



**NATIONAL INSTITUTE OF STATISTICS
ROMANIA**

**QUALITY REPORT ON
STRUCTURE OF
EARNINGS SURVEY
2006**

NATIONAL INSTITUTE OF STATISTICS - ROMANIA
Quality Report On Structure Of Earnings Survey 2006

Contact persons:

Mrs. Silvia Pisica

Director, Labour Market

E-mail address: silvia.pisica@insse.ro

Telephone no: (+4021) 318.18.41

Fax no: (+4021) 318.18.41

Mrs. Mihaela Anghel

Head of Unit, Wages, Labour Cost and Job Vacancy Statistics

E-mail address: mihaela.anghel@insse.ro

Telephone no: (+4021) 318.18.26

Fax no: (+4021) 318.18.41

Summary

	Page
1. Relevance	4
1.1. Summary of core users	4
1.2. Description of users needs	4
1.3. Satisfaction of users needs	6
1.4. Completeness	7
2. Accuracy	9
2.1. Sampling errors	9
2.2. Non-sampling errors	9
2.2.1 Coverage errors	9
2.2.2 Measurement errors	11
2.2.3 Non-response errors	14
2.2.4 Model assumption errors	18
3. Punctuality and timeliness	18
4. Accessibility and clarity	21
5. Comparability	22
5.1 Geographical comparability	22
5.2 Comparability over time	23
6. Coherence	26
7. Annex – Coefficients of variation	27

1. RELEVANCE

1.1. Summary of core users

The main Structure of Earnings Survey data users may be grouped as following:

(i) internal users:

- **governmental bodies:** Ministry of Labour, Family and Equal Opportunities, Ministry of Economy and Public Finances, National Commission for Prognosis, National Agency for Employment, Ministry of Education and Research, National Council for Adult Education and Training, Ministry of Public Health;
- **employers and employers' associations;**
- **trade unions;**
- **professional associations;**
- **research institutes and universities:** Research Institute of National Economy, Research Institute for Labour Force, Research Institute for Education, Romanian Academy, Academy for Economic Studies etc.
- **mass-media;**
- **students, doctorates.**

(ii) external users:

- European Union and international organisations: Eurostat, ILO, OECD, UNDP, World Bank, IMF;
- foreign research institutes;
- foreign employers.

1.2. Description of users needs

The Structure of Earnings Survey (SES) provides to the users important data on hourly, monthly and annually earnings, on working time, as well as on the structure of earnings. The survey results are available by multiple breakdowns on demo-socio-economical characteristics of the employees: gender, age groups, occupational groups, level of education, length in the enterprise, type and duration of the working time, economic activities, size classes of the enterprise, ownership forms.

SES is the only survey conducted at employee level, providing such amount of complex information.

Through the SES results the users can find the answers to diverse questions such as:

- *Which is the level of the hourly, monthly and annually earnings by occupation groups, sex, age groups or level of education?*
- *How is the distribution of employees by sex, working program (full-time, part-time), age groups or occupation groups?*
- *How many employees are working in small, medium or big enterprises from a certain economic activity?*
- *What type of collective pay agreements covers the employees employed in an enterprise?*

NATIONAL INSTITUTE OF STATISTICS - ROMANIA
Quality Report On Structure Of Earnings Survey 2006

- *Which is the level of the earnings from a certain economic activity comparing with the average?*

(i) internal users:

The SES outcomes, in relation with the information provided by other surveys, are used by policy makers at national level in establishing the actions and measures for economic development strategies as well as for implementing programs on active measures aimed to improve the employability and as for setting up the policies on wages and salaries.

- ✓ Ministry of Labour, Family and Equal Opportunities and Ministry of Economy and Public Finances are interested in the structure of earnings and the level of hourly, monthly and annually earnings by different categories of employees in relation to the financial and social protection policies.
- ✓ Ministry of Labour, Family and Equal Opportunities, Ministry of Economy and Public Finance and National Commission for Prognosis are paying a special attention to the structure and level of earnings. Several strategies, presently on going, are focused on:
 - equal chances for women and men in terms of remuneration and work conditions;
 - policies of the employment and qualification of labour force, especially for unfavourable groups such as young (15 – 24 years) and elderly (55 – 64 years);
 - the settlement upon the part-time work in order to adjust the working relationships to the demands of the labour market;
 - remuneration policies;
 - stimulation of employers in creating and increasing the number of new jobs.
- ✓ Based on the SES results, Ministry of Labour, Family and Equal Opportunities and National Agency for Employment are developing and implementing special programs with the aim of unemployment decreasing by offering special reductions on taxation and providing subsidies to the enterprises that would employ unemployed persons.
- ✓ Special advantages were offered to the employers who were employing graduates (legal acts entered into force proposed by Ministry of Education and Research).
- ✓ National Council for Adult Education and Training has a high interest on the employees' qualification, skills and vocational training (i.e. the actual time spent by employees for vocational training during a year). The aim is to reach a higher qualification of the existing labour force (instead of employing directly high educated personnel), adequate to the high technologies and innovations.
- ✓ The level and structure of earnings are of a big interest when negotiations with trade unions are held. SES results are key elements for negotiation of collective agreements in relation not only for the direct remuneration, but also for the share of payments in kind and other advantages, pension scheme, social and health insurance, programs for vocational training (improvement of level of qualification etc.).
- ✓ Employers (enterprises), employers' associations and professional associations are carrying out several comparative analyses of the monthly earnings among economic activities, economic and financial control, occupations or levels of education.

NATIONAL INSTITUTE OF STATISTICS - ROMANIA
Quality Report On Structure Of Earnings Survey 2006

- ✓ Research institutes and universities are interested in and are producing analysis on the level and structure of earnings among economic activities, economic and financial control, occupations or levels of education, comparisons with other countries (either EU or non-EU member states).

(ii) external users:

- ✓ European Union and international organisations: are usually expressing their needs by specific regulations and agreements and through the working groups held with a given periodicity (EUROSTAT) and through international meetings and regular (for updating of databases) and ad hoc requests sent to INS (ILO, OECD, World Bank);
- ✓ Foreign research institutes: are formulating their needs through the requests sent to INS, data being provided upon availability;
- ✓ Foreign employers (investors) are interested in the level of earnings among economic activities for public and private sectors; upon request different levels of aggregated data can be disseminated.

1.3. Satisfaction of the users needs

(i) internal users:

In Romania, official statistics is under the responsibility of National Institute for Statistics (INS). In order to ensure the objective and the transparent and scientific character of the methodologies, indicators and classifications used in statistics, the Council of Co-ordinating the Statistical Activity is set-up.

The Council is composed of representatives of:

- Romanian Academy,
- specialised higher education system and research,
- ministries and other specialised bodies sub-ordinate to the Government,
- Romanian National Bank,
- trade unions,
- employers' associations,
- mass-media,
- professional associations.

The representatives of the Council meet quarterly or more frequently when is necessary, in working groups by statistical fields. During these meetings INS receives a strong feed-back from the users in terms of the results already disseminated (including the level of details, breakdowns etc.) and the requests for further needed information to be included in next statistical inquiries.

Before finalising the survey tools and launching any survey on wages and labour costs, INS usually consults its main users (Ministry of Labour, Family and Equal Opportunities, Ministry of Economy and Public Finances, National Commission for Prognosis, research institutes and universities etc.) and asks for methodological approval given by the "Commission of Methodological Approval".

NATIONAL INSTITUTE OF STATISTICS - ROMANIA
Quality Report On Structure Of Earnings Survey 2006

The SES questionnaire, explanatory notes and annexes with classification were submitted for approval when first launched in 2002. Because no major changes occurred for the 2006 survey, no other methodological approval was needed.

(ii) external users:

- ✓ European Union and international organisations: survey tools were designed by respecting the recommendations stated in the Commission Regulation no 1738/2005 amending Regulation (EC) no 1916/2000 as regards the definition and transmission of information on the structure of earnings; when different levels of aggregations are asked, if it is possible, data are processed accordingly or, if not, the most appropriate are given with the needed explanations;
- ✓ Foreign research institutes: depending on the request, either data are sent in the available format either are prepared to reach as much as possible their needs;
- ✓ Foreign employers (investors): most of their requests are satisfied by the available data.

1.4. Completeness

According to the Commission Regulation no 1738/2005 amending Regulation (EC) no 1916/2000, all UE member states had to conduct the Structure of Earnings Survey in 2006, collecting and providing to Eurostat a number of 34 variables (mandatory and optional).

Romania collected and provided **26 mandatory variables (100%** mandatory variables) and **7 optional variables (88%** from all optional variables), meaning **97%** of all variables requested by the Commission Regulation. The only optional variable not collected was “1.7 Affiliation of the local unit to a group of enterprises”.

