

# Structure of Earnings Survey 2002

## Quality Report

**Eurostat, Unit F2**

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This document summarises the main findings from the national quality reports for the SES 2002. It aims on the one hand at giving an overview on different quality aspects and on national peculiarities as regards the implementation of the survey. On the other hand, it tries to derive recommendations concerning quality reporting for the next structural surveys based on the experience collected with the SES 2002.

The first part of this paper is its core part. It starts with a short introduction providing general information on the survey, the legal framework and the quality criteria according to Eurostat's quality definition. The introduction is followed by several chapters, each representing one of the quality criteria to be monitored.

The second part is an annex which brings together more detailed national findings related to the different quality criteria. The annex contributes to holding the main part rather short and readable.

The document incorporates all comments from members of the *Labour Market Statistics Working Group* which have been sent to Eurostat by end of April 2006.

## 0. Introduction

The recent Structure of Earnings Survey (SES) referred to the year 2002 and, being a four-yearly survey, will be carried out again for the reference year 2006. The survey aims at providing harmonized information on the level and structure of remuneration of employees, their individual characteristics and the enterprise or local unit to which they belong.

The SES 2002 has been conducted under Council Regulation 530/1999 and Commission Regulation 1916/2000<sup>1</sup>. The SES outcome represents a uniquely rich data source on gross earnings in Europe which is increasingly indispensable for evidence-based policy making. The SES 2002 micro data are available for approximately 7.9 millions of employees in "Industry and Services" (sections C to K of the economic activity classification scheme NACE 1.1). The inclusion of further NACE sections (L-O) was optional. Eurostat received by April 2005 data from 28 countries: 24 out of the current 25 Member States (all except Malta), the Candidate Countries Bulgaria and Romania as well as from Iceland and Norway, which belong to the European Economic Area (EEA). All data, except those from Germany, refer to 2002, were collected by the national offices in 2003 and processed there during 2004. The German data relate to 2001.

The survey provides information on gross earnings paid in cash by the employer, before tax deductions and social contributions. Monthly earnings only include payments paid in each pay period whereas annual earnings also contain bonuses and allowances which are not paid regularly. Hours paid cover normal and overtime hours. The data refer to full-time employees as well as to part-time employees. The inclusion of small enterprises (less than 10 employees) was optional.

The national quality reports usually consisted of two parts as suggested by Commission Regulation 72/2002. Part A provided national key results of the SES 2002 in tabular form (relative or absolute number of employees, broken down by sex and bands of earnings and sex or by other combinations of the SES output). This part was purely descriptive and did not deal with quality issues. Part B of the national reports leaned on Eurostat's definition of quality and the seven quality evaluation criteria defining the structure of Part B of the Annex of Reg. 72/2002<sup>2</sup>. The criteria are

- *relevance* (optional): refers to the degree of having met the needs and expectations of users or user groups;
- *accuracy*: defined by the size of the gap between measured and true but unknown population parameter;

<sup>1</sup> The Implementation Regulation 1916/2000 for the SES has been replaced recently by Regulation 1738/2005. The latter will be, in connection with the framework Regulation 530/1999, the basis for carrying out the SES 2006.

<sup>2</sup> The Quality Regulation 72/2002 for the Structure of Earnings Survey and the corresponding Quality Regulation 452/2000 for the Labour Cost Survey have been replaced by a new unified Quality Regulation 698/2006 which uses only six main quality criteria ("completeness" appears here as a sub-criterion of "relevance"). Regulation 698/2006 will be the basis for quality reporting on the SES 2006 and, on an optional basis, already for the LCS 2004.

- *timeliness and punctuality*: defined by the time span between the period to which the data refer and the time of actual data delivery (timeliness) and the deviation of the actual time of data dissemination from the target date of delivery (punctuality), respectively;
- *accessibility and clarity*: refers to the physical conditions under which the user may obtain data (accessibility) and to explanatory information given in order to support comprehension and adequate interpretation of the data (clarity), respectively;
- *comparability*: gives prominence to differences in concepts, definitions and methods and their effects on the interpretation of data coming from different geographical units, or different points in time;
- *coherence*: refers to the adequacy of combining survey results with data from other sources;
- *completeness*: describes the degree to which available information meets the requirements defined within the European Statistical System.

This summary quality report is based on all national quality reports which have been made available to Eurostat. It brings together the experience contained in Part B of the national reports from the 24 Member States participating in the SES 2002 and those from the Candidate Countries Bulgaria and Romania. These 26 reports were sent to Eurostat between June 2004 and December 2005.<sup>3</sup>

## **1. Relevance (optional item)**

The SES 2002 survey results serve to provide a sound empirical foundation for decision-makers in national and European social policy and to establish reliable and harmonized comparisons of earnings and composition of earnings between European countries or regions. The main users of the survey are:

- at international level: services of the European Commission, European Parliament, ECB, OECD, IMF, ILO, ...
- at national level: Ministries for Economy or Finance and other government bodies, trade unions, employers' associations, political parties, research centres, universities, and the media.

Reg. 530/1999 requires that the NSIs forward their SES data to Eurostat within a period of 18 months from the end of the reference year. Due to the relatively long period of time between data collection and data delivery to Eurostat, the potential of the SES does not lie on providing up-to-date information on the level of remuneration of employees. The survey is rather an instrument for monitoring long-term developments and structural changes. For backing up today's social decision-making, for example in the framework of wage negotiations, short-term statistics provide more suitable information.

The optional item "Relevance" was covered by 16 out of the 26 countries and the list above summarizes which main users have been reported by the NSIs. A few countries went beyond giving a list of main users and specified by means of examples for which policy purposes the SES 2002 is important. Application areas for the SES data are, amongst others, the monitoring of gender pay issues, the use by trade unions for wage negotiations or by policy-makers for setting minimum wages. Romania involved the main user groups in preparing the survey (design of the questionnaire). For all other countries, the evaluation of user needs was based on assumptions or experience from past surveys, not on a systematic evaluation of user wishes and user satisfaction by means of a questionnaire.

## **2. Accuracy**

### **2.1 Sampling errors**

The quality reports revealed that the process of data collection differed considerably between countries. In most countries participating in the SES 2002, the survey was conducted on the basis of a two-stage sampling approach of enterprises or local units (first stage) and employees (second stage). The UK applied direct sampling from tax records. The Netherlands used a

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<sup>3</sup> The report for the German SES referring to the year 2001 was already transmitted in March 2003 to Eurostat.

similar approach. Most countries used tailor-made questionnaires and the business register defined the sampling frame. Finland merged branch-specific data collections into one harmonized SES file. In some countries, a subset of the SES variables was collected by means of other surveys or via administrative sources. The UK, for example, imputed information for SES variable 2.5 (highest level of education) from LFS data. The quality regulation does not explicitly ask to specify the sources of the data but information on this may help to identify differences as regards data quality and sampling frames.

Sampling is always connected with a trade-off between accuracy and data collection burden. A sampling rate of 100 % (census) eliminates random effects but maximizes the burden. Most NSIs decided to go for random sampling of enterprises with sampling rates chosen in dependency on the size of the enterprises. Reg. 72/2000 asks for performance measures for certain variables of the SES 2002 calculated on the basis of sampling procedures, in particular the coefficient of variation (CV) for the monthly gross earnings for full-time and part-time employees with a breakdown by combinations of SES variables (such as NACE section / NUTS-1 region or occupation / sex). [Table 2a](#) in the annex presents the sources of the SES data and selected findings related to the CV values of SES key variables (monthly earnings and monthly hours paid). The reported CV values varied remarkably. The CV value for the SES variable 3.1 (gross monthly gross earnings) of FT employees in NACE sections G and H, for example, amounted in the Czech Republic to 87% and 256 % (!), respectively, whereas the same figures reported by the Netherlands amounted to 2.5 % and 10.1 %, respectively. Several countries sent CV values broken down by sex without giving the figures for “totals” whereas others also sent the information on “totals”. The CV values in [Table 2a](#) which refer to FT employees (breakdown by NACE) give evidence that the data on earnings show more variability relative to the mean than those on monthly hours worked. The CV values for monthly earnings tend to be higher for the service sector (sections G-K). For small countries like Luxembourg or Cyprus, CV values may be based on extremely small sample sizes.

## 2.2 Non-sampling errors

Reg. 72/2000 in addition requires reporting on non-sampling errors, in particular on under- and over-coverage, as well as on information on errors in data measurement and on data processing, non-response rates or errors due to the use of inappropriate models and model assumptions. [Table 2b](#) in the annex summarizes the information provided by the NSIs.

