

**SILC\_ESQRS\_A\_EL\_2013\_0000**

National Reference Metadata in ESS Standard for Quality Reports Structure (ESQRSSI)

Compiling agency: Contact organisation

Time Dimension: 2013-A0

Data Provider: EL1

Data Flow: SILC\_ESQRS\_A

**Eurostat metadata****Reference metadata**

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For any question on data and metadata, please contact: [EUROPEAN STATISTICAL DATA SUPPORT](#)

**1. Contact**[Top](#)

<b>1.1. Contact organisation</b>	<u>Contact organisation</u>
<b>1.2. Contact organisation unit</b>	<u>Contact organisation unit</u> <u>Population and Labour Market statistics</u>
<b>1.5. Contact mail address</b>	<u>Contact mail address</u> <u>18510, Pireos 46 and Eponiton str, PIRAEUS, GREECE</u>

**2. Introduction**[Top](#)**Data description**

The production of quality reports is part of the implementation of the EU-SILC instrument. In order to assess the quality of data at national level and to make a comparison among countries, the National Statistics Institutes give detailed information mainly on: the entire statistical process, sampling and non-sampling errors, and potential deviations from standard definition and concepts.

This document follows the ESS standard for quality reports structure (ESQRS), which is the main report structure for reference metadata related to data quality in the European Statistical System. It is a metadata template, based on 13 main concepts, which can be used across several statistical domains with the purpose of a better harmonization of the quality reporting requirements in the ESS.

For that reason the template of this document differs from that one stated in the Commission Reg. 28/2004.

ELSTAT completed the sections of ESQRS that were also covered by the Commission Reg. 28/2004. Therefore sections such as 3, 4, 6 and 7 remained empty.

**3. Quality management - assessment**[Top](#)**Quality assessment**

Not requested by Reg.28/2004

**4. Relevance**[Top](#)**Relevance****4.1. Relevance - User Needs****User needs**

**Not requested by Reg.28/2004**

**4.2. Relevance - User Satisfaction**

**User satisfaction****Not requested by Reg.28/2004****4.3. Completeness****Completeness**

Not requested by Reg.28/2004

**4.3.1. Data completeness - rate****5. Accuracy and reliability**
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The concept of accuracy refers to the precision of estimates computed from a sample rather than from the entire population. Accuracy depends on sample size, sampling design effects and structure of the population under study. In addition to that, sampling errors and non sampling errors need to be taken into account. Sampling error refers to the variability that occurs at random because of the use of a sample rather than a census and non-sampling errors are errors that occur in all phases of the data collection and production process.

**5.1. Accuracy - overall****Overall accuracy**

In terms of precision requirements, the EU-SILC framework regulation as well the Commission Regulation on sampling and tracing rules refers respectively, to the effective sample size to be achieved and to representativeness of the sample. The effective sample size combines sample size and sampling design effect which depends on sampling design, population structure and non-response rate.

**5.2. Sampling error**

EU-SILC is a complex survey involving different sampling design in different countries. In order to harmonize and make sampling errors comparable among countries, Eurostat (with the substantial methodological support of Net-SILC2) has chosen to apply the "linearization" technique coupled with the "ultimate cluster" approach for variance estimation. Linearization is a technique based on the use of linear approximation to reduce non-linear statistics to a linear form, justified by asymptotic properties of the estimator. This technique can encompass a wide variety of indicators, including EU-SILC indicators. The "ultimate cluster" approach is a simplification consisting in calculating the variance taking into account only variation among Primary Sampling Unit (PSU) totals. This method requires first stage sampling fractions to be small which the case is nearly always. This method allows a great flexibility and simplifies the calculations of variances. It can also be generalized to calculate variance of the differences of one year to another .

The main hypothesis on which the calculations are based is that the "at risk of poverty" threshold is fixed. According to the characteristics and availability of data for different countries we have used different variables to specify strata and cluster information. In particular, countries have been split into four groups:

1) BE, BG, CZ, IE, EL, ES, FR, IT, LV, HU, NL, PL, PT, RO, SI, UK and HR whose sampling design could be assimilated to a two stage stratified type we used DB050 (primary strata) for strata specification and DB060 (Primary Sampling Unit) for cluster specification;

2) DE, EE, CY, LT, LU, AT, SK, FI, CH whose sampling design could be assimilated to a one stage stratified type we used DB050 for strata specification and DB030 (household ID) for cluster specification;

3) DK, MT, SE, IS, NO, whose sampling design could be assimilated to a simple random sampling, we used DB030 for cluster specification and no strata;

**5.2.1. Sampling error - indicators**

	AROPE					At risk of poverty (60%)					Severe Material Deprivation					Very low work intensity				
	Ind.	Var(str)	CV	Stand. errors	Half	Ind.	Var(str)	CV	Stand. errors	Half	Ind.	Var(str)	CV	Stand. errors	Half	Ind.	Var(str)	CV	Stand. errors	Half
Total	35,7	0,7611	0,0244	0,87	1,71	23,1	0,5279	0,0314	0,73	1,42	20,3	0,6555	0,0398	0,81	1,59	19,6	0,60205	0,0396	0,78	1,52
Male	34,6	0,8867	0,0272	0,94	1,85	22,4	0,6512	0,0359	0,81	1,58	20,3	0,7829	0,0435	0,88	1,73	18,4	0,80781	0,0488	0,90	1,76
Female	36,8	0,8586	0,0252	0,93	1,82	23,8	0,5724	0,0318	0,76	1,48	20,3	0,6962	0,0410	0,83	1,64	20,7	0,68873	0,0400	0,83	1,63
Age0-17	38,1	2,7668	0,0437	1,66	3,26	28,8	2,3430	0,0531	1,53	3,00	23,3	2,2217	0,0640	1,49	2,92	NA	NA	NA	NA	NA
Age18-64	39,1	0,9834	0,0254	0,99	1,94	24,1	0,6513	0,0335	0,81	1,58	21,6	0,8198	0,0419	0,91	1,77	NA	NA	NA	NA	NA
Age 65+	23,1	0,9420	0,0421	0,97	1,90	15,1	0,6911	0,0551	0,83	1,63	13,7	0,7558	0,0634	0,87	1,70	NA	NA	NA	NA	NA
1[PEPS01] Population at risk of poverty or social exclusion by age and gender (ilc_peps01)																				
2[OV-1a] At-risk-of-poverty rate (by age and gender)																				
[SI-P8]% of pop lacking at least 4 items in the economic strain and durables dimension by age and gender																				
3gender																				
4[LVHL11] People living in households with very low work intensity by age and gender																				

NA: breakdowns not available due to definition of indicator

**5.3. Non-sampling error****Non-sampling error**

Non-sampling errors are basically 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

### 5.3.1. Coverage error

Coverage errors include over-coverage, under-coverage and misclassification:

- Over-coverage: relates either to wrongly classified units that are in fact out of scope, or to units that do not exist in practice
- Under-coverage: refers to units not included in the sampling frame
- Misclassification: refers to incorrect classification of units that belong to the target population

#### Sampling frame and coverage errors

EU-SILC survey is based on a two-stage stratified sampling of households from a frame of sampling which has been created on the basis of the results of the 2011 population census and covers completely the reference population.

The frame of PSUs is updated every ten (10) years through the general population census. Concerning the frame of households, within each selected PSU this is updated before the selection of the sampling households used for data collection. So, any coverage problems that may arise is more possible to relate with the frame of PSUs

Coverage problems encountered were:

1. The frame of the 2011 Census of Population was somehow outdated and as a result some housing units were found to be empty or to be used for other purposes other than housing.
2. Some houses were used as secondary residence, so they were out of scope of the survey.
3. Some houses were impossible to be located due to incomplete information regarding their addresses.
4. Housing units built after March 2013, were not included in our sampling frame.

However, any such problems are corrected with the use of the calibration procedure already described.

