HELLENIC REPUBLIC

HELLENIC STATISTICAL AUTHORITY

GENERAL DIRECTORATE OF STATISTICAL SURVEYS
DIVISION OF POPULATION AND LABOUR MARKET STATISTICS
HOUSEHOLDS' SURVEYS UNIT

HOUSEHOLD BUDGET SURVEY (HBS)

2011

FINAL QUALITY REPORT

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CONTENTS

1. Introduction

1.1. Generally

The 2011 Household Budget Survey (HBS) is the twelventh survey having been conducted in Greece, on a sample of 3.515 households selected from the total number of households in Greece.

The first Household Budget Survey was conducted by the NSSG during the interval April 1957 - March 1958, in a sample of 2.500 households over the total number of households of the urban areas in the country. The survey continued in the next years and until 1972, but in a smaller scale, in a smaller sample of households, over the total number of households of the cities with 30.000 inhabitants and over.

In April 1963, the NSSG conducted, simultaneously with the survey in urban areas, a large-scale survey in semi-urban and rural areas of the country that is in municipalities and communes with less than 10.000 inhabitants. The survey lasted one year, 3.755 households of the pre-mentioned areas were surveyed, and continued to be conducted until the year 1972, but in smaller sample of households.

During the years 1974, 1981/82, 1987/88, 1993/94, 1998/99 and 2004/2005 Household Budget Surveys were conducted, covering all country areas/regions, in samples of approximately 7.500 households for the first one and approximately 6.000 to 6.800 for the other five, each one lasting for one year.

From 2008 it was decided for national needs (revision of the Consumer Price Index with greater reliability, comparable statistics for the needs of National Accounts), the survey should be annual and consistent, namely has duration one year and take place every year. Specifically, the 2008 was a sample of approximately 4,000 households and coveres all areas of the country.

1.2. Coverage

The survey covered all the private households throughout the country, irrespective of their size or socio-economic characteristics. The following were excluded from the survey:

- Institutional households of all types (hotels, boarding houses, elderly homes, hospitals, prisons, rehabilitation centers, camps, etc.)
- Households with more than five lodgers and
- Households with foreigners serving in diplomatic missions.

Through this survey, alike the previous ones, information was collected on the value of purchases and the receipts in kind of the households as well as on the different characteristics of the households and their dwellings, aiming, mainly, to the revision of the Consumer Price Index compiled by the ELSTAT.

The report is structured following the guidelines in the document HBS/2/11/EN Quality report of the 'Household Budget Surveys" round 2010.

The report was divided into seven chapters:

- Relevance
- Accuracy
- Timeliness and punctuality
- Accessibility and clarity
- Comparability
- Coherence and
- Cost

2. Relevance

2.1. General

Relevance is the degree to which statistics meet current and potential users' needs. It refers to whether all statistics that are needed are produced and the extend to which concepts used (definitions, classifications etc.) reflect users' needs.

The aim of this chapter is to describe the extend to which the Household Budget Survey are useful to, and used by, the broadest array of users.

2.2. Scope and structure of the collected information

Through this survey, alike the previous ones, information was collected on the value of purchases and the receipts in kind of the households as well as on the different characteristics of the households and their dwellings, aiming, mainly, to:

a) The revision of the Consumer Price Index compiled by the ELSTAT
b) The completion of the available statistical data for the estimation of the total private consumption,
c) The study of the households' expenditures and the structure of them in relation to their income and other economic, social and demographic characteristics,
d) The analysis of the changes occurring in the living conditions level of the households as compared to the previous surveys,
e) The study of the relation between households' purchases and receipts in kind,
f) The study of the low income limits in the different socio-economic categories
g) The study of changes occurring in the nutritional habits of the households in the country.

2.3. Users and uses

2.3.1. Users at national level

The main users of HBS are:

- Ministries and public administrations, that use the data for economic and social policy planning purposes
- Universities and research organizations, that use the data for research on living conditions of private households and on disparities in food habits
- Private firms
- The public that often gets the information via mass media in publications made by the statistical offices

2.4. Steps taken to promote data use

2.4.1. Consultation from data users

The ELSTAT is being collecting, formal and informal, feedback from HBS' data main users.

2.4.2. Dissemination of aggregated HBS data

Dissemination of HBS data (tables and indicators) is done by several ways:

- Electronic publication of tables
- Print out tables
- Dissemination of tables and metadata (statistical and methodological contents, questionnaires, etc.) via internet ("www.statistics.gr")
- Press releases in different topics
- Publication in the volume "Household Budget Survey 2004/2005" (under edition)

2.4.3. Promotion of users' microdata base

A users'microdata base has been constructed, using the anonymisation criteria adopted also in the EU-SILC project. This base is available to anyone interested.

The base includes all existing in the questionnaires variables, and the expenditure and income have been transformed on a monthly basis. By today, this base has been purchased by the Athens University of Economics and Business, the Centre of Planning and Economic Research, the Data Food and Nutrition Net, banks and other researchers.

Another microdata base has also been constructed containing the list of all Eurostat proposed variables, according to doc.HBS/02/11.

3. Accuracy

The aim of this chapter is to assess the quality of the HBS data in relation to the sampling process.

3.1. Response rate and overall achieved sample size

Table 1 presents information on response rate in HBS 2011 in terms of the sample of households.

Table 1. *Response rate*

HBS 2011	Achieved net sample (n)1	Response rate (R%)
EL	3,515	71.3

The final formation of the dwellings' and households' sample is presented in table 2 below:

3.1.1. Achieved sample size

Table 2 . *Number of households for which an interview is accepted for the database. Quarter breakdown and total*

Quarter	Households	%
1	868	24.7
2	895	25.5
3	889	25.3
4	863	24.5
Total	3,515	100.0

Table 3. *Number of persons who are members of the households for which the interview is accepted for the database. Quarter group breakdown and total*

Quarter group	Households' members	%
1	2,092	24,3
2	2,136	24,8
3	2,238	26,1
4	2,132	24,8
Total	8,598	100,0

[1] Household finally completed, along with diaries and all interviews

Table 4. *Response, by quarter group and total*

Quarter group	%
1	82.8
2	84.8
3	70.6
4	46.7
Total	100.0

3.2. Substitution

- Dwellings being substituted

Main dwellings being occupied were substituted if the cooperation with the household became impossible due to any of the following reasons:

a) Incapacity of the interviewee

b) Refusal

c) Temporary absence

d) Other reasons

Dwellings with which contact was not possible due to objective incapacity (ill, deaf-mute, etc.) or due to temporary absence were substituted. In the cases of refusal any possible effort should be made in order to persuade the household to cooperate. In case the interviewers did not succeed the dwelling was substituted. Finally in the cases of temporary absence the interviewee should visit the households at least three times.

