



GENERAL SECRETARIAT OF  
THE NATIONAL STATISTICAL SERVICE  
OF GREECE

GENERAL DIRECTORATE OF STATISTICAL SURVEYS  
DIVISION OF POPULATION AND LABOR MARKET STATISTICS  
HOUSEHOLD SURVEY UNIT

# Community Survey on ICT usage in households and by individuals 2009

## Quality Report

### Please read this first !!!

General guidelines on using this template

- In the title line of this page, please delete the non-applicable term (Metadata / Quality Report).
- Fill in the required information in the space (box) foreseen next to or below the item heading, if a box is irrelevant for your national survey, indicate 'non-applicable' to avoid we have to come back to you on this item. An increase of the box' size after inserting several lines or paragraphs is no problem. However, when reporting several pages for one item, we kindly ask you to give a short summary and refer to the full text in an annex.
- Keep the numbering of the chapters and items. Additional comments can be given at the end of the report.
- This template is designed to serve both the requirements for the Metadata as well as the Quality report. **Chapters 1 to 6 shall be completed for the metadata report (deadline for submission: before 31/05/2009), chapters 7 to 10 can be postponed until the Quality report (deadline for submission: not later than 05/11/2009).** However, where provisional information for the Quality Report topics is already available, we invite you to provide us with this data in the Metadata report (and update it in the Quality Report).
- Please submit the national questionnaire used (in national language and if available in English) annexed to the metadata report.
- Please replace in the header field the code 'EU' with your country code.
- **All information provided in this report on coverage of questions/items, net sample sizes, number of respondents, proportions, etc. should be in line with the transmitted data file(s).**

We kindly thank you for respecting these guidelines.

## 1. Cover information

<b>1.1</b>	<b>Country</b>	GREECE
<b>1.2</b>	<b>Organisation responsible the survey</b> <i>Please also indicate the organisation running the survey if different from the organisation responsible (e.g. because of sub-contracting).</i>	NATIONAL STATISTICAL SERVICE OF GREECE

<b>1.3</b>	<b>Contact person(s)</b> (name, unit, e-mail, phone, fax)	<p>1. <i>CHALKIADAKI MARIA</i> UNIT OF HOUSEHOLD SURVEYS TEL. 0030 -210-485 2896 FAX. 0030 -210-485 2906 E-MAIL: MCHALK@STATISTICS.GR</p> <p>2. <i>ZOULIATIS IOANNIS</i> UNIT OF HOUSEHOLD SURVEYS TEL. 0030 -210-485 2941 FAX. 0030 -210-485 2906 E-MAIL: ZOULIATI@STATISTICS.GR</p>
<b>1.4</b>	<b>Name of the collection</b> The name of the survey in its original language(s) and in English (e.g. name used in the statistical office's English website).	<p>SURVEY ON THE USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES FROM THE HOUSEHOLDS</p> <p>ΕΡΕΥΝΑ ΧΡΗΣΗΣ ΤΕΧΝΟΛΟΓΙΩΝ ΠΛΗΡΟΦΟΡΗΣΗΣ &amp; ΕΠΙΚΟΙΝΩΝΙΑΣ ΑΠΟ ΤΑ ΝΟΙΚΟΚΥΡΙΑ</p>
<b>1.5</b>	<b>Last update of this report</b>	30-10-2009

## 2. General methodological information

<b>2.1</b>	<p data-bbox="228 313 1428 353"><b>Reference period(s)</b></p> <p data-bbox="228 353 1428 421">The main reference period for the ICT variables as well as the background variables, e.g. <i>first quarter of the year</i> or <i>last three months before the interview</i> (with an indication of the respective months), or a specific date.</p> <ul data-bbox="284 443 1428 667" style="list-style-type: none"> <li>• 31st of March 2009 for educational level completed</li> <li>• Day of the survey conduction for activity status, employment situation, A1-A5, C4, C6, D10, D11, D14, E1, E2.</li> <li>• Three first months of 2009 for questions B2, B3, C2, C3, C5, C6, D5, D6.</li> <li>• Last 12 months (April 2007-March 2008) for questions D2, D3, D4, D7, D8, D9, D12, D13.</li> </ul>
<b>2.2</b>	<p data-bbox="228 701 1428 741"><b>Survey period</b></p> <p data-bbox="228 741 1428 797">The beginning and end date – if already known – of the data collection period.</p> <p data-bbox="228 797 1428 907">1 April 2009-30 June 2009</p>
<b>2.3</b>	<p data-bbox="228 940 1428 981"><b>Survey vehicle</b></p> <p data-bbox="228 981 1428 1059">Stand-alone or embedded in another survey. If embedded, give a short description of the survey the ICT modules are inserted in.</p> <p data-bbox="228 1059 1428 1146">ICT is a stand-alone survey.</p>
<b>2.4</b>	<p data-bbox="228 1180 1428 1220"><b>Survey type</b></p> <p data-bbox="228 1220 1428 1299">Short description of the survey type (face-to-face interview, self-administered mail survey, telephone interview, combination of techniques, other; etc.).</p> <p data-bbox="228 1299 1428 1386">Telephone interview</p>
<b>2.5</b>	<p data-bbox="228 1420 1428 1460"><b>Survey participation</b></p> <p data-bbox="228 1460 1428 1516">Please indicate whether the survey is mandatory or voluntary.</p> <p data-bbox="228 1516 1428 1630">Participation is mandatory according to Greek law.</p>

## 2.6 Main methodological differences compared to previous survey(s)

If any, indicate the changes in methodology that may have an impact on the (comparability over time of the) results delivered to Eurostat, e.g. change in reference period, new reference sampling frame, different scope, different grossing-up method, different treatment of non-response, etc. No need for giving detailed technical analyses, a bulletpoint overview of the main differences and the expected impact is sufficient.

