



STRUCTURE OF EARNINGS STATISTICS 2006

QUALITY REPORT

(Commission Regulation (EC) N° 698/2006)

PORTUGAL

SES 2006 QUALITY REPORT

1. Brief description of the Structure of Earnings Statistics 2006

1.1. Sources of the data

The Structure of Earnings Statistics 2006 in Portugal were obtained by combining three sources: (a) an administrative source which provide micro data on enterprises, local units and employees, covering all the European required information on monthly earnings and hours paid, as well as the demographic information characterizing the employee, in existence since 1981; (b) a specific survey to collect the missing information, regarding the variables on an annual basis and also Social Security and Income taxes; (c) a dataset for public bodies of Sections M, N and O of NACE Rev. 1.1, with individual data on their employees.

The aim of this chapter is to present the sources used and the process of data linkage, to assure the comparability of the collected variables.

1.1.1. Quadros de Pessoal (Lists of Personnel)

As most of the information requested for Statistics on the Structure and Distribution of Earnings was available in Portugal as the result of an administrative source designated as “Quadros de Pessoal”, the option was to obtain data on the structure of earnings through “Quadros de Pessoal” and to complete the information required by means of a specific sample survey.

This administrative source was created for purposes of inspection the accomplishment of labour legislation and has been statistically treated since 1981, although it had previous legal existence. The statistical use was established by Decree n° 380/80, from September the 17th.

In 1993 new legislation was issued to permit certain minor adjustments: Decree n 332/93, from September the 25th, which refers to the information to be collected from 1994 onwards. The most significant modification introduced was the changing of the reference period from April to October of each year. In 2000, by a “Portaria” n° 785/2000, of September the 19th, new variables were introduced: type of employment contract and whether full-time or part-time work.

By this last regulation, enterprises with 10 or more employees should deliver data by electronic means, through a specific web site. Other size class enterprises can use this form of data transmission. Relating to the total source, 90 % of the enterprises deliver data by electronic means.

According to legislation, all entities (enterprises and other institutions) occupying employees are compelled to deliver to the now called Ministry of Labour and Social Solidarity, the forms containing the lists of personnel having a labour contract with the enterprise for the month of October of each year. Excluded from this obligation are the enterprises in Agriculture, Forestry and Fishing which do not employ permanent workers, as well as Central and Local Public Administration with only civil servants and Private Domestic Services.

Also according to legislation, the enterprises will fill in, for each local unit, and within the local unit, for each collective agreement or administrative regulation, all employees in the reference month. Employees not covered by specific labour regulations should be filled in separately. This fact allows for data on collective agreements, and the legislation defines that the resulting information will be provided, on request, to the Social Partners, as a base for collective bargaining.

This process and the subsequent statistical treatment will enable the collection of individual information for each of the statistical units considered: enterprise, local unit and employee (and also for each collective agreement).

The dealing with “Quadros de Pessoal” in a statistical perspective is carried out at present by the Office for Strategy and Planning (GEP) of the Ministry of Labour, for enterprises or local units located in the mainland. The Autonomous Regions of Açores and Madeira collect data for those units which are situated there and, by the end of the process, these data are delivered to the GEP so that the final linkage can be made and information for the total country is available.

This source covers all entities with 1 or more employees, with the exceptions mentioned above. Until now and due to the obligation of covering all collective agreements, even those with a minor number of workers involved, the dealing of data collected is done in a comprehensible way. Even so, the resulting information is usually available one year after the reference month.

The variables collected related to the enterprise or the local unit in the scope of SES are as follows:

- name and address (and consequently, regional location);
- main economic industry;
- size of the units in terms of the number of occupied persons and employees;
- collective agreements or administrative regulations existing in the units;
- form of financial control.

The variables related to each of the persons occupied in the reference month are the following:

- social security code number;
- collective agreement or administrative regulation applied;
- occupation;
- occupational status (self employed, employee, other);
- highest completed level of formal education;
- gender;
- date of birth;

- date of coming into the enterprise;
- type of employment contract;
- Full-time or Part-time;
- monthly value for basic pay;
- monthly value for all other regular payments, excluding overtime;
- monthly value of payments for overtime;
- monthly number of paid hours, excluding overtime;
- monthly overtime hours;
- normal (contractual) weekly hours of work.

1.1.2. Structure of Earnings Survey 2006

As some of the variables requested at European level were not available through “Quadros de Pessoal”, it was decided to carry out a specific sample survey in order to collect the missing information. That information consisted mostly of annual data on earnings, annual days of holidays, other paid absences and social security payments and income tax payments.