#### 5.3.1.1. Over-coverage - rate

	Main problems	Size of error
Cross sectional data	Over-coverage	1,5% (137 addresses)
	Under-coverage	
	Misclassification	

### 5.3.2. Measurement error

Cross sectional data

Source of measurement errors	Building process of questionnaire	Interview training	Quality control
Measurement errors can occur from the questionnaire (design, content and wording), the interviewers and their training, the respondents, the routing, and the skills testing before starting the fieldwork As the 2013 EU-SILC round was the 11 <sup>th</sup> in the series, quality has considerably improved due to interviewers' feedback, continuous data analysis and research.	For building up the questionnaires we adopted the initially proposed questionnaires of Eurostat as the basis (documents EU-SILC055 and EU-SILC065). The structure of the questionnaires is similar to these ones. The majority of the questions are almost literally copied and translated.	(a) Interviewers  All the external collaborators (interviewers) of Attiki Prefecture attended a four days training course before starting the fieldwork. Four days training was both on the basic concepts of the survey and the questionnaire completion and on the use and data entry in the electronic questionnaires.	Apart from the interviewers the training sessions were also attended by supervisors. Each one of them was responsible for a group of interviewers. During the fieldwork period the supervisor had meetings with each one of the interviewers in his/her group at least once a week. During these meetings, apart from discussing problems or questions raised during the week, the supervisors also collected (from the interviewers' laptops and paper questionnaires) all completed questionnaires. Their main duty during the data collection period was to
	In order to finalize the questionnaires, we took into account any observations made on the questionnaires of the previous years (pilot survey, EU-SILC 2003 – 2012) together with the experience from the ECHP projects.	The training in Athens, Thessalonica, Patras (major regional offices in the country), followed by the Regional Offices Heads, which in turn trained both their personnel as well as the external collaborators.  Two manuals were distributed and explained during the training:  • A general guidelines' manual containing information about the objectives of the survey, the organization of the survey, legal and administrative aspects around the survey, fieldwork aspect (how to contact the household, how to introduce oneself who answers which questions, time delays, ...) and the content and correct completion of the questionnaires. • A second manual on the use of portable PCs for the EU-SILC Computer Assisted Personal Interviews and about the data entry program itself.	
	Mainly the parts on self-employment income and taxes have been differently formulated.  The questionnaires for the 2013 survey were the same as those of 2004-2012 survey except for some small changes in the wording. The major changes concern on additional	Unfortunately, after four years it seems though that still some interviewers don't use the exact wording of the questions. Others skip questions, especially subjective ones (e.g. deprivation	


Cross sectional data

Source of measurement errors	Building process of questionnaire	Interview training	Quality control
		questions). Also, when the respondents didn't provide the figures the interviewers completed/imputed the figures themselves.	
		(b) The respondents	
		The respondents hesitate in providing income figures and in general deny consulting their tax return, in order to provide exact / correct amounts.	
		Income from interests, dividends in unincorporated businesses is in general not provided from the households, resulting thus in a significant underestimation of it despite to increase in EU SILC 2012.	examine the interviewers' work.
	questions using in the net/gross/net conversion model (see <a href="http://www.statistics.gr/social/statistics/statistical_data/income_and_living_conditions/metadata">www.statistics.gr/social/statistics/statistical_data/income_and_living_conditions/metadata</a> and questionnaires or on CIRCA). We did not include additional questions to cover other areas at the national level.	There is a sense that still self-employment income has been under-estimated.	Furthermore the supervisors had to double check some of the answers with respondents either by telephone or by personally visiting the household in question, especially in the case of unusual answers or missing data.
		The Hellenic Statistical Authority ELSTAT (former National Statistical Service of Greece) made several plausibility checks. Especially for income data lower and upper bounds of the range in which an amount of income was accepted were applied. These checks were carried out during the survey conduction, as the guidelines of the survey included such bounds for specific income data and afterwards centrally by personnel of ELSTAT. Whenever necessary, households were called back.	
		Changes occurring in persons' activity status longitudinally resulted in a number of inconsistencies. For example, persons having been working in year N-1 but retired in year N, persons being students in year N-1 and employed in year N, income in year N-1 from persons who died in year N, etc. may result in these inconsistencies representing though reality. In any case the pre-mentioned examples resulted both in under and over reporting of income.	

### 5.3.3. 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. According the Commission Regulation 28/2004:


 *Household non-response rates (NRh)*

$$NRh = (1 - (Ra * Rh)) * 100 = 15.782\%$$

where

$$NRh = (1 - 0.992 * 0.849) * 100 = 15.782\%$$

So, the household non-response rate is 15.782%

 *Individual non-response rates (NRp)*

$$NRp = (1 - (Rp)) * 100$$

Where

$$NRp = (1 - 0.989) * 100 = 1.117\%$$

**B** Overall individual non-response rates (\*NRp)

$$*NRp = (1 - (Ra * Rh * Rp)) * 100 = (1 - (0.992 * 0.849 * 0.989)) * 100 = 16.722\%$$

So, the overall individual non-response rate is 16.722%

#### 5.3.3.1. Unit non-response - rate

		Total	Rotation 1	Rotation 2	Rotation 3	Rotation 4
All households	Ra	Ra	0.992	1.000	0.984	1.000
	Rh	Rh	0.849	0.957	0.731	0.995
	NRh	NRh	15.779	4.300	28.070	0.500
	Rp	Rp	0.989	0.993	0.984	0.994
	NRp	NRp	1.1	0.7	1.6	0.6
	NRp2	NRp2	16.706	4.97	29.22	1.097
Original units	Ra		No substitutions			
	Rh		No substitutions			
	NRh		No substitutions			
	Rp		No substitutions			
	NRp		No substitutions			
	NRp2		No substitutions			

Ra – address contact rate

Rh - proportion of complete household interviews accepted for data base

NRh - household non-response rate

Rp - proportion of complete personal interviews within households accepted for data base

NRp – individual non-response rate

NRp2 – overall individual non-response rate

Address contact rate	Complete household interviews			Complete personal interviews			Household Non-response rate			Individual non-response rate			Overall individual non-response rate		
(Ra)*	(Rh)*			(Rp)*			(NRh)*			(NRp)*			(NRp)*		
A* B* C*	A* B* C*	A* B* C*	A* B* C*	A* B* C*	A* B* C*	A* B* C*	A* B* C*	A* B* C*	A* B* C*	A* B* C*	A* B* C*	A* B* C*	A* B* C*	A* B* C*	A* B* C*
0,992 0,984 0,982	0,849 0,731 0,694	0,989 0,984 0,996	15,779 28,070 31,901	1,100 1,600 0,354	16,706 29,220 32,142										

Response rate for household	Wave 2-2011	Wave 3-2012	Wave 4-2013
Wave response rate	68,968	76,573	97,519
L follow-up rate	68,421	68,147	74,852
Follow-up ratio	1,604	1,244	0,964
Achieved sample size ratio	1,570	1,390	0,975

Response rate for persons	Wave 2-2011	Wave 3-2012	Wave 4-2013
Wave response rate	99,356	99,206	99,329
L follow-up rate	na	na	na
Achieved sample size ratio	1,565	1,397	0,979

Response rate for non-sample persons	0,836	0,745	0,800
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### 5.3.3.2. Item non-response - rate

The computation of item non-response is essential to fulfill the precision requirements concerning publication as stated in the Commission Regulation No 1982/2003. Item non-response rate is provided for the main income variables both at household and personal level.