- Dwellings <u>not</u> being substituted

The dwellings that have been selected for the survey and have not substituted, are:

a) Empty dwellings

b) Secondary or country dwellings, whether occupied or not

c) Dwellings with members persons in diplomatic missions (e.g. ambassadors, other countries' armed forces personnel, etc.)

- Way of substitution

The substitution of households not co-operating should be as less arbitrary as possible. The interviewee should substitute the non-responding households with other having similar basic characteristics, e.g. similar synthesis, same type of ownership, same household's head profession. That is, each non-responding household should be substituted with the next household, from the list, having, as much as possible, similar characteristics, except for the last household in the list. The way of substitution was checked by “HBS:5”.

The response rate after substitutions was 97,7%

Table 5. *Substitutions, by quarter group and total*

Quarter group	%
1	17.2
2	15.2
3	29.4
4	53.3
Total	100.0

3.3. Sample Design

3.3.1. Type of sample design and sampling units

The two-stage area sampling was applied for the Household Budget Survey 2011. The sample of private households was selected in two stages. The primary units are the areas (one or more unified building blocks) and the ultimate sampling units selected in each sampling area are the households.

3.3.2. Stratification

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 NUTS 2 level. The two former major city agglomerations of Greater Athens and Greater Thessaloniki constitute separate major geographical strata. So, the number of geographical strata in the first level is 15.

The second level of stratification entails grouping municipal and local communities within each NUTS 2 Region by degree of urbanization, i.e., according to their population size. The scaling of urbanization was finally designed in three groups:

Urban	Municipal or Local Communities with 10.000 inhabitants or more
Semi-urban	Municipal or Local Communities with 2.000 to 9.999 inhabitants
Rural	Local Communities up to 1.999 inhabitants

The number of the final strata in the thirteen (13) geographical regions was 39. The 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 Greater Thessaloniki Area was divided into 9 equally sized strata. Thus, the total number of strata of the survey was 79. The two Major City Agglomerations account for about 38% of total population and for even larger percentages in certain socio-economic variables.

3.3.3. Sample size and allocation criteria

The initial sample size was 4.000 households (sampling fraction $\frac{1}{\lambda} \cong$ 0,08%).

This fraction was the same in each Region.

3.3.4. Sample selection schemes

1st stage of sampling

In this stage, from any final stratum (crossing of Region with the degree of urbanization), say stratum $\boldsymbol{h}$, $\boldsymbol{n_h}$ primary units were drawn (where the number $\boldsymbol{n_h}$ of draws was approximately proportional to the population size $\boldsymbol{X_h}$ of the stratum (number of households according to the last population census of the year 2001).

In each final stratum attention was paid so as the primary units drawn, to be a multiple of four. Thus, the sample of primary units can be divided in 4 sub-samples of equal size. The reference period for the household data of each one of the 4 sub-samples corresponds to each one of the 4 quarters of the year, in order to allow for full representativeness of the household consumption expenditures.

Each area unit (primary unit) of the stratum had a selection probability proportional to its size. So, if $\boldsymbol{X_{hi}}$ was the number of households, according to the 2001 population census, of the unit in the sample of order $\boldsymbol{i}$, then the probability of the unit being drawn was:

$$P_{hi} = \frac{X_{hi}}{X_h} \quad (1)$$

The total number of the primary sampling units is 612. However, the actual number of primary sampling units amounts to 604.

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

2nd 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 constitutes of one or more households then all of them are interviewed.

Let M_{hi} be the number of households during the survey period in the i_{th} selected area of the stratum h. Out of them a systematic sample of m_{hi} households is selected with equal probabilities. Each of the m_{hi} households has the same chance to be included in the survey, equal to: $\frac{m_{hi}}{M_{hi}}$

In every selected primary unit, remains the determination of the sample size m_{hi}. The total number of households to be interviewed of the n_h selected primary sampling units will be $m_h = \sum_{i=1}^{n_h} m_{hi}$ (2)

i.e. finally by applying the two stage sampling procedure, from the stratum h the percentage of households $\frac{m_h}{M_h}$ is drawn.

In repeated sampling, the numerator of this fraction will vary from sample to sample; to be more specific the fraction $\frac{m_h}{M_h}$ is a random variable. Within each primary sampling unit the calculation of the sampling interval $\delta_{hi} = \frac{M_{hi}}{m_{hi}}$ is carried out, so that the following two desired conditions are satisfied.

a) The expected result $\frac{m_h}{M_h}$ is the predetermined over sampling fraction $\frac{1}{\lambda}$ in each geographical region (NUTS 2): $E\left(\frac{m_h}{M_h}\right) = \frac{1}{\lambda}$

b) The estimator of the stratum total Y_h (for any characteristic) should be self-weighting. In other words, the calculated estimator is the result derived from the sum of the values of the characteristic over the m_h sample households by the overall raising factor λ, which is the same in each Region.

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

$$\frac{1}{n_h} \cdot \frac{1}{P_{hi}} \cdot \frac{M_{hi}}{m_{hi}} = \lambda \quad (3) \Rightarrow$$

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

$$\delta_{hi} = \frac{M_{hi}}{m_{hi}} = \lambda \cdot n_h \cdot P_{hi} \quad (4)$$

3.3.5. Renewal of the 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.

3.4. Weightings

3.4.1. Design Weight

The household design weights, DW_{hi}, were calculated using the formula below (inverse of probabilities of selection):

$$\frac{1}{n_h} \cdot \frac{1}{P_{hi}} \cdot \frac{M_{hi}}{m_{hi}} = DW_{hi} \qquad (5)$$

where

M_{hi} = the number of households in the updated sampling frame in the ***hi*** area (primary unit).

m_{hi} = the number of selected households in the ***hi*** area (primary unit).

n_h = the sample size of primary units in the ***h*** stratum.