The information reported on frame errors differed very much between countries. Most countries could only provide quantitative information on overcoverage rates and this information was reported with different level of detail. Finland and Luxembourg, for example, gave an overall overcoverage rate, the Czech Republic and Lithuania sent overcoverage or NACE misclassification rates by NACE sections, whereas Ireland and Estonia gave these figures also on 2-digit level. The total overcoverage rate did usually not exceed 10%.

The unit response rates were given as overall figures (Germany), in most cases with breakdown to NACE section level, sometimes on 2-digit level (Belgium) or on 2-digit level with breakdown by size of enterprise (Estonia, Italy), sometimes by size of the enterprise without breakdown by NACE categories (Finland). The overall unit response rates varied considerably (approx. 46 % in Italy, approx. 100 % in Denmark). It should be noted that some countries included small enterprises with less than 10 employees and this influences the reported response figures. The overall response rate for Estonia amounts to 63.5 % but increases to 73.7 % after exclusion of enterprises with less than 10 employees.

Several countries identified the same survey variables as difficult with respect to its measurability or even did not manage to provide data for certain variables ([Table 7](#)). Examples are the SES variable 1.5 (collective pay agreement) related to the observation units and variable 2.5 (highest educational level) related to the employees.

## 3. Punctuality and timeliness

The start of SES data collection varied between July 2002 (Hungary) and July 2004 (Greece), with the exception of Germany, which used 2001 as the reference year<sup>4</sup>. The length of the data

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<sup>4</sup> The German SES data were collected between December 2001 and March 2002.

collection process and the length of the period needed for data processing and the usual quality checks varied likewise considerably. Table 3 in the Annex gives details as regards the punctuality and timeliness of the SES data transmission and the transmission of the quality reports to Eurostat. The following two graphs visualize some of the main findings contained in Table 3.

Figure 1 shows for all 26 countries participating in the SES the time intervals representing the period from start of the data collection to data transmission to Eurostat. In Figure 1, this interval is denoted by [a;c] – exemplified by means of Hungary. The time interval [a;c] may be split into two sub-intervals: the length of the data collection process, in Figure 1 denoted by [a;b], and the time interval defined by the end of data collection and the data transmission to Eurostat, in Figure 1 denoted by [b;c]. The time span [b;c] is partly assigned to the process of data validation and grossing up, but data validation usually already starts during the data collection process.

Figure 1 shows furthermore that several countries, such as Hungary, Poland, the Czech Republic or Germany, managed to not only start the data collection before or by the end of the reference period of the survey but also to hold the field work period [a;b] short. The interval [b;c] was for many countries remarkably long. The NSIs often first published their national data (Germany) and performed the data transmission to Eurostat much later, after having finished the processing, analysis and dissemination of their SES data, because the official deadline was still far. It is crucial for Eurostat, that the length of the interval [b;c] is short because it influences the timeliness of the dissemination of SES results by Eurostat. When publishing SES 2002 results in 2006, the value of this information for the public has already decreased considerably. Most user of the data tend to be interested in more current statistical information.

Some countries specified reasons for the low speed of data processing and data validation (change of administrative registers and lack of personal resources in Belgium, carrying out an experiment on collecting data for non-regular payments in Hungary). For a few countries, for example Austria, Cyprus or Estonia, the time span [b;c] between end of data collection and data transmission to Eurostat was short but this was obviously only due to time pressure (closeness to the official or the extended deadline for transmission). Two countries started the field work either close to the official deadline for data transmission (Austria) or even slightly after this point of time (Greece). Austria explained the extremely late start of data collection by the fact that the NSI could not carry out the survey before a national SES law came into force in May 2004. Greece made serious register problems liable for the remarkably late start of the field work and the lack of punctuality.

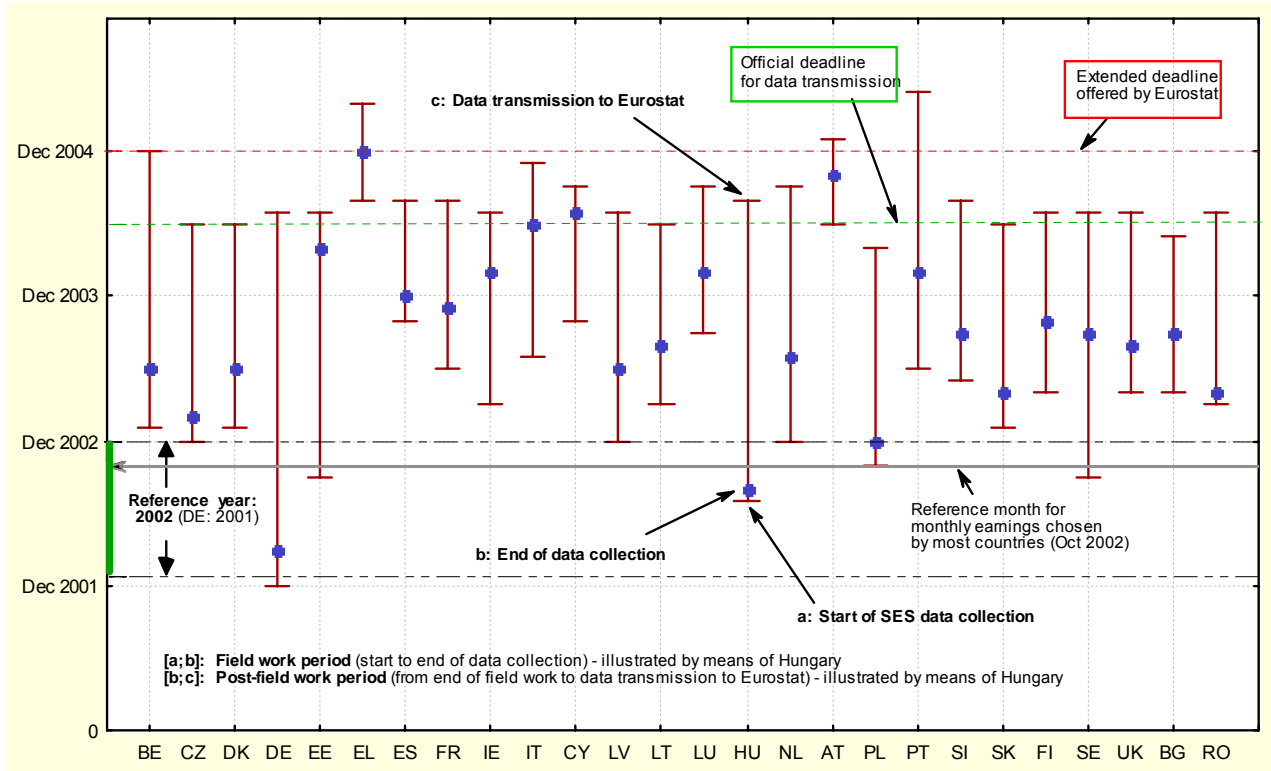


Figure 1: Length of the period from start of data collection to data transmission

Figure 2 refers to punctuality as regards the quality report delivery. Article 2 of Regulation 72/2002 sets the deadline for sending the SES quality reports to Eurostat (24 months after the end of the reference year). The graph shows that the official deadline for sending the reports was met or at least approximately met by half of the countries. Two countries (Netherlands, Portugal) did not even meet the extended deadline and this implied delays for the summary quality reporting by Eurostat.