	Total hh gross income (HY010)	Total disposable hh income (HY020)	Total disposable hh income before social transfers other than old-age and survivors benefits (HY022)	Total disposable hh income before all social transfers (HY023)
% of household having received an amount	99.7	100.0		95.9
% of household with missing values (before imputation)	0.0	0.0		0.0
% of household with partial information (before imputation)	0.0	0.0		0.0

	Income from rental of property or land (HY040)	Family/ Children related allowances (HY050)	Social exclusion payments not elsewhere classified (HY060)	Housing allowances (HY070)	Regular inter-hh cash transfers received (HY080)	Interest, dividends, profit from capital investments in incorporated businesses (HY090)
% of household having received an amount	12.4	10.5	4.6	0.2	7.6	5.5
% of household with missing values (before imputation)	0.0	0.0	0.0	0.0	0.0	0.0
% of household with partial information (before imputation)	0.0	0.0	0.0	0.0	0.0	0.0

	Cash or near-cash employee income (PY010)	Income from private use of company car (PY021)	Cash profits or losses from self-employment (PY050)	Unemployment benefits (PY090)	Old-age benefits (PY100)	Survivors benefits (PY110)	Sickness benefits (PY120)	Disability benefits (PY130)	Education-related allowances (PY140)
% of household having received an amount	27.7	0.6	12.7	3.6	24.5	4.7	0.2	1.6	0.2
% of household with missing values (before imputation)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% of household with partial information (before imputation)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

### 5.3.3.2.1. Item non-response rate by indicator

### 5.3.4. Processing error

#### Data entry and coding

Used the PAPI and CAPI– method to interview the persons. The electronic questionnaires were designed using Oracle - SQL, due to the mode of collection (CAPI). The errors were fewer than the other surveys.

#### (1) Data entry controls

As pre-mentioned several plausibility checks have been made, using the validation rules of doc. 65. Additionally to Eurostat's basic checks, checks were made with the data entry programs. In general, data entry programs and post-data entry programs checks were made as following:

- Coverage
- Checks on the number of questionnaires expected to be collected
- Number of expected household questionnaires per area unit.
- Number of expected personal questionnaires per interviewed household.
- Number of split-off households.
- Number of tracing sheets and number of moved members.
- Deletion of duplicates
- Person identification check (household member check / person identification check on household register
- Monitoring of flows, valid values and out of range values
- Intra-year inconsistencies check

#### Editing controls

The finalised data files prepared by expert staff were then processed using SAS programs with various other logical and consistency checks.

Before sending the final D-, R-, H- and P- files, data files were further checked using EUROSTAT's SAS programs.

## Data entry and coding

## Editing controls

- Intra-questionnaire inconsistencies check
- Controlling of the amount of income components and especially of social transfers

Personal Register

- The specific childcare programs were cross-checked with the age of the child. For example for a three year-old child the interviewer could not register an answer to “number of hours spent per week in a program of obligatory educational level”.

Household Questionnaire

- On tenure status, if there was an answer in “owned dwelling” or “rented for free” then there couldn’t be registered a positive answer in question on “arrears on mortgage or rent payments”.
- On “Capacity to afford paying for one week annual holiday away from home, have a meal with meat, chicken, fish every second year, etc.” if a positive answer existed in all four items then in question on “ability to make ends meet” a positive answer wasn’t accepted in “with great difficulty”.

Personal Questionnaire

- The age was cross-checked with the educational level attended.
- The age was cross-checked with the educational level attained.
- Between questions on level currently attended and level of education attained there was also made a cross-check, so that a person cannot attend a level of education being lower than the one having being finished.
- Crosscheck was made between the age at which the person finished a specific educational level and the specific educational level having been attained. The age couldn’t be less than the usual age at which the level is attained.
- A person suffering from a chronic illness or condition couldn’t answer in question on health status has “very good health”
- In question on basic activity status all the answers were crosschecked with the answer provided in the personal register.
- A more complicated cross-check was made in year of birth age first job was undertaken and years spend as employee or self-employed.
- A person couldn’t answer “have never worked” if there exists a positive answer in question on ‘working full or part time’ or answer “yes” in question on ‘Have you ever worked?’.
- In question on when a person was employee, then in question 50 must answered “Yes” meaning that he/she had income from paid employment.
- The same check applied for the self-employed as well, then he must answered “Yes” meaning that he/she had income from self-employment.
- In question 2 on social security benefits and specifically for the social solidarity allowance for pensioners up and down boundaries were inserted for the registration of the amount.
- In question on the s/n of the member who made tax return with the respondent must exist in the register.

In all the pre-mentioned checks the cursor couldn’t continue to the next answer and a special notice appeared on the screen.

- Inter-questionnaire inconsistencies check

Longitudinal checks

- Checks and comparison of demographic data register in the Personal Register with these of previous year.
- Check and comparison of citizenships and countries of birth with previous year.

## (2) Codification

The codification of questions relating to occupation (ISCO), economic activity of the local unit (NACE), nationality was done by experienced personnel according to ISCO-88 and ISCO-08, NACE rev. 2 and Doc 65/11.

## (3) Other controls and other problems

Several plausibility checks have been made, most of them being the same as the ones SAS program applies. During the data processing of raw material ACCESS-2000, ORACLE (golden 3.2) and win-SPSS 19 have been used.

Not requested by Reg. 28/2004

#### 5.3.4.2. Common units - proportion

Not requested by Reg. 28/2004

#### 5.3.5. Model assumption error

Not requested by Reg. 28/2004

#### 5.3.6. Data revision

##### Data revision

##### 5.3.6.1. Data revision - policy

##### Data revision - policy

Not requested by Reg. 28/2004

##### 5.3.6.2. Data revision - practice

##### Data revision - practice

Not requested by Reg. 28/2004

##### 5.3.6.3. Data revision - average size

Not requested by Reg. 28/2004

#### 5.3.7. Seasonal adjustment

Not requested by Reg. 28/2004

## 6. Timeliness and punctuality

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### Timeliness and punctuality

### Not requested by Reg. 28/2004

#### 6.1. Timeliness

##### Timeliness

##### Not requested by Reg. 28/2004

##### 6.1.1. Time lag - first result

Not requested by Reg. 28/2004

##### 6.1.2. Time lag - final result

Not requested by Reg. 28/2004

#### 6.2. Punctuality

##### Punctuality

##### Not requested by Reg. 28/2004

##### 6.2.1. Punctuality - delivery and publication

## 7. Accessibility and clarity

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#### 7.1. Dissemination format - News release

##### News release

##### Not requested by Reg. 28/2004

#### 7.2. Dissemination format - Publications

##### Publications

##### Not requested by Reg. 28/2004

#### 7.3. Dissemination format - online database

##### On-line database

##### Not requested by Reg. 28/2004

##### 7.3.1. Data tables - consultations

Not requested by Reg. 28/2004

#### 7.4. Dissemination format - microdata access

##### Micro-data access

#### 7.5. Documentation on methodology



**Documentation on methodology****Not requested by Reg. 28/2004****7.5.1. Metadata completeness - rate**

.Not requested by Reg. 28/2004

**7.5.2. Metadata - consultations**

.Not requested by Reg. 28/2004

**7.6. Quality management - documentation****Quality documentation****Not requested by Reg. 28/2004****7.7. Dissemination format - other****Other****Not requested by Reg. 28/2004****8. Comparability**[Top](#)**Comparability**

According to the Regulation (EC) No 1177/2003 of the European Parliament and of the Council concerning EU-SILC: "Comparability of data between Member States shall be a fundamental objective and shall be pursued through the development of methodological studies from the outset of EU-SILC data collection, carried out in close collaboration between the Member States and Eurostat". Although the best way for keeping the comparability of data is to apply the same methods and definitions of variables, small departures of the definitions given by Eurostat are allowed in EU-SILC. In this way, the mentioned Regulation in its article 16th says: "Small departures from common definitions, such as those relating to private household definition and income reference period, shall be allowed, provided they affect comparability only marginally. The impact of comparability shall be reported in the quality reports." The definitions used in SILC in Greece are fully compared with Eurostat definitions

**8.1. Comparability - geographical****Comparability - geographical****Not requested by Reg. 28/2004****8.1.1. Asymmetry for mirror flow statistics - coefficient**

