2012 Demand Side Survey

TYPE: Sampling survey

Sampling method

The Vacation Survey is an annual survey conducted on households. The sample of households for the 2012 survey year 2012 results from the sample of the Labour Force Survey (LFS). The LFS is an annually rotating sample conducted on households, which covers the target population of the Vacation Survey. The sample of the Labour Force Survey (LFS) was the sampling frame for the selection of the 7.652 surveyed households for the Vacation Survey.

Moreover, for the LFS the two-stage stratified sampling is used. The primary sampling unit of the survey is the surface area (one or more subsequent city blocks) and ultimate unit is the household.

The sampling design of the LFS was based on the results of the 2001 Population-Housing Census.

The number of households, as well as the number of persons per household by Region was based on the results of the 2011 Population-Housing Census. The reasons for using the LFS sample for collecting the data of the Vacation Survey are: the operational convenience, the low cost and the facility to create a representative sample having the required size.

Sampling unit
The sampling unit is the private household and all household members.

Sampling design
The two-stage stratified area sampling is applied for the survey. The primary units are the surface area (one or more unified blocks) and the secondary sampling units selected in each sampling area are the households with members belonging to the surveyed population. The ultimate sampling unit is all the household members.

The surface unit is delineated by the part of the populated area whose borders are defined by artificial or natural borders that are clearly drawn and identifiable on a map of the specific area. Such a unit may consist of one or more subsequent city blocks or part of a rural area with clear borders. In order to reduce both the cost and the time needed for the conduct of the external works of the survey, the size of the surface units is set out to approximately 8 households per unit in the Region of Attiki and in Thessaloniki and 9 households per unit in the other Departments (NUTS 3) of Greece.

Every household of the above samples is characterized by a 8-digit unit code and the number of the dwelling (in accordance with the codification of households of the LFS). Moreover, information is provided pertaining to the

stratum from which they derived, the settlement, the Municipality (according to Kalikratis plan), the Department and the Regional Unit.

Stratification
In each region (NUTS 2), the stratification of primary units was conducted by allocating the Municipalities and Communes according to the degree of urbanization (urban, semi-urban, and rural regions).
Except for the two Major City Agglomerations (Athens and Thessaloniki) the strata were stratified on the basis of the degree of urbanization as follows:

Urban. Stratum 1: Agglomerations and Municipalities with 10.000 inhabitants or more.

Semi-urban. Stratum 2: Municipalities and Communes with 2.000 to 9.999 inhabitants*

Rura. Stratum 3: Communes up to 1.999 inhabitants*

**Municipalities and Communes whose biggest settlement has the number of inhabitants listed in the above strata*.

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. The two Major City Agglomerations account for 40% of total population and for even larger percentages as regards certain socio-economic variables.

Sample size
The sample of the annual sample was 7.652 households belonging to 877 primary sampling units.

Stages of probability sampling
The sample of private households was drawn in two stages.
More specifically, during the first stage, the primary sampling units (PSUs), were systematically selected from the frame of clusters in each final stratum (=Geography X Urbanization) with a probability which is proportional to the number of private households in the clusters (according to data coming from the LFS).

During the second stage, a systematic random sample of households was drawn with a pre-fixed sampling rate from the current population of households based on an updated list prepared on the field) of each selected PSU. Analytically, the sampling selection process is as follows:

1st stage: The primary unit of order *i* in stratum *h* has a probability of being selected which is proportional to the target population size as follows:

$P_{hi} = \frac{N_{hi}}{N_h}$,

N_{hi} : The updated (from LFS survey) target population of households in the *hi* primary unit

N_h : The updated 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 probability to be selected, equal to: $\frac{n_{hi}}{N_{hi}}$. As the estimator of the total strata Y_h (for any characteristic) should be self-weighting, the n_{hi} was defined, as follows:

$n_{hi} = \frac{n_h}{a_h}$, where $n_h = \sum_i n_{hi}$ and a_h is the number of primary units in the *h* stratum.

Estimation of the survey characteristics
Weightings - Design factor

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*=79). 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:

$w_{hi} = \frac{N_h}{n_h} \cdot \frac{1}{r_h} t_{hi}$ where:

N_h : The target population size (number of households) in the *h* stratum

n_h : The initial sample size in the *h* stratum

$\frac{N_h}{n_h}$: The inverse of the initial probability of selection of the sampling households in the the *h* stratum, as the the estimator of the total strata Y_h (for any characteristic) is self-weighting,

$r_h = \frac{n_h'}{n_h}$: is the response rate in the *h* stratum

t_{hi} : Factor, which adjusts the sample weights of households so that the estimated totals conform with the population totals on a cell-by-cell basis (Population Weighting Adjustment). The auxiliary variables used at household level are the household size (1,2,3,4 or 5+ members) for the definition of cells or classes, as well as the estimated population by sex and age to conform with the population calculated by projecting data of the reference period coming from vital statistics (population census, births, deaths, migration).