The sample of households for the ICT survey of the year **2009** is consisted of the samples used in the Greek Survey on Income and Living Conditions (EU-SILC of the years 2006, 2007 and 2008). The EU-SILC is an annual rotating household survey covering the target population of the ICT survey. The EU-SILC is a multistage stratified sampling survey with primary sampling unit the area (one or more unified blocks) and final unit the household. The samples design of the EU-SILC was based on data coming from the population census of the year 2001.

For the ICT primary units are the areas and secondary units the households containing members belonging to the target population. The final unit is one person randomly selected among the household members of age sixteen to seventy four years.

The sampling design involves two levels of area stratification: (i) the first level is geographical stratification based on the partition of the total country into thirteen standard administrative regions corresponding to the European NUTS II level. The two major city agglomerations of Greater Athens and Greater Thessalonica constitute separate major geographical strata. (ii) The second level of stratification involves grouping municipalities and communes within each NUTS II administrative region by degree of urbanization, i.e., according to their population size, into four categories. These categories are defined by the population size intervals 0-999, 1000-4999, 5000-29999, 30000 and over. The number of final strata in the thirteen regions was 50. The two major city agglomerations were further partitioned into 31 and 9 substrata (administrative subsections), respectively, on the basis of the city blocks of the municipalities that constitute them. Thus, the total number of strata for this survey was 90.

### 3. Statistical unit(s), scope and target population

<b>3.1 Statistical unit</b>	Please indicate whether the statistical unit follows recommendations by ticking <i>Yes</i> or <i>No</i> (and specify the deviations, if any):		
		<b>Yes</b>	<b>No</b> (please specify the deviations)
	Module A in the Eurostat model questionnaire: households with at least one member aged 16 to 74	<b>X</b>	
	Modules B to E in the Eurostat model questionnaire: individuals aged 16 to 74	<b>X</b>	

<b>3.2 Age groups covered</b>	Please indicate the age scope (in the <i>Yes</i> column), or tick <i>No</i> if not applicable		
		<b>Yes</b> (please specify, e.g. 12-15 or 75-...)	<b>No</b>
	Individuals younger than 16 ?		<b>X</b>
	Individuals aged 16 to 74 ?	<b>X</b> (compulsory)	
	Individuals older than 74 ?		<b>X</b>

<b>3.3 Territorial coverage</b>	If applicable, indicate the parts of the country that are not included as well as an estimate of the resulting percentage of undercoverage (non-covered population compared to total country population).	
	All private households of the country and the members of them are covered in the survey, independently of their size or any socio-economic characteristics they may have.	
	Excluded are collective households such as hotels, hospitals, military camps, nursing homes, etc. As collective households were also considered households with more than 5 lodgers. Households having as members foreigners in diplomatic missions.	

<b>Universe</b>		<b>Households</b>	<b>Individuals</b>
<b>3.4 Target population</b>			
The number of <i>households</i> and <i>individuals</i> in the target population (scope, universe). Please restrict the numbers to the <i>Eurostat scope</i> (if additional age groups are covered in the national survey, these can be reported separately between brackets). If not directly available, please provide an estimate (e.g. based on other social surveys). If not applicable, please indicate why.		<b>3.720.527</b>	<b>8.272.570</b>

<b>3.5</b>	<p><b>Non-target population</b></p> <p>The approximate number of <i>households</i> and <i>individuals</i> outside the general scope of the survey (e.g. <u><i>individuals younger than 16 or older than 74; households with all members over 74 years old</i></u>), i.e. the difference between the total population (in terms of households or individuals) in the country and the target population).</p> <p>If not applicable, please indicate why.</p>	<b>431.218</b>	<b>2.011.550</b>
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## 4. Questionnaire

<b>4.1</b>	<b>Adoption of <i>MANDATORY</i> questions and items from the Eurostat model questionnaire (2009, v3.2)</b> <p>The questions listed below and its items reflect the required coverage of subjects and characteristics of Annex 2 of the Commission Regulation (EC) No 960/2008 of 30 September 2008. Please indicate in the table possible comments on the question/item coverage in your national questionnaire, e.g. insertion of additional items, different reporting periods, deviations in the routing of ordering of the questions and/or items (see also §4.4), differences in definitions or classifications, alternative sources used (esp. in the background characteristics).</p> <p>Where applicable, please report on the coverage of the questions for age groups beyond the standard scope, i.e. for respondents younger than 16 or for respondents older than 74. Possible comments on this issue can be added to the general column on deviations.</p>			
	Question	Any deviations from question / items in Model Questionnaire	Covered for other age groups?	
			<16	>74
	<b>Module A : Access to selected ICTs</b>		→ if not applicable, please leave blank	
A1	Does the household via one of its members has access to a computer at home?	X		
A2	Does any member of this household have access to the Internet at home?	X		
A3	On which of these devices is the Internet accessed at home?	X		
A4	What types of Internet connection are used?	X		
A5	What are the reasons for not having a broadband connection (such as cable or DSL) at home?	X		
	<b>Module B : Use of computer</b>		→ if not applicable, please leave blank	
B1	When did you most recently use a computer?	X		
B2	How often on average have you used a computer in the last 3 months?	X		
B5	Which of the following computer related activities have you already carried out ?	X		
	<b>Module C : Use of the Internet</b>		→ if not applicable, please leave blank	
C1	When did you last use the Internet?	X		
C2	On average how often did you use the Internet in the last 3 months?	X		
C3	Where have you used the Internet in the last 3 months?	X		
C4	Do you use any of the following mobile devices to access the Internet?	X		
C5	For which of the following activities did you use the Internet in the last 3 months for private use?	X		