P_{hi} = the selection probability of ***hi*** primary unit.

3.4.2 Non-response adjustments

Within each final stratum non-response adjustment of the responding households was carried out by the inverse of the response rate, so as to “make up” for non-responding cases in that stratum.

3.4.3. Adjustment to external data

The adjustment to external data was conducted, which involves the calibration of the household weights in conjunction with external sources. It enables the distribution of auxiliary variables on both household and individual level. The auxiliary variables used at household level are the household size and at personal level the auxiliary variable used is the distribution of population by age (five years age groups) and sex.

Applying calibration a) the estimated households by size conform to the number of households of the reference period resulting from projection of the trend observed between the population censuses of 1991 and 2001 and b) the estimated population by sex and age conforms to the population calculated by projecting data of the reference period coming from vital statistics (population census, births, deaths, migration).

3.5. Sampling Errors

3.5.1. Estimation of survey characteristics

This paragraph presents the general procedure applied in order to estimate the survey characteristics (mean household final consumption expenditures), as well as their standard errors and coefficients of variation.

Let y_{hij} be the value of the characteristic $\mathbf{y}$ of the sampling household of order j, in the hi area.

Moreover, Y_h stands for the stratum total, which results when adding the characteristic y for all households or household members included in the stratum h.

The form of the estimator on the basis of the two-stage design is:

$$\hat{Y}_h = \sum_{i=1}^{n_h} \sum_{j=1}^{m_{hi}} w_{hij} \cdot y_{hij} \qquad (6)$$

where

w_{hij} is the final (adjusted) weight of the household

For estimating the characteristic **y** in country level, all stratum estimates $\hat{Y}_h$ should be added, as follows:

$$\hat{Y} = \sum_h \hat{Y}_h \; (7)$$

The estimation of the number of households X_h in stratum h is calculated using the formula:

$$\hat{X}_h = \sum_{i=1}^{n_h} \sum_{j=1}^{m_{hi}} w_{hij} \qquad (8)$$

while the estimation of the relevant characteristic in country level is calculated by adding all strata estimations, that is:

$$\hat{X}_h = \sum_h \widehat{\mathrm{X}}_\mathrm{h} \qquad (9)$$

In order to estimate the variances of the required characteristics (mean household consumption expenditure for the various categories of expenditures), the following steps should be implemented.

a. For every selected PSU i of the stratum h, we calculate the quantities T_{hi} and F_{hi} using the following formulas:

$$T_{hi} = n_h \cdot \sum_{j=1}^{mhi} w_{hij} \cdot y_{hij} \quad (10)$$

$$F_{hi} = n_h \cdot \sum_{j=1}^{mhi} w_{hij} \quad (11)$$

b. Since T_{hi} and F_{hi} have been calculated for every PSU i $(i = 1,2,..., n_h)$ of the stratum h, then :

$V\left(\hat{Y}_h\right)$ is calculated as:

$$V\left(\hat{Y}_h\right) = \frac{1}{n_h \cdot (n_h - 1)} \cdot \left[\sum_{i=1}^{n_h} T_{hi}^2 - \frac{1}{n_h} \cdot \left(\sum_{i=1}^{n_h} T_{hi} \right)^2 \right] \quad (12)$$

and

$V\left(\hat{Y}\right)$ (country level) is calculated by adding $V\left(\hat{Y}_h\right)$ for all strata h, that is:

$$V\left(\hat{Y}\right) = \sum_h V\left(\hat{Y}_h\right) \quad (13)$$

Correspondingly, $V\left(\hat{X}_h\right)$ is given by:

$$V\left(\hat{X}_h\right) = \frac{1}{n_h \cdot (n_h - 1)} \cdot \left[\sum_{i=1}^{n_h} F_{hi}^2 - \frac{1}{n_h} \cdot \left(\sum_{i=1}^{n_h} F_{hi} \right)^2 \right] \quad (14)$$

and

$V\left(\hat{X}\right)$ (country level) is calculated by adding $V\left(\hat{X}_h\right)$ for all strata h, that is:

$$V\left(\hat{X}\right) = \sum_h V\left(\hat{X}_h\right) \quad (15)$$

The mean household consumption expenditure is defined as

$$\widehat{R} = \frac{\widehat{Y}}{\widehat{X}} \quad (16)$$

The variance of $\widehat{R}$ can be calculated using the formula below

$$V\left(\hat{R}\right) = \frac{V\left(\widehat{Y}\right) + \widehat{R}^2 \cdot V\left(\widehat{X}\right) - 2 \cdot \widehat{R} \cdot Cov\left(\widehat{Y}, \widehat{X}\right)}{\widehat{X}^2} \quad (17)$$

where

$$Cov\left(\widehat{Y}_h, \widehat{X}_h\right) = \frac{1}{n_h \cdot (n_h - 1)} \cdot \left[\sum_{i=1}^{n_h} T_{hi} \cdot F_{hi} - \frac{1}{n_h} \cdot \left(\sum_{i=1}^{n_h} T_{hi}\right)\left(\sum_{i=1}^{nh} F_{hi}\right)\right] (18)$$

and

$$Cov(\widehat{Y}, \widehat{X}) = \sum_h Cov\left(\widehat{Y}_h, \widehat{X}_h\right) \quad (19)$$

Also in order to estimate the variances for mean household consumption expenditure for certain population subsets, the procedure described above is used. For that case, we also defined domain indicator variables in order to represent the specific population subsets (domains) required, e.g. (employment status of the household reference persons = manual worker in industry and services, non manual worker in industry and services, e.t.c.)