Apart from the variables requested by the CR, Romania introduced a number of variables for national purposes:

- basic salary,
- monthly and annually gross amounts from the net profit,
- monthly and annually gross amounts from other funds, including payments in kind,
- monthly and annually gross amounts from the insurance schemes,
- normal duration of working month,
- payment period,
- annual number of days paid for sick leave (total, paid by the employer),
- annual number of days paid but not worked due to special events,
- annual number of days for vocational training.

Information collected and provided by Romania answered to Eurostat requests in terms of **classifications and breakdowns:**

- *geographical location* - **NUTS-1 level** – still equal with NUTS 0 level for 2006;
- *principal economic activity* - **NACE Rev.1.1** - all sections **A-O** (coded at division level **01-93**), including the sections A, B (not requested by the regulation) and section L (optional according to the regulation);

NATIONAL INSTITUTE OF STATISTICS - ROMANIA
Quality Report On Structure Of Earnings Survey 2006

- *size class of the enterprise* – all mandatory size classes **10-49, 50-249, 250-499, 500-999, 1000 and more employees**;
- *form of economic and financial control* – all categories “**public control**” and “**private control**”. For national purposes data were published at much detailed level (public, private and shared control);
- *collective pay agreement* – all categories “**national level**”, “**industry level**”, “**individual industries level**”, “**enterprise or single-employer level**”, “**local unit level**”, “**other type**”, “**no agreement**”;
- *occupation* – **ISCO-88 (COM)** – all occupation coded at two digit level, except major group 0 (armed forces) that are not covered by any Romanian survey;
- *level of education and training* - **ISCED 97** – all levels “**pre-primary**”, “**lower and upper secondary**”, “**first and second stage of tertiary education**”;
- *contractual working time* – “**full-time**” and “**part-time**” employees;
- *type of employment contract* - “**indefinite duration**”, “**temporary/fixed duration**”, “**apprentice**”.

The variables collected and provided by Romania answer to all Commission Regulation requirements, for data transmission:

- *country level*: **NUTS0** level;
- *economic activities*: section level **A-O** (1-digit);
- *size class of the enterprises*: **10-49, 50-249, 250-499, 500-999, 1000 and more employees**;
- *categories of variables*:
 - Information about the local unit to which the sampled employees are attached (**1-variables**),
 - Information on individual characteristics of each employee in the sample relating to the reference month (**2-variables**),
 - Information on working periods for each employee in the sample (**3-variables**),
 - Information on earnings for each employee in the sample (**4-variables**),
 - Grossing-up factors (**5-variables**)
- *categories of employees*: **employees and apprentices**¹.

No compulsory breakdown, in terms of **economic activities** or **size classes**, is missing from the Structure of Earnings Survey 2006.

Furthermore, data for NACE sections A and B (which are not requested by the regulation) and for section L (which continues to be optional according to the regulation) were collected and provided by Romania.

The selection of the employees in the sample was complex, done by each enterprise according to the rule recommended by INS of respecting the proportionality by sex, major groups of occupation and working program of the total number of employees of the enterprise. Thus, a clearer image of the distribution of employees from the whole enterprise was reflected by the selected sample.

Even though SES is a complex survey, considered by the respondent units a burden, since a lot of detailed and complex information for each selected employee was asked, the response rate was rather high (about 85%, refusal rate about 5%).

¹ comparing with year 2002, in 2006 the apprentices were covered according to the Romanian legislation in force

2. ACCURACY

2.1. Sampling errors

The coefficients of variations requested through the Commission Regulation No. 698/2006 are presented into the Annex. The computations of CVs were produced using the variance programme CLAN, a SAS macro provided by Swedish statistics.

The coefficients of variation for the key variables for the **total population** are:

- gross earnings for in the reference month (B42): 0.009076
- average gross hourly earnings in the reference month (B43): 0.009088

Except for the setting-up of the frame population, no data from registers were used.

2.2. Non-sampling errors

2.2.1. Coverage errors

The sampling frame used to draw the sample was built using the Romanian Business Register and contained the statistical information related to the reference period, namely the calendar year of **2006**. As consequence the main over/under coverage problems are related to the information quality concerning size class of enterprises by number of employees. A percentage of 3.38% of surveyed enterprises reported a number of employees less than the limit threshold for including criteria in the reference population (at least 10 employees) but the stability of activity is at high level (over 90%). In the meantime it encounters the existence of a 2.58% of unidentified enterprises. In the adjustment procedure the unidentified enterprises were assimilated to the non-response units. The weighting procedures applied at enterprise level was done in order to compensate the total non-response, together with the calibration procedures with the results of the annual Labour Cost Survey 2006, at 2 digit level of NACE Rev.1.1 and by size classes of employees. The calibration was produced also with the routine of the CLAN programme.

In the tables below (**Table 1** and **Table 2**) are presented the measure of misclassifications by NACE Rev.1.1 category to 1-digit level (section) and size classes by number of employees:

NATIONAL INSTITUTE OF STATISTICS - ROMANIA
Quality Report On Structure Of Earnings Survey 2006

Table 1: Misclassification by NACE Rev.1.1 (section level)

- % -

NACE Rev.1.1, Section level contained in sampling frame	NACE Rev.1.1, Section level – reported value (during the data collection)															Grand Total
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	
A	96.36	0.00	0.00	1.21	0.00	0.00	2.02	0.00	0.00	0.00	0.40	0.00	0.00	0.00	0.00	100.00
B	0.00	93.33	0.00	3.33	0.00	0.00	3.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
C	0.00	0.00	96.15	0.96	0.00	2.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
D	0.14	0.00	0.00	98.98	0.00	0.14	0.39	0.00	0.18	0.00	0.14	0.00	0.00	0.00	0.04	100.00
E	0.00	0.00	0.00	0.52	97.42	1.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.03	100.00
F	0.00	0.00	0.15	0.76	0.00	97.88	0.30	0.00	0.15	0.00	0.61	0.00	0.00	0.00	0.15	100.00
G	0.07	0.00	0.00	1.57	0.00	0.28	97.18	0.10	0.35	0.00	0.38	0.03	0.00	0.00	0.03	100.00
H	0.00	0.00	0.00	0.00	0.00	0.00	3.15	96.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
I	0.00	0.00	0.00	0.00	0.00	0.22	1.08	0.00	97.83	0.00	0.22	0.00	0.00	0.00	0.65	100.00
J	0.00	0.00	0.00	0.56	0.00	0.00	0.00	0.00	0.00	98.31	0.56	0.00	0.00	0.00	0.56	100.00
K	0.00	0.00	0.00	0.62	0.00	0.62	0.49	0.00	0.12	0.37	97.78	0.00	0.00	0.00	0.00	100.00
L	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.25	98.42	0.00	0.08	0.83	100.00
M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	100.00
N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	100.00
O	0.44	0.00	0.00	0.22	0.00	0.44	0.00	0.22	0.00	0.22	0.44	0.22	0.00	0.00	97.81	100.00
Grand Total	2.34	0.26	0.95	27.07	1.78	6.33	26.62	1.20	4.45	1.69	7.73	11.21	1.33	2.63	4.39	100.00

Table 2: Misclassification by size classes

- % -

Size class contained in the sampling frame	Size class reported during the data collection				Grand Total
	9 and less	10-49	50-249	250 and over	
10-49	6.91	81.03	8.33	3.73	100.00
50-249	0.77	7.50	87.46	4.26	100.00
250 and over	0.18	0.46	7.97	91.39	100.00
Grand Total	3.38	38.79	36.36	21.47	100.00

2.2.2. Measurement and processing errors

The SES questionnaire was structured in *two parts*:

Part A – information related to the enterprise (and where applicable, to the local units) and
Part B – information relating to each employee in the sample. The variables in Part B were grouped into *three chapters*:

B1 – demo-economic characteristics of the employees,

B2 – the working time and the gross amounts corresponding to month October 2006,

B3 – the working time and the gross amounts corresponding to whole year 2006.

NATIONAL INSTITUTE OF STATISTICS - ROMANIA
Quality Report On Structure Of Earnings Survey 2006

Detailed explanatory notes were annexed, containing: the scheme needed for the selection of the sample of employees, the definitions of the variables, the classifications of occupations (4 digit level) and the classification of educational level (1 digit level).

The SES is the only Romanian survey collecting the information at employee level. Generally, the respondents were guided by the statisticians from the territorial statistical offices and in some cases, even assisted by them in how to fill in the questionnaires.

Data collection was made by post or e-mail. Electronic questionnaire, designed in Microsoft Excel were also provided by INS to the respondent units, by request. But, the majority of the respondents (90%) preferred to answer by post, using paper questionnaires.

The next step was data entry and validation, for which an IT application was used to find all errors and non-correlations, occurred during data collection and data entry. The IT solution for Romanian SES was accomplished using Visual Fox and divided into two components:

- IT solution at local level – territorial statistical offices;
- IT solution at central level – INS headquarters (Bucharest).