	Question	Any deviations from question / items in Model Questionnaire	Covered for other age groups?	
			<16	>74
C6	For which of the following activities relating to interaction with public services or administrations and during which period did you use the Internet for private purpose?	X		
	<b>Module D : E-Commerce and Trust</b>		→ if not applicable, please leave blank	
D1	When did you last buy or order goods or services for private use over the Internet (excluding manually typed e-mails)?	X		
D2	What types of goods or services did you buy or order over the Internet for private use in the last 12 months?	X		
D3	Were any of the following products that you bought or ordered over the internet downloaded or accessed from websites rather than delivered by post etc. ?	X		
D4	From whom did you buy or order goods or services for private purpose over the Internet in the last 12 months ?	X		
D7	How did you pay for goods or services ordered over the internet for private use in the last 12 months?	X		
D8	In the last 12 months, did you encounter any problems when buying/ordering goods or services over the internet for private use?	X		
D9	What problems have you encountered when buying/ordering goods or services over the internet in the last 12 months ?	X		
D10	How important are the following arguments for you for ordering goods or services via the internet for private purposes?	X		
D11	Do you read the conditions of sale when purchasing goods or services over the internet for private use?	X		
D12	What were the reasons for not buying/ordering any goods or services for your own private use in the last 12 months ?	X		
D13	Did you place a bet (e.g. sports betting) or play gambling or lotto over the internet in the last 12 months?	X		
	<b>Socio-demographic background variables</b>		→ if not applicable, please leave blank	
E1	Age	X		
E2	Sex	X		
E3	Educational level (according to ISCED)	X		
E4	Employment situation	X		



	Question	Any deviations from question / items in Model Questionnaire	Covered for other age groups?	
			<16	>74
E5	Occupation (according to ISCO)	X		
E6	Region of Residence, NUTS 1	X		
E8	Geographical location (former y/n Objective 1 : from 2007 corresponding to « Convergence region « and all others, i.e. « Regional Competiveness and Employment region «)	X		
E9	Type of locality (degree of urbanisation)	X		
E10	Number of members in the household	X		
E11	<i>of which</i> , number of children under 16	X		

#### 4.2 Adoption of **OPTIONAL** questions and items from the Eurostat model questionnaire (2009, v3.2)

Please indicate in the table below if and which optional variables and questions were included in the national questionnaire.

For each question or item, an "x" in the column named Question included means that it was included in the national questionnaire. Where applicable, please report also on the coverage of the questions for age groups beyond the standard scope, i.e. for respondents younger than 16 or for respondents older than 74.

	Question / Item	Question included ?	Any deviations from question / items in Model Questionnaire	Covered for other age groups?	
				<16	>74
A3c1	Via Internet enabled mobile phone (GPRS, UMTS, etc.)	X			
A3c2	Via handheld computer (palmtop, PDA)	X			
B3	Where have you used a computer in the last 3 months?				
B4	When did you last take a training course (of at least 3 hours) on any aspect of computer use ?				
C3e1	Public library				
C3e2	Post office				
C3e3	Public office, town hall, government agency				
C3e4	Community or voluntary organisation				
C3e5	Internet café	X			
C3e6	Hotspot	X			
C5d1	Have you used the information to buy goods or services?				
C5d2	Have you used the information to buy over the internet?				
D2c1	Prescribed medicine	X			
D2c2	Non-prescribed medicine	X			

	Question / Item	Question included ?	Any deviations from question / items in Model Questionnaire	Covered for other age groups?	
				<16	>74
D5	How many times did you order or buy goods or services over the internet for private use in the last 3 months?	X			
D6	What was the total value of goods or services (excluding shares or other financial services) that you bought or ordered over the internet for private use in the last 3 months?	X			
D14	Which of the following fundamental rights for consumers in the EU in connection with online purchases of goods over the internet (except auctions) are known to you ?	X			
E7	Region of Residence - NUTS 2				
E12	Household income	X			

<b>4.3</b>	<b>Additional questions introduced in the national questionnaire, if any</b>

<b>4.4</b>	<b>Effects of deviations from the routing used in the Eurostat model questionnaire, if any</b>

## 5. Sampling frame

5.1	<p><b>Name and short description of the sampling frame or register used</b></p> <p>The sampling frame (areas, households, individuals), which contains the units belonging to the target population, is based on the data from the EU-SILC survey of the period 2006-2008.</p>
5.2	<p><b>Known shortcomings of the sampling frame, if any</b></p> <p>Shortcomings in terms of timeliness (e.g. time lag between last update of the sampling frame and the moment of the actual sampling), geographical coverage, coverage of different subpopulations, etc.</p> <p>The sampling frame contains only the households that participated in the EU-SILC survey of the period 2006-2008. This means that only these households have probability to be selected and participate in the survey.</p>

## 6. Sampling design

### 6.1 Sampling method

Please give a description of the sampling method used (e.g. stratified random sample, quota sampling, cluster sampling; one-stage or two-stage sampling; if not directly selected from the register, how are individuals selected within the household; one or all individuals within a household; etc.) and the method used for determining the sample size and sample selection. If stratification was used, please specify which variables were used to stratify, the categories of those variables and the final number of strata.

The sample of households for the ICT survey of the year **2009** was consisted of the samples used in the Greek Survey on Income and Living Conditions (EU-SILC of the years 2006, 2007 and 2008). The EU-SILC is an annual rotating household survey covering the target population of the ICT survey. The EU-SILC is a multistage stratified sampling survey with primary sampling unit the area (one or more unified blocks) and final unit the household. The samples design of the EU-SILC was based on data coming from the population census of the year 2001.

For the ICT primary units are the areas and secondary the households containing members belonging to the target population. The final unit is one person randomly selected among the household members of age sixteen to seventy four years.

The sampling design involves two levels of area stratification: (i) the first level is geographical stratification based on the partition of the total country into thirteen standard administrative regions corresponding to the European NUTS II level. The two major city agglomerations of Greater Athens and Greater Thessalonica constitute separate major geographical strata. (ii) The second level of stratification involves grouping municipalities and communes within each NUTS II administrative region by degree of urbanization, i.e., according to their population size, into four categories. These categories are defined by the population size intervals 0-999, 1000-4999, 5000-29999, 30000 and over. The number of final strata in the thirteen regions was 50. The two major city agglomerations were further partitioned into 31 and 9 substrata (administrative subsections), respectively, on the basis of the city blocks of the municipalities that constitute them. Thus, the total number of strata for this survey was 90.