.Not requested by Reg. 28/2004

**8.1.2. Reference population**

Reference population	Private household definition	Household membership
		<p>All household members of 16 year and older at the time of the interview are selected for a personal interview.</p> <p>Subject to the further and specific conditions shown below, the following persons must if they share household expenses, be regarded as household members:</p> <ul style="list-style-type: none"> <li>• Persons usually resident, related to other members</li> <li>• Persons usually resident, not related to other members</li> <li>• Resident boarders, lodgers, tenants</li> <li>• Visitors</li> <li>• Line-in domestic servants, au-pairs</li> <li>• Persons usually resident, but temporarily absent from the dwelling (for reasons of holiday travel, work, education or similar)</li> <li>• Children of the household being educated away from home</li> <li>• Persons absent for long periods, but having household ties : persons working away from home</li> <li>• Persons temporarily absent but having household ties: persons in hospital, homes or other institutions</li> </ul> <p>Further conditions for inclusion as household members are as follows:</p> <p>(a) Categories 3.4. and 5:</p> <p>Such persons must currently have no private address elsewhere; or their actual or intended duration of stay must be six months or more.</p> <p>(b) Category 6:</p> <p>Such persons must currently have no</p>
<p>The reference population is all citizens officially living at Greek territory (population de facto). The source of our sample is the Census Population. This Census includes all private households and their current members residing in the territory independently of any socio-economic characteristics they may have. Persons living in collective households and in institutions are excluded from the target population as well as households having members diplomatic missioners.</p>	<p>The definition of household that Eurostat recommends is used. Household is defined as a person living alone or a group of people who live together in the same dwelling and share expenditures including the joint provision of the essentials of living.</p>	

Reference population	Private household definition	Household membership
		private address elsewhere and their actual or intended duration of absence from the household must be less than six months.
		(c) Category 7 and 8:
		Irrespective of the actual or intended duration of absence, such persons must currently have no private address elsewhere, must be the partner or child of a household member and must continue to retain close ties with the household and must consider this address to be his/her main residence.
		(d) Category 9:
		Such person must have clear financial ties to the household and must be actually or prospectively absent from the household for less than six months.

### 8.1.3. Reference Period

Period for taxes on income and social insurance contributions	Income reference periods used	Reference period for taxes on wealth	Lag between the income ref period and current variables
The income reference period is a fixed twelve-month period, namely the previous calendar year. Tax refunds received during 2012 referred to income received in previous years.	For SILC 2013; the income reference period is the year 2012	The reference period for taxes on wealth was 2012.	The income reference period is the previous calendar year (year 2012) and the current variables refer to the fieldwork period (April - June 2013). Therefore the lag is at minimum 4 months and at maximum 6months.

### 8.1.4. Statistical concepts and definitions

Total hh gross income (HY010)	Total disposable hh income (HY020)	Total disposable hh income before social transfers other than old-age and survivors' benefits (HY022)	Total disposable hh income before all social transfers (HY023)
F	F	F	F
Imputed rent (HY030)	Income from rental of property or land (HY040)	Family/Children related allowances (HY050)	Social exclusion payments not classified elsewhere (HY060)
		Housing allowances (HY070)	Regular inter-hh cash transfers received (HY080)
		Interest, dividends, profit from capital investments in incorporated businesses (HY090)	Interest paid on mortgage (HY100)
		Income received by people aged under 16 (HY110)	Regular taxes on wealth (HY120)
		Regular inter-hh transfers paid (HY130)	
F	F	F	F
Cash or near-cash employee income (PY010)	Other non-cash employee income (PY020)	Income from private use of company car (PY021)	Employers social insurance contributions (PY030)
		Cash profits or losses from self-employment (PY050)	Value of goods produced for own consumption (PY070)
		Unemployment benefits (PY090)	Old-age benefits (PY100)
		Survivors benefits (PY110)	Sickness benefits (PY120)
		Disability benefits (PY130)	Education-related allowances (PY140)
			Gross monthly earnings for employees (PY200)
			NC Gross monthly earnings for employees were collected even if the gender pay gap is
F	F	F	F

Cash or near-cash employee income (PY010)	Other non-cash employee income (PY020)	Income from private use of company car (PY021)	Employers social insurance contributions (PY030)	Cash profits or losses from self-employment (PY050)	Value of goods produced for own consumption (PY070)	Unemployment benefits (PY090)	Old-age benefits (PY100)	Survivors benefits (PY110)	Sickness benefits (PY120)	Disability benefits (PY130)	Education-related allowances (PY140)	Gross monthly earnings for employees (PY200)
												calculated from other sources than EU-SILC.

The source or procedure used for the collection of income variables	The form in which income variables at component level have been obtained	The method used for obtaining target variables in the required form
Data on income variables were collected by Computer Assisted Personal Interviewing and Paper Assisted Personal Interviewing. Each and every income component was separately collected.	The interviewers and the respondents have the option of reporting income gross or net (of tax on income at source and, if applicable, of social contributions) at component level. The form in which the net amounts are recorded in database are net of tax on income at source and of social contributions	<p>The basic requirement in EU-SILC (EU Statistics on Income and Living Conditions) concerning income variables is to record gross income in specified detail at the personal and income component level, but disposable income only as a set of three variable at the total household level. There may be severe practical difficulties for some Member States. including Greece, in collecting income data exactly in this form. whether the data are obtained from registers or directly from respondents in sample surveys.</p> <p>Net amounts of the target income variables were reported net of tax on income at source and net of social contributions. Gross amounts of the target gross income variables have also been obtained using a net-to-gross conversion model Sienna Microsimulation Model (SM2)</p>

## 8.2. Comparability - over time

The significant differences existing in some indicators of EU-SILC 2013 and EU-SILC 2012 can be explained to financial crisis in Greece and it can be attributed to the some variables having no high frequency and as a result the changes from year to year may be due to the sample process. Comparison of income target variables – EU SILC 2013 and 2012.

Change between SILC 2012 and SILC 2013 by main income component

Income component				%
HY020				-10.1
HY022				-10.2
HY023				-16.6
PY010N				-11.8
PY050N				-9.1

Income component	EU SILC 2012 (mean)	EU SILC 2013 (mean)	Sums 2012 (in million Euros)	Sums 2013 (in million Euros)
Total disposable household income (HY020)	17,977.32	16,170.00	75,0138	68668,53
Total disposable household income before social transfers except old-age and survivor's benefits (HY022)	17,190.41	15,435.26	71,745	65548,33
Total disposable household income before social transfers including old-age and survivor's benefit (HY023)	11,483.12	9,574.63	47,915	40660,24
Income from rental of a property or land (HY040N)	821.59	571.49	3,428	2426,94
Family related allowances (HY050N)	127.79	142.48	533,26	605,07
Social exclusion not elsewhere classified (HY060N)	132.12	111.15	551,288	472,016
Housing allowance (HY070N)	4.10	3.78	17,108	16,060
Regular inter-household cash transfer received (HY080N)	277.42	297.13	1,157	1261,83
Interests, dividends, etc. (HY090N)	93.24	79.36	389,055	337,00
Income received by people aged < 16 (HY110)	0.15	0.00	0.063	1085,82
Taxes on wealth (HY120N)	328.82	475.54	137,204	0
Regular inter-household cash transfer paid (HY130N)	280.42	277.45	1,170	2019,45
<b>Net income components at personal level</b>				
Employee cash or near cash income (PY010N)	3,718.40		3,280.45	34,411
Non cash income (PY021N)	17.41		13.85	0,160
				30237,00
				127,32

Cash benefits or losses from self-employment (PY050N)	1,729.71	1,572.69	15,948	14473,46
Pension from individual private plans (PY080N)	0.75	0.82	0,70	7,55
Unemployment benefits (PY090N)	124.66	121.81	1,157	1123,67
Old age benefits (PY100N)	2,332.64	2,417.77	21,489	22215,06
Survivor' benefits (PY110N)	298.70	324.88	2,778	2990,56
Sickness benefits (PY120N)	3.03	2.82	0,280	25,90
Disability/Invalidity benefits (PY130N)	110.05	95.16	0,102	876,91
Education-related allowances (PY140N)	3.35	3.60	0,316	33,32

### 8.2.1. Length of comparable time series

.Not requested by Reg. 28/2004

### 8.3. Comparability - domain

.Not requested by Reg. 28/2004

## 9. Coherence

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### Coherence

The coherence of two or more statistical outputs refers to the degree to which the statistical processes, by which they were generated, used the same concepts and harmonised methods. A comparison with external sources for all income target variables and the number of persons who receive income from each 'income component' will be provided, where the Member States concerned consider such external data to be sufficiently reliable.