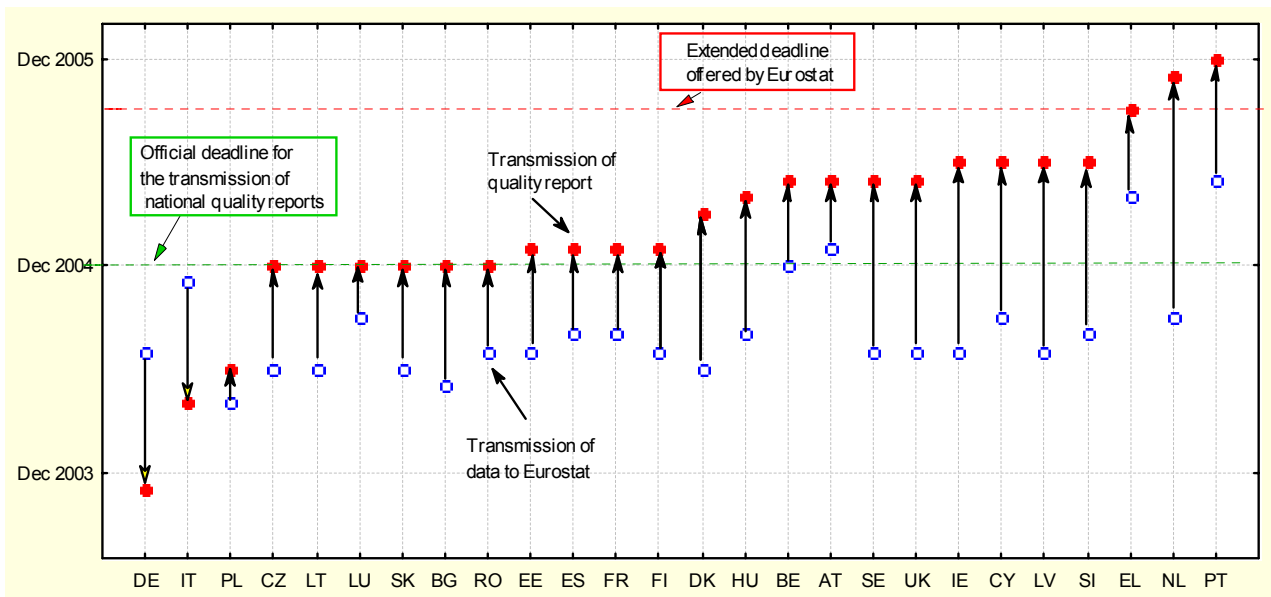


Figure 2: Date of transmission of national quality reports to Eurostat (countries ordered by means of punctuality)

#### 4. Accessibility and clarity

The SES 2002 results have been disseminated via the Web sites of the statistical offices involved as well as via traditional print publications. The state of dissemination is summarized in Table 4 of the annex.

The NSIs usually disseminated the SES data via the Internet (main dissemination channel), complemented by specific printed publications dedicated to the survey. Some countries published selected results within the framework of a standard flagship publication (yearbook). A few countries (Austria, Hungary) also listed the CD-ROM as a mode used for dissemination. Others informed the media about SES key results by press releases or a press conference (Germany).

Eurostat disseminated SES 2002 results on European level. The most important activity, in addition to a standard press release and the data dissemination via New Cronos, was a joint seminar organized in Brussels by Eurostat and DG EMPL which aimed at presenting the SES key results to main user groups (other DGs, the ECB, representatives from NSIs and from trade unions or employer organisations). DG EMPL incorporated selected findings from the SES in its report "Employment in Europe 2005". Eurostat published a Statistics in Focus on SES 2002 key results (SiF 12/2005) and a few further issues focussing on more specific issues, such as regional aspects or the gender pay gap. Furthermore, the SES 2002 key data have been made available for the public via interactive graphs (developed within the framework of a major public German multimedia project "New Statistics") and via an experimental interactive SiF<sup>5</sup>. This approach takes the needs of non-professional users of official data into account (journalists, users from the educational world) and goes beyond the simple provision of static information by applying flexible and user-friendly visualisation tools.

The dissemination of detailed SES 2002 results on European level was seriously hampered by confidentiality problems, in particular the lack of a legal framework for the provision of access for researchers to anonymized micro-data.

#### 5. Comparability of the SES 2002 data across borders and with the SES 1995

Comparability of the SES data across national borders may be affected by the use of different observation units and definitions, methods or classification schemes, i. e. by deviations between national and Community concepts. The comparability of the recent SES 2002 results and those from the reference year 1995 for the same geographical unit is for all countries reduced due to important changes as regards the set of mandatory variables (introduction of new variables, deletion of certain old variables), or the definition or breakdown of variables.

Table 5 in the annex gives an overview on comparability problems reported to Eurostat. The table shows that several countries (Estonia, Italia, Cyprus, Latvia, the Netherlands, Austria) still used the enterprise as statistical unit, not the local unit as foreseen by Article 5 of the framework Regulation 530/1999. Belgium could not distinguish between different local units belonging to the same municipality. It should be noted that the Regulation granted derogations for Austria, Italy, the Netherlands and Belgium. Slovakia and Slovakia used local kind-of-activity units as observation units. Denmark and France did not apply the concept of a "representative month" and derived monthly gross earnings from annual figures. The classification schemes for occupations applied in Hungary and in Slovenia slightly differed from ISCO-88. Luxembourg has a remarkably high rate of commuters (46% !) working in Luxembourg but living abroad. Furthermore, the national figures on gross earnings for different NACE sections slightly depend from the inclusion or non-inclusion of small enterprises (see first column of Table 7).

The issue "comparability of the SES 2002 data with data from previous surveys" is non-applicable for all those countries for which the SES 2002 was the first earnings survey (Estonia, Cyprus, Latvia, Lithuania, Slovenia, Bulgaria, Romania). For all countries which already carried out the SES 1995, the comparability over time is rather limited due to the fact that the SES 2002 was based on a new implementation Regulation and a revised set of mandatory variables. New SES variables were, for example, the variable 1.2 (size of the

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<sup>5</sup> The interactive elements are accessible via <http://forum.europa.eu.int/irc/dsis/wages/info/data/index.htm>

enterprise to which the local units belongs) or 3.3 (social contributions and taxes paid by the employer) or 3.5 (annual days of absence). Some countries (Germany, Spain, Ireland) extended the NACE coverage, others reported on changes in data sources (Belgium, Sweden, Austria, the Netherlands).

## **6. Coherence with related surveys and National Accounts**

Eurostat is going to implement until 2010 an integrated system of earnings and labour cost statistics. The system aims, amongst others, at improving coherence between related surveys in social and business statistics, for example the SES, the Labour Cost Survey (LCS), the Labour Force Survey (LFS) and the Structural Business Survey (SBS), as well as to ensure consistency of definitions between these surveys and practices applied in National Accounts (NA). In accordance with Reg. 72/2002 (Annex, Section 6), this report concentrates on summarizing coherence issues related to the SES on one hand and the LFS, the SBS and National Accounts on the other hand. Table 6 in the annex gives an overview on the main findings reported by the NSIs. The quality Regulation 72/2002 made coherence considerations referring to SES – LFS mandatory and those referring to SES – SBS and SES – NA optional. Hence, it is not surprising that the majority of countries participating in the SES 2002 only reported on observations related to the coherence of the SES and the LFS.

The statistical unit of the LFS is the household whereas the SES focuses on local units of enterprises with at least 10 employees. The attribution of household members to economic activities may not be identical with those in the LCS. The SES 2002 data usually referred only to the NACE sections C – K whereas the LFS covers all NACE sections. Furthermore, the SES excludes, contrary to the LFS, self-employed. For Luxembourg the inclusion of numerous commuters (46 %) in the SES and the exclusion from the LFS is a special issue which reduces comparability of SES and LFS data.

The differences as regards the design of the SES and the LFS explain that the coherence of figures from the SES and the LFS, in particular the distribution of employees by NACE, was usually rather limited. The level of coherence tends to be higher for countries with extended SES framework (extended NACE coverage, inclusion of small enterprises), such as Cyprus, Lithuania, Slovenia or the United Kingdom. It should be noted that the new harmonized quality Regulation for the LCS and the SES will only ask for a coherence comparison between the LCS and the LFS and no longer for the comparison SES – LFS.

Only three countries (Lithuania, Poland, Romania) reported on the optional coherence comparison SES – SBS. Contrary to the SES, the SBS uses the enterprise as the statistical unit, not the local unit. The SBS does not adjust for enterprises that have been inactive during the reference year. Within the SBS and SES framework, the enterprise (for the SBS) and the local unit (for the SES), respectively, are classified to the economic activity that represents its main activity. Hence, the SES may assign local units of an enterprise to different economic activities. This aspect had less weight for those countries which still used for the SES 2002 the enterprise as statistical unit. The exclusion of enterprises with less than 10 employees in the SES affected the coherence between the SES and SBS in particular in NACE sections with predominant small enterprises (for example, in NACE sections G or H). In addition, head counting may differ, in particular with regard to temporary workers or the inclusion or exclusion of certain groups of employees. For example, management staff and sales representatives fully paid by fees or commission and outworkers are excluded from the SES but may be included in the SBS.

Four countries (Lithuania, Poland, Romania, Greece) covered the optional coherence comparison SES – National Accounts. NA as well as the SBS include employees of all enterprises, regardless of the size of the enterprise, whereas the SES, at least for the moment, covers enterprises with less than 10 employees only on an optional basis. This explains that data from NA on number of employees in NACE sections C to K are normally higher. In particular, NACE sections with high percentages of small enterprises, as G and H, may have in the LCS remarkably different values for the total number of employees or the total compensation of employees. NA also includes employees not figuring on the payroll but counts employees holding two jobs only once.



