

Eurostat/OECD 2018 questionnaire on the methodology underlying labour input data in national accounts

Country: Greece

Date: May 2018

Part I: Methods

1. Employment in persons

Question 1.1: Please describe the architecture of your estimation method for employment in persons. Please include details of differences in methods and data sources that may exist at different points in the time series (e.g. a break in the series) or due to the timing of the estimate (e.g. flash estimate, regular estimate or annual data). Please also provide links to articles that may be relevant.

The compilation of the employment matrix in persons in Greek NA, is based on a number of available sources, which are continually examined and evaluated with a view to achieve the most accurate and exhaustive measurement of the employment. The methodology and the data provided in the attached tables refer to 2010, which is the last base year in Greek NA and are based on ESA 2010 definitions.

Question 1.2: What is the main original source for employment in the national accounts (e.g. administrative source, labour force survey, business survey, other)? Briefly describe this source, its coverage (including over time, range of businesses/households covered, etc.), its availability and whether it is in terms of jobs and/or persons.

Please specify the sources used for different parts of employment (in particular if sources differ between employees and self-employed, and/or between industries, firms of different size, etc.). If sources differ, please provide a clear distinction when answering the questions that follow.

The main original source for employment in NA is the Labour Force Survey. It is a continuous sample quarterly household survey, which covers the population of working age (15 years and above), residing in private households and staying at least 1 year in Greece.

The LFS's sample is spread uniformly in the 13 or 14 weeks of the reference quarter. The reference period is the reference week and the results are in terms of persons (employees and self-employed). The economic activity in LFS was classified according to Statistical Classification of economic activities, which is identical at 3-digit level to NACE REV.2, and the results are available 3 months after the reference quarter.

The LFS results are used either directly as the estimate of the employment in certain branches, or indirectly with the use of the rate of change (evolution). Since LFS is a sample survey it is obvious that the results are accompanied by sampling errors. For this reason, the LFS's formal sampling error is also applied in the procedure for evaluating and crosschecking the results.

Although there are certain differences between the LFS figures and the NA data in concepts, definitions and coverage, LFS is the most updated and important statistical source for the calculation of the employment in NA.

Another source which has been used as an additional comparative employment data source in base year 2010 was the Population and Housing Census 2011. The results have been used in some cases, for which there was no reliable information from other sources.

The ELSTAT's Business Register has also been used in 2010, since it is based on administrative sources and offers a number of information regarding enterprises. Although the number of employees in the Register's enterprises is not complete, it has been taken into consideration for comparative reasons and in some cases adopted when other sources seemed inadequate. The results from the ELSTAT's Register for years 2011 and onwards will be available in 2018.

A great number of SBS (Structural Business Surveys) were also available for many industries and are used for the estimation of the employment and other economic variables.

In the following table are succinctly described the sources used for the compilation of the NA employment matrix:

MAIN SOURCES USED FOR THE COMPILATION OF THE GREEK NA EMPLOYMENT MATRIX

	NAME OF THE SURVEY	Main use in the project	Type	Periodicity and availability	Coverage	Sampling Method
1	Labour Force Survey (LFS)	All industries, quartely data	Household survey	Quarterly data, availability 3 months after the reference quarter	Population aged 15-up	Multi- stage sampling method
2	Annual sea fishery survey	NACE A03		Monthly survey - availability 6 months after the reference month	Motorised professional fishing vessels of 20HP and over, small ring netters	Sample survey
3	Annual Statistical Agricultural Survey	NACE A03		Annual survey-availability 10 months after the reference month	Inland- Inshore fishery by motor-propelled professional fishing vessels up to 19 HP	Census survey
4	Annual Statistical Survey on mines, quarries and salterns (SBS)	NACE A05-A09	Establishment Survey	Annual survey-availability 18 months after the reference month	All mining and quarrying establishments	Census survey
5	Annual Industrial survey (SBS)	NACE A100-330	Establishment Survey	Annual survey-availability 18 months after the reference month	Manufacturing establishments	Census survey for enterprises with 10 and more employees
6	Annual survey of electricity (SBS)	NACE A35	Establishment Survey	Annual survey-availability 18 months after the reference month		Census survey
7	Annual survey on water supply, sewerage and biological cleaning (SBS)	NACE A36-37	Establishment Survey	Annual survey-availability 18 months after the reference month		Census survey for enterprises with 10 and more employees
8	Annual statistical survey on Construction	NACE A41-43	Enterprises Survey	Annual survey-availability 18 months after the reference month		Single stratified random sampling
9	Annual statistical survey in wholesale-retail sale (SBS)	NACE A45-47	Enterprises Survey	Annual survey-availability 18 months after the reference month		Single stratified random sampling