The scope of the survey covers industries comprised in Sections C to O of NACE Rev. 1 and employees in local units with 10 or more persons occupied.

1.1.2.1. Sampling plan

1.1.2.1.1. Sampling design

Population

In the 1st stage, the population for this survey is the local units of the national territory, belonging to private sector enterprises with 10 or more employees, referring to economic activities defined in sections C, D, E, G, H, I, J, K, M, N and O of NACE Rev. 1.1, with the exception of class 9131 (activities of religious organizations) and class 9132 (activities of political organizations) and for section F of enterprises with 10 or more employees.

Section F is limited to the enterprise, because this section is characterized by having local units heavily temporary.

At the 2nd stage, the population consists of all employees in the local units.

Framework

The framework for this survey was built from the Business Register of Enterprises and Local Units of GEP / MTSS, taking into account the conditions required for the universe of reference. The Business Register is based on the administrative source "Quadros de Pessoal," which reference period is the month of October of each year.

Drawing the Sample

Methodology for design and selection of the sample

Primary Units

The sample design considered in this survey involve a simple two stage cluster sampling, At the first stage, the clusters are the local units which are selected by stratified random sampling; employees are select at the second stage by simple random sampling within each local unit selected at the first stage.

In the first stage, the primary units are defined by local units of enterprises with 10 or more employees of sections C, D, E, G, H, I, J, K, M, N and O, except in the section F where the primary units refer to enterprises with 10 or more employees. In the second stage, the secondary unit concern to employees who belong to the local unit (or the enterprise in Section F).

Overall size of the sample and breakdown by strata

The number of primary units to be selected for the private sector was determined for each of the regions defined by NUTS I (Continente, Região Autónoma da Madeira e Região Autónoma dos Açores). The size of these samples based on a study that considered as a variable of interest the "monthly gain" of full time employees and with full pay. To ensure a relative error not exceeding 'd', between the estimate and the real value of the variable of interest mentioned, and assuming a sample rate on the second stage, it was determined the number of primary units (m) according to the following expression:

$$m = \frac{\frac{M}{M-1} \frac{\sigma_x^2}{\bar{X}^2} + \frac{M}{N^2 \bar{X}^2} \sum_i \frac{N_i}{n_i} \frac{N_i - n_i}{N_i - 1} \sum_j^{N_i} (X_{ij} - \bar{X}_i)^2}{\frac{\sigma_x^2}{(M-1)\bar{X}^2} + \frac{d^2}{z_{1-\alpha/2}^2}}$$

Note that,

$$\bar{X} = \frac{1}{M} \sum_i \sum_j^{N_i} X_{ij} \quad \bar{\bar{X}} = \frac{M}{N} \bar{X} \quad \sigma_x^2 = \frac{1}{M-1} \sum_i (\bar{X}_i - \bar{X})^2$$

where,

M – number of primary units in the population

N – number of secondary units in the population

i - index of primary unit

N_i - number of secondary units in the population in the primary unit i

n_i - number of secondary units selected in the primary unit i

j - índice of secondary unit

X_{ij} - monthly gross earnings in the secondary unit j of the primary unit i

d - relative error

$z_{(1-\alpha/2)}$ quantile of order $(1-\alpha/2)$ of $Z \sim N(0,1)$

It was considered a confidence level of 95% and a relative error of 2.5%.

The sample size of the primary units of the private sector of the economy, according to NUTS I, was:

Continente	10500
Região Autónoma dos Açores	1200
Região Autónoma da Madeira	1300

The allocation of sample of primary units to the strata is developed from the decomposition of the universe of reference, through the intersection of variables: NUTS (North, Central, Lisbon, Alentejo and Algarve), the economic activity of the primary unit down to the level of division of NACE Rev1.1 and class size of the enterprise.

The class size of the local unit is defined based on variable “number of employees” (10-19, 20-49, 50-249, 250-499, 500-999; 1000 or +).

The allocation of the sample by the strata is done proportionally to the square root of the variable total number of employees. The number of primary units in the NUTSII I , economic activity j , class size of the enterprise / local unit k , ie in the stratum $h = (i, j, k)$ is given by:

$$m_h = m \frac{\sqrt{NP_h}}{\sum_h \sqrt{NP_h}}$$

where,

NP_h is the total number of employees in units of stratum h ;

m is the number of primary units selected in the sample.

It was established that the minimum number of local units sampled in each stratum is five units in Continente and ten units in Regiões Autónomas. All the local units with 250 or more employees are included in the survey on the Mainland and at the Autonomous Regions all the local units with 100 or more employees are included.