The general observation derived from the findings of the countries mentioned above is that the coherence SES – SBS is much more pronounced than that of SES – NA. The NA figures on number of employees and gross annual earnings tend to be higher, for some NACE sections (sections G and H) even much higher.

## **7. Completeness**

The quality reports show that the SES 2002 was to a large extent carried out without serious problems with regard to NACE coverage or coverage of mandatory variables. [Table 7](#) (see annex) gives the full picture. For many countries the SES 2002 was the first structural survey on earnings. The table also gives an overview on voluntary extensions of the survey framework.

Nearly all countries were able to cover the full set of mandatory variables. Poland could not cover the variables 1.5 (collective pay agreement), 3.1.2 (payments for shift work) and 3.5 (annual days of absence). Portugal had problems with covering variable 3.1.2 and Cyprus with variable 3.5.1 (annual days of holiday leave). Poland, Austria and Portugal were not able to implement all ISCED categories of variable 2.5 (educational level) foreseen by Regulation 1916/2000. Several countries already announced improvements for the SES 2006 aiming at removing existing deviations from Community concepts.

Table 7 shows that several countries participating in the SES 2002 covered statistical units with less than 10 employees but the lower threshold varied between these countries (3 employees for Ireland, 2 for Cyprus, 5 for Hungary and Finland). The inclusion or exclusion of small enterprises has an impact on average figures on numbers of employees and slightly influences figures on average earnings. A few countries (Spain, Hungary, Bulgaria) were able to provide figures for the NACE sections M-O which, according to the new implementation Regulation 1738/2005 (Annex II, Article 1), will be mandatory for the SES 2006. The Czech Republic, Ireland, Cyprus, the Netherlands, Poland, Slovenia, Slovakia, the United Kingdom and Romania even managed to cover not only M-O, but also section L.

## **8. Conclusions and outlook**

The SES 2002 was successfully carried out within all 26 countries covered by this document and in Norway as well. The national quality reports were partly sent to Eurostat as one self-contained file whereas other reports were complemented by numerous complementing documents (Excel files, other Word documents), the latter sometimes not really self-explaining. It should be noted that the provision of self-contained reports, i. e. the provision of one single document, facilitates the quality evaluation by Eurostat considerably.

The majority of the 26 national quality reports, on which this summary document is based, were very well drafted. Nevertheless, the national reports differed considerably with respect to length and coverage of details. The information provided, for example on non-response rates, on coefficients of variation or on coherence with related surveys, was not always directly comparable because it often referred to different breakdowns. Hence, it was very time-consuming and not an easy task for Eurostat to extract the main findings from the 26 quality reports (far more than 1000 pages in total). In particular, it was difficult to get an overview on the different sources of the SES data or to identify potential shortcomings of the applied sampling approaches or estimation methods. The main reason for the heterogeneity as regards the design and size of the national quality reports is a lack of clear guidance provided by the quality regulation 72/2002 which will in 2006 be replaced by a new harmonized quality regulation covering the SES and the LCS as well.

Part A of the Annex of Regulation 72/2002 asks for tabular information summarizing main national survey results. This part has still no direct reference to quality issues. The information provided here is without any doubt important for national data users but not directly usable for comparative SES output analysis on European level. Part A of the Annex requires, for example, information on bands of gross hourly, monthly and annual earnings without specifying the band width or the number of bands. The countries were free to specify the bands according to their needs or ideas. Belgium used for hourly earnings of FT employees 10 earnings bands of unequal width, each occupied by 10 % of the sampled employees, whereas Austria worked with 11 bands of equal width (5 € steps) and Portugal with subsets of bands,

each subset with equal band width (0.5 € 1 € 2 € 3 € 5 € and 10 € step). The new quality regulation will no longer ask for information which is not directly related to data quality.

All NSIs covered the mandatory items referring to the quality criteria specified in Part B of the Annex of Regulation 72/2002. Part B of the Annex asked under the item "Accuracy" for CV values of SES variables for a lot of detailed breakdowns (breakdowns to quality reports will no longer be overloaded by series of tables with CV figures. For the other quality items, Regulation 72/2002 did not communicate sufficiently clear to which level of detail and in which way the reporting of quality problems should be tackled. As a result of this lack of clear guidance, some countries described under the sub-item "Measurement error" the size of coding errors for every SES variable (Romania), gave unit-response rates even on division level (Bulgaria, Italy) or described in detail every step of the data collection process whereas other countries wrote only a few lines dealing with measurement errors or development of the field work.

It might be worthwhile for Eurostat to support the national quality reporting for future structural surveys by providing a template for the reports offered as a tool, at least for optional use. Such a template might be designed when the new harmonized quality regulation for the SES and the LCS is in force. The tool can specify what information is expected by the new regulation and how detailed the information needs to be presented. The template, mirroring the structure of the new regulation, can bring together best practice from previous reporting rounds, provide a clear guidance and hence contribute to harmonize the national quality reports with respect to content and size. The use of such a template implies a significant reduction of the reporting burden for the NSIs and the burden of evaluating the reports by Eurostat. The quality report from the UK gave under the item "completeness" a table containing a list of all variables, specifying which variables are mandatory / optional and which variables have been covered. The table provided for the individual variables the source of the data (collected on survey, derived from registers or from other surveys) and gave comments on certain variables, if necessary. Such a table is a candidate being incorporated as a good-practice example because it helps to easily identify major differences between countries as regards the implementation of the survey.

A major problem connected with the SES 2002 was the lack of punctuality of data transmission to Eurostat and timeliness of the dissemination of European results by Eurostat. In order to improve the situation for future structural surveys (LCS 2004, SES 2006), the NSIs should try on the one hand to hold the length of the data collection period short and as close as possible to the end of the period of data reference (see again the graph under item 3, and look for example, on the situation in Hungary). This requires finishing the pre-field work, in particular the design of questionnaires and provision of appropriate and tested software, before the end of the reference period. Furthermore, the NSIs can help Eurostat to meet its deadlines for the dissemination of data and publication of main findings by sending the validated final figures as soon as they are available and not to wait until the official deadline.

The dissemination of SES 2002 results was seriously restricted by unsolved confidentiality issues and the lack of a suitable legal framework. Not all aggregated data, for example those on SES results for regions, could be made accessible. The dissemination of anonymized SES micro-data, for example for scientific purposes, was impossible as well. The revision of the confidentially Regulation 831/2002 data will be a first step to change this non-satisfactory situation. In order to being able to exploit the SES 2006 output to a much larger extent compared to the exploitation of the SES 2002 outcome, Eurostat and the NSIs need to continue to look for safe but flexible approaches giving access to micro-data for the community of researchers. This topic will be discussed during this LAMAS Working Group Meeting in March under item 5.2.

In order to benefit most from the experiences gained with the SES 2002, Eurostat will later on, during the second part of 2006, ask the countries participating in the SES 2006 to provide a brief note ("SES 2006 mini action plan") which shall cover at least the following items:

- time schedule for field work (estimated start and end of data collection for the SES 2006)

- plans for important methodological changes and improvements compared to the SES 2002 (for example, scheduled framework changes, use of different data sources, extension of coverage, elimination of non-compliance and other problems reported for the SES 2002).