10	Annual survey on transport-storage and communications	NACE A49-53	Enterprises Survey	Annual survey-availability 18 months after the reference month	All enterprises located in Greece	One- stage stratified sample survey
11	Structural Business survey in accommodation and Food Service activities	NACE A55-56	Enterprises Survey	Annual survey-availability 18 months after the reference month		One- stage stratified sample survey
12	Structural Business survey on Real estate-Rental and leasing activities and other business services	NACE A681-682	Enterprises Survey	Annual survey-availability 18 months after the reference month		One- stage stratified sample survey
13	Annual statistical survey on banks and credit funds	NACE A64		Annual survey-availability 18 months after the reference month		Census survey
14	Insurance companies survey	NACE A65-66	Insurance companies	Annual survey		Census survey
15	Structural business survey on Information and Communication	NACE A58-63	Enterprises Survey	Annual survey-availability 18 months after the reference month		One- stage stratified sample survey
16	Structural business survey on Professional, scientific and technical activities	NACE (69-75)	Enterprises Survey	Annual survey-availability 18 months after the reference month		One- stage stratified sample survey
17	Structural business survey on administrative and support service activities	NACE (77-82)	Enterprises Survey	Annual survey-availability 18 months after the reference month		One- stage stratified sample survey
18	Structural business survey on other service activities	NACE 95	Enterprises Survey	Annual survey-availability 18 months after the reference month		One- stage stratified sample survey
19	Non- profit institutions survey	NACE 94	NPIS	Annual survey-availability 12 months after the reference month		One- stage sampling method

Question 1.3: Please describe how estimates of annual figures based on higher frequency data (e.g. weekly, monthly, quarterly) are derived. Please also specify, if relevant, how annual figures are derived if survey information is less periodic (e.g. every 5 years)?

Most of the surveys provide annual employment data. In the case of LFS, in which the data are quarterly, the estimates are based on the arithmetical mean of the four quarters of the year.

Question 1.4: Please describe the adjustments made to pass from jobs to the concept of persons (if the original source is in terms of jobs).

Employment in Greek NA is estimated in persons, so no further adjustments are made.

Question 1.5: Please describe the adjustments made to correct for coverage of the economic territory (see ESA §11.17-11.19)? This refers specifically to residents working for non-resident units abroad non-residents working in resident units. If relevant, please also describe adjustments for military (including conscripts, where applicable) and other collective households not covered by your main source.

The main adjustment which is applied is the inclusion of the number of conscripts in industry 840. The new population Census 2011 and the LFS do not provide any further information about the other categories. In any case, the number of them is not significant.

Question 1.6: Which adjustments are made for the unobserved economy (e.g. producers that deliberately do not register, individuals providing their labour that are not required to register, illegal workers, etc.)?

ELSTAT in accordance with the Commission Decision 94/168 on exhaustiveness, applies exhaustiveness adjustments for:

NI- Producers deliberately non registering – underground;

N2- Producers deliberately non registering –Illegal

N3- Producers nor required to register;

N4- Legal persons not surveyed;

N5-Register entrepreneurs not surveyed;

N6-Producers deliberately misreporting; and

N7-Other statistical deficiencies.

In order to cover all these categories, extra employment is applied, which derives as the difference between the proposed employment figures calculated using NA methodology and the original employment data that come from the SBS and the Business Register Sources.

Question 1.7: Which, if any, other adjustments are made (e.g. inclusion of resident workers below the age threshold, prisoners, adjustments made to account for statistical deficiencies in the source data, etc.)?

No further adjustments are made.

Question 1.8: In cases where Labour Force Survey data have not been used as the main source (even if only for some activities or groups of workers), please explain why. Are LFS data used for adjustments or cross-checking? Are differences monitored?

Although LFS is the main data source used, there are a number of cases in which other sources are regarded as more reliable and are adopted in NA (e.g. in cases in which there are census data or LFS data are substantially lower than other sources, etc.) In any case, all sources are thoroughly examined and cross-checked and the differences are monitored in order to have the most exhaustive measurement of the employment.

2. Hours worked

***Question 2.1:* Please describe the architecture of your estimation method for hours worked. Please include details of differences in methods and data sources that may exist at different points in the time series (e.g. a break in the series). Please also provide links to articles that may be relevant.**

The calculation of annual working hours is based on the LFS data. The data refer to weekly usual working hours and weekly actual working hours, with the distinction in employees and self-employed in every economic industry of NACE Rev.2 classification. The division of the average of the actually worked hours weekly with the average of the usually worked hours weekly per branch gives the FTE (Full-time equivalent) index.