Let,

- the specific population subset (the domain) be denoted U_d, where $U_d \subset U$ (whole population)
- the size of U_d be denoted N_d

then the value for the j_{th} element (household or household reference person) in the selected area i of the final stratum h of the domain indicator variable is denoted as:

$$y_{hij} = \begin{cases} y_{hij} & if \quad i \in U_d \\ 0 & otherwise \end{cases}$$

$$w_{hij} = \begin{cases} w_{hij} & if \quad i \in U_d \\ 0 & otherwise \end{cases}$$

With the use of the domain indicators above and the procedure and formulas already described we estimated the characteristics and the sampling errors of the mean household final consumption expenditure of the specific subpopulations.

3.5.2. Standard Errors and Coefficients of Variation

Standard errors and coefficients of variation were calculated for mean household consumption expenditure for certain expenditure categories and population subsets. They are presented in the following tables.

For an estimate $\hat{R}$, the coefficient of variation is defined as:

$$CV\left(\hat{R}\right)=\frac{\sqrt{V\left(\hat{R}\right)}}{\hat{R}}*100 \quad (20)$$

Table 6. Coefficients of variation in the 12 Classification of Individual Consumption by Purpose (COICOP) categories. HBS 2011

Goods and services	Coefficient Variation(%)
Total	**2.4**
Food	1.6
Alcoholic beverages and tobacco	3.1
Clothing and footwear	4.6
Housing	1.8
Durable	5.5
Health	4.6
Transport	4.9
Communications	1.9
Recreation and culture	5.4
Education	6.7
Hotels, cafes and restaurants	3.4
Miscellaneous goods and services	3.5

3.6. Non- sampling errors

3.6.1. Sampling frame and coverage errors

HBS is a household survey and, as it has already been mentioned, is carried out by applying the two-stage stratified sampling with Primary Sampling Unit (PSU) the area (one or more building blocks) and final unit the household. Thus, there are two frames used, which are:

- the frame containing the PSUs (areas) and
- the frame of households within the selected PSUs.

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.

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

3.6.2. Measurement and processing errors

Measurement errors can occur from the questionnaire, the interviewers and their training, the respondents, the routing, and the skills testing before starting the fieldwork.

(1) The questionnaire

For building up the questionnaires we consulted the questionnaires of previous HBS Surveys. The structure of the questionnaires is almost similar to these ones.

Also, in order to finalize the questionnaires, we took into account any observations having been made on the questionnaires of the previous years, together with the experience from other projects and the suggestions of data main users.

(2) The interviewers and their training.

All the interviewers attended a five days training course before starting the fieldwork.

One manual was distributed and explained during the training.

A general guidelines' manual containing information about the objectives of the survey, the organisation of it, legal and administrative aspects around the survey, fieldwork aspects (how to contact the household, how to introduce oneself, who answers which questions, time delays, …) and the content and correct completion of the questionnaires.

It seems though that some interviewers don't use the exact wording of the questions. Others skip questions, especially subjective ones. Also, when the respondents didn't provide the figures the interviewers completed/imputed the figures themselves.

(3) The respondents

Household respondents didn't update the diaries of daily expenditure daily. This problem has been solved by having almost everyday communication (by phone or visit) with the households.

Also, the household respondents mostly provided the expenditure made for goods and not the quantities of the specific items. In these cases the missing quantities were imputed by the staff in the office.

For purchases with reference period more than a quarter of a year, often a reminding, from the interviewee, of all the services applicable in this period, has been proved to be useful.

The respondents hesitated in providing income figures and in general denied to consult their tax return, in order to provide exact / correct amounts.

Income from interests, dividends in unincorporated businesses were in general not provided from the households, resulting thus in a significant underestimation of it.

(4) Errors in routing

No errors in the routing were made.

(5) Skills testing before starting the fieldwork

Interviewers were both personnel of the National Statistical Service and external collaborators, all experienced with other household surveys carried out by our Institute, at a percentage of 80%. More specifically 80% of interviewers were external collaborators and the other 20%.personnel.

3.6.3. Data processing

(1) checking errors

The questionnaires were checked in two stages, for their completeness and logical consistency of data collected, and for their correct data entry.

More specifically, the officials in charge of the checks, in accordance with the interviewers' guidelines and taking into account other objective facts, checked the data among the different questionnaires and

also correlated them with data of households living in the same region, in order to verify the correctness of the answers. Mistakes were corrected and any unclear answers were clarified in cooperation with the interviewer or the interviewee.
After that, data entry was done and massive computer checks were made, while using appropriate computer programs tables with survey's data were drawn up.
During all stages of fieldwork the interviewers were under the continuous supervision of skilled employees of the Unit in charge of the ELSTAT

(2) Codification
The nomenclature used for the survey was the more detailed COICOP-HBS (see Annex III).
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 (double codification), NACE rev.2.

(3) Other checks and problems
Several plausibility checks have been made. During the data processing of raw-material ACCESS-2000, SPSS and Oracle (golden 32) were used.

3.7. Administrative organizing

3.7.1. Personnel used in the survey – Way of selection and training

α. Personnel for planning, organizing and supervising the survey

- ELSTAT employees

b. Personnel for data collection (interviewers):

- ELSTAT employees
- External collaborators

c. Personnel for checking work and codifying data:

- Experienced personnel from the Population and Labour Market statistics Division

Since determinant factor for the success of a survey is accuracy of collected information, in order to reflect reality, special effort was made for the interviewers' best selection and training. The basic criterion for their selection was the experience obtained through their participation in other household surveys. In addition, training courses were organized lasting for 5 days, during which the aim and the review of the survey were thoroughly developed, along with the planning method, the definitions and concepts, the way of questionnaire correct completion, as well as the way for approaching the surveyed households.

3.8. Mode of data collection

Greece used the PAPI– method to interview the households. The data from the questionnaire were transferred to magnetic media and mechanical checks were carried out.

3.9. Types of statistical measures

Standard variations are calculated for the main monthly average expenditure of households (approximately for 100 items.) All non-sampling errors are believed to be within acceptable limits, as the necessary steps were taken during all stages of the survey to ensure that such errors were kept to a minimum. Nevertheless, there are clear indications that certain types of expenditure are seriously underestimated, this being attributed to the fact that inaccurate information was supplied, particularly in the cases of personal expenditure.

