sectional data, for all persons.

The limits used for convergence varied across the 4 panels, as follows:

- RB062: lower limit = 0.2, upper limit = 1.3
- RB063: lower limit = 0.2, upper limit = 1.3
- RB064: lower limit = 0.7, upper limit = 1.7

For all 3 weight variables, the range of values did not lie in the required interval [0.3×mean weight, 3×mean weight]. So trimming was carried out as necessary for each one, and CALMAR was re-run. Each time, narrower convergence limits were achieved (RB062, RB063, RB064: lower limit = 0.9, upper limit = 1.1).

4. Final longitudinal weights

Following the calibration process mentioned above, three longitudinal weights were computed for persons in 2018: RB062 (for persons who in 2018 were in their second, third or fourth year or survey), RB063 (for persons who in 2018 were in their third or fourth year of survey) and RB064 (for persons who in 2018 were in their fourth year of survey). For each of these longitudinal weights, the sum is equivalent to the size of the population as it stood at end of December 2018.

5. Final household cross-sectional weight

A description of how the cross-sectional weights are calculated has been provided above.
The following represents summary statistics for the final household cross-sectional weights.

Minimum	Maximum	Mean	Median	Standard deviation	Coefficient of variation
16.94	147.78	50.71	29.67	41.15	0.81

Outline of weighting procedure

Below is an outline of the steps followed in order to compute SILC 2019 weights:

- Household design weights are calculated as the inverse of the selection probability of households

- Non-response coefficients are computed at personal level for every panel, in order to estimate attrition rates and compensate for what was lost due to non-response in the previous survey.

- For persons who were previously in the sample, the base weight is calculated as the previous year's cross-sectional weight multiplied by these non-response coefficients.
- New persons who moved into old households (including newborns) are assigned a base weight of 0.
- A mean base weight for each household is then computed.
- An initial weight is then calculated as follows:
    - initial_weight = mean base weight *for old households and new splits*
    - initial_weight = design weight *for new households*
- The resulting initial weights are inflated and normalised such that the sum in each panel is equivalent to a quarter of the total number of persons in 2018 cross-sectional data.
- The *calib* function in R's *sampling* package is used to calibrate these initial weights against population benchmarks for the end of December 2018. Through this calibration, the final cross-sectional weights are obtained.
- The non-response coefficients averaged at household level are multiplied by the previous year's base weight (for old households) and by the cross-sectional weight (for new households) at personal level. For new-borns in old households, the mother's weight is attached. In each panel the resulting weights are inflated to reflect the cross-sectional population for that year. This gives RB060. For persons moving in from outside the sample, RB060 = 0.
- The longitudinal weights RB062, RB063 and RB064 are obtained by calibrating RB060 against benchmarks derived from 2019 cross-sectional data.