The multiplication of the FTE index with the estimated number of the ESE and EEM in NA gives the number of employed persons in FTE. The total number of hours worked per year is estimated by multiplying the number of the employed persons in FTE, with the average number of the usually worked hours weekly and by 52 (which is the number of weeks per year).

***Question 2.2:* What is the main original source for hours worked in the national accounts (e.g. administrative source, Labour Force Survey, Business survey)? Briefly describe this source, its coverage and its ability to reflect the definition of hours worked (see ESA §11.27-11.31). In particular, does it capture a ‘usual’ hours, ‘actual’ hours, or some other concept?**

Please specify the sources used for different parts of the employed population (in particular if sources differ between employees and self-employed, and/or between industries, firms of different size, etc.). If sources differ, please provide a clear distinction when answering the questions that follow.

The main original source for hours worked in the NA is LFS, which is described above in detail.

***Question 2.3:* Please describe the adjustments made to transform the original source to adapt it to the concept of working hours as defined in national accounts? Please, describe each adjustment separately. These adjustments might include:**

- Accounting for holidays and annual leave
- Accounting for sickness leave
- Accounting for strikes and temporary lay-offs
- Accounting for paid but unreported overtime

- Accounting for unpaid overtime

The LFS, which is the only source used for the estimation of hours worked, takes into account holidays and annual leaves, sickness leaves, strikes and temporary lay-offs, maternity leaves, special leaves for family reasons, overtime, etc, so no special adjustments are made.

Question 2.4: Is a specific adjustment made to account for under- or over-reporting in the source data? Please specify if these adjustments are made for employees and/or self-employed workers.

No specific adjustment is made.

Question 2.5: If an adjustment is made for the number of persons employed in relation to the unobserved economy, what assumption is made regarding the hours worked by these persons?

The adjustment has already be done by the exhaustive estimation of the employment matrix, so no further adjustment needs to be done.

Question 2.6: Which other adjustments, if any, are made?

None

Question 2.7: If necessary, please describe any additional calculations needed to derive total hours worked and average hours worked from the sources and adjustments specified above. This includes, but is not limited to, adjustments made to align the coverage of hours worked with that of employment in persons (i.e. the coverage produced by the process followed in section 1).

Part II: Other work in this area

3. Differences between national accounts and Labour Force Survey estimates

Question 3.1: To what extent do you consider your Labour Force Survey an accurate tool for the measurement of employment and hours worked? Please describe any issues or shortcomings of which you may be aware.

Although LFS is the main tool for the measurement of employment and hours worked, there are a number of conceptual differences in relation with the measurement of employment in NA.

Since LFS is a household survey, the results are based on the responses given, which are not accurate in many cases. As a result, there are problems in classification or the extrapolation of the sample, especially in industries in which the sample is small.

Question 3.2: If the Labour Force Survey is not the primary source of data used to derive your estimates of employment in persons hours worked: Are you able to quantify, even approximately, what the difference would be between your current national accounts estimates and those you would obtain if you did use the Labour Force Survey data as your primary source?

LFS is the primary source of data in Greek NA.

Question 3.2.1: Where differences between these estimates exist, can you provide a brief assessment of the source of these differences?

4. Flash estimates of employment in persons

***Question 4.1:* Are you currently producing flash estimates of employment (t+30 or t+45)? If so, please describe briefly the methodology, coverage and sources. If you are not producing a flash estimate, do you have plans to start doing so in the future?**

We are not producing flash estimates of employment (t+30 or t+45) and we do not intend to do so in the future.

***Question 4.2:* Please provide information on the quality of the estimates (e.g. revision analysis).**

5. Other data produced (Optional)

***Question 5.1:* Do you have plans in the near future to improve or expand the content of national accounts labour input data (e.g. improved alignment with national accounts concepts, extension of the time series, increased industry detail, etc.)?**

From 2018, new labour data from administrative sources (Greek taxation system) will be incorporated in the measurement of NA employment with a view to have a more accurate estimation of employment.

***Question 5.2:* Do you produce labour input data other than that already discussed, for example quality adjusted labour input or labour input in terms of full-time equivalents? If so, please provide details and/or links to these data.**

***Question 5.3:* Do you produce productivity statistics (e.g. labour productivity for the total economy, further breakdowns of labour productivity, capital productivity, multi-factor productivity, etc.)? If so, please provide details and/or links with regards to these data.**

***Question 5.4:* If there is any other work that you produce currently, or are looking to produce in the future, in the areas of labour input or productivity, please use the space below to inform us about this work.**