The IT solution at ***local level*** allowed the data entry and validation at each county level (42 counties in total – NUTS3 level). The IT solution at ***central level*** contained the IT programs for:

- integrity checking (identification data of the selected units and of the respondent units were checked – unique code of the respondent unit, fiscal code, address, NACE activity, ownership type, etc.);
- printing the code of errors occurred and the non-correlation of the variables within same chapter or between chapters;
- solving the errors;
- comparisons with other surveys for the common respondent units and indicators (“Monthly wages and salaries survey”, “Distribution of earnings by occupations for month October”, “Job vacancy survey”, “Labour cost survey”);
- tabulation of non-weighted data;
- adjustment and weighting;
- tabulation of the results (weighted data) as Excel pivot tables;
- automatic codification of the national variables into the standard format.

After validation, data were analysed and corrected where necessary. In order to provide more accurate and reliable data comparisons among variables and/or with other data sources were made.

Individual hourly, monthly and annually earnings were compared by occupations, levels of education, age and length of service within the selected employees of the same enterprise. No more than $\pm 20\%$ difference was accepted. In cases above or below limits, the respondent units were contacted and asked for explanations.

Basic salaries were compared with the minimum wage guaranteed by the national legislation in force. The basic salaries which were below the minimum wage were not accepted for the employees working full-time or the corresponding proportion from the minimum wage for the employees working part-time.

NATIONAL INSTITUTE OF STATISTICS - ROMANIA
Quality Report On Structure Of Earnings Survey 2006

Monthly and annually earnings were correlated for each employee. An estimation of the annual earnings was made, taking into account the period worked during the year. This estimation was compared with the reported annual data.

The gross monthly earnings could differ from a month to another due to different financial and working conditions (i.e. break off work for technical or economic reasons, cancellation or new orders, plant breakdowns or raw materials shortage, financial difficulties or technical reasons etc.), which implies annual earnings much different than the one earned in the representative month (October) multiplied by the number of months actually worked.

The average monthly earnings aggregated by economic activities and by economic and financial control of the enterprises were compared with the same indicator from other two surveys – Labour costs survey 2006, Monthly wages and salaries survey (for month October 2006). For differences more than $\pm 20\%$ data were analysed starting from the employee level and corrected upon case.

The average monthly earnings were calculated taking into account the working program of the employees (full-time/part-time). The average annual earnings were calculated taking into account the working program of the employees (full-time/part-time) and the period actually worked during the year.

In the explanatory notes provided to the respondents there were references for all collected variables.

More problems were caused by the manner of sample selection of the employees by the respondent units. The problems occurred not for the sample size, but for the rule of respecting as much as possible the distribution of the employees of the sample (by sex, occupation groups and working program), as the distribution of the total number of employees of the respondent unit (by sex, occupation groups and working program).

About 150 logical tests and correlations were performed for data checking.

Logical tests were focussed on key variables such as: sex, date of birth, occupation, management/supervisory position, education level, type of contract, number of hours paid, monthly gross amounts paid, individual contributions, annual gross amounts paid, number of annual days of absence (holidays, sick leave, special events, vocational training).

The correlations were focussed on:

- ***different indicators from the same chapter*** (e.g. occupation – level of education, year of birth – level of education or length of service, gross amounts paid for overtime – number of overtime hours, etc.);
- ***similar indicators by different reported periods*** (ex. gross amounts paid monthly and annually, bonuses paid monthly and annually, etc.);
- ***common indicators from other surveys in the domain*** (total number of employees at the end of the month, the distribution of employees by occupation groups, etc.).

Also, the checks focused on:

- the plausibility between contractual hours, number of hours in a standard working month and the number of hours actually paid,
- plausibility between the number of overtime hours and the payments for overtime and also the number of weeks to which the gross earnings relate, for employees starting in 2006.

NATIONAL INSTITUTE OF STATISTICS - ROMANIA
Quality Report On Structure Of Earnings Survey 2006

Same tests were conducted at local level (territorial statistical offices) as well as at central level (INS). The largest part (about 75%) of the errors found was solved at local level. The figures were corrected after re-contacting the corresponding respondents.

The questionnaire design, quite detailed explanatory notes and annexes and the IT solutions developed had as result complete and of good quality data. Items of partial non-response were sent back to the respondent units for filling in the whole information.

The information given below refers **only to the errors and cases corrected at central level (INS)**, after the data files were received from all over the country. Statistics on the first level of checking (local level) are not available.

One error might need several variables to be corrected or, if the figures correspond to reality due to unusual phenomena, figures were accepted as such and no changes were operated.

Most frequent errors that occurred during data checking period:

- **8.32%** of errors coded A113 (in Romanian Logic tests); the *employee* contribution for unemployment insurance should fall between 0.9% – 1.1% of the basic salary;
- **7.99%** of error coded A114; the *employee* contribution for statutory social security should fall between 8.0% – 11.0% of the gross payments related to direct remuneration;
- **6.71%** of errors coded A123-A126; the correlation between the annual gross amounts paid and the monthly gross amounts multiplied with the period of time worked during the year;
- **5.94%** of errors coded A101-A102; the correlation between the basic salary and the minimum wage (according to the national legislation in force);
- **4.28%** of errors coded A109; the correlation between number of overtime hours paid and the gross amounts paid for the overtime;
- **4.05%** of errors coded A115; the *employee* contribution for health insurance should fall between 0.9% – 1.1% from the monthly gross amounts;
- **3.10%** of errors coded A121; the total gross amounts paid for month October equal with the sum of the basic salary, amounts from the net profit, other amounts paid;
- **2.94%** of errors coded A83-A84; the correlation between the occupation code and managerial/supervisory position;
- **2.13%** of errors coded A80; the correlation between the occupation code and the level of education code;
- **1.58%** of error coded A147-A148; the annual of days paid but not worked due to special events;
- **1.19%** of errors coded A138; the correlation between the gross amounts paid from the insurance schemes and the annual days of sick leave.

The number of cases needed to be corrected was not so significant to have an impact on the accuracy of the final results. In the table below are estimated the percentages of cases corrected at central level, by collected variables.

Table 3: Percentage of cases corrected

NATIONAL INSTITUTE OF STATISTICS - ROMANIA
Quality Report On Structure Of Earnings Survey 2006

Variables		% of cases corrected
code	Label	
1. Information relating the local unit to which the sampled employees are attached		
	Total number of employees in the enterprise	0.5
	Distribution of employees by occupation groups	2.9
	Distribution of employees by sex and occupation groups	2.3
	Distribution of employees by working program	1.2
1.1	Geographical location of the local unit	0.5
1.3	Principal economic activity of the local unit	1.5
1.4	Form of economic and financial control	0.8
1.5	Collective pay agreements	0.7
1.6	Total number of employees in the local unit in the reference month	1.4
2. Information relating to each employee in the sample		
	Unique number of employee	1.6
2.1	Sex	0.7
	Year of birth	0.4
	Local unit to which belongs	3.4
2.3	Occupation	3.3
2.4	Management or supervisory position	2.9
2.5	Highest completed level of education	2.7
	Date (year, month) of starting the activity in the enterprise	0.9
	Date (year, month) of closing the activity in the enterprise	1.2
2.7	Contractual working time	0.5
2.7.1	Share of a full-timer's normal hours	1.4
2.8	Type of employment contract	0.8
2.9	Citizenship	0.0
3. Information on working periods for each employee in the sample		
3.1	Number of weeks in the reference year to which the gross annual earnings relate	3.6
3.2	Number of hours paid during the reference month	3.2
3.2.1	Number of overtime paid in the reference month	2.5
3.3	Annual days of holiday leave	1.9
	Annual days of sick leave	1.9
	Annual days of sick leave paid by the employer	1.2
	Annual free days for special events	3.4
	Annual days of vocational training	0.3
	Normal duration of working week	3.1
	Payment period	0.8
4. Information on earnings for each employee in the sample		
4.1	Gross annual earnings in the reference year	4.2
4.1.1.	Annual bonuses and allowances not paid in each pay period	3.8
4.1.2.	Annual payments in kind	3.5
	Annual amounts from the net profit	2.4
	Annual amounts from other funds	2.2
	Annual amounts from the insurance schemes	1.3

NATIONAL INSTITUTE OF STATISTICS - ROMANIA
Quality Report On Structure Of Earnings Survey 2006

4.2	Gross earnings in the reference month	5.2
4.2.1.	Earnings related to overtime	1.7
4.2.2	Special payments for shift work	0.5
4.2.3	Compulsory social contributions and taxes paid by the employer on behalf of the employee	5.7
4.2.3.1	Compulsory social-security contributions	5.9
4.2.3.2	Taxes	5.4
	Basic salary	4.4
	Monthly bonuses and allowances not paid in each pay period	4.8
	Monthly payments in kind	3.9
	Monthly amounts from the net profit	1.8
	Monthly amounts from other funds (including payments in kind)	1.1
	Monthly amounts from the insurance schemes	1.4

2.2.3. Non-response errors

The treatment of non-response is performed only for the first sampling phase (i.e. to the primary sampling unit level which is the enterprise) and is regarding to the survey status of enterprises and its response. The non-response type used to the collection data phase is:

Table 4: Non-response type

Type of response used during the data collection (response code)	Type of response used in the non-response adjustment procedure	Percentage (%)
Response (1)	Response	84.62
Refusal (2)	Non-response	5.08
Unidentified (3)	Non-response	2.58
Out of scope units (4)	Model assumption	2.96
Units unable to be contacted (non-contacted) (5)	Non-response	0.34
Dormant unit (6)	Response	3.23
Ceased unit (7)	Non-response	0.71
Other unit responded (8)	Response	0.16
Other events (9)	Response	0.32
Grand Total	-	100.00

The enterprises that reported 9 employees or less were considered out of scope units. To perform the adjustments of out of scope units by weighting procedure a model assumption was used. These assumptions are made for each stratum (to first sampling phase level) and are:

- The out of scope units' rate among the respondents is the same as among the non-respondents.
- The number of out of scope enterprises in the frame is the same as the number of in scope units but not included in the sampling frame.
- The mean value of any variable of interest is the same in the accessible part of the target population as in the inaccessible part.

