HELLENIC REPUBLIC

MINISTRY OF ECONOMY AND FINANCE

**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
2007**
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 <u>Metadata</u> as well as the <u>Quality</u> report. **Chapters 1 to 6 shall be completed for the metadata report (deadline for submission: 31/05/2007), chapters 7 to 10 can be postponed until the Quality report (deadline for submission: 05/11/2007)**. 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.*

We kindly thank you for respecting these guidelines.

1. Cover information

1.1	**Country**	GREECE	
1.2	**Organisation responsible the survey** *Please also indicate the organisation <u>running</u> the survey if different from the organisation responsible (e.g. because of sub-contracting).*	NATIONAL STATISTICAL SERVICE OF GREECE	
1.3	**Contact person(s)** (name, unit, e-mail, phone, fax)	*1. CHALKIADAKI MARIA* UNIT OF HOUSEHOLD SURVEYS TEL. 0030 –210-485 2896 FAX. 0030 -210-485 2906 E-MAIL: MCHALK@STATISTICS.GR *2. ZOULIATIS IOANNIS* UNIT OF HOUSEHOLD SURVEYS TEL. 0030 –210-485 2896 FAX. 0030 -210-485 2906 E-MAIL: ZOULIATI@STATISTICS.GR	
1.4	**Name of the collection** The name of the survey in its original language(s) and in English (e.g. name used in the statistical office's English website).	SURVEY ON THE USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES FROM THE HOUSEHOLDS ΕΡΕΥΝΑ ΧΡΗΣΗΣ ΤΕΧΝΟΛΟΓΙΩΝ ΠΛΗΡΟΦΟΡΗΣΗΣ & ΕΠΙΚΟΙΝΩΝΙΑΣ ΑΠΟ ΤΑ ΝΟΙΚΟΚΥΡΙΑ	
1.5	**Last update of this report**	5-11-2007	

2. General methodological information

2.1	**Reference period(s)**
	The main reference period for the ICT variables as well as the background variables, e.g. *first quarter of the year* or *last three months before the interview* (with an indication of the respective months), or a specific date.
	• <31rst of March 2007 for educational level completed • Day of the survey conduction for activity status, employment situation, A1-A5, B4,C4,C8,C9 C11, E6. • Three first months of 2007 for questions B2,B3,C2,C3,C5,C6,C7 • Last 12 months (April 2005-March 2006) for questions C10,D2.

2.2	**Survey period**
	The beginning and end date – if already known – of the data collection period.
	1 April 2007-31 May 2007

2.3	**Survey vehicle**
	Stand-alone or embedded in another survey. If embedded, give a short description of the survey the ICT modules are inserted in.
	ICT is a stand-alone survey

2.4	**Survey type**
	Short description of the survey type (face-to-face interview, self-administered mail survey, telephone interview, combination of techniques, other; etc.).
	Telephone interview

2.5	**Survey participation**
	Please indicate whether the survey is mandatory or voluntary.
	Participation is mandatory according to Greek law.

	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.

| 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 **2007** has been consisted of the samples used in the Greek Survey on Income and Living Conditions (EU-SILC of the years 2003, 2004, 2005 and 2006). 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

Where, ρ stands for coefficient of correlation of $\hat{Y}_t$ and $\hat{Y}_{t-1}$, V($\hat{Y}_t$) and V($\hat{Y}_{t-1}$) stand for the variance of $\hat{Y}_t$ and $\hat{Y}_{t-1}$ respectively, while Cov($\hat{Y}_t, \hat{Y}_{t-1}$), denotes the covariance of $\hat{Y}_t$ with $\hat{Y}_{t-1}$.

Due to the overlapping units, the coefficient of correlation ρ, between $\hat{Y}_t$ and $\hat{Y}_{t-1}$ is greater than zero ($\rho > 0$). As a result, Cov($\hat{Y}_t, \hat{Y}_{t-1}$) $= 2\,\rho V(Y_t) V(Y_{t-1}) > 0$.

Thus, from the relation (1), the variance of the differences is reduced by the factor of Covariance.

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

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

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

3.3	**Territorial coverage** 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.