4. Timeliness and punctuality

4.1. Timeliness

The data collection was carried out from January 2010 to December 2010. The time lag between data collection and data release was **21** months.

4.2. Timing and Frequency

HBS	Collection year
1	1957/1958
2	1963/1964
3	1974
4	1981/1982
5	1987/1988
6	1993/1994
7	1998/1999
8	2004/2005

9	2008
10	2009
11	2010
12	2011

Annual survey has been planned from 2008 onwards.

5. Accessibility and clarity

5.1. Accessibility

5.1.1. Forms of dissemination

5.1.1.1. Reference data base

A users’microdata base has been constructed, using the anonymisation criteria, adopted also in the EU-SILC project. This base is available to anyone interested, for the amounts of 2000€ and 1600€ for private researchers and Universities and Public Research Centers, respectively.

The base includes all existing in the questionnaires variables, and the expenditure and income have been transformed on a monthly basis.

5.1.1.2. Dissemination of aggregated tables

The structure of HBS data tables is the following:

1. Consumption expenditure of private households

1.00 Monthly average purchases and receipts in the kind of households, classified by urban, semi-urban and rural areas. Whole Country

1.01 Monthly average of purchases and receipts in kind of households classified by Regional Development Offices (13 RDO). Whole Country.

1.02 Monthly average of purchases and receipts in kind of households classified by total value of purchases per month. Whole Country.

1.03 Monthly average of purchases and receipts in kind of households classified by total family income per month. Whole Country.

1.04 Monthly average of purchases and receipts in kind of household classified size of household. Whole Country.

1.05 Monthly average of purchases and receipts in kind of households classified by the composition of household. Whole Country.

1.06 Monthly average of purchases and receipts in kind of households classified by status in employment of household head. Whole Country.

1.07 Monthly average of purchases and receipts in kind of households classified by occupational status of household head. Whole Country.

1.08 Monthly average of purchases and receipts in kind of households classified by economic status of household members. Whole Country.

1.09 Monthly average of purchases and receipts in kind of households classified by occupation of household head. Whole Country.

1.10 Monthly average of purchases and receipts in kind of households classified by age of household head. Whole Country.

1.11 Monthly average of purchases and receipts in kind of households classified by trimester. Whole Country.

1.12 Monthly average of purchases and receipts in kind of households classified by household, by member. Whole Country.

2. Quantities of certain items (food, beverages, tobacco and fuel) consumed by the private households

2.00 Monthly average of quantities of certain items (food, beverages, tobacco and fuel) consumed by the household, classified by Urban, Semi - urban and Rural areas. Whole Country.

2.01 Monthly average of quantities of certain items (food, beverages, tobacco and fuel) consumed by Regional Development Offices (13 RDO). Whole Country

2.02 Monthly average of quantities of certain items (food, beverages, tobacco and fuel) consumed by the household, classified by total value of purchases per month. Whole Country.

2.03 Monthly average of quantities of certain items (food, beverages, tobacco and fuel) consumed by the household, classified by total family income per month. Whole Country.

2.04 Monthly average of quantities of certain items (food, beverages, tobacco and fuel) consumed by the household, classified size of household. Whole Country.

2.05 Monthly average of quantities of certain items (food, beverages, tobacco and fuel) consumed by the household, classified by the composition of household. Whole Country.

2.06 Monthly average of quantities of certain items (food, beverages, tobacco and fuel) consumed by the household, classified by status in employment of household head. Whole Country.

2.07 Monthly average of quantities of certain items (food, beverages, tobacco and fuel) consumed by the household, classified by occupational status of household head. Whole Country.

2.08 Monthly average of quantities of certain items (food, beverages, tobacco and fuel) consumed by the household, classified by economic status of household members. Whole Country.

2.09 Monthly average of quantities of certain items (food, beverages, tobacco and fuel) consumed by occupation of household head. Whole Country.

2.10 Monthly average of purchases and receipts in kind of households classified by age of household head. Whole Country.

2.11 Monthly average of quantities of certain items (food, beverages, tobacco and fuel) consumed by trimester. Whole Country.

3. Household characteristics

3.00 Distribution of the surveyed households, classified by Urban, Semi - urban and Rural areas. Whole Country.

3.01 Distribution of the surveyed households, classified by Regional Development Offices (13 RDO). Whole Country.

3.02 Distribution of the surveyed households, consumed by the household, classified by total value of purchases per month. Whole Country.

3.03 Distribution of the surveyed households, consumed by the household, classified by total family income per month. Whole Country.

3.04 Distribution of the surveyed households, consumed by the household, classified size of household. Whole Country.

3.05 Distribution of the surveyed households, consumed by the household, classified by the composition of household. Whole Country.

3.06 Distribution of the surveyed households, consumed by the household, classified by status in employment of household head. Whole Country.

3.07 Distribution of the surveyed households, consumed by the household, classified by occupational status of household head. Whole Country.

3.08 Distribution of the surveyed households, consumed by the household, classified by economic status of household members. Whole Country.

3.09 Distribution of the surveyed households, consumed by occupation of household head. Whole Country.

3.10 Distribution of the surveyed households, consumed by age of household head. Whole Country.

4. Income of private households

4.00 Monthly average income of households, classified by urban, semi-urban

4.01 Monthly average income of households by Regional Development Offices (13 RDO). Whole Country.

4.02 Monthly average income of households classified by total family income per month. Whole Country.

4.03 Monthly average income of household classified size of household. whole Country.

4.04 Monthly average income of households classified by the composition of household. Whole Country.

4.05 Monthly average income of households classified by occupational status of household head. Whole Country.

4.06 Monthly average income of households classified by status in employment of household head. Whole Country.

4.07 Monthly average income of households classified by economic status of household members. Whole Country.

4.08 Monthly average income of households classified by occupation of household head. Whole Country.

4.09 Monthly average income of households classified by age of household head. Whole Country.

4.10 Monthly average income of households classified by household, by member. Whole Country.

5.1.1.3. Publications

The following publications have been produced by using HBS data:

- Press release in different topics
- Edition of publication in the volume "Household Budget Survey 2008" (under edition)

5.1.2. Technical documentation

Technical documentation on HBS is available in ELSTAT's web site. More specifically:

- A general guidelines' manual containing information on the objectives of the survey, the organisation 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 methodological document.