The sample selection of the primary units within strata is made using systematic sample with random start.

Secondary units

In the second stage, for the private sector, the secondary units were selected randomly. Accordingly, and being difficult for the respondents of the primary units to select randomly the employees, it was established a random set criterion for selecting *a priori*, similar to the one used for the previous survey for 2002.

Thus, the secondary units were selected by the respondent's primary unit in accordance with the class size of the respective unit and month of birth of employees, as presented in the table below.

Class size of PU	Month of Birth of the employee
Less than 20	Jan., Feb., Mar., May, Jul., Oct. e Dec.
20 - 49	January, February, March and October
50 - 99	January, February and March
100 - 249	July
250 - 499	January
500 - 999	July and October
1000 e +	December

This criterion for selection took into account the uniform distribution of the months of birth of the employees in the primary units. It was increased the number of months in the smaller units in order to ensure a more reasonable response rate.

1.1.2.1.2. Estimators and coefficient of variation

Taking the sampling design into account, the estimators that follow are presented depending of the sampling unit - the primary unit or the secondary unit.

It is considered the estimator of the mean for a generic variable (Y) of the primary unit and the estimator of the mean for a variable (X) for the secondary unit.

Assuming the following notation:

i - index of NUTS II of the primary unit

j - index of economic activity of the primary unit (NACE Rev1.1 - division)

k - index of class size of the primary unit

l - index of the primary unit

t - index of the secondary unit

h - generic index of stratum defined by the intersection of NUTSII, economic activity and class size of the enterprise/local unit $h = (i, j, k)$

H - number of strata

M - Total number of primary units in the population

M_h - Total number of primary units in the population in stratum h

m_h - Total number of primary units in response units in stratum h

N - Total number of secondary units in the population

N_{hl} - Total number of secondary units in the primary unit l of stratum h

n_{hl} - Total number of secondary units in response units of the primary unit l of stratum h

x_{hlt} - Value of variable X for the secondary unit t of the primary unit l of stratum h

y_{hl} - Value of variable Y for the primary unit l of stratum h

Estimators of the mean for the primary unit

Estimator of the mean of Y in the stratum h :

$$\hat{\mu}_h = \frac{\sum_{l=1}^{m_h} y_{hl}}{m_h} = \bar{y}_h$$

Estimator of the mean of Y:

$$\hat{\mu} = \frac{\sum_{h=1}^H M_h \bar{y}_h}{M} = \frac{\sum_{h=1}^H \sum_{l=1}^{m_h} y_{hl} w_{hl}^E}{M}$$

Grossing-up factor for the primary unit l , belonging to the stratum h :

$$w_{hl}^E = \frac{M_h}{m_h}$$

Estimators of the mean for the secondary unit

Estimator of the mean of variable X in the primary unit l :

$$\hat{\mu}_{hl} = \frac{\sum_{t=1}^{n_{hl}} x_{hlt}}{n_{hl}} = \bar{x}_{hl}$$

Estimator of the mean of variable X in the stratum h :

$$\hat{\mu}_h = \frac{M_h}{m_h} \sum_{l=1}^{m_h} \frac{N_{hl}}{N_h} \bar{x}_{hl} = \frac{\sum_{l=1}^{m_h} \sum_{t=1}^{n_{hl}} w_{hlt}^T x_{hlt}}{N_h}$$

Estimator of the mean of variable X :

$$\hat{\mu} = \sum_{h=1}^H \frac{N_h}{N} \frac{M_h}{m_h} \sum_{l=1}^{m_h} \frac{N_{hl}}{N_h} \bar{x}_{hl} = \frac{\sum_{h=1}^H \sum_{l=1}^{m_h} \sum_{t=1}^{n_{hl}} w_{hlt}^T x_{hlt}}{N}$$

Grossing-up factor for the secondary unit t that belongs to the primary unit l and to the stratum h :

$$w_{hlt}^T = \frac{M_h}{m_h} \cdot \frac{N_{hl}}{n_{hl}}$$

Coefficient of variation

The coefficient of variation is the ratio of the square root of the variance of the estimator and its expected value. The coefficient of variation of the estimator of the mean of variable X in the stratum h , and calculated as a percentage, is expressed in the form:

$$CV(\hat{\mu}_h) = \frac{\sqrt{\hat{V}(\hat{\mu}_h)}}{\hat{\mu}_h} \times 100\%$$