The non-response rates broken down by economic activity (NACE Rev.1.1.division and section level) and by size classes are presented in Table 5 and Table 6.

NATIONAL INSTITUTE OF STATISTICS - ROMANIA
Quality Report On Structure Of Earnings Survey 2006

Table 5: Non-response rates by NACE Rev.1.1 divisions and size classes

- % -

NACE. Rev.1.1 (2 digit level)	Size classes					Total
	10-49	50-249	250-499	500-999	1000+	
1	16	7	0	11	20	12
2	17	4	0	0	0	11
5	5	33	0	0	0	13
10	67	0	0	50	0	50
11	29	17	0	0	0	19
13	0	100	25	0	0	20
14	10	5	20	0	0	9
15	28	16	10	3	6	18
16	67	0	0	0	0	31
17	32	16	19	5	0	18
18	29	17	11	13	4	15
19	35	13	12	17	0	18
20	25	11	9	0	0	18
21	11	20	0	0	0	12
22	18	13	17	50	0	30
23	25	0	50	0	0	13
24	8	13	10	8	0	10
25	19	14	0	25	0	14
26	21	15	14	8	33	16
27	23	23	0	8	8	17
28	13	6	3	5	0	8
29	3	5	6	14	11	7
30	14	25	0	0	0	16
31	20	9	5	0	0	8
32	14	0	25	20	0	10
33	7	8	20	0	0	9
34	33	13	20	0	7	16
35	31	11	0	0	0	13
36	21	24	11	4	0	17
37	11	9	0	0	0	9
40	39	9	7	0	0	15
41	30	21	4	0	0	14
45	25	10	5	0	0	14
50	16	10	7	0	50	13
51	23	11	10	0	9	18
52	21	11	5	7	0	17
55	30	14	33	0	0	26
60	24	12	17	19	0	19
61	29	13	0	0	0	22
62	33	0	100	0	0	31
63	19	6	8	11	20	14
64	19	22	25	0	22	20
65	14	10	0	10	0	12
66	0	0	0	0	0	23

NATIONAL INSTITUTE OF STATISTICS - ROMANIA
Quality Report On Structure Of Earnings Survey 2006

67	30	6	0	0	0	19
70	23	16	20	0	0	23
71	50	42	0	0	0	47
72	31	16	0	25	0	22
73	10	6	0	0	0	9
74	29	21	18	31	19	26
75	0	0	3	2	0	2
80	22	3	0	13	2	13
85	18	3	3	0	0	5
90	11	7	7	0	0	8
91	4	3	0	0	0	18
92	10	9	10	17	0	31
93	21	0	0	0	0	11
Total	20	10	9	8	4	15

Table 6: Non-response rates by NACE Rev.1.1 sections and size classes

- % -

NACE. Rev.1.1 (1 digit)	Size classes					Total
	10-49	50-249	250-499	500-999	1000+	
A	16	6	0	11	17	12
B	5	33	0	0	0	13
C	20	13	15	14	0	17
D	22	13	11	8	4	15
E	36	14	5	0	0	14
F	25	10	5	0	0	14
G	21	11	8	3	7	17
H	30	14	33	0	0	26
I	23	12	17	14	9	19
J	17	7	0	7	0	15
K	27	19	16	27	17	24
L	0	0	3	2	0	2
M	22	3	0	13	2	13
N	18	3	3	0	0	5
O	10	6	7	8	0	24
Total	20	10	9	8	4	15

The estimation procedure is performed in two phases, corresponding to the two sampling phases:

- i. To the first sampling phase (i.e. to the primary sampling unit level which is the enterprise)

The estimation procedure involves the multiplying of the value for each sampled business (y_i) by a combination of weights, one being outlier weight (w_{ih}), one resulting from the sample design (a_{ih}) and one being the non-response adjustment (nr_{ih}). An outlier weight is computed as a Windsor weight. The normal score used to set the outlier units is computed taking into account the stratification used in sample design corresponding to the first sampling phase. The adjustment of the non-response is performed by the inverse of response probability and taking into account the stratification used in the sampling design. The overall **non-response rate** is about **15%**.

So, for each response primary unit the final weigh is

$$weight_{ih} = w_{ih} \cdot a_{ih} \cdot nr_{ih}$$

where “i” is the primary sampling unit index and “h” the stratum index.

- ii. To the second sampling phase (i.e. to the secondary sampling unit level which is the employee)

The final weight of the employee is given by multiplying the inverse of selection probability of the employee (b^j), computed separately by gender (men and women), with the enterprise final weight ($weight_{ih}$).

$$\text{So, } weight_{ih}^j = weight_{ih} \cdot b^j$$

where j is the employee index.

2.2.4. Model assumption errors

In Romania fiscal year fully corresponds to calendar year. No adjustment of this kind was necessary to be made.

Romanian Structure of Earnings Statistics covered all enterprises irrespective of the economic activity performed and having 10 employees and over. According to Eurostat arrangements for implementing the Council Regulation no.530/1999 and the Commission Regulation no. 1738/2005, Romania provided data for:

1. **Table A** (local unit table) - data refer to enterprises with 10 or more employees (micro data file);
2. **Table B** (employee table) - data refer to all surveyed (micro data file).

No combinations between survey data and register data have been undertaken. All data are obtained from the survey.

3. PUNCTUALITY AND TIMELINESS

The **data collection period** for SES 2006 was lasted 4 months:

- 3 months for enterprises to fill in the questionnaires and to send them to the territorial statistical offices (January – March 2007);
- 1 month for the territorial statistical offices to perform data entry, data checking and to send data files to central level (April 2007).

Thus, the deadline for receiving the files from territorial statistical offices was **2nd May 2007**.

Since not all enterprises respected the deadline requested, a high proportion of questionnaires were received with delay by the territorial statistical offices. Furthermore, due to the recalls necessary for additional information and corrections of the variables filled in by the enterprises, delays occurred in sending the data files to INS.

NATIONAL INSTITUTE OF STATISTICS - ROMANIA
Quality Report On Structure Of Earnings Survey 2006

Only the information on the delays encountered in receiving the data files from the territorial statistical offices to INS is available. Below are presented information on the proportion of data files sent from the territorial statistical offices and the dates when INS received them:

- 2 - 10 May: 45.24%
- 11 - 20 May: 9.52%
- 21 - 31 May: 33.33%
- 1 – 10 June: 11.91%

Thus, for the first transmission a delay of 41 days was registered between the scheduled and actual data files transmission.

Also, due to several data corrections, the files from the territorial statistical offices were remanded several times. The last transmission registered was on 20.12.2007.

Even so, no delays were registered into the data transmission to Eurostat or data dissemination at national level.

The transmission to Eurostat of the micro data files was in accordance with the legal requirements, as Gesmes files, via eDAMIS, on the 26th of June 2008 (the deadline stipulated by the Council Regulation no. 530/1999 was 30 June 2008).

All the activities carried out by INS during a year are scheduled through the Activity Plan with several months in advance. Annually, INS issues for the users a catalogue of statistical products and services containing the names, periodicity, short descriptions and release dates for all publications.