	Universe	*Households*	*Individuals*
3.4	**Target population** The number of *households* and *individuals* in the target population (scope, universe). Please restrict the numbers to the *Eurostat scope* (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.	**3.689.737**	**8.201.531**
3.5	**Non-target population** The approximate number of *households* and *individuals* outside the general scope of the survey (e.g. *individuals younger than 16 or older than 74; households with all members over 74 years old*), i.e. the difference between the total population (in terms of households or individuals) in the country and the target population). If not applicable, please indicate why.	**407.213**	**2.039.057**

4. Questionnaire

4.1	**Adoption of questions and items from the Eurostat model questionnaire (2007, v3.0)**
	Please indicate in the table below 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 §4.3), differences in definitions or classifications, alternative sources used (esp. in the background characteristics).
	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 'Comments'.

	Question	Comments (deviations from Eurostat model question, e.g. additional items, etc.)	Covered for other age groups?	
			<16	**>74**
	Module A : Access to selected ICTs		→ if not applicable, please leave blank	
A1	Does the household via one of its members has access to a computer at home?	X	X[1]	
A2	Does any member of this household have access to the world wide web (Internet) at home	X	X[1]	
A3	On which of these devices is the Internet accessed at home?	X	X[1]	
A4	What types of Internet connection are used?	X	X[1]	
A5	What are the main reasons for not having a broadband connection at home?	X	X[1]	
	Module B : Use of computer		→ if not applicable, please leave blank	
B1	When did you most recently use a computer?	X	X	
B2	How often on average have you used a computer in the last 3 months?	X	X	
B3	Where have you used a computer in the last 3 months?	X	X	
B4	Do you use a mobile phone?	X	X	
	Module C : Use of the Internet		→ if not applicable, please leave blank	
C1	When did you most recently use the Internet?	X	X	
C2	On average how often did you use the Internet in the last 3 months?	X	X	
C3	Where have you used the Internet in the last 3 months?	X	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? [21 items]	X	X (only some sub-items)	
C6	In the past 3 months, have you taken part in a course?	X		

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[1] *Household information available from the questionnaire for persons aged 16-74.*

	Question	Comments (deviations from Eurostat model question, e.g. additional items, etc.)	Covered for other age groups?	
			<16	>74
C7	In the past 3 months, have you used the Internet to … [4 e-learning related items]	X		
C8	Would you like to use the Internet more?	X		
C9	What are your barriers to more intensive use of the Internet?	X		
C 10	Through using the Internet, have you had a computer virus resulting in loss of information or time in the last 12 months?	X		
C 11	How often do you make safety copies or back up files (of private documents, pictures etc.) from your computer on e.g. a diskette, a cd or to diskspace on Internet servers?	X		
	Module D : Internet commerce details		→ if not applicable, please leave blank	
D1	When did you most recently order goods or services for private use over the Internet (excluding manually typed e-mails) ?	X		
D2	What types of goods and services did you order over the Internet for private use in the last 12 months ?	X		
D3	Were any of the following products that you ordered over the Internet downloaded or accessed from websites rather than delivered by post etc.?	X		
	Module E : E-skills		→ if not applicable, please leave blank	
E1	When did you last take a training course (of at least 3 hours) on any aspect of computer use ?	X	X	
E2	What are the reasons for not having taken a course on computer use recently?	X		
E3	Which of the following computer related activities have you already carried out [9 items] ?	X	X	
E4	Which of the following Internet related activities have you already carried out [9 items] ?	X	X	
E5	Where or how did you obtain the skills to carry out these activities ?	X	X	
E6	Do you judge your computer skills to be sufficient if you were to look for a job or change jobs within a year?	X		
	Socio-demographic background variables		→ if not applicable, please leave blank	
F1	Age	X	X	
F2	Sex	X	X	
F3	Educational level (according to ISCED)	X	X	
F4	Employment situation	X	X	
F5	Occupation (according to ISCO)	X		

		Question	Comments (deviations from Eurostat model question, e.g. additional items, etc.)	Covered for other age groups?	
				<16	**>74**
F6		Geographical location (former y/n Objective 1 : from 2007 corresponding to « Convergence region « and all others, i.e. « Regional Competitiveness and Employment region «)	X^2	X	
F7		Type of locality (degree of urbanisation)	X	X	
F8		Number of members in the household	X	X	
F9		*of which,* number of children under 16	X	X	
F 10		Household income - *optional question*			

4.2	Additional questions introduced in the national questionnaire, if any
	For children aged 12-15, one additional question exists on minutes talking over the mobile phone, daily.