The estimator of the variance of the mean of variable X , in stratum h , taking into account the sampling plan, is expressed by:

$$\hat{V}(\hat{\mu}_h) = \left(1 - \frac{m_h}{M_h}\right) \frac{\sum_I^{m_h} (N_{hl} \bar{x}_{hl} - \frac{N_h \hat{\mu}_h}{M_h})^2}{m_h(m_h - 1)} + \frac{1}{M_h m_h} \sum_I^{m_h} N_{hl}^2 \left(1 - \frac{n_{hl}}{N_{hl}}\right) \frac{\sum_t^{n_{hl}} (x_{hlt} - \bar{x}_{hl})^2}{n_{hl}(n_{hl} - 1)}$$

1.1.2.2. Variables surveyed

For the Survey, the variables included were the following:

Relating to the local unit:

- total number of employees (optional).

Relating to the employee:

- social security code (1);
- gender (1);
- date of birth (1);
- date of coming into the enterprise (1);
- entitled number of days of paid holidays;
- period to which annual earnings correspond;
- total annual gross earnings;
- of which irregular bonuses, separated by bonus paid at fixed periods, profit sharing and other irregular bonuses;
- social security payments (by the employee);
- income tax payments.

1.1.3. Linkage of the two sources

Data collected through the survey for a certain employee was linked to the information available in “Quadros de Pessoal” October 2006 for the same employee. That connection was possible using a combination of four variables as key link: social security code, gender, date of birth and date of coming into the enterprise.

In linking the information, the coherence of certain variables deriving from the two sources was checked.

Final results were obtained after estimating procedures applied to data collected for the local units and employees in the sample. Variables such as economic activity, size class and region were re-weighted based on the comprehensible information resulting from 2006 “Quadros de Pessoal”.

Variables which had to be converted into Eurostat’s classifications

Collective agreement on pay covering the employees of the reporting unit - The type of collective labour regulations existing in Portugal and that can be identified through “Quadros de Pessoal” do not fit in exactly with the four categories specified at Community level, although they were integrated in those categories after a specific analysis of the scope of all collective agreements. The types of agreements that can be isolated within the administrative source are briefly described as follows:

- Enterprise agreement - is signed by a single employer and by one or more trade unions;
- Collective enterprises agreement - is signed by two or more employers of an individual industry (not necessarily covering all enterprises of that industry) and one or more trade unions;
- Collective agreement - signed by one or more employer’s associations and one or more trade unions;
- Administrative labour regulation - reflects two kinds of situations: one, when the employees do not have a capacity for negotiation; the other, when there is a break in the collective negotiation between the partners involved. In either case the initiative of regulation belongs to the Labour Ministry.

Total number of persons employed in the reporting unit during the reference month - The total number of persons employed in the local unit, at national level, do not include trainees without an employment contract and voluntary workers. Only employees, active proprietors, family workers and co-operative active members are considered, but only employees were surveyed.

Highest completed level of education and training - this information, referring to formal education and collected in “Quadros de Pessoal” with greater desegregation for third level qualifications.

Type of employment contract - for this variable only three hypotheses were considered: indefinite duration contract, contract with a fixed term (fixed duration or completion of a certain task, return of an employee) and other contracts (active co-operative members, not specified situations). Apprenticeship contracts, corresponding to training contracts usually assuming a dual apprenticeship system, in the school and in the enterprise, are not covered by “Quadros de Pessoal” as the persons involved in this system are not considered employees, are not paid by the enterprise and for Social Security purposes also do not count as employees.

Reflection of absences on monthly earnings - three situations, concerning monthly earnings and hours paid for, can be isolated in “Quadros de Pessoal”, by analysing the individual information on normal weekly hours of work, monthly hours paid for excluding overtime

and monthly basic wage pay. (a) The first situation corresponds to employees being paid the complete basic wage in the reference month (a deduction of three days pay is allowed) and consequently having filled in complete hours paid for; (b) then there can be employees who did not receive complete monthly basic wage and consequently have reduced hours paid for; (c) employees who have a contract with the enterprise in the reference month but who have not received any pay and have no hours paid for. For employees who did not receive complete pay during the reference month, the earnings were imputed using the hourly rate payment they had for the period they had worked and received payment, on the basis of the working time in the local unit.

Employees who did not receive pay during the reference month were excluded from the survey.

1.1.4. Administrative source for public bodies of NACE Rev. 1.1 Sections M, N and O

GEP executed a pilot test in 2004 to survey public bodies in regard to microdata for SES variables which resulted in a very low response rate, given the type of information required. Since the Administration, through the General Directorate for Administration and Public Employment (DGAEP), implemented the collection of data on all employees of public bodies, it was decided to use that data set, although the reference month was December 2005.