The length period of preparing, carrying out and publishing of the final results for SES 2006 lasted about **26 months** (from October 2006 to the end December 2008), as described in the table below:

Table 7: Program of activities of Romanian SES 2006

No	ACTIVITIES	ACTIVITIES DESCRIPTION	DEAD-LINES
1.	Program of survey activities and study of documentation	1.1. Identification of the activities and operations to be carried out in order to successfully run the SES 2006 1.2. Documentation study: - national level (changes in legislation, collective agreements, labour code etc.) - European level (Council and Commission regulations, working group documents etc.)	10.10.2006 16.10.2006
2.	Redesigning of survey tools	2.1. Redesigning first version of survey tools (questionnaires, explanatory notes, classifications)	20.10.2006

NATIONAL INSTITUTE OF STATISTICS - ROMANIA
Quality Report On Structure Of Earnings Survey 2006

		2.2. Sending the survey tools for comments and observations to main users (Ministry of Labour, Family and Equal Opportunities, Ministry of Economy and Public Finances, National Commission for Prognosis) and to some statistical territorial offices	25.10.2006
		2.3. Meetings with the main users (experts from ministries) for discussing the proposed changes in the survey methodology	01.11.2006
		2.4. Receiving comments and observations from the statistical territorial offices	06.11.2006
		2.5. Operating the changes based on comments and observation received and redesigning the final version of survey tools	10.11.2006
		2.6. Approval of the final version of survey tools	15.11.2006
	Dispatching survey tools in the territory	2.7. Sample selection of enterprises	15.11.2006
		2.8. Sending for checking the samples selected to each territorial statistical office	03.12.2006
		2.9. Printing the survey tools according to the number of selected enterprises	15.12.2006
		2.10. Updating the samples based on the updates received from the territorial statistical offices (organisational changes, identified / not - identified, activity changed etc.)	15.12.2006
		2.11. Dispatching survey tools to the territorial statistical offices according to the renewed list of enterprises	29.12.2006
3.	IT solutions	3.1. Designing the logical tests for data entry (including the electronic questionnaire)	01.02.2007
		3.2. Designing the logical tests for data checking, correction and validation	01.02.2007
		3.3. Testing the IT solution at local level	01.03.2007
		3.4. Testing the IT solution at central level	01.03.2007
		3.5. Designing of IT solution for centralising the final data at INS level	15.06.2007
4.	Field work and data checking	4.1. Planning and organisation of field work activities	31.12.2006
		4.2. Data collection	30.03.2007
		4.3. Data entry, checking and validation at local level	30.04.2007
		4.4. Data files reception and listing of occurred errors	02.05.2007
		4.5. Data checking and errors correction	31.10.2007
		4.6. Checking, correlations and coherence with other data sources	30.11.2007

NATIONAL INSTITUTE OF STATISTICS - ROMANIA
Quality Report On Structure Of Earnings Survey 2006

		4.7. Transmission of last corrected data files from territorial statistical offices	20.12.2007
		4.8. Tabulation and checking of non-weighted data	01.05.2008
		4.9. Final data corrections and validations	15.05.2008
		4.10. Data weighting	30.05.2008
		4.11. Validation of weighted data	20.06.2008
		4.12. Tabulation of weighted data	15.07.2008
		4.13. Analysis of final results	01.08.2008
5.	Dissemination of survey results	5.1. Codification and transmission of the micro data files through eDAMIS to EUROSTAT	26.06.2008
		5.2. Press release on SES 2006 results (available on INS web-site)	16.09.2008
		5.3. Release of the 4-yearly publication on SES 2006 results (available only in Romanian)	19.09.2008
6.	Quality evaluation	6.1. Quality report on SES2006	end of 2008

4. ACCESSIBILITY AND CLARITY

For the first time, the SES 2006 data were disseminated through a press release, containing the main results, conclusions and also relevant methodological explanations (definition of the main indicators, classification used, and response rate). The press release is available on INS web-site for all interested users.

The main publication of Structure of Earnings Survey results is called “*Salary disparities: influence factors*”, available only in Romanian language, structured into three parts:

- **I. Survey methodology and organisation:** providing information on the survey objectives, coverage, unit of observation, periodicity and reference period, sampling design, concepts and definitions of the collected and derived indicators, classifications used;
- **II. Data analysis of the SES 2006:** containing tables, graphs and analysis of the main indicators obtained – number of employees, hourly, monthly and annually earnings, working time – by demo-socio-economical characteristics (sex, age, educational level, occupation, length in the enterprise, economic activity, economic and financial control of the enterprise, size class of the enterprise);
- **III. SES 2006 results:** containing annexes with detailed tables of the main indicators (number of employees, hourly, monthly and annually earnings, working time) by demo-socio-economical characteristics (sex, age, educational level, occupation, length in the enterprise, economic activity, economic and financial control of the enterprise, size class of the enterprise).

The publication is available in the INS library and can be bought by all interested users from the INS bookshop.

Also, the publication was disseminated and distributed to the main users:

NATIONAL INSTITUTE OF STATISTICS - ROMANIA
Quality Report On Structure Of Earnings Survey 2006

- Presidency of Romania;
- Parliament of Romania (including several Commissions oriented on labour, social protection policies, budget and financial policies);
- governmental bodies: Ministry of Labour, Family and Equal Opportunities, Ministry of Economy and Public Finances, National Commission for Prognosis, National Agency for Employment, Ministry of Industry and Commerce, Ministry of Internal Affairs, Ministry of Education, Ministry of Health, Ministry of Foreign Affairs, Ministry of Defence, Ministry of Agriculture etc.;
- main departments of INS and all territorial statistical offices;
- research institutes and universities: Research Institute of National Economy, Research Institute for Labour Force, Research Institute for Education, Romanian Academy, Academy for Economic Studies etc.
- employers and employers' associations;
- trade unions;
- professional associations.

Upon request, data are provided to a very large number of other users (internal and international).

5. COMPARABILITY

5.1. Geographical comparability

Comparability between national and European concepts on:

- **Definition of statistical units - There is no deviation from European concepts:**
 - The **unit of selection** was the **enterprise** defined according to the communautaire rules for enterprises statistics as: „the smallest combination of legal units that is an organisational unit producing goods or services, which benefits from a certain degree of autonomy in decision-making, especially for the allocation of its current resources. An enterprise carries out one or more activities at one or more locations. An enterprise may be a sole legal unit”.
 - The sampled enterprises provided data for their employees belonging to different local units.

- **Populations - There is no deviation from European concepts:**
 - The Romanian Business Register was designed and implemented based on the administrative files (REGIS, which is the Fiscal Register, updated annually) and statistical sources in addition (Trade Register, Balance Sheet files, VAT files, feedback from other surveys, used as consultation data sources for improving the quality of the register data).
 - According to the Council Regulations, REGIS contains the following types of statistical units: legal unit, enterprise, and local unit. All the enterprises having the main activity in the section A to Q of NACE rev.1.1, whatever their size (number of employees or turnover) are covered.
 - The Romanian Business Register contains all enterprises, authorities and organisations as well as their local units in Romania that carry out any economic activity irrespective of their size or if they belong to the private or public sector. There are covered the following institutional sectors:
 - Non-financial corporate and quasi-corporate enterprises
 - Central and local administration

NATIONAL INSTITUTE OF STATISTICS - ROMANIA
Quality Report On Structure Of Earnings Survey 2006

- Social security institutions and private non-profit institutions serving households

In respect to the budgetary institutions and public administration REGIS is the most complete register in Romania, based on Official Journal and the collaboration with many administration institutions.

- **Reference times - There is no deviation from European concepts:**
 - The statistics on the structure of earnings are produced for the reference month **October** and for **calendar year 2006**, with a four-yearly periodicity.
- **Classifications - There is no deviation from European concepts:**
 - The national classification of economic activities is covered by CAEN Rev.1 fully harmonized with NACE Rev.1.1.;
 - The national classification of occupations is covered by COR harmonized with ISCO-COM88;
 - The size classes of enterprises correspond to the size classes described in the Council Regulation no. 530/1999 concerning structural statistics on earnings and labour costs;
 - For year 2006 NUTS1 level was the same as NUTS0 level.
- **Definitions of variables - There is no deviations from European concepts:**
 - The definitions of SES 2006 variables were developed and adopted in accordance with European standards (Commission Regulation (EC) no 1738/2005 amending Regulation (EC) No 1916/2000 as regards the definition and transmission of information on the structure of earnings), but also taking into account the national features.

5.2. Comparability over time

The Romanian SES was carried out for the second time (with 2002 and 2006 as reference years). No significant changes in definitions, coverage or classifications used since the previous survey. The improvements made in comparison with year 2002 refer only to:

- the inclusion of apprentices, being covered by the national legislation at the present moment,
- the detailed methodological notes accompanying the survey questionnaire.

The tables below are an illustrating example on data series continuity over the years. Due to strong inflation registered in Romania the last table shows the trends of power of purchasing expressed as the ratio of nominal earnings index divided by consumer prices index (CPI).