The sampling fraction in each of the 90 strata was equal to  $f = \frac{n}{N} \cong 1,7 \text{ ‰}$ , where  $n=6.501$  is the total sample size of households and  $N=3.739.960$  is the total number of households belonging to the target population, for the 2<sup>nd</sup> quarter of the year 2008. The quantity  $N$  was estimated from data of the Labour Force Survey with reference period the 2<sup>nd</sup> quarter of the year 2008.

The number of the sampling households  $n_h$  in each of the 90 strata (let  $h$ ) was defined applying the proportional allocation as follows:

$$n_h = n \cdot \frac{N_h}{N},$$

where  $N_h$  is the population size of the stratum  $h$

The values of  $N$  and  $N_h$  were estimated from data of the Labour Force Survey with reference period the 2<sup>nd</sup> quarter of the year 2008.

#### Stages of probability sampling

The sample of households for the ICT survey of the year 2009 was selected of the sample used in the Greek Survey of Income and Living Conditions (EU-SILC of the years 2006, 2007 and 2008). Although the sample of households for the ICT survey of the year 2009 was selected of the sample used in the Greek Survey of Income and Living Conditions, however the following measures were taken for improving the selection probabilities, so that the demands of the ICT survey to be met. The definition of selection probabilities was as follows:

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

In this stage, from any ultimate stratum (crossing of NUTS 2 with the degree of urbanization), say stratum  $h$ ,  $a_h$  primary units were drawn (where the number  $a_h$  of draws is approximately proportional to the population size  $N_h$  of the stratum number of households belonging to target population in the Labour Force Survey of the 2<sup>nd</sup> quarter of the year 2008).

The primary unit of order  $i$  in stratum  $h$  has probability of being drawn proportional to the population size as follows:  $P_{hi} = \frac{N_{hi}}{N_h}$  (1)

where  $N_{hi}$  is the updated (from EU-SILC survey) target population of households in the  $hi$  primary unit.

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

In the  $hi$  primary unit, out of  $N_{hi}$  households, a sample of  $n_{hi}$  households was selected with equal probabilities. Each of  $n_{hi}$  households has the same chance to be included in the sample, equal to:

$$\pi_{hi} = \frac{n_{hi}}{N_{hi}} \quad (2).$$

The total number of households to be interviewed of the  $a_h$  sampling primary units was

$$n_h = \sum_{i=1}^{a_h} n_{hi}$$

Within primary sampling unit the calculation of sampling interval  $\delta_{hi} = \frac{N_{hi}}{n_{hi}}$  was carried out, that the following two desired conditions to be satisfied.

- a. The expectation of the fraction  $\frac{n_h}{N_h}$  should be the predetermined over fraction  $\frac{1}{\lambda} \cong 1,7\%$  in

each stratum:  $E\left(\frac{n_h}{N_h}\right) = \frac{1}{\lambda}$  (3)

The sampling fraction  $f = \frac{1}{\lambda} = \frac{n}{N} \cong 1,7\%$ , where  $n=6.501$  is the total sample size of households and  $N=3.739.960$  is the total number of households belonging to the target population.

- b. The estimator of the stratum total  $Y_h$  (for any characteristic) should be self-weighting. In other words, the estimation should be derived as product of the sum of the values of the characteristic over the  $n_h$  sample households by the overall raising factor  $\lambda$ , which is equal in each stratum.

The conditions (a) and (b) are satisfied when:

$$\frac{1}{a_h} \cdot \frac{1}{P_{hi}} \cdot \frac{N_{hi}}{n_{hi}} = \lambda \quad (4) \Rightarrow$$

$$\frac{1}{a_h} \cdot \frac{1}{P_{hi}} \cdot \delta_{hi} = \lambda \Rightarrow$$

$$\delta_{hi} = \frac{N_{hi}}{n_{hi}} = \lambda \cdot a_h \cdot P_{hi} \quad (5)$$

From the relations (1) and (5)  $\Rightarrow$

$$\frac{N_{hi}}{n_{hi}} = \lambda \cdot a_h \cdot \frac{N_{hi}}{N_h} \Rightarrow$$

$$n_{hi} = \frac{N_{hi} \cdot N_h}{\lambda \cdot a_h \cdot N_{hi}} \Rightarrow$$

$$n_{hi} = \frac{N_h}{\lambda \cdot a_h} \quad (6)$$

From the relation (3):  $\frac{1}{\lambda} = \frac{n_h}{N_h} \Rightarrow \lambda = \frac{N_h}{n_h} \quad (7)$

From the relations (6) and (7)  $\Rightarrow n_{hi} = \frac{n_h}{a_h} \quad (8)$

### 3<sup>rd</sup> stage of sampling

In this stage from each household one individual (member of household belonging to the target population) was selected with equal probabilities.

Let be  $p_{hij}$  the selection probability of the  $hij$  individual, which belongs to the  $hi$  household. As one individual was selected with equal probabilities out of  $m_{hi}$  members belonging to target population, the inclusion probability  $p_{hij}$  was defined as:  $p_{hij} = \frac{1}{m_{hi}} \cdot$

### Additional measures taken at the time of sampling design to improve representativeness

If any, and if not covered under §6.1. E.g. corrections for sampling frame undercoverage, etc.