The dataset was checked against the existing bodies of the concerned NACE Sections in October 2005 and the total employees, and those variables were updated. As the earnings (basic wage and bonuses) are determined at government level for each year, from January onwards, and the percentage of increase in wages was, in 2006, the same for all categories, that percentage of increase was applied to all employees in the dataset. As progression within the category was “frozen”, this did not occur.

1.1.4.1.SES variables in the administrative source

Variables related to the public body/local unit:

- name and address (and consequently, regional location);
- main economic industry;
- size of the units in terms of the number of employees;

Since the units are public bodies, the form of financial control does not apply, it is public. Also, the employees are not covered by a collective agreement.

The variables related to the employees are the following:

- identification number;
- occupation (also category and whether a management function is applied);

- highest completed level of formal education;
- gender;
- date of birth;
- date of starting to work for a public body;
- type of employment contract;
- Full-time or Part-time;
- monthly value for basic pay;
- monthly value for each of the other regular payments, excluding overtime;
- monthly value of payments for overtime;
- monthly number of paid hours (equals normal hours, in this case), excluding overtime;
- monthly overtime hours;
- irregular bonuses applied.

The missing variables (gross annual earnings, number of weeks to which the annual earnings correspond, number of days of paid holidays, social security taxes and income taxes) were estimated, as explained in point 2.2.2.2.

Variables “payments for shift work” and “other annual days of paid absence” were not covered, since there was no information in the register. Sick leave is fully paid by the public body, as well as maternity or accidents at work. For sick leave, only 1 sixth of the amount due for the first month of absence in the year is not paid. In most cases, the directors of public bodies decide that amount to be returned to the employee, on the basis of the previous behaviour of the employee.

It was not possible to include all the data for the autonomous region of Açores, since the available data set was not a micro data set.

1.1.4.2.Sampling plan

The data set was treated comprehensively but, for the purposes of data transmission to Eurostat and as a measure to better assure confidentiality, a sample of the employees was drawn.

As for the private sector, the sample was a simple two stage cluster sample. At the first stage, all the local units were included. At the second stage, 5 % of the employees in each local unit were selected, 5 being the minimum number of employees selected in each local unit.

These specifications resulted in about 5200 local units and 27000 employees.

The estimators and formula for the calculation of the coefficients of variation are the ones shown in point 1.1.2..

2. Quality dimensions

2.1.Relevance

At present, there is no specific survey on the satisfaction of users regarding SES. Here are presented the main users of equivalent SES data in the administrative source. Being the only source that provides micro data on the composition of earnings and employee' variables, besides employer's characteristics, (with annual periodicity), this information is regarded by users as of the most utility.

One aspect that has been reported as being missing is the availability of data on regular and irregular bonuses by type of bonus. Irregular bonuses are collected separately on the national survey questionnaire but, as they are not frequent, the results may not be quite accurate.

The main users of this kind of data are:

The Ministry of Labour, for the analysis of wage formation, minimum wage regulation and labour market analysis. The information required regards tabular data and micro data.

Research bodies of Universities, for specific studies and modelling on this domain, with emphasis for the use micro data.

The Bank of Portugal uses the micro data for research projects.

Employers' associations and Unions, with relevance for data for labour negotiations. The information is provided on requirement, on tabular form.

2.2.Accuracy

2.2.1. Sampling errors

Coefficients of variation:

(a) Coefficients of variation for gross monthly earnings of full-time and part-time employees

		Coefficient of Variation
Total (FT+PT)		0,01
Full-time or part-time employee		
FT		0,01
PT		0,04
FT	F	0,01
	M	0,01

(b) Coefficients of variation for gross monthly earnings by NACE Rev. 1.1 Section

NACE Section	
C Mining and Quarrying	0,09
D Manufacturing Industries	0,01
E Electricity, Gaz, Water	0,03
F Building	0,03
G Wholesale and retail trade; automobiles	0,05
H Restaurants and Hotels	0,03
I Transportation, Storage, communications	0,04
J Financial Intermediation	0,04
K Real estate, Renting, computer activities, Research, Business activities	0,05
M Education	0,01
N Health and Social Activities	0,02
O Other service activities	0,07