## **Annex to the Summary Quality Report for the SES 2002**

<b><i>Table 1:</i></b>	<b>Relevance of the survey results</b>
<b><i>Table 2a:</i></b>	<b>Sampling errors</b>
<b><i>Table 2b:</i></b>	<b>Non-sampling errors</b>
<b><i>Table 3:</i></b>	<b>Timeliness and punctuality</b>
<b><i>Table 4:</i></b>	<b>Accessibility of SES 2002 results and dissemination modes</b>
<b><i>Table 5:</i></b>	<b>Relevant comparability issues reported</b>
<b><i>Table 6:</i></b>	<b>Coherence issues</b>
<b><i>Table 7:</i></b>	<b>Completeness and extension of the survey frame</b>

**Table 1: Relevance of the SES 2002 data (optional item)**

Country	Coverage of this item	Main users of the SES results
BE	no	
CZ	yes	As listed in this summary report under "Relevance"
DK	no	
DE	no	
EE	no	
EL	yes	As listed in this summary report under "Relevance".
ES	yes	As listed in this summary report under "Relevance. So far no evaluation of user needs or user satisfaction.
FR	no	
IE	no	
IT	no	
CY	yes, very detailed	Main users: As listed in this summary report under "Relevance". Most important for users: educational level and its impact on earnings, breakdown of earnings by NACE and by occupation. The SES 2002 results seem to satisfy the user's needs.
LV	yes	As listed in this summary report under "Relevance".
LT		Main users: As listed in this summary report under "Relevance". Use of the SES data for evaluation of economic performance of the country and for measuring poverty.
LU	yes, briefly	As listed in this summary report under "Relevance"
HU	yes	Main users: As listed in this summary report under "Relevance". Use of the SES results in the context of wage negotiations
NL	no	
AT	no	
PL	yes, very detailed	Main users: As listed in this summary report under "Relevance". Use of the SES data by different customer groups for different purposes.
PT	yes	Main users: As listed in this summary report under "Relevance". Users expressed regret on the time gap between the SES 2002 and the preceding SES which referred to 1995
SI	yes, briefly	Main users: As listed in this summary report under "Relevance".
SK	yes	Main users: As listed in this summary report under "Relevance". Gender specific SES results are of specific political interest.
FI	no	
SE	yes, briefly	The report only refers to "different users", more specific list of main users not provided.
UK	yes	The main users are not listed. Brief description of the use of SES data in policy making (monitoring of gender pay issues, further development of pension policy or estimation of tax effects).
BG	yes	Main users: As listed in this summary report under "Relevance". Use of the SES results important for policy and scientific purposes or investment decisions.
RO	yes, very detailed	Main users: As listed in this summary report under "Relevance". Use of the SES results important for wage negotiations. The main national users have been involved when designing the SES survey.

**Table 2a: Sampling errors**

Country	Source of the SES data	Sampling errors (Explanation of abbreviations: see end of this Table)
BE	Questionnaire, administrative sources (business register, other registers)	ME-FT and MH-FT, by NACE: low CV values (not exceeding 2.2 % for male employees; all CV values results provided with breakdown by sex, not for "total")
CZ	Main source: Information system on average earnings (ISPV), Auxiliary source: administrative files. The survey frame is defined by the business register and the State Budget Information System.	ME-FT, by NACE: high CV values (range for all sections except H from 36 % - 87 %, very high for H with 250 %). MH-FT: low CV values (not exceeding 8 % for all sections)
DK	Central business register (defines the frame of the survey).	100 % sampling (all employees in enterprises with at least 10 employees in NACE sections C-K)
DE	Questionnaire	ME-FT, by NACE: low CV values (below 1 %); MH-FT: CV values not available
EE	Questionnaire. The business register defined the survey frame.	ME-FT, by NACE: CV values below 5 % except that for section H (9.2 %), MH-FT, by NACE: all below 6 %
EL	Questionnaire (face-to-face interview). The business register defined the frame of the survey.	ME-FT, by NACE: low CV values (not exceeding 6.8 %); MH-FT: CV values low (all below 6.1 %).
ES	Questionnaire. The Security General Register defined the survey frame.	ME-FT and MH-FT, by NACE: rather low CV values (for all sections not exceeding 3.6).
FR	Questionnaire	ME-FT, by NACE: high CV value for section H (approx. 68 % for male FT employees in H) and for F; MH-FT: CV values low, moderate for section H (all CV values results provided with breakdown by sex, not for "total")
IE	Separate questionnaires for employers and employees. The business register defined the frame of the survey.	ME-FT, by NACE: low to moderate CV values (highest figures for section H with 15.4 % and section M with 18.2 %); MH-FT: CV values rather low (highest values for H with 9.8 % and section L with 10.7 %). All CV values results provided with breakdown by sex, not for "total".
IT	Questionnaire. The business register defined the frame of the survey.	ME-FT and MH-FT, by NACE: Low CV values (not exceeding 5.7 %) for ME-FT, very low values (below 1 %) for MH-FT (all results provided with breakdown by sex, not for "total")
CY	Questionnaire (face-to-face interview; Wages and Salaries Survey), complemented by data from registers	ME-FT, by NACE: Highest CV value for sections C (8.4 %), H and K (both approx. 5 %). MH-FT, by NACE: very low CV values
LV	Questionnaire. The business register defined the frame of the survey.	ME-FT and MH-FT, by NACE: Low CV values (results provided with breakdown by sex, not for "total")
LT	Questionnaire	ME-FT, by NACE: Low CV values (below 5 %). MH-FT, by NACE: very low
LU	Questionnaire. The enterprise register defines the frame of the survey.	ME-FT, by NACE: range from 23 % - 47 %. MH-FT, by NACE: not exceeding 14 %
HU	Questionnaire, complemented by data from registers. The business register defined the survey frame.	ME-FT, by NACE: High CV values for all NACE sections (highest values amount to 105 % for section G and to 108 % for section J). MH-FT, by NACE: low CV values (below 10 %)
NL	The SES 2002 data are derived from the Dutch Survey on Employment and Earnings. The business register defined the sampling framework.	ME-FT, by NACE: Low (not exceeding 4.4 %, moderate for section H with 10.1 %). MH-FT, by NACE: very low
AT	Questionnaire, sample drawn from the business register (approx. 50 % of the SES variables were derived from administrative sources, for example from tax register or social insurance register).	Sampling rate: 34 % of the enterprises ME-FT, by NACE: Low CV values (not exceeding 4.1 % for male employees). MH-FT, by NACE: very low (all results provided with breakdown by sex, not for "total")
PL	Questionnaire. The business register defined the sampling framework.	Sampling rate: 13.3 % of the enterprises. ME-FT, by NACE: Low CV values (highest value for NACE sections H with 9.4 % and section J with 6.4 %). MH-FT, by NACE: very low

<b>PT</b>	Administrative files (main source), questionnaire used for getting information which is not available via administrative sources	ME-FT and MH-FT, by NACE: low CV values for sections C, F, and H (11 - 12 %)
<b>SI</b>	Questionnaire. The business register and the Statistical Register of Employment defined the sample frame.	ME-FT, by NACE: low CV values (highest value for male FT employees in section H: approx. 16 %); MH-FT: CV values below 3.5 % (all CV values results provided with breakdown by sex, not for "total")
<b>SK</b>	Questionnaire, register for local kind-of-activity units used for defining the sample frame.	ME-FT, by NACE: Low CV values (below 3.6 %). MH-FT, by NACE: very low (all results provided with breakdown by sex, not for "total").
<b>FI</b>	Merging of branch-specific data files into one harmonized SES file. Use of administrative registers for collecting annual earnings and annual working time.	ME-FT, by NACE: high CV values (between 82.3% and 126.8 %). MH-FT, by NACE: low CV values for all sections (maximum for section I with 15.3 %)
<b>SE</b>	Questionnaire (annual earnings survey), administrative sources defined the sampling frame.	ME-FT and MH-FT, by NACE: low CV values. Possible bias for a few SES variables (annual bonuses, monthly gross earnings, number of hours paid).
<b>UK</b>	Questionnaire. The SES 2002 data were taken from the 2003 Annual Survey of Hours and Earnings for which the tax register defined the sampling frame.	ME-FT and MH-FT, by NACE: very low CV values (not exceeding 0.4 %).
<b>BG</b>	Questionnaire. The business register defined the frame of the survey.	ME-FT, by NACE: CV values for all sections below 2 %. MH-FT, by NACE: extremely low CV values for all sections.
<b>RO</b>		ME-FT, by NACE: Low CV values (not exceeding 4 %). MH-FT, by NACE: very low

CV (in %) = coefficient of variation (in %) = 100 x standard deviation / mean

ME-FT = Monthly earnings for full-time employees (without breakdown by sex if not otherwise indicated)

MH-FT = Monthly hours paid, full-time employees (without breakdown by sex if not otherwise indicated)