NATIONAL INSTITUTE OF STATISTICS - ROMANIA
Quality Report On Structure Of Earnings Survey 2006

Table 8: Hourly gross earnings, by economic activities and sex

RON / employee

	2002			2006		
	Male	Female	Total	Male	Female	Total
Total	3.52	2.98	3.27	7.10	6.63	6.88
<i>Agriculture</i>	2.50	2.39	2.47	5.02	4.98	5.01
<i>Sylviculture, forestry and hunting</i>	1.77	*	1.79	3.93	4.56	4.11
<i>Mining and quarrying</i>	5.48	4.34	5.27	11.39	10.12	11.15
<i>Manufacturing</i>	3.16	2.33	2.74	6.19	4.65	5.41
<i>Electric and thermal energy. gas and water</i>	4.75	4.10	4.59	9.84	9.42	9.73
<i>Construction</i>	2.65	2.94	2.69	5.90	6.55	5.99
<i>Trade</i>	3.17	2.30	2.75	6.39	5.39	5.93
<i>Hotels and restaurants</i>	2.67	2.17	2.36	4.92	4.28	4.55
<i>Transport. storage and communications</i>	4.14	4.27	4.18	7.66	7.79	7.7
<i>Financial. banking and insurance activities</i>	9.54	7.44	8.03	17.81	16.32	16.79
<i>Real estate and other services</i>	3.11	3.49	3.23	6.62	8.18	7.13
<i>Public administration</i>	3.69	2.98	3.24	8.50	8.52	8.51
<i>Education</i>	4.02	3.59	3.72	9.07	8.13	8.43
<i>Health and social assistance</i>	3.87	3.35	3.46	8.63	7.58	7.81
<i>Other activities</i>	3.39	2.48	2.90	6.69	6.07	6.39

* not reliable data due to the small number of observed units

Table 9: Monthly gross earnings, by economic activities and sex

RON / employee

	2002			2006		
	Male	Female	Total	Male	Female	Total
Total	658.5	555.4	610.4	1268	1176	1225
<i>Agriculture</i>	473.0	445.3	466.0	895	882	892
<i>Sylviculture, forestry and hunting</i>	331.2	*	335.0	695	804	727
<i>Mining and quarrying</i>	947.8	791.7	918.7	1948	1786	1917
<i>Manufacturing</i>	595.8	436.8	516.4	1116	835	974
<i>Electric and thermal energy. gas and water</i>	880.0	754.7	848.5	1751	1668	1731
<i>Construction</i>	525.4	559.0	529.7	1075	1151	1084
<i>Trade</i>	588.2	426.3	509.7	1126	940	1041
<i>Hotels and restaurants</i>	495.6	403.0	437.9	859	745	793
<i>Transport. storage and communications</i>	772.8	782.2	775.7	1361	1353	1358
<i>Financial. banking and insurance activities</i>	1760.9	1379.2	1487.0	3125	2866	2948
<i>Real estate and other services</i>	583.3	640.9	601.9	1175	1428	1258
<i>Public administration</i>	683.0	550.4	598.0	1528	1537	1533

NATIONAL INSTITUTE OF STATISTICS - ROMANIA
Quality Report On Structure Of Earnings Survey 2006

<i>Education</i>	765.8	677.0	703.8	1625	1447	1503
<i>Health and social assistance</i>	725.1	625.6	646.6	1513	1324	1366
<i>Other activities</i>	636.3	463.1	542.3	1191	1065	1130

* not reliable data due to the small number of observed units

Table 10: Annual gross earnings, by economic activities and sex

RON / employee

	2002			2006		
	Male	Female	Total	Male	Female	Total
Total	7870.0	6538.1	7246.9	14510	13569	14072
<i>Agriculture</i>	5665.6	5235.7	5556.7	9926	9780	9888
<i>Sylviculture, forestry and hunting</i>	3943.7	*	3980.6	7829	9345	8272
<i>Mining and quarrying</i>	12388.6	10856.6	12100.5	23892	22143	23556
<i>Manufacturing</i>	6916.8	5006.6	5965.2	12678	9349	10997
<i>Electric and thermal energy. gas and water</i>	10831.0	9271.4	10440.8	21671	20868	21475
<i>Construction</i>	5981.3	6396.6	6034.9	11166	12810	11370
<i>Trade</i>	7107.1	5081.3	6112.9	12424	10439	11518
<i>Hotels and restaurants</i>	5835.2	4698.1	5123.6	9605	8406	8914
<i>Transport. storage and communications</i>	9508.2	9848.3	9613.8	16277	15768	16126
<i>Financial. banking and insurance activities</i>	22609.1	17862.2	19194.6	39084	35821	36853
<i>Real estate and other services</i>	6982.3	7495.2	7150.1	13067	16100	14060
<i>Public administration</i>	7973.0	6445.3	6994.7	17458	17455	17456
<i>Education</i>	8558.7	7648.2	7924.5	19464	17226	17927
<i>Health and social assistance</i>	8350.3	7157.7	7408.2	17415	15424	15864
<i>Other activities</i>	7592.2	5595.4	6509.2	13553	12213	12904

* not reliable data due to the small number of observed units

Table 11: Ratio of nominal earnings index and consumer price index

(%)

Years	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
1996	100,0	77,2	80,3	78,3	81,7	85,8	87,8	97,3	107,6	123,0	134,0	153,8
1997		100,0	104,0	101,4	105,8	111,0	113,7	126,0	139,3	159,3	173,5	199,1
1998			100,0	97,5	101,8	106,8	109,4	121,2	134,1	153,2	166,9	191,6
1999				100,0	104,3	109,5	112,2	124,3	137,4	157,1	171,1	196,4
2000					100,0	105,0	107,5	119,1	131,7	150,5	164,0	188,2
2001						100,0	102,4	113,4	125,5	143,4	156,2	179,3
2002							100,0	110,8	122,5	140,0	152,5	175,1
2003								100,0	110,5	126,3	137,7	158,0
2004									100,0	114,3	124,6	143,0
2005										100,0	109,0	125,0
2006											100,0	114,7

6. COHERENCE

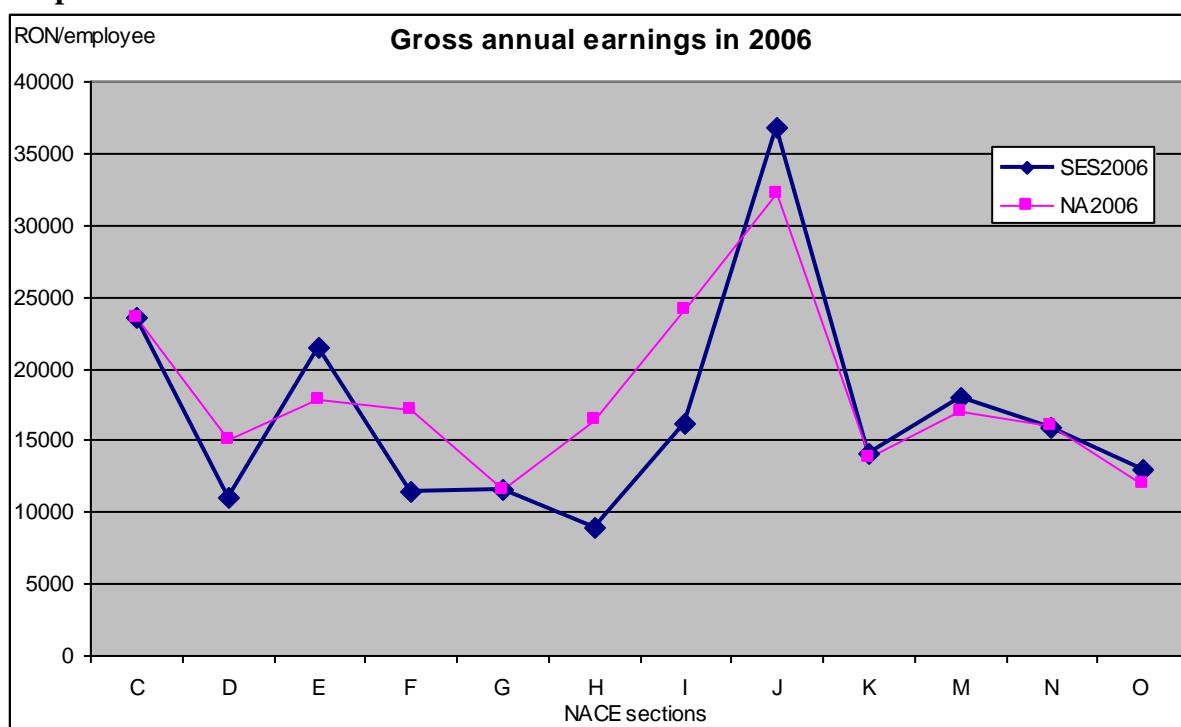
Coherence with National Accounts

The comparison between the gross annual earnings in the reference year, expressed per employee, shows some differences between Structure of Earnings Survey and National Account (NA), mainly due to the different coverage of the two data sources. In SES, enterprises with less than 10 employees are excluded, while NA contains information also, for small enterprises.

Main data sources for the National Accounts, by NACE Rev 1.1 sections are:

- Accounting statements of financial and non-financial units,
- Accounting statements of non-profit institutions serving households,
- Execution of state budget,
- Structural Business Survey ,
- Labour Cost Survey,
- Household Budget Survey,
- Labour Force Survey (for employment data only),
- Declaration on global income of self-employed persons and family associations,
- Balance of payments.