(c) Coefficients of variation for gross monthly earnings by ISCO-88, 1 digit

ISCO-88 1 digit	
1	0,03
2	0,03
3	0,03
4	0,02
5	0,03
6	0,03
7	0,01
8	0,02
9	0,02

(d) Coefficients of variation for gross monthly earnings by age band

Age Band	
< 20	0,02
20-29	0,01
30-39	0,02
40-49	0,02
50-59	0,02
60 and over	0,04

(e) Coefficients of variation for gross monthly earnings by NUTS 1

NUTS	
PT1	0,01
PT2	0,04
PT3	0,04

(f) Coefficients of variation for gross monthly earnings by ISCED

ISCED	
1	0,01
2	0,03
3	0,02
4	0,03
5	0,01
6	0,07

(g) Coefficients of variation for gross monthly earnings by size band of the enterprise

Size of the enterprise to which the local unit belongs	
E10_49	0,02
E50_249	0,01
E250_499	0,02
E500_999	0,04
E1000	0,04

(h) Coefficients of variation for gross hourly earnings of full-time and part-time employees

		Coefficient of Variation
Total (FT+PT)		0,01
Full-time or part-time employee		
FT		0,01
PT		0,07
FT	F	0,01
	M	0,01

(i) Coefficients of variation for gross hourly earnings by NACE Rev. 1.1 Section

NACE Section	
C Mining and Quarrying	0,09
D Manufacturing Industries	0,01
E Electricity, Gaz, Water	0,03
F Building	0,03
G Wholesale and retail trade; automobiles	0,05
H Restaurants and Hotels	0,03
I Transportation, Storage, communications	0,04
J Financial Intermediation	0,04
K Real estate, Renting, computer activities, Research, Business activities	0,05
M Education	0,01
N Health and Social Activities	0,02
O Other service activities	0,07

(j) Coefficients of variation for gross hourly earnings by ISCO-88 I digit

ISCO-88 1 digit	
1	0,03
2	0,01
3	0,03
4	0,02
5	0,03
6	0,03
7	0,01
8	0,01
9	0,01

(k) Coefficients of variation for gross hourly earnings by age band

Age Band	
< 20	0,03
20-29	0,01
30-39	0,01
40-49	0,02
50-59	0,02
60 and over	0,04

(l) Coefficients of variation for gross hourly earnings by NUTS 1

NUTS

PT1	0,01
PT2	0,05
PT3	0,04

(m) Coefficients of variation for gross hourly earnings by ISCED

ISCED

1	0,01
2	0,02
3	0,02
4	0,03
5	0,01
6	0,09

(n) Coefficients of variation for gross hourly earnings by size band of the enterprise

Size of the enterprise to which the local unit belongs

E10_49	0,02
E50_249	0,01
E250_499	0,03
E500_999	0,04
E1000	0,04

2.2.2. Non-sampling errors

2.2.2.1. Coverage errors

The information on activity, region and number of employees in the sampling frame is comprehensively updated annually, with reference to the month of October of each year, at the time of the statistical treatment of the administrative source Quadros de Pessoal and also on the basis of information collected by surveys and other sources.

For the administrative source, 90 % of the enterprises deliver coded data (web form or download of specifically formatted files). The remaining 10% is coded by the GEP. The variables economic activity and region are validated, namely regarding the scope of the Collective Labour Regulation Instrument (collective agreements and other) which applies to the activity and region concerned.

The survey questionnaire asks for information on the changes in the economic activity, the region and actual number of employees. The results were checked against the information for 2006 Quadros de Pessoal.

Regarding over coverage, only 3 local units in the sample were found to be of a NACE Section not covered by the survey.

Also 43 enterprises (with only one local unit), at the time of the survey were also out of scope, since they had less than 10 employees.

As for activity misclassification, and since the sample was stratified at Division level, 2 situations were found.

Under coverage is of difficult access since, with the results of Quadros de Pessoal 2006, for the units that were then in the scope of the survey, it was not possible to know if they had changed the activity performed since the previous October.

The SES data were re-weighted on the basis of the values for the stratifying variables on the register updated with 2006 Quadros de Pessoal results, taking into account the corrections mentioned above.

2.2.2.2. Measurement and processing errors

The questionnaire used for the administrative source is in place for 26 years, with some minor changes during this period. Enterprises are used to it and, with the increase of electronic data transmission, they have a better knowledge of the classifications involved. Sometimes their personnel registers do not contain all the information on the employees, as is the case of occupation, age and length of service.

Regarding this variables, the imputation was done only for SES data. The percentage of imputed cases for the variable age was 0.024 %. For length of service it was 0.029 %, for ISCED 0.021 % and for occupation 0.166 %.