6. Comparability

6.1. Definitions and basic concepts

For the selection of the sample, the data collection and the tabulation, certain concepts have been adopted.

6.1.1. Dwelling

On the basis of the sample design adopted, the dwelling consisted the final sampling unit.
As dwelling was considered any separate and independent place, which, by the way it has been built, rebuilt or converted, is intended to cover housing needs or if not intended for this purpose was in fact used for habitation during the survey.

As dwellings were considered:

- A detached, semi-detached or terraced dwelling, an apartment or flat in a block of flats,
- An occupied room or number of rooms inhabited by the household.
- A warehouse, shanty, trailer or any other covered place which was used for habitation (as main dwelling) during the survey.

As dwellings were not considered:
The places intended for habitation but during the conduction of the survey were used exclusively for other purposes (professional residences, etc.), i.e. apartments used as laboratories, infirmaries, etc.

6.1.2. Regular room

As regular room was considered any private place within the dwelling having at least area 4 squared meters and 2 meters height, shape such as for a normal bed to fit in, and having direct day-light through a window or glass door.
As regular rooms were considered:
The dining rooms, drawing rooms, living rooms, bedrooms, domestic servants' rooms and attics, kitchens, domestic warehouses, corridors and halls complying with the regular room's definition.
Were not considered as regular rooms:
Bathrooms, toilets, laundry rooms, balconies and garages, kitchens of any size, storage rooms, corridors and anterooms, when they didn't fulfill the conditions of the regular room.

6.1.3. Household

Unit of survey and analysis was the household, that is one person living alone (single-person household) in a dwelling, or a group of persons, related or not (multi-person household) occupying the same dwelling, providing from common budget their feeding and all things being necessary for living (common housekeeping).

Persons living in the same dwelling but with no common housekeeping and not eating together were deemed to be separate households, provided that each person had the exclusive use of one room. In the opposite case they consisted one household. More specifically:

Single-person households were considered :

One person living in the dwelling or in a room of a dwelling, obtaining alone all needed for living (e.g. student, unmarried man/woman, etc.), two or more persons, related or not, residing in a dwelling but not obtaining from common budget all needed for living, each one having the exclusive use of one room and not sharing any common place (sitting room, office, excluding hall, etc.).

Multi-person households were considered:

A couple alone or parents with their children or one parent with his/her children, a couple with or without children, the couple's parents and the domestic servant (living in the dwelling) if she/he plans to stay for more than 6 months, two or more persons –not necessarily related, residing in a dwelling and providing from common budget all needed for living, a family with one to five lodgers.

6.1.4. Members of the household

As members of the household were considered all persons constituting it. They were persons, usually residing in the dwelling or being temporarily absent.

Persons, usually residing in the dwelling, were considered those having spent, during the last 6 months period, most hours of day and night in the specific dwelling.

Persons, temporarily absent, being in another private household or in a collective one (e.g. hospital, elderly home, etc.), were considered and registered as household members, according to the following conditions:

- **Persons usually resident, related to other members** (unmarried / married children, parents of household's head, grand children, other relatives, etc.) sharing expenditure or benefiting from them as not having income (children, persons with no income, etc.).
- **Persons usually resident, not related to other members** (partners, etc.) sharing expenditure or benefiting from them as not having income (children, persons with no income, etc.).
- **Resident boarders, lodgers, tenants** (up to 5) sharing expenditure or benefiting from them as not having income (children, persons with no income, etc.). and <u>either</u> didn't have during the survey conduction any other private address elsewhere <u>or</u> intended to stay in the household for more than six months.
- **Visitors**, related or not, sharing expenditure or benefiting from them as not having income (children, persons with no income, etc.). and <u>either</u> didn't have during the survey conduction any other private address elsewhere <u>or</u> intended to stay in the household for more than six months. Visitors not intended to stay for more than six months having another private address elsewhere as main dwelling, were not considered household members and haven't been interviewed.
- **Live-in domestic servants,** residing and sharing expenditure or benefiting from them as not having income (children, persons with no income, etc.). and <u>either</u> didn't have during the survey conduction any other private address elsewhere <u>or</u> intended to stay in the household for more than six months. External domestic servants were not considered household members and haven't been interviewed.
- **Persons temporarily absent** from the dwelling (for reasons of holiday travel, work, education or similar) sharing expenditure or benefiting from them as not having income (children, persons with no income, etc.). not having during the survey conduction private address elsewhere and their actual or intended duration of absence from the household being less than six months.
- **Children** of the household **being educated away from home,** residing in dormitories and **children in military service** sharing expenditure or benefiting from them as not having income, irrespective of the actual or intended duration of absence, not having during the survey conduction private address elsewhere, being partner or child of a household member and should continue to retain close ties with the household and consider this address to be their main residence. Students being educated away from home residing in another private dwelling irrespective of their intention to retain close ties with the household, considering this address to be their main residence, were not considered as household members
- .**Relatives absent for long periods** (sailors, employees in railways, intercity buses, public servants working away from office, etc.) sharing expenditure or benefiting from them as not having income, irrespective of the actual or intended duration of absence, not having private address elsewhere, being

partner or child of a household member and should continue to retain close ties with the household and consider this address to be their main residence.

- **Persons temporarily absent but having household ties,** in hospital, elderly home, etc. sharing expenditure or benefiting from them as not having income, having financial ties to the household being expected to return to the household in less than 6 months.

6.1.5. Head of household

As head of the household was considered the person being approved by the other household members, in the sense that this person has the responsibility for the decision making concerning the household's management, in general.

As head of the household were considered:

- The father, in most of the cases of households consisting from parents and children (either married or unmarried).
- For households consisted from related or not persons, the older working member (man or woman) or, in case nobody was working, the older member.