6.2	<p><b>Additional measures taken at the time of sampling design to improve representativeness</b></p> <p>If any, and if not covered under §6.1. E.g. corrections for sampling frame undercoverage, etc.</p>					
6.2	The initial selection probabilities of the sampling households of EU-SILC were based on the					
	<table border="1"> <thead> <tr> <th data-bbox="223 828 726 929">Sample size</th> <th data-bbox="726 828 925 929">Households</th> <th data-bbox="925 828 1093 929">Individuals (aged 16 to 74)</th> <th data-bbox="1093 828 1260 929">Individuals (younger than 16)</th> <th data-bbox="1260 828 1442 929">Individuals (older than 74)</th> </tr> </thead> </table>	Sample size	Households	Individuals (aged 16 to 74)	Individuals (younger than 16)	Individuals (older than 74)
Sample size	Households	Individuals (aged 16 to 74)	Individuals (younger than 16)	Individuals (older than 74)		
6.3	<p><b>Gross sample size</b></p> <p>EU-SILC were based on all persons, but the current sample for households with individuals aged 16 to 74 years old. Thus, although the number of households/individuals initially selected from the sampling frame (if not applicable, please indicate why).</p> <p>For the ICT survey of the year 2009 was selected of the sample used in the Greek Survey of income and living conditions (EU-SILC of the years 2006, 2007 and 2008), the following measures were taken for improving the representativeness:</p> <p>Please restrict the numbers in the first two columns to the Eurostat scope (if additional age groups are covered, these can be reported separately in the last two columns).</p> <p>→ if not applicable, please leave blank</p>					
6.4	<p><b>Net sample size</b></p> <p>The number of households in the updated target population size in each stratum using estimated data from the Labour Force Survey with reference period the 2nd quarter of the year 2008</p> <p>→ if not applicable, please leave blank</p>					
	<p><b>Net sample size</b></p> <p>The number of households in the updated target population size in each stratum using estimated data from the Labour Force Survey with reference period the 2nd quarter of the year 2008</p> <p>→ if not applicable, please leave blank</p>					

## 7. Response and non-response

(quality report)

**Note:** This chapter only deals with non-response error. Other non-sampling error such as frame errors, measurement and processing errors or model assumption errors are discussed elsewhere or outside the scope of this methodological report.

### UNIT NON-RESPONSE

Unit non-response occurs when not all elements (households and/or individuals) of the gross sample (i.e. the initial sample drawn from the reference sampling frame) participate in the survey and are thus not included in the net sample.

However, not all types of non-response are taken into account when calculating the response rate (in §7.D) as they can be rather related to the quality of e.g. the sampling frame than to the quality of the survey data.

Note: In this report - for reasons of comparability across countries - all non-contacts are considered to be *non-response of eligible cases* (where in reality some of the non-contacts may concern ineligible cases).

**If additional age groups were covered, please report separately for individuals in the general scope (16-74), and any additional age groups covered (see the last two columns).**

**If no additional age groups were covered (see also §3.2 and §4.1), the last two columns can be left blank.**

		<i>Number of households</i>	<i>Number of individuals (aged 16-74)</i>	<i>Number of individuals (&lt;16)</i>	<i>Number of individuals (&gt;74)</i>
<b>7.A</b>	<b>Gross sample size</b> The number of households/individuals initially selected from the sampling frame (if not applicable, please indicate why).	<b>6501</b>	<b>6501</b>	→ if not applicable, please leave blank	

	<i>Type of unit non-response (ineligible cases)</i>	<i>Number of households</i>	<i>Number of individuals (aged 16-74)</i>	<i>Number of individuals (&lt;16)</i>	<i>Number of individuals (&gt;74)</i>
<b>7.1</b>	<b>Ineligible: out-of-scope</b> E.g. selected household is not in the target population because all members are over 75 years old.	<b>31</b>	<b>-</b>	→ if not applicable, please leave blank	
<b>7.2</b>	<b>Other ineligible</b> E.g. no dwelling exists at the selected address or selected individual has died between the reference data of the sampling frame (cf. §5.2) and the moment of the interview.	<b>-</b>	<b>-</b>		

<b>7.B</b>	<b>Number of eligible elements</b> I.e. the gross sample size corrected for the ineligible cases. ► $[\$7.B] = [\$7.A] - [\$7.1] - [\$7.2]$	<b>6488</b>	<b>6488</b>		
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	<i>Type of unit non-response (eligible cases)</i>	<i>Number of households</i>	<i>Number of individuals (aged 16-74)</i>	<i>Number of individuals (&lt;16)</i>	<i>Number of individuals (&gt;74)</i>
	<b>Non-contact</b>			→ if not applicable, please leave blank	



<b>7.3</b>	E.g. no one was home or postal survey was never sent back.	<b>994</b>	<b>994</b>	<b>→ if not applicable, please leave blank</b>	
<b>7.3</b>	<b>Refusal</b> E.g. no one was home or postal survey was never sent back. E.g. selected household or individual was contacted but refused to take part in the survey.	<b>994</b> <b>399</b>	<b>994</b> <b>399</b>		
<b>7.5</b>	<b>Inability to respond</b> E.g. selected household or individual was unable to participate due to language barriers or cognitive or physical incapacity to respond.	-	-		
<b>7.6</b>	<b>Rejected interviews</b> E.g. the selected household/individual did take part but the survey form cannot be used (poor quality - e.g. strong inconsistencies; unacceptable item-response - e.g. individual left most of the questions unanswered; survey form got lost and interview cannot be repeated; etc.).	-	-		
<b>7.7</b>	<b>Other non-response</b> Please specify the other types of non-response encountered. <u>Note</u> : please add the other non-response related to ineligibility of the selected elements under §7.2. <ul style="list-style-type: none"><li>• ...</li><li>• ...</li></ul>	-	-		

<b>7.C</b>	<b>Net sample size</b> The number of households/individuals that can be used in the final database (if not applicable, please indicate why). This notion corresponds to the <i>final sample</i> in the Tabulation Scheme. ► <b>[§7.C] = [§7.B] - [§7.3] - [§7.4] - [§7.5] - [§7.6] - [§7.7]</b>	<b>5095</b>	<b>5095</b>		
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		<b>Households</b>	<b>Individuals (aged 16-74)</b>	<b>Individuals (&lt;16)</b>	<b>Individuals (&gt;74)</b>
<b>7.D</b>	<b>Unit response rate</b> The unit response rate is the <b>ratio</b> of the <i>number of in-scope respondents</i> (= the number of achieved interviews or the net sample size, see §7.C) to the <i>number of eligible elements</i> selected from the sampling frame (see §7.B). The number of eligible elements equals <i>the gross sample size</i> (see §7.A) <i>minus the ineligible cases</i> (see §7.1 and §7.2). ► <b>[§7.D] = [§7.C] / [§7.B]</b>			<b>→ if not applicable, please leave blank</b>	