4.3	Effects of deviations from the routing used in the Eurostat model questionnaire, if any

5. Sampling frame

5.1	Name and short description of the sampling frame or register used
	The sampling frame (areas, households, individuals) that contains the surveyed units, is based on data from the EU-SILC survey of the period 2003-2006.

5.2	Known shortcomings of the sampling frame, if any
	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.

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[2] *In the survey the multistage stratified sampling scheme is applied with primary unit the area (one or more unified city blocks), secondary unit the household and final unit the individual belonging to the target population.*
The stratification criteria are:
- *Geography (NUTS II)*
- *Degree of Urbanization*
Although the survey has been designed at NUTS II level, the results of the rare survey characteristics may not be reliable at NUTS II level.

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 stratums.

Sampling method

The multistage stratified area sampling is applied for the survey. The primary units are the areas (one or more unified blocks) and secondary sampling units selected in each sampling area are 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.

Stratification

The sampling design involves two levels of area stratification: (i) The first level is geographical stratification based on the partition of the total country area 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, i.e., non-empty strata formed by crossing region and degree of urbanization, 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.

Stages of probability sampling

The sample of households for the ICT survey of the year 2007 was selected of the sample used in the Greek Survey of Income and Living Conditions (EU-SILC of the years 2003, 2004, 2005 and 2006). The EU- SILC is an annual rotating household survey covering the target population of the ICT survey.

The selection probabilities of the households for the ICT survey of the year 2007 were defined suitably so that the demands of the survey to be met. The definition of selection probabilities was as follows:

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

N_{hi}: The updated (from EU-SILC survey) target population of households in the hi primary unit

N_h: The updated (from LFS 2007) target population of households in the h stratum

2nd stage: 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 selected, equal to: $\dfrac{n_{hi}}{N_{hi}}$. As the estimator of the stratum total Y_h (for any characteristic) should be self-weighting, the n_{hi} was defined, as follows: $n_{hi} = \dfrac{n_h}{a_h}$, where $n_h = \sum_i n_{hi}$ and a_h is the number of primary units in the h stratum.

6.2	**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.

The initial probabilities of selection of sampling households of EU-SILC were based on the population sizes (coming from Greek General Population Census of the year 2001), which differ considerably from the new population sizes that better suit the demands of the current ICT survey. Additionally, the target populations of EU-SILC and ICT do not coincide. The measures of EU-SILC were based on all persons, but the current sample for ICT is restricted to households with individuals aged 16 to 74 years old. Thus, although the sample of households for the ICT survey of the year 2007 was selected of the sample used in the Greek Survey of Income and Living Conditions (EU-SILC of the years 2003, 2004, 2005 and 2006), the following measures were taken for improving the representative ness:

    a. The 1st stage probabilities of selection of primary units were modified taking into consideration the updated target population size in each stratum using estimated data from Labour Force Survey with reference period the 2nd quarter of the year 2007.

    b. The 2nd stage probabilities of selection of households were modified taking into consideration the updated register of households in the primary sampling units.

    c. The allocation of sampling households in each separate stratum was carried out proportionally to the target population size, which was estimated from data coming from Labour Force Survey with reference period the 2nd quarter of the year 2007.

After the application of the above measures, the sampling households for the ICT have no the same probability of selections (1st and 2nd) with the sampling households for EU-SILC, after changing the selection probabilities of the EU-SILC households so that the probabilities of ICT households, to be determined on updated target population.

	Sample size	*Households*	*Individuals* (aged 16 to 74)	*Individuals* (younger than 16)	*Individuals* (older than 74)
6.3	**Gross sample size**			→ *if not applicable, please leave blank*	
	The number of households/individuals initially selected from the sampling frame (if not applicable, please indicate why). 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).	**6219**	**6267**	**393**	
6.4	**Net sample size** The number of households/individuals that can be used in the final database (if not applicable, please indicate why).	**To be filled in under §7.C** **(final report)**			

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.**

		Number of households	*Number of individuals (aged 16-74)*	*Number of individuals (<16)*	*Number of individuals (>74)*
7.A	**Gross sample size** The number of households/individuals initially selected from the sampling frame (if not applicable, please indicate why).	**6219**	**6267**	**→ *if not applicable, please leave blank*** **393**	