6.1.6. Economically active members

As economically active members were considered:

The members 14 years old and over, which during the week before the survey conduction had a job or didn't have but were seeking one (working and unemployed).

6.1.7. Reference person

As reference person was considered:

- The head of the household, if he/she was economically active (having or searching for a job). When the head of the household was neither working nor searching for a job, in order him/her to be considered as reference person, there shouldn't be any other economically active person in the household.
- The spouse of partner of the head if he/she was working or searching for a job, if the person declared as head was not economically active.

- The oldest member of the household, being economically active, if the head/s spouse/partner was not economically active.
- The head of the household if noone else in the household was economically active.

6.2. Data collection

6.2.1. The questionnaires

For the questionnaires' design the questionnaires of previous surveys were taken into consideration, after being adjusted to the facts of the new survey, as well as to the relevant international templates (harmonization with other EU countries, etc.) .

The questionnaires are the following three:

a) ***Household Questionnaire (register, dwelling information, expenditure) - «HBS:1»***
b) Personal questionnaire for members aged 14 and more (personal expenditure, employment, income) - «HBS:2».
c) Personal questionnaire for members aged less than 14 years old (personal expenditure) - «HBS:3»

Data were collected by face-to-face interview. Interviewers visited the selected households for 14 consecutive days and gathered all necessary information for the three pre-mentioned questionnaires.
The questionnaires consist of three basic prints/forms, models and can be found in the following link:
http://www.statistics.gr/portal/page/portal/ESYE/PAGE-themes?p_param=A0801&r_param=SFA05&y_param=2011_00&mytabs=0

6.3. Reference periods for expenditure and income

As *reference periods* were considered the time intervals having a specific starting and ending date, to which expenditure and income of the household referred. In order to reduce sampling errors and difficulties in recalling the relevant details, various reference periods were used in the survey, according to the frequency of the types of expenditure incurred by the households or the received income.

Reference periods were considered*:*

*a) **The fourteen (14)days of the survey*** for the daily expenditure on:

- Cleaning products (detergents, soaps, toilet paper, etc.)
- Pharmaceutical products (drags, alcohol, etc.)
- Household members' personal expenditure (cigarettes, newspapers, magazines, tickets, tissues, etc.)
- Restaurants, taverns, café, etc.

*b) **One Month, two months, three months, four months, six months or year,*** for payments made at regular intervals for services e.g.:

- Electricity, water, phone bills, communal charges, etc.
- Circulation fees and car insurance
- Rent for main or secondary or countryside dwelling.

*c) **The last 30 days, last 3, 6 or 12 months,*** etc, prior the end of the household survey (including the 14 days of the survey) for:

- Expenditure on furniture, electric devices, etc.,
- Expenditure on clothes and footwear, medical appliances, etc.,
- Expenditure on health and education,
- Expenditure on holidays,
- Income from salaries, self-employment, farming, pensions, social benefits, etc.

6.3.1. Households' expenditure

As *household expenditure* was considered value, in cash, of the goods and services the household bought or received in kind (from own production, own store or from elsewhere) in order to cover family and social needs.

As expenditure were **not** considered:

1. Payments increasing households' assets or reducing debts to third parties, such as purchase or extension of the house, bank deposits, loan payments, direct taxes, etc.
2. Money transfers to household and non household members.
3. Occupational expenditure on tools necessary for member's job / business, fuel for professional cars, professional trips, seeds, pharmaceutical products for cultivating land, food for animals of domestic livestock, etc.

4. Expenditure on medical and pharmaceutical care paid by the insurance organizations.

It should be noted that when occupational and family expenditure were common, like sharing lodgings of the family enterprise with the household, using a professional car for vacations, etc. effort has been made to separate and calculate the part of the expenditure corresponding to the household, e.g. part of expenditure for rent, electricity, water supply, fuels, circulation fees, insurance, etc.

6.3.2. Ways of goods' and services' acquisition

With the survey information is collected on the ways households obtained goods and services in order to cover their needs.

Goods' and services' can be acquired with the two following ways:

a) PURCHASES

- *Purchases – «P»*

As purchases was recorded the expenditure on goods acquired from the households by paying their value "in cash or with installments", irrespectively whether these goods were meant to cover household's needs or to be offered as gifts to other households. Also, as purchases was recorded expenditure on services the households used by paying their value in cash or with installments.

Was not recorded under «P» expenditure on services paid by other households, the state or the employer. The specific amounts were recorded for the households that used the services with other ways «OW» or from the employer «E».

b) RECEIPTS IN KIND

- *From own production – «OP»*

Recorded were goods consumed from the households coming from own agricultural and livestock production, fishery or hunting (oil, wine, vegetables, fruits, milk, eggs, meat, cheese, wool, fish, etc.) Also included were products collected from the households as being free goods (e.g. wild seeds, mushrooms, firewood, etc.)

Was not recorded under «OP» expenditure for the goods of the pre-mentioned cases, when those goods were offered to other households. The specific expenditure was recorded for the households that received them at consuming stage with «OW» or with «Employer», in case the household that provided the goods was also employer.

- *From own enterprise – «OE» :*

Recorded were goods obtained free from households' own store, either to cover its needs or to be offered "as gifts" to third parties (bread from own bakery, furniture maker from his workshop, etc.). It should be noted that imputed rent for owners or for households providing main or second dwelling for free, was recorded as from «OE».

Was not recorded as «OE» expenditure for foodstuffs coming from household's enterprise, but were offered as "gifts" to other households. The specific expenditures were recorded to the households that consumed them as «OW» or as «OE» from the employer in case some member was working in the enterprise. Also, were not recorded as *«OE»* services used from own stores or enterprises (surgeries, law offices, tuition centers, athletic halls, kindergarten, private schools, barber shops, cleaner's shop, clothes repair shop, clothes and footwear shops, car workshops, etc.)

- *Other ways – «OW» :*

There were recorded goods and services received "in kind" for free :

α) From other households (only services, such as rent of main or secondary dwelling provided for free or paid by third parties, electricity, water, telephone bills paid by others, etc. as well as food and beverages).

b) From state, municipal, church authorities, insurance organizations, etc. as receipts in kind, e.g. meals, food for households with more than 3 children, toy offers from municipalities, clothes from churches, etc.

c) From abroad, e.g. food stuffs, clothes, furniture, etc.