	<b>Comments on the unit response rate, if any</b>

7.9	<p><b>Methods used for minimizing unit non-response</b></p> <p>Where applicable, give a description of measures taken to reduce the unit non-response:</p> <ul style="list-style-type: none"> <li>• advance notification in the form of a letter or phone call;</li> <li>• system of reminders, number of visits, number of attempts for phone calls, etc.</li> <li>• showing respondents how the data they are providing are being used;</li> <li>• etc.</li> </ul> <p>An advance notification letter was sent to all households, one month before the survey conduction, among others providing information on how the data collected are being used.</p> <p>In cases where the households couldn't be approached, mainly due to temporary absence, a number of attempts for phone calls (up to three) were used.</p>
7.10	<p><b>Methods used for dealing with unit non-response</b></p> <p>Indicate whether imputations are made for unit non-response and give a short description of the methods used (e.g. correction factor in the weighting procedure, imputation based on background characteristics known from the sampling frame, etc.).</p> <p>The data entry program didn't allow for missing items.</p>
7.11	<p><b>Proxy answers</b></p> <p>Please indicate whether the instructions to interviewers allow for proxy interviews (another person in the household than the one who was randomly selected can answer the questions).</p> <p>If yes, give an estimate of the percentage of proxy interviews (compared to the total number of interviews).</p> <p>Not-applicable</p>

## ITEM NON-RESPONSE

Item non-response occurs when a respondent provides some, but not all, of the requested information, or if the reported information is not useable (note that entirely non-useable questionnaire are already counted in the *unit* non-response, see §7.6).

It may occur for a variety of reasons. Items may be missing because the respondent broke off the interview after partially completing it (but enough data were provided so that the questionnaire is not classified as a unit non-response). Items may be missing because the respondent inadvertently skipped an item, a module or a page (especially in self-administered mail surveys). Or a respondent may simply not have the information on the question (and no don't know option is foreseen) or refuse to give the requested information.

As item non-response usually goes hand-in-hand with systematic bias (e.g. the proportion of *No* answers may be higher among people with item non-response compared to those who did answer on a specific item), it is useful to assess the degree and impact of this type of non-response.

7.12	<p><b>Questions or items with item response rates below 90%</b></p> <p>If any, identify the items with low response rates (the cut-off value to be used is 0.90) and indicate their respective response rates. The item non-response rate should of course be calculated taking into account the routing and filtering in the questionnaire.</p>
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<b>7.13</b>	<p><b>Methods used for dealing with item non-response</b></p> <p>Indicate whether imputations are made for item non-response and give a short description of the methods used (e.g. nearest-neighbour imputation, hot deck imputation, mode imputations within classes, etc.).</p> <p>The data entry program didn't allow for missing items.</p>
<b>7.14</b>	<p><b>Other comments relating to the item non-response</b></p> <p>If any, please use this box to inform on additional issues on the non-response calculation (e.g. method used in national publications, etc.).</p> <p><i>not-applicable</i></p>

## 8. Grossing-up procedures

(quality report)

Please give a description of the extrapolation or weighting procedures used to gross up the *households* (§8.1) and the *individuals* (§8.2) in the net sample to the (target) population, discussing the different steps taken or factors applied to the design weighting to take into account the (post)stratification, balancing for unit non-response, etc. In case similar methods are used for grossing-up the net samples of households and individuals, the discussion can be integrated under one heading.

8.1	<b>Grossing-up procedures for households</b>
	<p><b>Grossing-up procedures for households</b></p> <p>Let <math>h</math> be one of the final strata of households (Final stratum = Geography x Urbanization), then this will take the following values: <math>h = 1, 2, \dots, H</math> (where <math>H = 90</math>). In each of the final strata (let <math>h</math>), if statistical information was selected from a sample of <math>n'_h</math> households, the extrapolation factor of the household of order <math>i</math> was defined as:</p> $w_{hi} = \frac{N_h}{n_h} \cdot \frac{1}{r_h} t_{hi} \quad (8.1)$ <p>where:</p> <p><math>N_h</math> : The target population size in the <math>h</math> stratum according to LFS of the 2<sup>nd</sup> quarter 2009</p> <p><math>n_h</math> : The initial sample size in the <math>h</math> stratum</p> <p><math>r_h = \frac{n'_h}{n_h}</math> is the response rate in the <math>h</math> stratum</p> <p><math>t_{hi}</math> : Factor, which adjusts the sample weights of households so that the sample totals conform to the population totals on a cell-by-cell basis (Population Weighting Adjustment). The auxiliary variable used at household level is the household size (1,2,3,4 or 5+ members) for the definition of cells or classes.</p> <p>The distribution of households by size class is estimated from Labour Force Data, with reference period the 2<sup>nd</sup> quarter of 2009</p>

## 8.2 Grossing-up procedures for individuals

In each of the final strata of households (let  $h$ ), if statistical information was selected from a sample of  $m_h$  individuals, the extrapolation factor of the individual of order  $j$  belonging to the  $hi$  household is defined as follows:

$$w_{hij} = w_{hi} \cdot \frac{1}{p_{hij}} \cdot g_{hij} \quad (8.2)$$

where:

$w_{hi}$ : The extrapolation factor of the  $hi$  household in which the  $hij$  individual belongs

$p_{hij}$ : The selection probability of the  $hij$  individual, which belongs to the  $hi$  household. As one individual was selected with equal probabilities out of  $m_{hi}$  members belonging to the target population, the  $p_{hij}$  is defined as:  $p_{hij} = \frac{1}{m_{hi}}$

$g_{hij}$ : Factor, which adjusts the sample weights of individuals, so that the sample distribution conform to the population distribution across a set of classes. The classes are 24, which are defined by crossing sex by age groups (2 sex categories  $\times$  12 age groups). The age groups are defined by the year intervals: 16-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69 and 70-74. The population distribution of individuals by sex and age groups is estimated from data coming from Labour Force Survey with reference period the 2<sup>nd</sup> quarter of 2009.