Graph 1:



For a better data comparability:

- sections A, B and L of NACE Rev.1.1 were excluded from SES.

NATIONAL INSTITUTE OF STATISTICS - ROMANIA
Quality Report On Structure Of Earnings Survey 2006

Compared with SES, for sections E and J, the NA include persons with other kind of contracts (i.e. insurance agents, field agents), that are not paid from the salary funds. In comparison with SES, section O include in NA data on trade unions, political parties, non-profit institutions serving households etc.

The highest differences registered for the economic activities with a significant number of small enterprises, including informal sector: manufacturing (D), construction (F), hotels and restaurants (H), transport, storage and communication (I).

NATIONAL INSTITUTE OF STATISTICS - ROMANIA
Quality Report On Structure Of Earnings Survey 2006

7. ANNEX - COEFFICIENTS OF VARIATION

Table 1a: Coefficients of variation for variables “gross earnings in the reference month (B42)” and “average gross hourly earnings in the reference month (B43)” by NACE Rev.1.1 sections

NACE Rev.1.1 Section level	Gross earnings in the reference month (B42)	Average gross hourly earnings in the reference month (B43)
A	0.042631	0.041658
B	0.214759	0.214872
C	0.028064	0.027622
D	0.020873	0.021050
E	0.013053	0.012873
F	0.020737	0.021030
G	0.014249	0.014123
H	0.046778	0.046164
I	0.016220	0.016291
J	0.021904	0.021787
K	0.023663	0.023479
L	0.015586	0.015547
M	0.007375	0.007203
N	0.013126	0.015328
O	0.043008	0.043911

Table 1b: Coefficients of variation for variables “gross earnings in the reference month (B42)” and “average gross hourly earnings in the reference month (B43)” by FT/PT employees

Full time/ Part time employees	Gross earnings in the reference month (B42)	Average gross hourly earnings in the reference month (B43)
FT	0.009147	0.009216
PT	0.050424	0.053460

NATIONAL INSTITUTE OF STATISTICS - ROMANIA
Quality Report On Structure Of Earnings Survey 2006

Table 1c: Coefficients of variation for variables “gross earnings in the reference month (B42)” and “average gross hourly earnings in the reference month (B43)” by FT/PT employees and NACE Rev.1.1 sections

NACE Rev.1.1 Section level	Full time/ Part time employees	Gross earnings in the reference month (B42)	Average gross hourly earnings in the reference month (B43)
A	FT	0.042877	0.042157
B	FT	0.214881	0.215363
C	FT	0.028050	0.027665
D	FT	0.020972	0.021231
E	FT	0.013042	0.012886
F	FT	0.020963	0.021143
G	FT	0.014406	0.014441
H	FT	0.047329	0.047422
I	FT	0.016366	0.016455
J	FT	0.021916	0.021925
K	FT	0.023853	0.023910
L	FT	0.015598	0.015572
M	FT	0.007373	0.007283
N	FT	0.013094	0.013344
O	FT	0.043807	0.044193
A	PT	0.290719	0.240694
B	PT	0.095811	0.219789
C	PT	0.222638	0.190693
D	PT	0.157327	0.156388
E	PT	0.253436	0.191017
F	PT	0.113814	0.131196
G	PT	0.071528	0.062176
H	PT	0.137301	0.144661
I	PT	0.109767	0.102681
J	PT	0.202539	0.154722
K	PT	0.105852	0.093614
L	PT	0.224621	0.219699
M	PT	0.044251	0.046734
N	PT	0.138511	0.167132
O	PT	0.225610	0.206144

NATIONAL INSTITUTE OF STATISTICS - ROMANIA
Quality Report On Structure Of Earnings Survey 2006

Table 1d: Coefficients of variation for variables “gross earnings in the reference month (B42)” and “average gross hourly earnings in the reference month (B43)” by FT/PT employees, sex and NACE Rev.1.1 sections

NACE Rev.1.1 Section level	Sex	Full time/ Part time employees	Gross earnings in the reference month (B42)	Average gross hourly earnings in the reference month (B43)
A	F	FT	0.089827	0.088408
B	F	FT	0.386073	0.386802
C	F	FT	0.066886	0.066422
D	F	FT	0.027466	0.027738
E	F	FT	0.027488	0.027084
F	F	FT	0.057606	0.057889
G	F	FT	0.022062	0.022107
H	F	FT	0.057012	0.057127
I	F	FT	0.033441	0.033552
J	F	FT	0.027165	0.027173
K	F	FT	0.036781	0.036902
L	F	FT	0.018582	0.018576
M	F	FT	0.008435	0.008299
N	F	FT	0.014294	0.014617
O	F	FT	0.058329	0.058642
A	F	PT	0.257546	0.298797
B	F	PT	0.117812	0.334912
C	F	PT	0.255413	0.275679
D	F	PT	0.233170	0.230892
E	F	PT	0.505132	0.342546
F	F	PT	0.124194	0.121338
G	F	PT	0.082890	0.073892
H	F	PT	0.158968	0.152042
I	F	PT	0.170002	0.150607
J	F	PT	0.271521	0.214017
K	F	PT	0.158011	0.139055
L	F	PT	0.329521	0.330458
M	F	PT	0.054281	0.060759
N	F	PT	0.165244	0.202793
O	F	PT	0.284441	0.260696
A	M	FT	0.048660	0.047823
B	M	FT	0.244117	0.244730
C	M	FT	0.030871	0.030410
D	M	FT	0.032386	0.032890
E	M	FT	0.014800	0.014636
F	M	FT	0.022504	0.022710
G	M	FT	0.018709	0.018755
H	M	FT	0.078181	0.078338
I	M	FT	0.018732	0.018845
J	M	FT	0.037066	0.037092
K	M	FT	0.030894	0.030965

NATIONAL INSTITUTE OF STATISTICS - ROMANIA
Quality Report On Structure Of Earnings Survey 2006

NACE Rev.1.1 Section level	Sex	Full time/ Part time employees	Gross earnings in the reference month (B42)	Average gross hourly earnings in the reference month (B43)
L	M	FT	0.024778	0.024708
M	M	FT	0.014142	0.014051
N	M	FT	0.030379	0.030755
O	M	FT	0.064473	0.065241
A	M	PT	0.365382	0.314376
B	M	PT	0.000000	0.000000
C	M	PT	0.306570	0.259404
D	M	PT	0.130384	0.171263
E	M	PT	0.242054	0.220306
F	M	PT	0.154850	0.178881
G	M	PT	0.129762	0.109321
H	M	PT	0.245336	0.266479
I	M	PT	0.136073	0.138958
J	M	PT	0.180369	0.199528
K	M	PT	0.131570	0.115998
L	M	PT	0.302780	0.286111
M	M	PT	0.073190	0.069390
N	M	PT	0.239862	0.269400
O	M	PT	0.318851	0.294827

Table 2a: Coefficients of variation for variables “gross earnings in the reference month (B42)” and “average gross hourly earnings in the reference month (B43)” by ISCO major groups

ISCO major groups	Gross earnings in the reference month (B42)	Average gross hourly earnings in the reference month (B43)
GM1	0.026464	0.026505
GM2	0.015855	0.016125
GM3	0.021776	0.021927
GM4	0.066571	0.065740
GM5	0.018664	0.018626
GM6	0.105274	0.101565
GM7	0.023876	0.024052
GM8	0.021498	0.021724
GM9	0.019111	0.019066

NATIONAL INSTITUTE OF STATISTICS - ROMANIA
Quality Report On Structure Of Earnings Survey 2006

Table 2b: Coefficients of variation for variables “gross earnings in the reference month (B42)” and “average gross hourly earnings in the reference month (B43)” by FT/PT employees, sex and ISCO major groups

ISCO major groups	Sex	Full time/ Part time employees	Gross earnings in the reference month (B42)	Average gross hourly earnings in the reference month (B43)
GM1	F	FT	0.045093	0.045272
GM2	F	FT	0.020916	0.021014
GM3	F	FT	0.027331	0.027419
GM4	F	FT	0.025962	0.026024
GM5	F	FT	0.021874	0.021945
GM6	F	FT	0.071247	0.070536
GM7	F	FT	0.055368	0.055835
GM8	F	FT	0.042710	0.043310
GM9	F	FT	0.033536	0.033759
GM1	F	PT	0.327719	0.342989
GM2	F	PT	0.082469	0.084814
GM3	F	PT	0.243627	0.195967
GM4	F	PT	0.178053	0.159569
GM5	F	PT	0.106279	0.097829
GM7	F	PT	0.242395	0.236347
GM8	F	PT	0.327278	0.343587
GM9	F	PT	0.138331	0.119462
GM1	M	FT	0.032752	0.032836
GM2	M	FT	0.024300	0.024324
GM3	M	FT	0.035366	0.035509
GM4	M	FT	0.184477	0.185965
GM5	M	FT	0.034067	0.034196
GM6	M	FT	0.129374	0.125603
GM7	M	FT	0.016309	0.016304
GM8	M	FT	0.022782	0.023011
GM9	M	FT	0.022730	0.022816
GM1	M	PT	0.215700	0.218543
GM2	M	PT	0.147929	0.177069
GM3	M	PT	0.140486	0.159414
GM4	M	PT	0.206993	0.189075
GM5	M	PT	0.181579	0.205081
GM6	M	PT	0.332193	0.254231
GM7	M	PT	0.183732	0.235452
GM8	M	PT	0.171608	0.170236
GM9	M	PT	0.135331	0.134324