- *From the employer – «Employer» :*

There were recorded goods and services received "in kind" for free or in reduced price from their employer as payment "in kind", under the condition that it constitutes net profit for the employees, meaning that the households would certainly purchase them.

Were not considered as receipt in kind goods coming from the employer for practicing their profession (uniforms, helmets, etc.) or in order to compensate for job's disadvantages (milk, refreshments, etc. It should be noted that if those goods were transferred at home and were consumed from the household for its needs, they were recorded under «Employer».

Finally, it should be noted that when the household received goods or services for free, the whole current value (for the good or service) was recorded, while in cases where the household received goods or services at reduced price, the amount paid by the employer was recorded under «Employer» and the amount paid by the interviewee under «P».

6.3.3. Conditions for expenditure record

For expenditure record the following conditions should be fulfilled:

a) The realization of the expenditure within the reference period specified for the corresponding goods or services, e.g. 14 days for food stuffs, month for clothing, 12 months for the consumption of durables, etc.

b) The good corresponding to the expenditure should have already been possessed by the household and the service should have been offered within the reference period mentioned, irrespectively whether it was meant to cover its own needs or to be offered to other households. The way of possession of goods and services could have been «P» (in cash or on credit), from own enterprise «OE», from others «OW» or from the employer «Employer», e.g. expenditure on clothing was recorded if the household "possessed" them within the last 30 days (including the 14 days of survey conduction) before the survey end, even if their value would be paid in the future with installments, the expenditure on tuition fees was recorded, if the service was offered in the last 12 months before the survey end, etc.

c) Goods from households' agricultural – livestock own production, fishery, woodland or hunting, should have been consumed during the reference period, e.g. the quantity of oil consumed by the household from own production, during the last 12 months, was recorded and not that having been stored. The same applies for vegetables from own vegetable garden or agricultural enterprise, meaning that only those consumed during the 14 days were recorded.

It should be noted that all the pre-mentioned criteria didn't entirely apply for regular expenditure, e.g. electricity, water, drainage, telephone bills, circulation fees, insurances, etc. In these cases, the last bill was recorded with reference period the one mentioned on it (month, 2 months, 3 months, 4 months, 6 months, year), e.g. electricity bill was, usually, recorded with reference the 4 month period, car's insurance 6 or 12 months period and usually refer to future services, circulation fees are usually recorded at 12 months period, etc.

6.3.4. Estimation of goods and services value

- For the purchases: In the value of goods and services, obtained from the households, it has also been included any other expenditure necessary for them to be consumed/used, e.g. for transportation, setting of electric devices, etc. When goods or services had been obtained by paying with installments or with credit card, the total value was recorded and not only the part of installments paid within the reference period.

- For the receipts in kind: The value of goods and services, obtained from the households for free, was self-estimated from the households or from the interviewer, based on retail prices of the closest local market.

6.4. Imputed rent

Self-assessment is made by the interviewee and the interviewer checks and corrects, where necessary, the answer taking into account the locality, mean actual rent per locality, number of rooms in the dwelling, area of the dwelling, year of construction and the quality of the building/dwelling.

Data are collected both for main and secondary residence.

7. Coherence

7.1. Comparison of structural indicators from EU-SILC 2011 and HBS 2011.

- The **risk-of-poverty indicator** has been calculated from the HBS 2011 data and has been found to be approximately 20,6%, while according to the same indicator in EU-SILC 2011 it was 21,4%.

- The **poverty threshold** is 6,591 € in SILC 2011, while according to the HBS 2011 data it is 6,175 €.

- Also, **indicator S80/S20** is 6.0 in SILC 2011, while for the HBS 2011 it has been estimated to 5.5. We note that for the Household Budget Survey the pre-mentioned indicators have been estimated from comsumer expenditure and not from income.

7.2. Comparison with other sources

Below presented are tables proving that the most quality target variables are in coherence with variables collected from EU-SILC 2012 making thus the survey robust.

Table 7. :“Tenure status”. %

Tenure status	**2011 HBS**	**2011 SILC**
Owner	79.2	77.3
Tenant	20.8	22.7

Table 8.: “Bath or shower in dwelling”.%

Bath or shower in dwelling	**2011 HBS**	**2011 SILC**
Yes	98.5	98.4
No	1.5	1.6

Table 9.: “Indoor flushing toilet for sole use of household”.%

Indoor flushing toilet for sole use of household	**2011 HBS**	**2011 SILC**
Yes	98.1	98.1
No	1.9	1.9

Table 10.: “Dwelling type”. %

Dwelling type	**2011 HBS**	**2011 SILC**
Detached house	32.2	30,5
Semidetached house	9.6	8,4
Apartment or flat	57.7	61.0
Some other kind of accommodation	0.5	0.1

Table 11.: *Non monetary household deprivation*

	2011 HBS	2011 SILC
Telephone	99.2	99.3
Colour TV	99.5	99.8
Computer	55.1	58.1
Washing machine	96.2	96.7
Car	64.6	72.6

8. Classification of Goods and Services

The classification and codes of Goods,Services, Incomes, Prefectures and Countries, Characteristics of Households and Dwellings are available through the following links:

Greek version

http://www.statistics.gr/portal/page/portal/ESYE/BUCKET/A0801/Other/A0801_SFA05_MT_AN_00_2011_00_2011_03_F_GR.pdf

English version

http://www.statistics.gr/portal/page/portal/ESYE/BUCKET/A0801/Other/A0801_SFA05_MT_AN_00_2011_00_2011_03_F_EN.pdf

9. Conclusions

Concluding, the HBS project gave qualitative data, in coherence with data from administrative sources, where these data were available.

The Hellenic Statistical Authority will keep on collecting qualitative data and producing the social structural indicators being absolutely necessary for policy making both at national and European level.

References

Press Release - HOUSEHOLD BUDGET SURVEY 2012