### 9.1. Coherence - cross domain

The risk of poverty indicator EU-SILC 2013 was compared with the same indicator calculated from the 2012. It is noted that for the Household Budget Survey the pre-mentioned indicators have been estimated from consumption expenditure and not from income. When comparing the two survey results it is essential to keep in mind the differences between the concepts and methodologies. Discrepancies may further arise by the fact that they serve different purposes; HBS targets household expenditure whereas EU-SILC targets household income.

Also, are presented tables of 2013 SILC and 2013 LFS compared target variables.

Below are presented tables proving that the most quality target variables are in coherence with variables collected from LFS – 2<sup>nd</sup> quarter of 2013 making thus the survey robust.

Variable PL031: "Self-defined current activity status". %

Self-defined current activity status	2013 SILC	2013 LFS	2013 LFS_rev
At work (Full + Part time)	37.0	38.3	37.6
Unemployed	15.7	15.6	15.5
Non economically active	47.3	46.1	46.9

Variable PL060: "Number of hours usually worked per week in main job".%

	2013 SILC	2013 LFS
Number of hours usually worked per week in main job	41.33	42.01

Variable PL130: "Number of persons working in the local unit". %

Number of persons working in the local unit	2013 SILC	2013 LFS	2013 LFS_rev
1 person	20.9	20.3	20.1
2 persons	11.6	13.8	13.8
3 persons	6.1	6.9	6.8
4 persons	4.2	3.9	3.9
5 persons	3.8	3.3	3.3
6 persons	2.0	1.9	1.9
7 persons	1.3	1.3	1.3
8 persons	1.3	1.2	1.2
9 persons	0.7	.5	.5
10 persons	2.5	1.6	1.6
11-19 persons	10.2	8.4	8.4
20-49 persons	9.4	7.4	7.4
50 persons or more	18.3	14.0	14.0
Don't know but fewer than 11 persons	2.8	5.6	5.7
Don't know but more than 10 persons	5.0	10.0	10.1

PL040: "Status in employment" %

Status in employment	2013 SILC	2013 LFS	2013 LFS_rev
Self employed with employees	5.1	6.7	6.6
Self employed without employees	23.6	25.5	25.3
Employee	65.3	62.9	63.1
Family worker	5.9	4.9	4.9

PE040: "Highest ISCED level attained".%

Highest ISCED level attained	2013 SILC	2013 LFS	2013 LFS_rev
Never attended any level of education	5.9	4.9	5.0

Primary education	21.8	25.1	25.3
Lower secondary education	11.7	11.5	11.6
Upper secondary education	32.4	31.4	31.3
Post secondary non tertiary education	6.2	6.4	6.4
First stage of tertiary education	21.6	20.3	20.1
Second stage of tertiary education	0.5	.4	.4

PL051 : 'Occupation'. %

Occupation	2013 SILC	2013 LFS	2013 LFS_rev
Armed forces	0.7		
Legislators, senior officials and managers	3.4	5.2	5.1
Professionals	21.1	19.5	19.4
Technicians and associate professionals	9.1	7.6	7.7
Clerks	11.3	9.8	9.9
Service workers and shop and market sales workers	21.1	20.4	20.6
Skilled agricultural and fishery workers	10.7	12.8	12.8
Craft and related trades workers	9.0	10.0	9.9
Plant and machine operators and assemblers	5.7	6.5	6.,3
Elementary occupations	8.0	6.5	6.5

PL111: "Economic activity". %

Economic activity	2013 SILC	2013 LFS	2013 LFS_rev
Agriculture, hunting, forestry and fishing	11.0	13.6	13.6
Mining and quarrying	0.3	.3	.3
Manufacturing	9.4	9.3	9.2
Electricity,gas,steam and airconditioning	0.7	.8	.8
Water supply: sewerage, waste management and remediation	0.5	.7	.6
Construction	4.4	4.7	4.7
Wholesale and retail trade;repair of motor vehicles and motorcycles	17.8	18.1	18,1
Transportation and storage	4.8	5.0	4.9
Accommodation and food service activities	7.9	7.3	7.5
Information and communication	2.3	2.2	2.2
Financial and insurance activities	3.4	3.1	3.1
Real estate activities	0.1	.1	.1
Professional scientific and technical activities	6.6	5.5	5.5
Administrative and support service activities	2.1	1.7	1.7
Public administration and defence;compulsory social security	10.1	9.2	9.1
Education	8.4	7.8	7,8
Human health and social work activities	6.3	6.1	6.1
Arts, entertainment and recreation activities	1.2	1.1	1.1
Other service activities	1.9	2.0	2.0
Activities of households as employers	0.7	1.5	1.5

Household by size. %

Households type	2013 SILC	2013 LFS	2013 LFS_rev
One person household	25.7	28,4	28,6
Two persons household	29.5	30.2	30.2
Three persons household	19.8	18.7	18.5
Four persons household	15.5	17.0	16.9
Five persons household	6.9	4.3	4.3
More than six persons household	2.7	1.1	1.1

Variable PL015: "Have you ever worked" (for persons not working but having worked in the past) . %

Have you ever worked	2013 SILC	2013 LFS	2013 LFS_rev
Yes	67.,6	63.3	62.7
No	32.4	36.7	37.3

Variable PL120: "Number of persons working less than 30 hours per week". %

Working less than 30 hours per week	2013 SILC	2013 LFS	2013 LFS_rev
Number of persons working less than 30 hours per week	12.9	10.1	10.2

Variable PL140: "Type of contract". %

Type of contract	2013 SILC	2013 LFS	2013LFS
Permanent job / work contract of unlimited duration	78.0	90.2	90

Temporary job/work contract of limited duration	22.0	9.8	10
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Comparison of labour participation. %

Age	Total		Male		Female	
	2013 LFS	2013 SILC	2013 LFS	2013 SILC	2013 LFS	2013 SILC
15-19 years	9.1	12.4	10.8	13.4	7.5	11.2
20-24 years	50.6	52.0	55.2	55.5	46.0	48.7
25-29 years	86.2	88.3	90.4	92.3	81.6	84.2
30-34 years	89.0	89.5	95.9	97.8	81.8	80.6
35-39 years	87.9	87.4	96.4	97.7	78.9	77.0
40-44 years	86.8	87.6	96.4	96.8	76.8	77.8
45-49 years	83.1	81.4	93.5	94.3	72.6	69.3
50-54 years	72.6	69.4	88.5	85.1	57.4	53.3
55-59 years	55.8	51.1	72.6	68.2	40.1	35.7
60-64 years	28.7	23.9	37.3	33.4	20.6	15.0
65 years +	2.7	1.6	4.4	2.4	1.3	1.0

Comparison of labour participation. %

Age	Total		Male		Female	
	2013 LFS_rev	2013 SILC	2013 LFS_rev	2013 SILC_rev	2012 LFS_rev	2013 SILC_rev
15-19 years	9.2	12.4	11.0	13.4	7.5	11.2
20-24 years	50.3	52.0	55.0	55.5	45.6	48.7
25-29 years	86.2	88.3	90.5	92.3	81.7	84.2
30-34 years	89.0	89.5	96.0	97.8	8.8	80.6
35-39 years	87.7	87.4	96.4	97.7	78.9	77.0
40-44 years	86.6	87.6	96.4	96.8	76.8	77.8
45-49 years	82.9	81.4	93.5	94.3	72.6	69.3
50-54 years	72.3	69.4	88.5	85.1	57.4	53.3
55-59 years	55.7	51.1	72.5	68.2	40.2	35.7
60-64 years	28.8	23.9	37.5	33.4	20.8	15.0
65 years +	2.7	1.6	4.4	2.4	1.3	1.0

#### 9.1.1 Coherence - sub annual and annual statistics

.