	Type of unit non-response (ineligible cases)	*Number of households*	*Number of individuals (aged 16-74)*	*Number of individuals (<16)*	*Number of individuals (>74)*
7.1	**Ineligible: out-of-scope** E.g. selected household is not in the target population because all members are over 75 years old.	**10**	**10**[1]	**→ *if not applicable, please leave blank*** **-**	**-**
7.2	**Other ineligible** 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.	**-**	**-**	**-**	**-**

	Number of eligible elements	*Number of households*	*Number of individuals (aged 16-74)*	*Number of individuals (<16)*	*Number of individuals (>74)*
7.B	I.e. the gross sample size corrected for the ineligible cases. ▶ **[§7.B] = [§7.A] – [§7.1] – [§7.2]**	**6209**	**6257**	**393**	**-**

	Type of unit non-response (eligible cases)	*Number of households*	*Number of individuals (aged 16-74)*	*Number of individuals (<16)*	*Number of individuals (>74)*
7.3	**Non-contact** E.g. no one was home or postal survey was never sent back.	**683**	**688**	**→ *if not applicable, please leave blank*** **29**	**-**

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[1] *This year, in only 48 households, two persons, randomly selected, aged 16-74 have been forwarded for interview. This due to the
supplementation of the sample in specific age groups. These 10 persons are ineligible as coming from the 10 ineligible households.*

7.4	**Refusal** E.g. selected household or individual was contacted but refused to take part in the survey.	**427**	**435**	**57**	**-**
7.5	**Inability to respond** E.g. selected household or individual was unable to participate due to language barriers or cognitive or physical incapacity to respond.	**-**	**-**	**-**	**-**
7.6	**Rejected interviews** 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.).	**-**	**-**	**-**	**-**
7.7	**Other non-response** 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. • … • …	**-**	**-**	**-**	**-**

7.C	**Net sample size** The number of households/individuals that can be used in the final database (if not applicable, please indicate why). This notion corresponds to the *final sample* in the Tabulation Scheme. ► **[§7.C] = [§7.B] – [§7.3] – [§7.4] – [§7.5] – [§7.6] – [§7.7]**	**5099**	**5134**	**307**	**-**

		Households	*Individuals (aged 16-74)*	*Individuals (<16)*	*Individuals (>74)*
7.D	**Unit response rate** The unit response rate is the **ratio** of the *number of in-scope respondents* (= the number of achieved interviews or the net sample size, see §7.C) to the *number of eligible elements* selected from the sampling frame (see §7.B). The number of eligible elements equals *the gross sample size* (see §7.A) *minus the ineligible cases* (see §7.1 and §7.2). ► **[§7.D] = [§7.C] / [§7.B]**	**82,12**	**82,05**	*→ if not applicable, please leave blank* **78,12**	**-**
7.8	**Comments on the unit response rate, if any**				
7.9	**Methods used for minimizing unit non-response** Where applicable, give a description of measures taken to reduce the unit non-response: • advance notification in the form of a letter or phone call; • system of reminders, number of visits, number of attempts for phone calls, etc. • showing respondents how the data they are providing are being used; • etc. 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. 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.				

7.10	**Methods used for dealing with unit non-response**
	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.).
	The method used is re-weighting according to which in each stratum, the extrapolation factor takes into account not only the selection probability but also the inverse of response rate.

7.11	**Proxy answers**
	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).
	If yes, give an estimate of the percentage of proxy interviews (compared to the total number of interviews).
	'non-applicable'

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	**Questions or items with item response rates below 90%**
	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.
	The data entry program didn't allow for missing items.

7.13	**Methods used for dealing with item non-response**
	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.).
	'non-applicable'

7.14	**Other comments relating to the item non-response**
	If any, please use this box to inform on additional issues on the non-response calculation (e.g. method used in national publications, etc.).
	'non-applicable'

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	**Grossing-up procedures for households** Let h be one of the final strata of households (Final stratum = Geography x Urbanization), then this will take the following values: $h = 1, 2, ..., H$ (where $H = 90$). In each of the final strata (let h), if statistical information was selected from a sample of n'_h households, the extrapolation factor of the household of order i was defined as: $$w_{hi} = \frac{N_h}{n_h} \cdot \frac{1}{r_h} t_{hi} \quad (8.1)$$ where: N_h : The target population size in the h stratum according to LFS of the 2nd quarter 2007 n_h : The initial sample size in the h stratum $\dfrac{N_h}{n_h}$: The initial probability of selection of the sampling households in the the h stratum, as the the estimator of the stratum total Y_h (for any characteristic) is self-weighting, $r_h = \dfrac{n'_h}{n_h}$ is the response rate in the h stratum t_{hi} : 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. The distribution of households by size class is estimated from Labour Force Data, with reference period the 2nd quarter of 2007.