The overall rate of checks failed in the administrative source (covering all variables, respondents' errors and data entry errors) was 8.5 %.

The overall rate of checks failed in the sample survey was 4.3 % and the coherence checks between the administrative source data on monthly earnings and survey data on annual earnings was 2.7 %.

The rate of imputation for monthly earnings (for employees that were not at work for part of the reference month and consequently did not receive complete earnings for that month) was 8.5 %. The imputation was made on the basis of the contractual hours per month and the earnings hourly rate for the period they had worked and had been paid during the reference month.

The percentage of imputed cases for the variable age was 0.024 %. For length of service it was 0.029 %, for ISCED 0.021 % and for occupation 0.166 %.

For the administrative source responsible for the data related to public bodies of NACE Rev. 1.1 Sections M, N and O (comprehensibly treated but from which was extracted a sample of 5116 local units and 27039 employees to include in SES 2006 data), the imputations performed regarded the variables “annual gross earnings”, “number of entitled days of paid holidays”, “social security taxes” and “income taxes”.

Annual gross earnings – this variable was calculated by multiplying the basic wages by 14 months (Christmas and holiday bonuses) and adding up the regular bonuses (multiplied by the number of months for which they are due) and the irregular bonuses or subsidies (almost non-existent). The information concerning the bonuses applicable for each employee was available in the data set.

Number of entitled days of paid holidays – these are defined by law; they were calculated on the basis of the number of days applicable for all employees, 25 days, and the days depending on the age of the employee and the years of working for a public entity.

Social security taxes – for civil servants, the social security taxes in 2006 were 1% for health care and 10% for retirement pensions. For other employees in public bodies, it is 11 % social security tax.

Income taxes – the amounts were imputed on the basis of an average family situation tax for the corresponding monthly earnings.

2.2.2.3. Non-response errors

Unit response rate for the survey – 65.8 % unit response rate, corresponding to 64.4 % of the expected employees in the sample.

The responses (local units and employees) were re-weighted on the basis of the final results of the administrative source (comprehensibly treated) of local units in the survey scope and of the actual number of employees in the surveyed unit.

The response rates for the variables monthly earnings and monthly hours paid, deriving from the administrative source, was 100%, as those are considered mandatory variables in that source. Also for annual earnings, obtained through the sample survey, the variable was mandatory and non-responses were not allowed.

Imputation of item non-response of variables obtained through the administrative source (occupation, age, length of service, education) was done taking into account auxiliary variables, (e. g. earnings, education, age for occupation; length of service for age; age for length of service, etc) and applying the proportion of the known cases in the responses.

Social security taxes non-responses (obtained by the survey) were imputed on the basis of the standard social security tax supported by the employee (11 % of earnings).

Income taxes were imputed on the basis of an average family situation tax for the corresponding monthly earnings.

2.3. Timeliness and punctuality

2.3.1. Punctuality

<u>Survey phases</u>	<u>Effective dates</u>
Sending out of questionnaires by mail	15 – 25 June 2007
Deadline for responses	30 September 2007
Sending out reminders	6 – 10 October 2003
Staff team available for questionnaire check and data entry	1 October 2007
Analysis of questionnaires, data entry, validation	1 Oct 2007 – 15 Mar 2008
Completion of administrative source statistical treatment	April 2008
Analysis of coherence survey data/administrative source data	9 May – 15 Jun 2008
Imputation of variable non-response	15 - 30 Jun 2008
Weighting	1 – 15 Jul 2008
Data analysis	16 – 31 July 2008
Applying Eurostat's checks and conversion of variables	Aug - Sep 2008
Transmission to Eurostat (first transmission)	3 October 2008
Final transmission	30 October 2008
Publication of synthetic results	December 2008

2.3.2. Timeliness

Delivery of data to Eurostat – 22 months after the end of the reference period.

2.4. Accessibility and clarity

The results of SES 2006 are disseminated by means of a *Synthetic Report* (on the Internet Web site) and a Publication (paper support and on the Internet Web site). For the Internet dissemination, an alert is sent to the registered users of GEP statistical information.

Additional information can be provided on request to the users, in table format. Microdata can also be delivered on request, for research projects, after anonymization.

The publication contains a chapter on the concepts and methodologies used, together with illustrative texts and graphs.

Respondents are not provided with results of the survey, only on request.

2.5. Comparability

2.5.1. Geographical comparability

The SES 2006 data for Portugal cover NACE Rev. 1.1 Sections C to O, except L, and the sampling units are local units belonging to enterprises with 10 or more employees, stratified by size of the enterprise, NACE and NUTS level 2 of the local unit.