**Table 2b: Non-sampling errors**

Country	Frame errors	Measurement and processing errors	Overall response rates, item non-response and use of imputation	Model assumption errors / problematic mandatory variables
BE	Local units could only be assigned to the NACE section to which the enterprise belongs. The data collected on the survey and data from administrative sources were not always compatible	No information available but lack of experienced staff in the NSI was considered as a general problem for processing the SES data (lack of continuity due to fluctuation)	Unit-response rate: 87 % Item non-response: missing values were taken from registers, if feasible	No errors reported
CZ	Over- and under-coverage errors vary between the NACE sections (highest over-coverage rate for section H: 47.4 %, highest under-coverage rate for section F: 39.3 %)	Application of plausibility checks on different levels of aggregation, correction for inconsistencies	Moderate unit-response rate (value depends on size of the enterprise. Item non-response: high non-response for variables 1.4, 1.5 and 2.5 (application of imputation)	Measurement problems connected with SES variables 1.4 (economic control), 1.5 (collective pay agreements), 2.5 (highest educational level)
DK	No inclusion of large public enterprises belonging to C-K	No serious errors reported; application of plausibility checks	Unit response rate close to 100 % (fine imposed in case of non-response)	No direct information on monthly earnings available (needs to be derived from information on annual earnings)
DE	Information on under-coverage not available, no over-coverage error		Unit-response rate: 80 %, item non-response very low (imputation of missing items)	Annual earnings available only for employees that received remuneration for the full year.
EE	Under- and over-coverage rate due to delays in updating the business register. Over-coverage rate: 11.6 %	Application of plausibility checks	Unit-response rate: 63.5 % (after exclusion of small enterprises: 73.7 %) item non-response very low (imputation of missing items)	The measurement of variable 3.2.1 (no of weeks to which the annual earnings relate) was difficult (the figure for 17.1 % of the employees needed to be corrected). Use of a proxy for hours paid but not worked.
EL	Quantitative information on over- and under-coverage rates not reported.	Measurement errors neglectable due to data collection method.	Unit-response rate: 72.9 %. The data collection method (personal interview) excluded item non-response.	No errors reported
ES	Low rates for over-coverage and NACE misclassification	Application of plausibility checks	High unit-response rate: 94.9 % Item non-response rate for the SES variable 2.5: 1.3 % (application of imputation)	Difficulties with SES variable 2.5 (highest level of education and training)
FR	Quantitative information on over- and under-coverage rates not reported.	Application of plausibility checks	Unit-response rate: 68.4 %. Item non-response rate for variables 3.4 (monthly hours) and 3.5 (annual holidays): approx. 10 % (application of imputation)	Difficulties with SES variable 2.5 (distinction between different categories for the educational level)
IE	Under- and over-coverage rate due to delays in updating the business register. Over-coverage rate: 7.8 %	The use of two questionnaires (one for employers, one for employees) aimed at minimising errors related to data on employees	Unit-response rate: 58 %.	No errors reported



<b>IT</b>	Overcoverage rate approx. 2 %	0.2 % of the questionnaires affected by measurement errors	Low unit-response rate: approx. 46 %. Item non-response rate for annual earnings: 0.23 %	No errors reported
<b>CY</b>	Low NACE misclassification rate, misclassification rate by size of enterprise: 9.1 % (correction of identified errors).	Measurement errors: low due to data collection method.	Unit-response rate: 96.1 %. The data collection method (usually personal interview) crucially contributed to avoid item non-response.	No errors reported
<b>LV</b>	Coverage errors possible due to long time span (1 year) between defining the sampling frame via business register and starting the field work	No serious errors reported; application of plausibility checks	High unit-response rate: 91,1 %	No errors reported
<b>LT</b>	Information on under-coverage not available, low over-coverage rate	Application of plausibility checks. High percentage of imperfectly filled questionnaires with need for correction	High unit-response rate: 95 %. Low imputation rate for the SES variable 2.5 (highest level of education and training)	No errors reported
<b>LU</b>	Over-coverage error approx. 10 % (correction for all detected cases)	No serious errors reported; application of plausibility checks	Unit-response rate: 81.8 %. Item non-response: neglectable due to repeated direct contacts with the enterprises concerned.	Occasional measurement problems connected with the SES variables 2.5 (highest level of education and training) or 3.4 (number of hours paid)
<b>HU</b>	Over-coverage possible due to delays in updating the business register or to NACE misclassifications. Local units could only be assigned to the NACE section to which the enterprise belongs.	Reporting errors may be linked with the use of wrong codes. Application of plausibility checks.	Unit-response only vaguely described (varaiton between different branches) Imputation of missing values for variable 3.5.1 (days of paid holiday leave) from payroll registers	No errors reported
<b>NL</b>	Low under- or over-coverage possible due to delays in updating the business register. Quantitative information on over- and under-coverage rates: not reported	Application of plausibility checks.	Unit response rate: approx. 67 %, imputation for large enterprises based on earnings data from the preceding year. Item non-response: Application of imputation	No errors reported
<b>AT</b>	Neglectable. Low over-coverage rate possible due to delays in updating the business register (exclusion of employees identified as being not covered by the framework).	Application of plausibility checks on micro- and on macro-level. Variable 2.7.1 (hours worked of a PT employee in %): measurement problems due to flexible working models; Variables 3.4 and 3.4.1 (hours paid / overtime hours paid in the reference month): measurement problems for less than 0.5 % of all employees sampled	High unit response rate (96 %), mainly due to obligation of responding and improved design of the questionnaire (simplification). Imputation of missing values for variable 3.2 (gross annual earnings) by means of a regression model. Imputation of missing values for variable 2.6 (length of service) based on registers	The regression model used for deriving data for variable 3.2 (gross annual earnings) from data for variable 3.1 (gross monthly earnings) was not for all employees the appropriate model;

<b>PL</b>	Information on overcoverage: 3.4 % of the sampled units were either inactive or dead. No quantitative information on undercoverage.	No serious errors reported; application of plausibility checks	Unit-response rate: 76.7 %. Imputation of missing items (for example by deriving information from a monthly survey on earnings).	No errors reported
<b>PT</b>	Neglectable	Application of plausibility checks	Unit-response rate: 62 %, imputation of item non-response obtained through administrative sources	SES variable 1.5 (type of collective agreement): use of a slightly different classification scheme
<b>SI</b>	Quantitative information on over- and under-coverage rates: not reported	Application of plausibility checks	Unit-response rate: 87.2 %. Application of imputation in case of item non-response.	No errors reported. Difficulties with excluding payments for periods of absence paid at a reduced rate from SES variable 3.1 (monthly gross earnings).
<b>SK</b>	Quantitative information on over- and under-coverage rates: not reported	Application of plausibility checks. Measurement errors: neglectable	Unit-response rate: 91.8 %.	No errors reported
<b>FI</b>	Neglectable overcoverage rate, undercoverage rate: approx. 1 %	Branch-specific data validation processes carried out by employer organisations, plausibility checks performed by the NSI	Response rate depended very much on the size of the enterprise and the status of employers as being organized / non-organized (for organized employers the rate decreases with decreasing size of the enterprise)	No errors reported. The survey design is rather complex (different treatment of organized and non-organized employers)
<b>SE</b>	Under-coverage or over-coverage errors possible due to delays in updating the business register. Estimated over-coverage rate: 2.1 %	Application of plausibility checks.	Unit-response rate: usually above 80 %, depending on NACE and size of the enterprises. No application of imputation in case of item non-response.	High item non-response rate for certain SES variables, such as variables 1.5 (collective pay agreement), 2.8 (employment contract) or 3.5 (days of absence).
<b>UK</b>	Quantitative information on over- and under-coverage rates: not reported. Undercoverage error: Due to the specific sampling frame employees which started their job within the first quarter of 2002 have been excluded;	Application of plausibility checks	Unit-response rate: 84.9 % Item non-response rate for SES variables 3.5.1 (overtime pay) and 3.4.1 (overtime hours): 0.6 % and 1.1 %, respectively (imputation of missing items). The SES variable 2.5 (highest level of education) has always been imputed from the LFS.	The UK SES sampling design applies direct sampling from the UK tax records. Hence, it differs from the usually applied 2-stage sampling approach (sampling of employees form a stratified sample of local units).
<b>BG</b>	Over-coverage rate: 3.1 %	Application of plausibility checks.	High unit response rate (96.4 %). Low item non-response rates; highest rate for SES variable 3.5.1 (annual days of holiday leave). Imputation of missing items.	Most errors occurred in connection with the SES variable 3.2.1 – (number of weeks to which the annual earnings relates, 17 % of all cases needed correction)
<b>RO</b>	Low rates for over-coverage and NACE misclassification (3.1 % of the sampled enterprises were below the threshold of 10 employees)	Application of plausibility checks. Correction of monthly and annual earnings in approx. 5 % of the cases	Unit-response rate: 83 %	No errors reported