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

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 2nd quarter of 2007.

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).

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 comment on the assumptions made and or the methods used (§9.6).

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

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

	Indicator or subindicator	Number of respondents	Estimated proportion	Standard error
9.1	**Proportion of households having access to the Internet at home** (item 'Yes' in variable A2 of the 2007 model questionnaire)	**973.098**	**25,4**	**0,00618**
9.2	**Proportion of households using a broadband connection** (a 'Yes' on option *b* or *c* in variable A4 of the 2007 model questionnaire)	**275.292**	**29,4**	**0,01348**
9.3	**Proportion of individuals regularly using the Internet: overall** (indiv. who ticked option 1 or 2 in variable C2 of the 2007 model questionnaire)	**2.274.487**	**27,7**	**0,00641**
9.3.1	Proportion of ind. regularly using the Internet: **males**	**1.333.449**	**58,6**	**0,010123**
9.3.2	Proportion of ind. regularly using the Internet: **females**	**941.038**	**41,4**	**0,007951**
9.3.3	Proportion of ind. regularly using the Internet: **age group 16-24 years**	**621.586**	**27,3**	**0,023262**
9.3.4	Proportion of ind. regularly using the Internet: **age group 25-34 years**	**753.459**	**33,1**	**0,020051**
9.3.5	Proportion of ind. regularly using the Internet: **age group 35-44 years**	**530.490**	**23,3**	**0,014725**
9.3.6	Proportion of ind. regularly using the Internet: **age group 45-54 years**	**258.924**	**11,4**	**0,012651**
9.3.7	Proportion of ind. regularly using the Internet: **age group 55-64 years**	**92.711**	**4,1**	**0,008664**
9.3.8	Proportion of ind. regularly using the Internet: **age group 65-74 years**	**17.317**	**0,8**	**0,003569**
9.3.9	Proportion of ind. regularly using the Internet: **low educational level**	**239.355**	**10,5**	**0,005542**
9.3.10	Proportion of ind. regularly using the Internet: **medium educat. level**	**993.587**	**43,7**	**0,012108**
9.3.11	Proportion of ind. regularly using the Internet: **high educational level**	**1.041.545**	**45,8**	**0,016164**
9.3.12	Proportion of ind. regularly using the Internet: **students**	**447.991**	**19,7**	**0,027882**
9.3.13	Proportion of ind. regularly using the Internet: **employees or self-employed**	**1.577.033**	**69,3**	**0,010225**
9.3.14	Proportion of ind. regularly using the Internet: **unemployed**	**105.517**	**4,6**	**0,036884**
9.3.15	Proportion of ind. regularly using the Internet: **retired, other inactive**	**143.946**	**6,3**	**0,005493**
9.4	**Proportion of individuals having downloaded official forms** (individuals who ticked item p in variable C5 of the 2007 model questionnaire)	**362.903**	**13,2**	**0,00897**
9.5	**Proportion of individuals having ordered goods or services for private use over the internet in the last 3 months** (individuals who ticked option 1 in variable D1 of the 2007 model questionnaire)	**408.493**	**13,0**	**0,00910**

9.6 **Comments on the calculation of the standard error**

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 2007 of LFS) due to calibration process. As a result,

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

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

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

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

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

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

where:

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

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

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

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

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

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

In case the denominator of a ratio is equal to an estimated number of household-members belonging to one sub-population, then $x_{hi} = \begin{cases} 1 & if \quad hi \in U_d \\ 0 & otherwise \end{cases}$,

U_d : The specific subpopulation of interest ($U_d \subset U$ = whole population)

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 the2nd quarter 2007 of LFS).

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 above. 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).

10. Closing remarks

10.1	**Problems encountered and lessons to be learnt**
	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.)

10.2	**Other comments, if any**

11. Annexes

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

11.1	**Questionnaires in national language - YES**
11.2	**Questionnaire in English (if available) - YES**
11.3	**Interviewer instructions (if available) - YES**
11.4	**National reports on methodology (if available) - YES**
11.5	**Analysis of key results, backed up by tables and graphs (if available)**
11.6	**Other annexes** Please give an overview of other annexes (whether or not referred to in the preceding chapters of this report) • … • …