## 9. Sampling error (quality report)

### Standard error (for a selection of indicators)

The sampling error reflects the fact that only a particular sample was surveyed rather than the entire population. It is estimated by the standard error and can be expressed by the square root of the estimate of the sampling variance ( $\hat{\sigma}_{(\hat{\theta})}$ ). The estimation of the sampling variance should ideally take into account the sampling design (e.g. the stratification).

Please comment on the approach for calculating sampling errors in §9.6. In case the standard errors are derived using the variance formula for simple random sampling and incorporating a factor which reflects the multi-stage, clustered nature of the sampling design, please provide more detailed information in §9.6 d and e.

Please indicate below the number of respondents (absolute value for Yes answers), the estimated value of the proportion (in %) as well as the respective *standard error (in %)* for the indicators and subindicators mentioned.

**Please note that the accuracy measure used, i.e. the STANDARD DEVIATION, was also addressed in the 2006, 2007 and 2008 report templates but differs from the 2004 and 2005 report templates (where the coefficient of variation was used).**

The section 9.7 should be completed with comments on reliability and representativeness of results and completeness of dataset. The two questions should be left blank if not applicable, i.e. if standard errors found were adequate or if subgroups of the population had always a sufficient number of respondents.

<b>Indicator or subindicator</b> <b>- on households and individuals in the general scope (16-74) and related subgroups -</b>		<i>Number of respondents</i>	<i>Estimated proportion (%)</i>	<i>Standard error (%)</i>	<i>CV (%)</i>
<b>9.1</b>	<b>Proportion of households having access to the Internet at home</b> (item 'Yes' in variable A2 of the 2009 model questionnaire)	1416211	38,06	0,8	2,0
<b>9.2</b>	<b>Proportion of households using a broadband connection</b> (a 'Yes' on option b or c in variable A4 of the 2009 model questionnaire)	1233046	87,10	0,9	1,0
<b>9.3</b>	<b>Proportion of individuals regularly using the Internet: overall</b> (indiv. who ticked option 1 or 2 in variable C2 of the 2009 model questionnaire)	3135664	37,90	0,8	2,0
<b>9.3.1</b>	Proportion of ind. regularly using the Internet: <b>males</b> (as % of all men)	1735271	42,59	1,1	2,7
<b>9.3.2</b>	Proportion of ind. regularly using the Internet: <b>females</b> (as % of all women)	1400393	33,35	1,0	3,0
<b>9.3.3</b>	Proportion of ind. regularly using the Internet: <b>age group 16-24 years</b> (as % of all individuals aged 16-24 years)	845361	75,80	2,4	3,1
<b>9.3.4</b>	Proportion of ind. regularly using the Internet: <b>age group 25-34 years</b> (as % of all individuals aged 25-34 years)	949113	57,90	2,1	3,7
<b>9.3.5</b>	Proportion of ind. regularly using the Internet: <b>age group 35-44 years</b> (as % of all individuals aged 35-44 years)	750762	45,90	1,8	3,8
<b>9.3.6</b>	Proportion of ind. regularly using the Internet: <b>age group 45-54 years</b> (as % of all individuals aged 45-54 years)	428979	29,00	1,7	6,0
<b>9.3.7</b>	Proportion of ind. regularly using the Internet: <b>age group 55-64 years</b> (as % of all individuals aged 55-64 years)	141327	11,50	1,3	10,9
<b>9.3.8</b>	Proportion of ind. regularly using the Internet: <b>age group 65-74 years</b> (as % of all individuals aged 65-74 years)	20122	1,70	0,5	29,6
<b>9.3.9</b>	Proportion of ind. regularly using the Internet: <b>low educational level</b> (as % of all individuals with low education)	405324	12,00	0,8	6,7

<b>9.3.10</b>	Proportion of ind. regularly using the Internet: <b>medium educat. level</b> (as % of all individuals with medium education)	1517970	48,00	1,4	2,9
<b>9.3.11</b>	Proportion of ind. regularly using the Internet: <b>high educational level</b> (as % of all individuals with high education)	1212370	70,10	1,6	2,3
<b>9.3.12</b>	Proportion of ind. regularly using the Internet: <b>students</b> (as % of all students)	550774	82,70	2,7	3,3
<b>9.3.13</b>	Proportion of ind. regularly using the Internet: <b>employees or self-employed</b> (as % of all employees or self-employed)	2114298	50,60	1,2	2,4
<b>9.3.14</b>	Proportion of ind. regularly using the Internet: <b>unemployed</b> (as % of all unemployed)	167633	36,20	3,9	10,8
<b>9.3.15</b>	Proportion of ind. regularly using the Internet: <b>retired, other inactive</b> (as % of all retired and other inactive)	302959	10,20	0,9	8,5
<b>9.4</b>	<b>Proportion of individuals having downloaded official forms in the last 3 months</b> (individuals who ticked item b in variable C6 of the 2009 model questionnaire)	469082	13,40	0,9	7,0
<b>9.5</b>	<b>Proportion of individuals having ordered goods or services for private use over the internet in the last 3 months</b> (individuals who ticked option 1 in variable D1 of the 2009 model questionnaire)	626255	17,90	1,1	6,0

<b>9.6</b>	<b>Calculation of the standard error</b> There exist different methods by which the standard error of an estimated proportion can be assessed based on the distribution in the sample. Please, describe below the approach which you have followed. This information will help Eurostat to evaluate the comparability of the standard errors supplied in the previous section by the different statistical institutes participating in the survey.
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**a) Name and brief description of the applied estimation approach**

