Employment and labour cost indices
TYPE
  Sampling survey

> **Employment Index**

Selection, structure and size of the sample

Sampling design
  The method of one – stage stratified sampling was applied in the survey, considering the enterprise as the survey unit.
  The sampling frame was based on data coming from the register of enterprises compiled by administrative sources (Social Insurance Foundation).

Stratification
  The enterprises included in the survey were stratified as follows:
  ▪ By economic activity (two – digit NACE Rev.1 code)
  ▪ By the size of enterprises. The enterprises were stratified into 6 size classes determined by their average annual employment as presented below:

Sample size of the surveyed units.
  The total sample size was 1.500 enterprises (sampling rate = 0.77%).
All the enterprises were surveyed on a sample basis while the distribution of sampling units in each division of all geographical regions was conducted by applying the optimal allocation method.
The enterprises belonging to the 6th size class were surveyed exhaustively.

α.Calculation of the index
For each division (division= two-digit economic activity)

y_{kqhi} : the value of variable y (employment, wages, hours worked)

N_{kh} : the total number of enterprises belonging to stratum h

n_{kh} : the number of the respondent enterprises

$\alpha_{kh} : \dfrac{N_{kh}}{n_{kh}}$: the extrapolation factor

Y_{kqh} : the total for variable y of all enterprises in stratum h for the quarter q

Y_{kq} : the total for all enterprises in all strata belonging to division k

The estimation of Y_{kq} is calculated as follows:

$$\hat{Y}_{kq} = \sum_h a_{kh} \sum_i y_{kqhi}$$

b. Estimation of the index

The base year is the year 2000 (2000=100) and the index is computed by the formula:

$$I_{kq} = I_{k(q-1)} \frac{\hat{Y}_{kq}}{\hat{Y}_{k(q-1)}}$$

For the first quarter of the base year 2000 the index was calculated as follows:

$$I_{k,1} = \frac{Y_{k,q,0}}{Y_{k,0}} * 100 \text{, where } Y_{k,0} = \sum_q \frac{Y_{q,0}}{4}$$

For the aggregated index the next formulas were applied:

$$I_{tot} = \sum I_{kq} W_k \text{, where } W_k = \frac{\hat{Y}_{k,0}}{\hat{Y}_{tot,0}} \text{ and}$$

$\hat{Y}_{k,0}$: the total annual values of $y_{k,0}$, obtained from the structural business surveys with reference year 2000

$$\hat{Y}_{tot,0} = \sum \hat{Y}_{k,0}$$