NATIONAL INSTITUTE OF STATISTICS - ROMANIA
Quality Report On Structure Of Earnings Survey 2006

Table 3a: Coefficients of variation for variables “gross earnings in the reference month (B42)” and “average gross hourly earnings in the reference month (B43)” by age bands

Age band (years)	Gross earnings in the reference month (B42)	Average gross hourly earnings in the reference month (B43)
<20	0.063274	0.06250
20 – 29	0.018217	0.01820
30 – 39	0.018930	0.01899
40 – 49	0.016185	0.01627
50 – 59	0.017923	0.01797
60+	0.040549	0.04060

Table 3b: Coefficients of variation for variables “gross earnings in the reference month (B42)” and “average gross hourly earnings in the reference month (B43)” by FT/PT employees, sex and age bands

Age band (years)	Sex	Full time/ Part time employees	Gross earnings in the reference month (B42)	Average gross hourly earnings in the reference month (B43)
<20	F	FT	0.101809	0.101975
20 – 29	F	FT	0.031376	0.031591
30 – 39	F	FT	0.024146	0.024366
40 – 49	F	FT	0.028527	0.028765
50 – 59	F	FT	0.032544	0.032416
60+	F	FT	0.065964	0.065976
<20	F	PT	0.334243	0.292255
20 – 29	F	PT	0.104539	0.095152
30 – 39	F	PT	0.125187	0.108349
40 – 49	F	PT	0.097386	0.109752
50 – 59	F	PT	0.207983	0.198498
60+	F	PT	0.207137	0.179892
<20	M	FT	0.083398	0.082331
20 – 29	M	FT	0.021287	0.021341
30 – 39	M	FT	0.028796	0.029109
40 – 49	M	FT	0.016923	0.016927
50 – 59	M	FT	0.021124	0.021284
60+	M	FT	0.051352	0.051409
<20	M	PT	0.306502	0.263170
20 – 29	M	PT	0.148290	0.181214
30 – 39	M	PT	0.155008	0.198328
40 – 49	M	PT	0.196214	0.239142
50 – 59	M	PT	0.109144	0.106525
60+	M	PT	0.146663	0.162019

NATIONAL INSTITUTE OF STATISTICS - ROMANIA
Quality Report On Structure Of Earnings Survey 2006

Table 4a: Coefficients of variation for variables “gross earnings in the reference month (B42)” and “average gross hourly earnings in the reference month (B43)” by level of education (ISCED)

ISCED	Gross earnings in the reference month (B42)	Average gross hourly earnings in the reference month (B43)
1	0.058503	0.059390
2	0.019300	0.019236
3	0.014185	0.014223
4	0.031351	0.031806
5	0.048001	0.047287
6	0.014414	0.014467

Table 4b: Coefficients of variation for variables “gross earnings in the reference month (B42)” and “average gross hourly earnings in the reference month (B43)” by FT/PT employees, sex and level of education (ISCED)

ISCED	Sex	Full time/ Part time employees	Gross earnings in the reference month (B42)	Average gross hourly earnings in the reference month (B43)
1	F	FT	0.072118	0.073207
2	F	FT	0.032389	0.032530
3	F	FT	0.022707	0.022881
4	F	FT	0.043784	0.044045
5	F	FT	0.062588	0.062771
6	F	FT	0.019031	0.019103
1	F	PT	0.349412	0.339626
2	F	PT	0.210482	0.165165
3	F	PT	0.070031	0.068536
4	F	PT	0.451152	0.386126
5	F	PT	0.246344	0.222125
6	F	PT	0.094374	0.101834
1	M	FT	0.080937	0.081960
2	M	FT	0.023793	0.023742
3	M	FT	0.018040	0.018243
4	M	FT	0.045360	0.045696
5	M	FT	0.071190	0.071026
6	M	FT	0.021150	0.021214
1	M	PT	0.438910	0.455104
2	M	PT	0.150282	0.144717
3	M	PT	0.084525	0.091309
4	M	PT	0.189586	0.239853
5	M	PT	0.274537	0.237087
6	M	PT	0.127027	0.149190

NATIONAL INSTITUTE OF STATISTICS - ROMANIA
Quality Report On Structure Of Earnings Survey 2006

Table 5a: Coefficients of variation for variables “gross earnings in the reference month (B42)” and “average gross hourly earnings in the reference month (B43)” size classes of the enterprise

Size classes of the enterprise	Gross earnings in the reference month (B42)	Average gross hourly earnings in the reference month (B43)
E1000	0.005364	0.005394
E10_49	0.011874	0.011784
E250_499	0.017953	0.018095
E500_999	0.011165	0.010707
E50_249	0.021597	0.021734

Table 5b Coefficients of variation for variables “gross earnings in the reference month (B42)” and “average gross hourly earnings in the reference month (B43)” NACE Rev.1.1 sections and size classes of the enterprise

NACE Rev.1.1 Section level	Size classes of the enterprise	Gross earnings in the reference month (B42)	Average gross hourly earnings in the reference month (B43)
A	E1000	0.045365	0.045412
A	E10_49	0.046979	0.046684
A	E250_499	0.073107	0.065228
A	E500_999	0.035405	0.036617
A	E50_249	0.130801	0.126234
B	E10_49	0.236534	0.236376
B	E250_499	0.130870	0.130870
B	E50_249	0.046534	0.048047
C	E1000	0.029266	0.028186
C	E10_49	0.068983	0.068765
C	E250_499	0.037862	0.040252
C	E500_999	0.063111	0.060013
C	E50_249	0.046030	0.046515
D	E1000	0.007860	0.007873
D	E10_49	0.032173	0.032126
D	E250_499	0.020221	0.020070
D	E500_999	0.016352	0.016634
D	E50_249	0.037457	0.037765
E	E1000	0.012420	0.012071
E	E10_49	0.082713	0.081375
E	E250_499	0.039441	0.038922
E	E500_999	0.017728	0.017616
E	E50_249	0.043636	0.043327
F	E1000	0.046878	0.041558
F	E10_49	0.024535	0.024507
F	E250_499	0.030505	0.029727
F	E500_999	0.076579	0.065789
F	E50_249	0.042720	0.043585

NATIONAL INSTITUTE OF STATISTICS - ROMANIA
Quality Report On Structure Of Earnings Survey 2006

NACE Rev.1.1 Section level	Size classes of the enterprise	Gross earnings in the reference month (B42)	Average gross hourly earnings in the reference month (B43)
G	E1000	0.029479	0.029489
G	E10_49	0.011310	0.011153
G	E250_499	0.121423	0.121847
G	E500_999	0.069260	0.069774
G	E50_249	0.033590	0.033849
H	E1000	0.050957	0.048025
H	E10_49	0.053592	0.052541
H	E250_499	0.057727	0.057304
H	E500_999	0.053900	0.053978
H	E50_249	0.090821	0.090754
I	E1000	0.016566	0.017463
I	E10_49	0.028387	0.027930
I	E250_499	0.044199	0.044965
I	E500_999	0.028661	0.028732
I	E50_249	0.038048	0.038335
J	E1000	0.026904	0.026796
J	E10_49	0.065234	0.064324
J	E250_499	0.060577	0.060191
J	E500_999	0.042254	0.042203
J	E50_249	0.053536	0.053325
K	E1000	0.034274	0.035332
K	E10_49	0.030822	0.030376
K	E250_499	0.071039	0.071763
K	E500_999	0.032965	0.033248
K	E50_249	0.042011	0.041775
L	E1000	0.021049	0.021630
L	E10_49	0.020306	0.020145
L	E250_499	0.016209	0.016232
L	E500_999	0.019785	0.019835
L	E50_249	0.033714	0.033586
M	E1000	0.006774	0.006553
M	E10_49	0.059828	0.058402
M	E250_499	0.049503	0.060421
M	E500_999	0.053700	0.053118
M	E50_249	0.057172	0.055726
N	E1000	0.012863	0.013150
N	E10_49	0.076517	0.089285
N	E250_499	0.027611	0.027744
N	E500_999	0.024591	0.025537
N	E50_249	0.019188	0.019180
O	E1000	0.041169	0.041173
O	E10_49	0.052404	0.056550
O	E250_499	0.042939	0.043240
O	E500_999	0.074066	0.076003
O	E50_249	0.112062	0.113217