**Table 3: Timeliness and punctuality**

Country	Data collection (start – end)	End of data processing / quality checks	Delivery of SES results (deadline defined by Reg. 530/1999: end of June 2004)		Delivery of the quality report (deadline defined by Reg. 530/1999: end of Dec 2004)	
			Transmission of the data to Eurostat	Keeping extended deadline (end of Dec 2004)	Transmission of the report to Eurostat	Keeping extended deadline (mid-Sept 2005)
<b>BE</b>	Jan – June 03 (?)	Oct 2004	Dec 2004	yes	May 2005	Yes
<b>CZ</b>	Dec 02 – Feb 03	March 2003	June 2004	yes	Dec 2004	Yes
<b>DK</b>	Jan 03 - June 03	Dec 2003	June 2004	yes	March 2005	Yes
<b>DE</b>	Dec 01 – March 02	April 02 – April 03	July 2004	yes	Nov 2003	Yes
<b>EE</b>	Sept 02 – April 04	June 2004	July 2004	yes	Jan 2005	Yes
<b>EL</b>	Aug 04 – Dec 04	March 05	April 2005	<b>no</b>	Sept 2005	Yes
<b>ES</b>	Oct 03 – Dec 03	June 2004	Aug 2004	yes	Jan 2005	Yes
<b>FR</b>	June 03 – Nov 03	July 2004	Aug 2004	yes	Jan 2005	Yes
<b>IE</b>	Mar 03 – Feb 04	April 2004	July 2004	yes	June 2005	Yes
<b>IT</b>	July 03 – June 04	Oct 2004?	Nov 2004	yes	April 2004	Yes
<b>CY</b>	Oct 03 – July 04	Sept 2004	Sept 2004	yes	June 2005	Yes
<b>LV</b>	Dec 02 – June 03	Dec 2003	July 2004	yes	June 2005	Yes
<b>LT</b>	Mar 03 – Aug 03	Nov 2003	June 2004	yes	Dec 2004	Yes
<b>LU</b>	Sept 03 – Feb 04	Aug 2004?	Sept 2004	yes	Dec 2004	Yes
<b>HU</b>	July 02 – Aug 02	Nov 2002	Aug 2004	yes	April 2005	Yes
<b>NL</b>	Dec 02 – July 03 ?	Aug 2004?	Sept 2004	yes	Nov 2005	<b>No</b>
<b>AT</b>	June 04 – Oct 04	Jan 2005	Jan 2005	<b>no</b>	May 2005	Yes
<b>PL</b>	Oct 02 – Dec 02	April 2003	April 2004	yes	June 2004	Yes
<b>PT</b>	June 03 – Feb 04	May 2005	May 2005	<b>no</b>	Dec 2005	<b>No</b>
<b>SI</b>	May 03 – Oct 03	June 2004	Aug 2004	yes	June 2005	Yes
<b>SK</b>	Jan 03 – April 03	Sept 2003	June 2004	yes	Dec 2004	Yes
<b>FI</b>	April (?) - Oct 03	June 2004	July 2004	yes	Jan 2005	Yes
<b>SE</b>	Sept 02– Sept 03	June 2004	July 2004	yes	May 2005	Yes
<b>UK</b>	April 03 – Aug 03	Aug 2003	July 2004	yes	May 2005	Yes
<b>BG</b>	April – Sept 2003	April 2004	May 2004	yes	Dec 2004	Yes
<b>RO</b>	March – April 03	May 2004	July 2004	yes	Dec 2004	Yes

**Table 4: Accessibility of SES 2002 results and dissemination modes**

Country	Dissemination channels	Comments
BE	Web, specific printed publication	The units in the sample will get a feed back from 2005 onwards (the SES is carried out in BE on an annual basis)
CZ	Web-based dissemination of results, printed publication	Internal papers available dealing with methodological issues. The national SES results are accessible for all reporting units.
DK	Web, Statistical Yearbook, more specific publications	The SES 2002 results are published within the framework of an annual structure of earnings survey
DE	Web, specific printed publication, press conference	The printed publication contains a chapter on methodological issues. The main SES 2002 results are also accessible via <a href="http://forum.europa.eu.int/irc/dsis/wages/info/data/index.htm">http://forum.europa.eu.int/irc/dsis/wages/info/data/index.htm</a> (entry "Gross earnings in Germany 2001", interactive presentation)
EE	The SES 2002 results were published	The quality report gave no information as regards the dissemination channel
EL	SES results have not been published yet (announced: dissemination via Web and specific publication)	Anonymized micro-data available on request
ES	Web, press release	Detailed SES results are available via the Web site of the INE. Anonymized micro-data are available on request.
FR	Web, specific printed publication	
IE	Specific publication, no information about Web-based dissemination	
IT	Web, specific printed publication	
CY	Web, specific printed publication	The printed publication contains a chapter on methodological issues.
LV	Statistical Bulletin, no information about Web-based dissemination	
LT	Web, specific printed publication	
LU	Web, bulletin	The bulletin contains information on methodological aspects.
HU	Web, specific printed publication for main users, standard tables on CD-ROM	The CD-ROM and the printed publication cover methodological issues.
NL	Web, specific printed publication	
AT	Web, Statistical Yearbook, more specific publications, CD-ROM	
PL	Web, specific printed publication, Statistical Yearbook / Labour Yearbook	The SES specific printed publication covers methodological issues (for example description of the sampling scheme).
PT	Web, specific printed publication	The printed publication contains a chapter on methodological issues.
SI	Specific printed publication reports), no information about Web-based dissemination	
SK	Specific printed publications, Statistical Yearbook, no information about Web-based dissemination	
FI	Web, specific printed publication, press release	Selected national SES results were disseminated by employer organisations to their members.
SE	SES results have not been published yet.	
UK	Web, specific printed publication (results referring to the Annual Survey of Hours and Earnings which are not fully consistent with the SES data).	Information on methodological issues is accessible via the Web.
BG	Web, specific printed publication	The national SES results were sent to all reporting units.
RO	Specific printed publication, no information about Web-based dissemination	The printed publication contains a chapter on methodological issues.

**Table 5: Relevant comparability issues reported**

<b>Country</b>	<b>Comparability across national borders</b> (for coverage differences see Table 7)	<b>Comparability with the SES 1995</b> (refers to a slightly modified set of mandatory variables)
<b>BE</b>	No distinction between different local units of an enterprise belonging to the same municipality (→ derogation)	Major changes as regards the data sources occurred already in 1999 (annual SES in BE; inclusion of administrative files since 1999)
<b>CZ</b>	Monthly earnings include non-regular bonuses. The reference month October includes a public holiday.	SES 2002: Major changes as regards the set of variables, the methodology and definition of the framework population
<b>DK</b>	There is no fixed month which is regarded as being a representative month (monthly figures are derived from annual figures).	Continuous improvements as regards coverage of the survey and data quality since 1995 (annual SES in DK)
<b>DE</b>	The data refer to 2001 (derogation)	Considerably extended NACE coverage for the SES 2002 (new: sections H, I, K)
<b>EE</b>	Statistical unit: enterprises, not the local units	The SES 2002 was the first SES carried out in EE.
<b>EL</b>	Comparability ensured	Same coverage and methodology
<b>ES</b>	Comparability ensured	Contrary to the SES 1995, the SES 2002 included the NACE sections M, N and O. The questionnaire for the SES 2002 was slightly extended.
<b>FR</b>	There is no fixed month which is regarded as being a representative month (monthly figures are derived from annual figures).	The last French SES referred to 1994 and included NACE section M-O and local units with 2-9 employees. The definition and composition of variables has changed as well.
<b>IE</b>	Comparability ensured	The SES 2002 used for the first time separate questionnaires for employers and employees. Extended coverage of the SES 2002 (NACE sections L-O, small enterprises)
<b>IT</b>	Statistical unit: enterprises, not the local units (→ derogation)	Same coverage. No information available on any methodological changes between both surveys.
<b>CY</b>	Statistical unit: enterprises, not the local units	The SES 2002 was the first SES carried out
<b>LV</b>	Statistical unit: enterprises, not the local units	
<b>LT</b>	Comparability ensured	
<b>LU</b>	Comparability ensured. Country-specific issue: High rate of commuters (46%) working in LU but living abroad	The classification for the SES variable 2.5 (level of education) was less detailed in 1995.
<b>HU</b>	May 2002 has been chosen as the representative month. The non-regular payments referred to 2001. Use of a national classification scheme for occupations (FEOR-93) which is similar to ISCO-88. use of the local unit as observation unit but the local units are assigned to the NACE section to which the enterprise belongs	The SES 2002 covers several variables for the first time, such as the variable 3.4 (hours paid) or 3.4.1 (overtime hours paid) and now also includes PT employees).