#### 9.1.2. Coherence - National Accounts

##### Comparison with Household Budget Survey

##### At-risk-of-poverty threshold: 2013 SILC -HBS

2013 SILC	2013 HBS
5,023.00	5,253.77

##### At-risk-of-poverty rate: 2013 SILC -HBS

%

2013 SILC	2013 HBS
23.1	21.0

The next tables present the coherence between 2012 HBS and 2012 SILC.

HH021: "Tenure status". %

Tenure status	2013 HBS	2013 SILC
Owner	81.4	78.3
Tenant	18.6	21.7

HH081: "Bath or shower in dwelling".%

Bath or shower in dwelling	2013 HBS	2013 SILC
Yes	2.2	0.9
No	97.8	99.1

HH091: "Indoor flushing toilet for sole use of household".%

Indoor flushing toilet for sole use of household	2013 HBS	2013 SILC
Yes	2.5	0.7
No	97.5	99.3

HH010: "Dwelling type". %

Dwelling type	2013 HBS	2013 SILC
Detached house	33.7	32.3
Semidetached house	9.9	8.9
Apartment or flat	55.5	58.8
Some other kind of accommodation	0.9	0.1

**9.2. Coherence - internal****Coherence - internal**

Comparison of the total equivalized disposable household income (deciles). EU-SILC 2012 and 2013

Total equivalised disposable household income

	EU-SILC 2012	EU-SILC 2013	Change
Number of households	4,172,628	4,246,663	1.77
Mean	10,724.33	9,609.20	-10.40
Standard deviation	7,853.34	7,760.24	-1.19
10%	2,054.06	2,037.51	-0.81
20%	4,813.66	4,261.42	-11.47
30%	6,106.31	5,503.48	-9.87
40%	7,457.47	6,618.22	-11.25
50%	8,763.58	7,922.35	-9.60
60%	10,116.62	9,027.14	-10.77
70%	11,517.61	10,184.46	-11.57
80%	13,419.38	11,895.75	-11.35
90%	16,243.08	14,315.84	-11.86
100%	26,765.44	24,344.10	-9.05

Comparison of the total equivalized disposable household income (quintiles). EU-SILC 2012 and 2013

Total equivalised disposable household income

	EU-SILC 2012	EU-SILC 2013	Change
Number of households	4,172,628	4,246,663	1.77
Mean	10,724.33	9,609.20	-10.40
Standard deviation	7,853.34	7,760.24	-1.19
20%	3,428.67	3,150.66	-8.11
40%	6,782.56	6,060.85	-10.64
60%	9,439.93	8,474.29	-10.23
80%	12,468.46	11,039.54	-11.46
100%	21,504.05	19,323.65	-10.14

Comparison of number of persons who receive income from family allowances with external sources

Family allowances	Number of persons that received the family allowances in survey data	Number of persons received the family allowances in administrative data	Recorded in survey / recorded from administrative data %
Life long pension for mothers with more than 3 children	114,182	165,468	69.0
Allowance for mothers having more than 3 children	96,210	75,010	128.3
Allowance for mothers having third child	60,781	55,108	110.3
Lump sum due to birth of third, four etc. child	1,595	9,569	16.7
Allowance for mothers having 3 children	146,994	172,464	85.2

Total	419,762	477,619	87.9
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#### Unemployment benefit / Social solidarity for pensioners/ ESSPROS

Comparisons have been made for regular unemployment benefit with administrative data (approximately 234,455 for December 2012), while the survey were found 330,589 persons. As far as the social solidarity benefit for pensioners is concerned, according to administrative data 216,726 persons (information of the main insurance scheme IKA) received it in 2013 (EU-SILC 2013), while from the survey the relative number is 172,224 persons, having in mind that IKA gives that the 80% of that allowance. In general, deviations from ESSPROS's data are accepted and are attributed to the fact that ESSPROS's data are from administrative data while the other are from a sample of households.

## 10. Cost and Burden

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### The mean interview duration

The mean interview duration per household was estimated at 59.33 min. The average has been calculated according to the duration being registered in the questionnaires as the sum of the duration of the household interviews plus the sum of the duration of all personal interviews, divided by the number of household questionnaires completed and accepted for database. The time needed for the data entry of the questionnaires in the computer (PAPI interview) has not been taken into account. Note that we did not include additional questions to cover other areas at the national level.

### Interview duration

HB100- Number of minutes to complete the household questionnaire	
Mean	17.05
Maximum	60
Minimum	5
PB120-Minutes to complete the personal questionnaire	
Mean	19.58
Maximum	60
Minimum	10
Mean of interview duration	57.43

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## 11. Confidentiality

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### Confidentiality

**Not requested by Reg.28/2004**

### 11.1. Confidentiality - policy

#### Confidentiality - policy

**Not requested by Reg.28/2004**

### 11.2. Confidentiality - data treatment

#### Confidentiality - data treatment

**Not requested by Reg.28/2004**

## 12. Statistical processing

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### Statistical processing

Detailed information concerning sampling frame, sampling design, sampling units, sampling size, weightings and mode of data collection can be found in this section. Such information is mainly used for the computation of the accuracy measures.

### 12.1. Source data

#### Sampling frame and coverage errors

EU-SILC survey is based on a two-stage stratified sampling of households from a frame of sampling which has been created on the basis of the results of the 2011 population census and covers completely the reference population.

The frame of PSUs is updated every ten (10) years through the general population census. Concerning the frame of households, within each selected PSU this is updated before the selection of the sampling households used for data collection. So, any coverage problems that may arise is more possible to relate with the frame of PSUs

Coverage problems encountered were:

1. The frame of the 2011 Census of Population was somehow outdated and as a result some housing units were found to be empty or to be used for other purposes other than housing.
2. Some houses were used as secondary residence, so they were out of scope of the survey.
3. Some houses were impossible to be located due to incomplete information regarding their addresses.
4. Housing units built after March 2012, were not included in our sampling frame.



However, any such problems are corrected with the use of the calibration procedure already described.

### 12.1.1. Sampling design and procedure

#### Type of sampling design

The two-stage area sampling was applied for the EU-SILC survey.

#### Stratification and sub stratification criteria

There are two levels of area stratification in the sampling design. The first level is the geographical stratification based on the partition of the total country area into thirteen (13) Regions corresponding to the European NUTS2 level. The two former major city agglomerations of Greater Athens and Greater Thessalonica constitute separate major geographical strata.

The second level of stratification entails grouping Municipal/Local communes within Region by degree of urbanization, i.e., according to their population size. The scaling of urbanization was finally designed in four groups:

- $\geq 30.000$  inhabitants
- 5.000-29.999 inhabitants
- 1.000-4.999 inhabitants
- 0-999 inhabitants

The number of the final strata in the thirteen (13) Regions is 50. The former Greater Athens Area was divided into 31 strata of about equal size (equal number of households) on the basis of the lists of city blocks of the Municipalities that constitute it and taking into consideration socio-economic criteria. Similarly, the former Greater Thessaloniki Area was divided into 9 equally sized strata. The two Major former City Agglomerations account for about 39,1% of total population and for even larger percentages in certain socio-economic variables. Thus, the total number of final strata of the survey is 90.

The initial sample size is 8.916 households (the sampling fraction is about 1,8‰). This fraction is the same in each geographical region.

As it was mentioned above, the Regions (NUTS2) in Greece are thirteen (13) in number. However, throughout this study the 2<sup>nd</sup> Region (Central Macedonia) was considered without former Greater Thessaloniki and the 9<sup>th</sup> Region (Attica) without the former Greater Athens area, while either of these two former major agglomerations was treated as a geographical region.

#### Sample selection schemes

##### 1<sup>st</sup> stage of sampling

In this stage, from any final stratum, say stratum  $s$ , primary units were drawn. The number of draws was approximately proportional to the population size of the stratum (number of households according to the last population census of the year 2011).