The classifications used and the definitions of the variables are in accordance with the European requirements.

No data is available for the variable “payments for shift work”, since the information on employees’ characteristics and monthly earnings and hours paid is derived from the administrative source Quadros de Pessoal. Also, regarding the administrative source used to obtain data for public bodies of NACE Sections M, N and O, it does not give separate information for this variable.

The variable “other annual days of paid absence”, an optional variable, for the employees in public bodies could not be retrieved. All annual days of sick leave, the most important component, are paid by the public bodies, with the exception of 1 sixth of the wages of the first month of absence due to sickness. Even this amount can be returned to the employee, if the director general or other manager so decides.

Consequently, the variable “number of weeks to which the annual gross earnings correspond” was set up at 52.14.

2.5.2. Comparability overtime

The coverage, statistical units and definition of the common variables are identical to those used for the previous 1995 and 2002 SES.

The data collection methodologies and procedures (administrative source combined with a specific survey to collect annual variables and information on income taxes and social security taxes, for the private sector) was also maintained.

The scope of the statistics was enlarged to cover public units of NACE Rev. 1.1 Sections M, N and O, as requested by the Council Regulation (EC) N° 530/1999.

2.6. Coherence

Coherence with the National Accounts

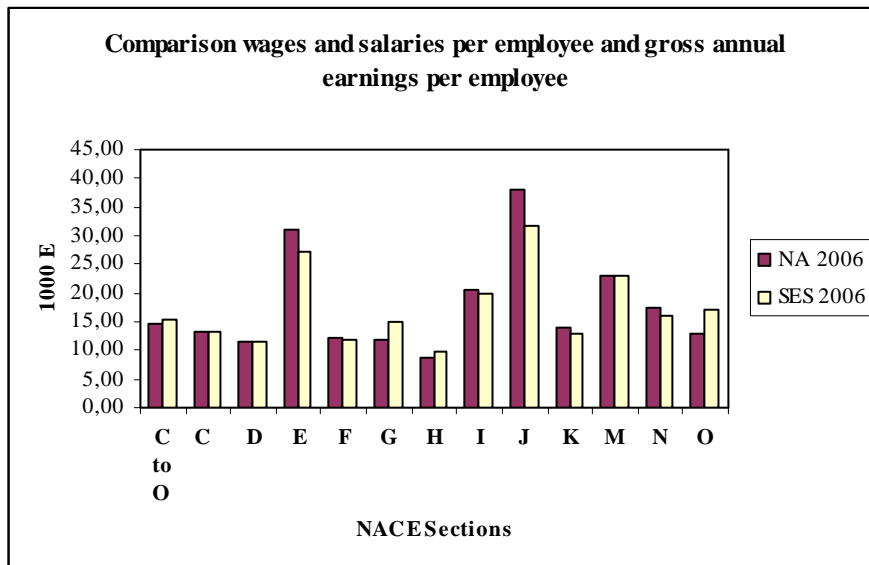
The comparison of data was done using SES 2006 variable 4.1 (per employee) variable “wages and salaries” (per employee).

The results can be seen on the following table:

Coherence SES 2006 – National Accounts 2006

NACE Rev. 1.1 Sections	NA 2006 D11 per employee (1000 €)	SES 2006 var 4.1 per employee (1000 €)	SES 2006/NA 2006*100
C to O	14,65	15,25	4,1
C	13,12	13,17	0,4
D	11,40	11,52	1,1
E	31,18	27,26	-12,6
F	12,25	11,69	-4,6
G	12,01	14,96	24,6
H	8,64	9,93	14,9
I	20,57	19,83	-3,6
J	38,11	31,80	-16,6
K	13,95	12,78	-8,4
M	23,12	23,09	-0,1
N	17,42	15,94	-8,5
O	12,87	17,19	33,6

The comparison is illustrated by the graph below.



SES 2006 variable is higher than Wages and salaries per employee from National accounts, for the total of the common NACE Rev. 1.1 Sections. The difference is under plus or minus 5% for 5 of the Sections involved. For Sections K and N, SES is about minus 8.5 % than SES. Sections E and J show SES 2006 with minus 12.6 and 16.6 %. On the opposite direction, SES 2006 figures for Sections H, G and O are highly above those of NA (14.9, 24.6 and 33.6 %, respectively).

The reasons for this differences lay on the differences in the definitions of the variables and also on the scope of the two sources: SES 2006 covers local units of enterprises with 10 or more employees and National accounts refers to the total sizes.