Survey on Business Services

The survey Business Services is sampling pilot survey which was conducted on the total of the Country during the year 2005, with reference year 2004.

The survey's unit is the enterprise and more specifically the enterprises which cover the following economic activities (NACE revision 1.1):

- 72 Computer and related activities
- 7411 Legal services
- 7412 Accounting, book keeping and auditing services, and tax consultancy services
- 7413 Market research and public opinion polling
- 7414 Business and management consultancy services
- 7420 Architectural and engineering services
- 7430 Technical testing and analysis
- 7440 Advertising
- 7450 Labour recruitment and provision of personnel

The population frame

The population frame was based on the business register, which was compiled the data coming from tax authorities.

Selection of enterprises

Before the selection of the sampling units (enterprises), the enterprises of the population were stratified on the basis of the following criteria:

i) Economic activity

ιι) Five size classes of annual turnover. The surveyed enterprises were stratified according to their turnover into the following classes:

Size class	Turnover Classes
1	5.000€ - 65.000€
2	65.001€ - 300.000€
3	300.001€ - 1.000.000€
4	1.000.001€ - 4.000.000€
5	4.000.001€+

The enterprises with turnover more than 4.000.001 € were surveyed exhaustively.

Sampling design

The method used for the selection of the sample is the sampling by strata.

Methodological processing

a) Symbols

In each stratum (let h) we can define the following:

y_{hi}: The value of characteristic y of enterprise of order i belonging to the stratum h

N_h: The total number of enterprises belonging to the stratum h

n_h: The number of respondent enterprises in the stratum h

Y_h: The total of the variable y for all enterprises in stratum h

Y: The total of the variable y for all enterprises in all strata. That is: $Y = \sum_h Y_h$

b) Estimation process

The estimation of Y_h and Y is given by the following formulas:

$$\hat{Y}_h = \frac{N_h}{n_h} \sum_{i=1}^{n_h} y_{hi} \qquad (1)$$

$$\hat{Y} = \sum_h \hat{Y}_h \qquad (2)$$

c) Variance estimation

The variance estimation of $\hat{Y}_h$ and $\hat{Y}$ is given by the following formulas:

$$V(\hat{Y}_h) = \frac{N_h(N_h - n_h)}{n_h} S_h^2, \text{ where} \qquad (3)$$

$$S_h^2 = \frac{1}{n_h - 1}\left[\sum_{i=1}^{n_h} y_{hi}^2 - \frac{\left(\sum_{i=1}^{n_h} y_{hi}\right)^2}{n_h}\right], \qquad (4)$$

$$V(\hat{Y}) = \sum_h V(\hat{Y}_h) \qquad (5)$$

The coefficient of variation (%) of total estimation $\hat{Y}$ is given by the following formulas:

$$CV(\hat{Y}) = \frac{\sqrt{V(\hat{Y})}}{\hat{Y}} * 100 \qquad (6)$$