Employment and labour cost indices
TYPE
Sampling survey

- **Labour Cost Index**

Scope of the survey
The survey of the labour cost index covers sections C-K (NACE Rev.1) and enterprises with average annual employment equal to or greater than one employee, according to data coming from the register of Social Insurance Foundation.

Selection, structure and size of the sample

Sampling design
The sample was selected by applying the method of one – stage stratified sampling, where the enterprise is regarded 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 (one – 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 shown below:

Size class h	Number of employees
1	1-9
2	10-49
3	50-249
4	250-499
5	500-999
6	1000+

The cells (which were defined by the above cross-classification economic activity and size) were used as strata.

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 6^{th} size class were surveyed exhaustively.

Calculation of the index

.α. Symbols

For each section k (section: 1 digit code of economic activity NACE Rev 1), and for the stratum h:

y_{kqhi}: the value of the variable y (labor cost, wages, other costs related to employment) of the enterprise of order *i* for the quarter q

x_{kqhi}: the value of worked hours of the enterprise of order ι for the quarter q

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

n_{kh}: the number of the respondent enterprises

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

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

Y_{kq}: the total for enterprises in all strata belonging to section k for the quarter q

The estimations of Y_{kq} and X_{kq} were calculated using the following formulas:

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

b. Estimation of the index

The base year is the year 2000 (2000=100).

Until the first quarter of 2005 the index was calculated from the data of National Accounts. From the second quarter of 2005 and on, the index was calculated with the implementation of the "chain index" as follows:

$I_{kq} = I_{k(q-1)} * \frac{\frac{\hat{Y}_{kq}}{\hat{X}_{kq}}}{\frac{\hat{Y}_{k(q-1)}}{\hat{X}_{k(q-1)}}}$, where $I_{k(q-1)}$ is the index and $Y_{k(q-1)}, X_{k(q-1)}$ are the estimates of the previous quarter.

For the aggregated index I_{tot} the next formulas were applied:

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

$\hat{Y}_k = \sum_q \hat{Y}_{kq}$, the total for all enterprises in all strata belonging to section k for the previous year

$\hat{Y}_{tot} = \sum_k \hat{Y}_k$