For the variance estimation of the survey characteristics, the individuals were post-stratified in post strata defined by age-group and sex (post stratum=age-group x sex). In each post stratum the  $\sum_i w_{hi} = N_h$  is approximately constant (known population from the second quarter 2009 of LFS) due to the calibration process. As a result,

$$V(\hat{Y}) = \sum_h V(\hat{Y}_h) = \sum_h \sum_i w_{hi} \cdot (w_{hi} - 1) \cdot (y_{hi} - \bar{y}_h)^2$$

where: h: post stratum

$w_{hi}$ : The extrapolation factor of the  $hi$  household member

$y_{hi}$ : The value of the variable  $y$  for the person  $hi$  and

$\bar{y}_h$ : The weighted mean of the post-stratum  $h$ . That is:

$$\bar{y}_h = \frac{\sum_i w_{hi} \cdot y_{hi}}{\sum_i w_{hi}}$$

For ratios  $R = \frac{Y}{X} = \frac{\sum_h \sum_i y_{hi}}{\sum_h \sum_i x_{hi}}$ , the variance of  $\hat{R}$  is given by the following formula:

$$V(\hat{R}) = \frac{V(\hat{Y}) + \hat{R}^2 \cdot V(\hat{X}) - 2 \cdot \hat{R} \cdot Cov(\hat{Y}, \hat{X})}{\hat{X}^2}$$

where:

$$\hat{R} = \frac{\hat{Y}}{\hat{X}},$$

$\hat{Y}, \hat{X}$ : estimation of variables  $y$  and  $x$

$$Cov(\hat{Y}, \hat{X}) = \sum_h Cov(\hat{Y}_h, \hat{X}_h) = \sum_h \sum_i w_{hi} \cdot (w_{hi} - 1) \cdot (y_{hi} - \bar{y}_h) \cdot (x_{hi} - \bar{x}_h)$$

$x_{hi}$ : the value of variable  $x$ , for the person  $hi$

$\bar{x}_h$ : The weighted mean of the post-stratum  $h$ . That is:

$$\bar{x}_h = \frac{\sum_i w_{hi} \cdot x_{hi}}{\sum_i w_{hi}}$$



In case the denominator of a ratio is equal to an estimated number of household-members belonging to

one sub-population, then 
$$x_{hi} = \begin{cases} 1 & \text{if } hi \in U_d \\ 0 & \text{otherwise} \end{cases}$$

For the variance estimations of characteristics relating to households, that strata used are the initial 90 strata, determined by the geography and the rank of urbanization. In each stratum the  $\sum_i w_{hi} = N_h =$  constant (known number of households from the 2nd quarter 2009 of LFS)

**b) basic formula**

**Standard error**  $ste(\hat{R}) = \sqrt{V(\hat{R})}$

**c) Main reference in the literature**

Kish, L. (1965). Survey Sampling, John Wiley and Sons. New York

Cochran, W. G. (1977) Sampling Techniques, John Wiley and Sons. New York

**d) How has the stratification been taken into account?**

For the variance estimation of the survey characteristics, the households were post-stratified in 5 post strata defined by household' size determined by the number of household's members. While the individuals were post-stratified in post strata defined by 12 age-groups and sex (post stratum=age-group x sex).

**e) Which strata have been considered?**

The age groups are defined by the year intervals: 16-19, 20-24, 25-29,30-34, 35-39,40-44, 45-49, 50-54, 55-59,60-64, 65-69 and 70-74

The household's size groups are: 1,2,3,4,5+

**9.7**

**Comments on reliability and representativeness of results and completeness of dataset**

These comments should reflect on the standard errors reported for the indicators and subgroups in 9.1 to 9.5 above as well as on the other indicators and breakdowns. The estimated standard error shall not exceed 2% for the overall proportions and shall not exceed 5% for the proportions relating to the different subgroups of the population where these subgroups constitute at least 10% of the total population in the scope of the survey. If problems were found, these could have implications for future surveys (e.g. need to improve sampling design or to increase sample sizes for households or individuals).

**Indicators and breakdowns in sections 9.1 to 9.5 above:**

In cases where the survey characteristic is rare (frequency <2%), the estimation is not robust (CV>10%). The 2% is equivalent to 165451 persons in the target population.

**Other indicators and breakdowns:**

	<b>FOR ALL INDICATORS AND BREAKDOWNS:</b>			
	<b>If applicable, please tick:</b>			
	<b>If significant sampling errors were found, were data cells suppressed in the transmitted dataset and flagged as unreliable?</b>	<b>Yes</b>	<b>No</b>	<input checked="" type="checkbox"/>
	<b>If a low number of respondents were found for one or more groups of population (e.g. &lt;10), were data cells suppressed in the transmitted dataset and flagged as unreliable?</b>	<b>Yes</b>	<b>No</b>	<input checked="" type="checkbox"/>

## 10. Microdata

10.1	<b>Please indicate below "Yes" or "No" if microdata were/will be transmitted in addition to the aggregated data. If necessary, any comments related to microdata transmission may be added.</b>
	Yes

## 11. Closing remarks

11.1	<b>Problems encountered and lessons to be learnt</b> These comments can relate to methodological issues as well as to the questionnaire itself (item construction, clarity of definitions to interviewers and respondents, routing and filtering, outcome of pre-tests, etc.)
11.2	<b>Other comments, if any</b>

## 12. Annexes

**Note:** Please also provide the annexes in a computer-readable format and in English

12.1	<b>Questionnaire in national language</b> Yes
12.2	<b>Questionnaire in English (if available)</b> Yes
12.3	<b>Interviewer instructions (if available)</b> Yes
12.4	<b>National reports on methodology (if available)</b>
12.5	<b>Analysis of key results, backed up by tables and graphs (if available)</b>
12.6	<b>Other annexes</b> Please give an overview of other annexes (whether or not referred to in the preceding chapters of this report)

	<ul style="list-style-type: none"><li>• ...</li><li>• ...</li></ul>
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