Each area unit (primary unit) of the stratum has a selection probability proportional to its size. So, if  $n_s$  is the number of households (according to the 2011 population census) of the unit in the sample of order  $k$ , then the probability of being drawn was:

$$(1)$$

The total number of the primary sampling units is 1,360 areas.

As in each year the 25% of the sample households is replaced, the new households belong to different primary sampling units.

##### 2<sup>nd</sup> stage of sampling

In this stage from each primary sampling unit (selected area) the sample of ultimate units (households) is selected. Actually, in the second stage we draw a sample of dwellings. However, in most cases, there is one to one relation between household and dwelling. If the selected dwelling consists of one or more households then all of them are interviewed.

Let  $n_s$  be the number of households during the survey period in the selected area of the stratum. This number comes from an updated list of households. Out of them a systematic sample of  $n$  households is selected with equal probabilities. All households have the same chance to be included in the survey, equal to:

The sample size was determined by calculating the sampling interval as following:

$$(2)$$

$$(3)$$

The relation (2) denotes that the estimator of the final stratum total is self-weighted. Additionally the overall sampling fraction in each Region (NUTS2) is equal to 1,8‰

#### Sample distribution over time

As the survey is annual, the sample of households is not distributed over time. The survey is carried out from May to June of the year 2013 and December 2013 with reference period of data the previous year (2012).

Month	Date	Number	%
May	1 to 10		5.9
	11 to 20	439	12.8
	21 to 31	952	16.3

		1,214	
June	1 to 10	1,397	18.8
	11 to 20	1,180	15.9
	21 to 30	872	11.7
December	1 to 10	295	4.0
	11 to 20	626	8.4
	21 to 31	464	6.2

### 12.1.2. Sampling unit

The sample of private households was selected in two stages. The primary units are the areas (one or more unified city blocks) and the ultimate sampling units selected in each sampling area are the households.

### 12.1.3. Sampling rate and sampling size

Concerning the SILC instrument, three different sample size definitions can be applied:

- the actual sample size which is the number of sampling units selected in the sample
- the achieved sample size which is the number of observed sampling units (household or individual) with an accepted interview
- the effective sample size which is defined as the achieved sample size divided by the design effect with regards to the at-risk-of poverty rate indicator

Given that the effective sample size has been already treated in the section dealing with sampling errors, in this section the attention focuses mainly on the achieved sample size.

#### Sample size and allocation criteria

According to the Regulation (EC) No 1177/2003 Article 9, the minimum effective sample size for Greece is 4.750 households and 9.500 persons aged 16 or over. The initial sample size is 8.000 households (the sampling fraction is about 2‰). This fraction was the same in each geographical region.

Total	R1	R2	R3	R4
8,916	1,625	4,676	1,264	1,351

#### Status of households' sample

As it was mentioned above, the geographical regions (NUTS2) in Greece are thirteen (13) in number. However, throughout this study the 2<sup>nd</sup> geographical region (Central Macedonia) was considered without Greater Thessaloniki and the 9<sup>th</sup> geographical region (Attica) without the Greater Athens area, while either of these two major agglomerations was treated as a geographical region.

#### Population and sample distribution

NUTS2	Name	Drawn	Accepted (DB135=1)
GR11	Thraki and Anatoliki Macedonia	508	470
GR12	Kentriki Macedonia	1,443	1,241
GR13	Dytiki Macedonia	231	222
GR14	Thessalia	583	534
GR21	Ipeiros	300	291
GR22	Ionia Nisia	164	147
GR23	Dytiki Ellada	641	599
GR24	Stereia Ellada	426	403
GR25	Peloponnisos	488	463
GR30	Attiki	3,234	2,291
GR41	Voreio Aigaio	170	162
GR42	Notio Aigaio	225	184
GR43	Kriti	503	432
Total	Total	8,916	7,439

The 64 addresses that were out of scope of the survey correspond to vacant accommodation, or buildings used as secondary residences or for business purposes, or demolished housing units. Furthermore, 136 addresses were not successfully contacted. Out of the 8,761 addresses successfully contacted, 7,439 households completed the Household questionnaire and were all accepted for the database. This was above the minimum effective sample size (4.750 households) requested by the Regulation (EC) No 1177/2003 Article 9. Thus, the achieved sample size was 7,439 households, 18,030 persons in total and 15,318 persons aged 16 or over. In order to achieve this, the number of households of the new sub-sample selected was 4,674.

The 2012 sample results are shown in the table below:

Distribution of households by 'record of contact at address' (DB120)

	Number of households	%
Total (DB120 =11 to 23)	8,897	100,0

Address contacted (DB120 =11)	8,761	98.5
Address non-contacted (DB120 =21 to 23)	136	1.5
Address cannot be located (DB120 =21)	53	0.6
Address unable to access (DB120 =22)	19	0.2
Address does not exist (DB120 =23)	64	0.7

Distribution of households by 'household questionnaire result' (DB130) and by 'household interview acceptance' (DB135)

	Number of households	%
Total	8,761	100,0
Household questionnaire completed (DB130 =11)	7,439	84.9
Interview not completed (DB130 =21 to 24)	1,322	15.1
Refusal to co-operate (DB130 =21)	528	6.0
Entire household temporarily away (DB130 =22)	714	8.1
Household unable to respond (DB130 =23)	40	0.5
Other reasons(DB130 =24)	40	0.5
Total interview not completed (DB130 =21 to 24)		
Household questionnaire completed (DB135=1+2)	7,439	100,0
Interview accepted for database (DB135=1)	7,439	100,0
Interview rejected (DB135=2)	0	0,0

#### Achieved sample size

The table below presents the achieved samples of persons aged 16 years and over, as well as of households, within each rotational group.

#### Sample Size and Accepted Interviews

	Total	R1	R2	R3	R4
<b>Persons 16 years and over</b>	15,491	3,206	6,848	2,668	2,769
<b>Number of accepted personal questionnaires</b>	15,318	3,182	6,739	2,651	2,746
<b>Accepted household interviews</b>	7,439	1,545	3,322	1,255	1,317

Distribution of household members by data status and rotation group

	Total	RB250 =11	RB250 =21	RB250 =22	RB250 =23	RB250 =31	RB250 =32	RB250 =33
Total	15,491	15,318	9	2	27	63	68	4
%	100.0	98.8	0.1	0.0	0.2	0.4	0.4	0.0
	Rotation 1							
Total	3,206	3,182	5	0	2	11	6	0
%	100.0	99.3	0.2	0.0	0.1	0.3	0.2	0.0
	Rotation 2							
Total	6,848	6,739	4	2	23	31	45	4
%	100.0	98.3	0,1	0,0	0,3	0.5	0.7	0.1
	Rotation 3							
Total	2,668	2,651	0	0	0	10	7	0
%	100.0	99.3	0.0	0.0	0.0	0.4	0.3	0.0
	Rotation 4							
Total	2,769	2,746	0	0	2	11	10	0
%	100.0	99.1	0.0	0.0	0.1	0.4	0.4	0.0

11 – information completed only  
from interview  
21 – individual unable to respond

22 – failed return self-completed questionnaire

23 – refusal to co-operate

31 – person temporarily away and no proxy possible

32 – no contact for other reasons

33 – information not completed: reason unknown

#### Substitutions

No substitution procedures were applied.

#### Method of selection of substitutes

Not applicable.

#### Renewal of sample: rotational groups

The survey is a simple rotational design survey. The sample for any year consists of 4 replications, which have been in the survey for 1-4 years. With the exception of the first three years of survey, any particular replication remains in the survey for 4 years. Each year, one of the 4 replications from the previous year is dropped and a new one is added. Between year T and T+1 the sample overlap is 75%; the overlap between year T and year T+2 is 50%; and it is reduced to 25% from year T to year T+3, and to zero for longer

intervals.

