

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

Country: Austria  
Date: March 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 main source is the social insurance statistics, which contains a unique identifier for persons, the insurance period and a qualifier for the job. With the ID and the period, several jobs can be assigned to one person, whereby the qualifier provides the principal activity. The LFS is used for additional estimation especially for parts of self employed persons and cross-checking. The NACE breakdown is determined by using the business register and cross-checked with SBS, LFS and other surveys and information.

***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.**

There are several sources of information on employment whereby the social insurance statistics is the main source.

- Social insurance statistics. These statistics in terms of jobs and persons (using the ID and insurance period) are available every month and cover all NACE sections.
- SBS. Structural business statistics is a complete survey on large enterprises (covering 85% of the total turnover) including NACE sections “B” to “N”. Employment information on small enterprises is estimated with social insurance data. The resulting data are annual averages in terms of jobs.
- Labour force survey. The LFS is a weekly sample survey in terms of persons. Starting from the reporting year 2004, it provides quarterly data on employees, self-employed and working hours, covering all NACE sections.

- Other sources: Individual information/surveys, annual reports, balance sheets of public corporations, etc..

**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)?**

See Questions 1.1, 1.2

**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).**

See question 1.1, social insurance statistics contains information both on persons and jobs.

**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 employment concept to be applied is that of the domestic occupied population (domestic concept). Most of the mentioned sources comply with this concept. Information on employment applying the national concept is available from the wage tax statistics and data from bordering states.

Social insurance statistics already start out from the domestic concept. The source contains also armed forces (including conscripts). Employees, who work in extraterritorial organisations can also be identified and are excluded.

Adjustments for self employed inbound commuters in the sector of homecare-services (“24h-Pflege”) are done, as these services are treated as import of services to Austria (see also bridge table!).

**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.)?**

No adjustments in terms of persons are done, only for production and income (exhaustiveness of GDP). There is some evidence that most of the concealed production is provided by producers who are already registered in another context.

**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 adjustments.

**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?**

With the administrative data a comprehensive coverage for employees is given. The LFS is used especially to estimate parts of self employed persons (unpaid family workers) and for cross-checking. The differences are monitored closely.

## 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 method of calculation for **employees** depends on the economic sector:

- **Primary sector (NACE A) and service sector (NACE G to T):** Main data source is the LFS. A special query is required so that LFS data fulfils the guidelines of ESA 2010. Commuters who work abroad have to be excluded for instance. The target variable is **hours actually worked** so that hours paid but not worked are not considered (e.g. holidays or sickness leaves). As a result, the average annual amount of working hours **per job** (including second activities) for each NACE-division is obtained.  
Analyses show that hours worked according to LFS (household survey) are significantly higher than in enterprise surveys. As a consequence correction factors have been elaborated for each NACE section in the service sector. The factors are made up of the difference between LFS hours and hours derived from the Labour Cost Survey (LCS). For reasons of data consistency and plausibility, data on working hours from LFS are adjusted with these correction factors.
- **Secondary sector (NACE B to F):** Main data source is the short term production statistics (STS). This survey fits the requirements of ESA 2010 as **hours actually worked** (without leaves etc.) are enquired. Like in the LFS, the average annual number of hours worked **per job** is extracted from the survey.

Total hours worked finally result from the multiplication of employment according to national accounts in terms of jobs times average working hours per job.

For the **self-employed**, the only source available is LFS so it is used for every NACE section. Analogous to the employees, the working hours from LFS are decreased with the help of correction factors.

**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.**

- **LFS:** sample survey in terms of persons, but also second activities are recorded. Quarterly data that have to be converted to annual figures: employees, self-employed, hours actually worked as well as hours usually worked. All NACE sections (A to T) are covered.
- **Short term production statistics (STS):** primary survey for enterprises and establishments with thresholds regarding turnover and employees. The sample contains all enterprises as well as every establishment of multi-establishment enterprises over a certain threshold. Units lying beneath are estimated by means of a model.  
Monthly data: employees, hours actually worked as well as hours paid for. NACE sections B to F are covered.
- **Labour Cost survey (LCS):** sample survey for enterprises, every 4 years. Small enterprises (under 10 employees) are excluded.  
Yearly data: employees, hours actually worked as well as hours paid for. In the service sector the hours actually worked are determined indirectly (usual hours minus leaves).

***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:**

The data concerning working hours (hours actually worked under consideration of overtime, unpaid overtime as well as sickness leaves and holidays) result from surveys, which are designed according to the concept as defined by the international labour organisation (resolution of the 18th ICLS in 2008).

- Accounting for holidays and annual leave: not necessary (see also question 2.1)
- Accounting for sickness leave: not necessary (see also question 2.1)
- Accounting for strikes and temporary lay-offs: not necessary (see also question 2.1)
- Accounting for paid but unreported overtime: no adjustments done
- Accounting for unpaid overtime: not necessary as already included in LFS. For employees in the secondary sector (main data source = STS), a supplementary estimate coming from LFS is conducted.

***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.**

See Question 2.1

**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?**

No adjustments.

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

Analysis have shown that especially in universities a lot of employees work part time or on a marginally basis. In LFS these jobs seem to be under-reported compared to administrative data like the social security statistics or the university statistics (“Hochschulstatistik”). As a consequence the average number of hours actually worked per job tend to be overestimated in LFS. Therefore the data are adjusted downwards, on the basis of full time equivalents provided by the university statistics.

**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.**

As mentioned above (Question 2.1) there are considerable differences between LFS- and business survey data (STS, SBS, Labour Cost Survey) regarding hours worked, but also regarding employed persons. It is presumed that the LFS is slightly overestimated in respect of hours worked. In particular, absences from work are probably often not counted correctly by the respondents due to the complexity of the question. Moreover, the wording of the questions themselves was changed several times since 2004. Besides the conceptual differences, the LFS is a household survey based on rather small samples

**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?**

See questions 2.1, 3.1 and bridge table respectively.

**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?

As the admin data are available after t+30, Austria produces flash estimates after t+45.  
See question 1.1 ff.

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

There are minor revisions in total, but higher revisions for the NACE-breakdown, when annual data are published.

#### **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.)?

There are no particular plans, apart from routine assessments of sources and methods.

**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.

Austria provides FTE in „[Volkswirtschaftliche Gesamtrechnungen 1995-2016, Hauptergebnisse](#)“, tables 11-13.

“Full-time equivalent employment is the number of full-time equivalent jobs, defined as total hours actually worked by all employed persons divided by the average number of hours actually worked in full-time jobs.” (SNA 2008, 19.43).

$$FTE = \frac{HW}{act\_hw^{FT}}$$

FTE ... Full time equivalents

HW ... totally hours worked

act\_hw<sup>FT</sup> ... actually hours worked in full time jobs (adjusted LFS 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.**

Austria provides labour productivity for the total economy (per FTE and per hours worked) in [„Volkswirtschaftliche Gesamtrechnungen 1995-2016, Hauptergebnisse“](#), table 16

Statistics Austria does not produce and publish productivity per employed person. It is not considered a very meaningful figure, as it is blurred by various factors (e.g. changes in working time or persons in parental leave).

**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.**

Statistic Austria is going to produce the Quarterly National Accounts figures beginning with 2020Q1. Until then quarterly ESA tables are calculated by the “Austrian Institute of Economic Research”, except flash estimates of employment in terms of persons.