<b>NL</b>	Statistical unit: enterprises, not the local units (→ derogation). The Dutch SES 2002 excluded employees leaving the enterprise during the reference year.	The sources 1995 used further administrative sources (Insured Person Register).
<b>AT</b>	Statistical unit: enterprises, not the local units (→ derogation)  Variable 3.2 (gross annual earnings) includes income in kind.	The SES 2002 combines different sources (data from questionnaires and from administrative files) whereas the last SES only used questionnaires. Changes as regards the methodology, for example for calculating annual earnings.
<b>PL</b>	Comparability ensured	The Polish SES 1999 also covered units with 6 – 9 employees
<b>PT</b>	Comparability ensured	Same coverage and methodology
<b>SI</b>	The SES 2002 did not cover apprentices.  Statistical unit: local kind-of-activity unit. Data by size class are data by size of local kind-of-activity unit. The classification schemes used for occupation and level of education slightly differed from ISCED 97 and ISCO 88, respectively.	The SES 2002 was the first SES carried out in SI.
<b>SK</b>	Statistical unit: local kind-of-activity unit (local units will be used for the SES 2006; a register for local units is under preparation). Slight differences as regards the measurement of certain bonuses.	SES 2002: Increased number of statistical units, several new variables, mainly variables on individual characteristics of employees.
<b>FI</b>	Comparability ensured (in spite of the country-specific survey design)	Slightly restricted comparability due to changes of definitions for certain variables or use of a new national classification scheme for occupations
<b>SE</b>	September has been chosen as a representative month. The survey excludes the age group 15-17.	Limited comparability due to different survey designs. The SES 2002 combines different sources whereas the SES 1995 only used questionnaires. The SES for 2002 the reference year covered annual bonuses for the first time.
<b>UK</b>	The SES data refer to the tax year which ended in April 2003. No adjustment is made to related the data to the calendar year 2002.	The classification scheme for occupations has been revised.  The SES 2002 directly collected information on SES variables 2.6 (length of service) and 3.5.1 (annual days of holiday leave) whereas former SES applied imputation based on the LFS.
<b>BG</b>	Comparability ensured.	The SES 2002 was the first SES carried out in BG.
<b>RO</b>	The SES 2002 did not cover apprentices (coverage planned for the SES 2006).	The SES 2002 was the first SES carried out in RO.

**Table 6: Coherence issues**  
(distribution of FT employees by NACE, comparison of earnings by NACE)

Country	Coherence SES – LFS	Coherence SES – SBS (optional)	Coherence SES – NA (optional)
BE	Limited comparability of figures from both sources, in particular for NACE section E	not covered	not covered
CZ	Moderate or limited comparability of figures from both sources, high differences for NACE section H		
DK	Limited comparability of figures from both sources		
DE	Limited comparability of figures from both sources. Assignment of statistical units (enterprises or local units / households) to NACE sections: The SES uses the business register, the LFS relies on questionnaires		
EE	In spite of different survey designs reasonable comparability of figures from both sources differences as regards the distribution of employees by NACE.		
EL	not covered	not covered	Limited comparability of figures on number of employees and gross annual earnings, by NACE
ES	Moderate or limited comparability of figures from both sources, high differences for NACE section H	not covered	not covered
FR	Limited comparability of figures from both sources.		
IE	Limited comparability of figures from both sources. Contrary, to the SES, the LFS covers small enterprises with 1 – 2 employees.		
IT	not covered by the quality report (missing item)		
CY	Different reference periods (October 2002 for the SES, 2 <sup>nd</sup> quarter 2002 for the LFS). In spite of different survey designs reasonable comparability of figures from both sources (the design differences SES – LFS are less pronounced for CY due to the extended SES frame (inclusion of L-O, small enterprises))		
LV	In spite of different survey designs reasonable comparability of figures from both sources differences as regards the distribution of employees by NACE.	Reasonable comparability of number of employees by NACE; slightly lower degree of coherence for annual earnings, by NACE	Limited comparability of figures on gross annual earnings by NACE
LT			
LU	Limited comparability of figures from both sources. The LFS only covers employees working and living in LU whereas the SES also includes commuters living outside LU (46 % of employees in LU are commuters)	not covered	not covered
HU	Limited comparability of figures from both sources (quite substantial differences as regards the distribution of employees by NACE).		
NL	The quality report did not contain information related to coherence “SES – LFS”		
AT	Limited comparability of figures from both sources, in particular as regards the assignment of employees to different economic activities or occupations.		

<b>PL</b>	In spite of different survey designs moderate comparability of figures from both sources. Distribution of employees by NACE: higher differences for sections G, K and L.	Satisfactory comparability of figures on monthly gross earnings, by NACE. Differences for annual figures more pronounced (in particular for sections H and K)	Very limited comparability of figures on gross annual earnings, by NACE (high differences for all NACE sections).
<b>PT</b>	Limited comparability of figures from both sources	not covered	not covered
<b>SI</b>	In spite of different survey designs moderate comparability of figures from both sources differences as regards the distribution of employees by NACE.		
<b>SK</b>	Limited comparability of figures from both sources.		
<b>FI</b>	Rather limited comparability of figures from both sources		
<b>SE</b>	In spite of different survey designs moderate comparability of figures as regards the distribution of examples by age; no further figures available reported		
<b>UK</b>	In spite of different survey designs moderate comparability of figures from both sources differences as regards the distribution of employees by NACE (higher differences for sections H, K and M).		
<b>BG</b>	In spite of different survey designs moderate comparability of figures from both sources differences as regards the distribution of employees by NACE (higher differences for sections G and H).		
<b>RO</b>	In spite of different survey designs moderate comparability of figures from both sources Distribution of employees by NACE: pronounced difference for section G.	Satisfactory comparability of figures on gross earnings and number of enterprises, by NACE.	Limited comparability of figures on gross annual earnings, by NACE (high differences for sections D, F,G, I and O), mainly due to the inclusion of small enterprises in NA.



**Table 7: Completeness and extension of the survey frame**

Country	Frame extension (optional)		Mandatory variables not covered / problematic variables
	Inclusion of small enterprises (<10 employees)	Inclusion of NACE sections M-O	
BE	no	no	complete coverage of mandatory variables
CZ	no	yes, plus L	
DK	no	no	
DE	no	no	Variable 3.2: Annual earnings only for employees that received remuneration for the full year
EE	yes	no	Variable 2.8 (employment contract): apprentices not covered. The status "apprentice" is not defined in EE.
EL	no	no	No problems reported (the quality report did not cover the item "completeness")
ES	no	yes	complete coverage of mandatory variables
FR	no	no	complete coverage of mandatory variables
IE	yes (size class 3 – 9 included)	yes, plus L	complete coverage of mandatory variables
IT	no (pilot project on the inclusion of small enterprises running)	no	complete coverage of mandatory variables
CY	yes (size class 2 - 9 included)	yes, plus L	Complete coverage of mandatory variables. Measurement problems occurred for a few variables, such as variable 2.5 (educational level) or 3.5.1 (annual days of holiday leave)
LV	yes	no	complete coverage of mandatory variables
LT	yes	yes, plus L	
LU	no	no	
HU	yes (size class 5 - 9 included)	yes	Variable 1.3 (economic activity): The NACE section of the local unit could not be determined due to the state of the business register
NL	yes	yes, plus L	complete coverage of mandatory variables
AT	no	no	Variable 2.5 (educational level): A distinction between ISCED 5a and 6 was not feasible (application of imputation). Variable 3.2 (gross annual earnings): It was not possible to exclude payments in kind.
PL	no	yes, plus L	Variables 1.5 (collective pay agreement), 2.8 (employment contract), 3.1.2 (payments for shift work) and 3.5 (days of absence): not covered Variable 2.5 (educational level): A distinction between ISCED 5a, 5b and 6 was not feasible. Variable 1.3 (economic activity): NACE divisions 12 and 91 not covered.
PT	no	no	Variable 2.5 (educational level): ISCED 4 not covered Variable 2.8 (employment contract): apprentices not covered Variable 3.1.2 (payments for shift work): not covered
SI	yes	yes, plus L	Variable 2.8 (employment contract): apprentices not covered
SK	yes	yes, plus L	complete coverage of mandatory variables
FI	yes (size class 5 – 9 included)	no	complete coverage of mandatory variables
SE	no	no	SES results for a few variables with item non-response rates are available but not reported, such as the variables 1.5 (collective pay agreement), 2.8 (employment contract) or 3.5 (days of absence).
UK	yes	yes, plus L	complete coverage of mandatory variables (imputation of variable 2.5 from LFS)
BG	no	yes	complete coverage of mandatory variables
RO	no	yes, plus L	complete coverage of mandatory variables