The size of each Rotational Group for the 2012 survey is shown in Table below:

#### Size of the Rotational Groups

	Total	R1	R2	R3	R4
Addresses in initial sample	8,916	1,625	4,676	1,264	1,351
Household Questionnaire completed	7,439	1,545	3,322	1,255	1,317
Interviews Accepted for database	7,439	1,545	3,322	1,255	1,317

#### Longitudinal sample size

	ROT 1	ROT 2	ROT 3	ROT 4	TOTALS
2010	0	2.854	0	2.854	
2011	0	1.911	2.642	4.553	
2012	2.594	1.472	1.581	5.647	
2013	1.625	1.226	1.319	4.170	
TOTAL	4.219	7.463	5.542	17.224	

#### 12.2. Frequency of data collection

ELSTAT collects EU-SILC data annually.

#### 12.3. Data collection

##### Mode of data collection

Mostly, paper assisted personal interviewing (PAPI) technique has been used. The other techniques used are the CAPI (more specifically face-to-face interviews with laptops) and CATI techniques, while the use of self-administered by the respondent technique is very limited.

The following tables present the distribution of individuals aged 16 or over by data status and type of interview.

#### Distribution of individuals aged 16 or over by type of interview and rotational group

	Total	RB260=1 Face to face interview PAPI	RB260=2 Face to face interview CATI	RB260=3 CATI, telephone interview	RB260=4, Self – administered by respondent	RB260=5 Proxy interview
Total	15,318	13,118	466	530	55	1,149
%	100.0	85.6	3.0	3.5	0.4	7.5
Rotation 1						
Total	3,182	2,677	135	138	9	223
%	100.0	84.2	4.2	4.3	0.3	7.0
Rotation 2						
Total	6,739	5,934	186	96	41	482
%	100.0	88.0	2.8	1.4	0.6	7.2
Rotation 3						
Total	2,651	2,267	45	125	3	211
%	100.0	85.5	1.7	4.7	0.1	8.0
Rotation 4						
Total	2,746	2,240	100	171	2	233
%	100.0	81.6	3.6	6.2	0.1	8.5

#### 12.4. Data validation

##### Data validation

Not requested by Reg. 28/2004

#### 12.5. Data compilation

Please find below a description of the weighting and imputation procedures .

##### 12.5.1. Weighting procedure

Design factor	Non-response adjustments	Adjustment to external data	Final cross sectional weights
For the computation of the sample	Within each	Adjustment to external data involves the	

Design factor	Non-response adjustments	Adjustment to external data	Final cross sectional weights
household design weights and the cross sectional weights of the survey in general, the EC-Eurostat document EU-SILC Doc. 157/05 was used. For the households of the new panel 1 introduced in 2012, which replaced panel 1 introduced in 2008, the household design weight (target variable DB080) is defined as the inverse of its probability of selection. (4)  = the number of households in the updated sampling frame (list) in the area (primary unit). = the number of selected households in the area (primary unit). = the sample size of primary units in the stratum. = the selection probability of primary unit.  For households in panels 2, 3 and 4 the household design weights are defined by applying the general procedure of EU-SILC Doc.157/05:	design stratum, the non-response adjustment of the responding households is carried out by the inverse of the response rate, so as to “make up” for non-responding cases in that stratum. Target variable DB080 was adjusted for non-response for the variables DB120 (record of contact at address) and DB130 (household questionnaire result). The corrections were conducted at subsequent steps. The multiplication of DB080 with each one of the two corrections, results in a corrected DB080 weight that is used as initial weight in the calibration procedure referred in the following paragraph.	calibration of the household and personal weights in conjunction with external sources (Projections for population and household totals for the year 2012). This method enables the distribution of auxiliary variables, at household and individual level, to coincide with the corresponding population distribution of external data. The auxiliary variables used at household level are the household size, the tenure status and the Region (NUTS 2). Also, at personal level the auxiliary variables used are age groups (five years age groups) and gender. The weights obtained after this procedure of calibration are the household cross-sectional weights (variable: DB090). As all the household members reply to the household questionnaire, DB090 is also the weight of each member of the household (variable: RB050). The last step involves the calculation of the personal cross sectional weights for household members aged of 16 and over (variable: PB040). The calibration procedure was applied again using as initial weights variable RB050 and as auxiliary variable the distribution of population aged 16 and over by age (five years age groups) and sex.	The final cross-sectional weights were calculated as described above, i.e. using DB080 after non-response adjustment as the initial weight for new panel and base weights adjusted for non-response due to attrition for older panels. The calibration methods were then applied on the total sample.
<b>12.5.2. Estimation and imputation</b>			
Imputation procedure used	Imputed rent	Company car	
In the very few cases where imputation required. Mainly, net income was converted to gross by applying the existing tax system and social insurance contributions rules. Personal refusals were imputed using existing data from previous waves as the starting point.	We calculate the imputed rent using the self assesement method and the stratidication method. With the first method, the respondent provides the figure and the interviewer checks the answer according to the rents prevailing in the specific area. Also, for calculation of the imputed rent we developed the stratification method using the following variables:  • <b>Dwelling type</b> (Detached house, Semi-detached or groups of similarly dwellings, Apartment or flat in a building with less than 10 dwellings. Apartment or flat in a building with 10 dwellings or more. Some other kind of accommodation, please specify) • <b>Number of rooms</b> • <b>Tenure status</b> (Owned, Rented, sub-rented with rent at prevailing or market price (Included are cases where rent is recovered from housing	The benefit for individuals of using a company car for private goals was not directly assessed at the interview but afterwards calculated by applying the depreciation method.  According to doc. EU-SILC 130/04 the main idea of the method was to impute to the employee the amount the recipient would have to pay over the reference period to enjoy the same benefit from the use of own vehicle.  More specifically:  1 Depreciation = (Purchase prices – selling prices at X) / X.  2 Where X is the average age of a company car.	

Imputation procedure used	Imputed rent	Company car
	<p>benefit). Rented at a reduced price (lower price than the market price). Provided rent-free (from the employer, relatives, etc.) )</p> <p>• <b>For owned dwelling</b></p> <p>Year of purchase/inhabit main dwelling</p> <p>Monthly Imputed rent for the dwelling ( if the household renting a similar dwelling)</p> <p>Approximate range for imputed rent (if the household does not know)</p> <p>Mortgage loan (paid interest)</p> <p>• <b>For dwelling rented with rent lower than the market price</b></p> <p>Year of sign the rent contract for the main dwelling</p> <p>Rent per month for the main dwelling</p> <p>Monthly Imputed rent for the dwelling (if it is provided this reduced price)</p> <p>Approximate range for imputed rent (if the household does not know)</p> <p>• <b>For provided rent-free dwelling</b></p> <p>Year of movement in the dwelling</p> <p>Monthly Imputed rent for the dwelling ( if the household renting a similar dwelling)</p> <p>Approximate range for imputed rent (if the household does not know)</p> <p>• <b>Other variables</b></p> <p>Dwelling amenities, balcony, veranda, garage/ parking. elevator. swimming pool garden and also dwelling area.</p>	<p>To calculate the “purchase price” and the “selling price”, the make, the model, the registration year and other characteristics of the car have been used. A list of prices or manufacturer’s recommended retail prices have been used for a wide range of new cars. If a specific type of car was not included in the list, the RRP has been available from the manufacturer’s website. If a RRP was not available in the country, then it was estimated based on the price of a similar car or the price relative to other cars in the country with the similar pricing structure. The list price included VAT and vehicle registration tax. For calculating the “average age of a company car” an average of 5 has been considered.</p>
	<p>It is noted that in the files we completed the variable with the results of statistification method.</p>	
<b>12.6. Adjustment</b>		
<b><u>Adjustment</u></b>		
Not requested by Reg.28/2004		

### 13. Comment

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#### **Comment**

#### **Legal acts and other agreements**

#### **transmission of data and data availability**

National questionnaire is available in Circa BC at: <https://circabc.europa.eu/>. Please select EU SILC section and then select the folder '06 National Questionnaire' in the library list. Additionally under the folder '02 Guidelines' and then under the folder '2.4 2012 Operation Guidelines' you can find information of the 2012 Ad-hoc Module variables.

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