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

Country: Luxembourg
Date: November 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.**

Employment in national accounts is based on social security registration files and business surveys, in turn linked to the business register.

The business register covers enterprises and employers ('entreprises et personnes morales'). It is fed by a range of administrative sources and updated monthly (see GNI inventory, section 3.1.4 The statistical register of businesses and other legal units). The business register also includes public administrations, social security units and non-profit institutions. Units not included in the register are the following: units not subject to VAT, nor employers nor morale person ('personne morale'). This is particularly the case of farmers, doctors, practitioners and other paramedical professionals, independent teachers, certain professionals in arts. The employment variable is captured in the register broken down by status (functionaries, employee, worker), gender, and type of job (full-time/part-time).

SBS is a sampling survey. Only enterprises with 50 employees or more are included. Enterprises below this threshold are estimated on the basis of the business register (see GNI inventory, section 3.9.1.5 Sample extrapolation method). Particularly, the employed workforce is estimated from other enterprises in the same strata in the business register. In the case of selfemployment, it is estimated unit-by-unit from average self-employed in other similar units (i.e. same legal form and activity). This calculation is undertaken by labour status and gender.

Social security statistics of labour are collected by the Centre commun de la sécurité sociale/Inspection générale de la sécurité sociale (IGSS). They are calculated monthly, covering businesses and employers ('employeurs et affiliés (salariés et indépendants)'). The following variables are collected:
- o Labour status (Salarié, fonctionnaire, employé communal, agent CFL, travailleur indépendant intellectuel, indépendant, aidant agriculteur),
- o Status (employed, unemployed)
- o Mode (trainee, full-time, part-time)

- o   Residence of employed person
- o   Residence of employer
- o   Code institutional sector ESA 2010
- o   Code activity NACE Rev. 1, NACE Rev. 2
- o   Gender

Information of hours payed and hours lost in strike is also compiled. These are contractual hours. For workers, the hours lost by sickness or "chômage intempéries" are also known.

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.

Social security (IGSS) records in terms of persons by employer (available monthly with a delay of 2 months), SBS (yearly used especially to break down employment by kind of activity unit) and the business register which contains monthly job data by employer

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)?**

Annual averages are calculated as the average of monthly data of the social security records.

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).**

Social security records refer to persons , SBS and business register data to jobs: the number of jobs are adjusted to the number of persons by industry (NACE 5 digit level).

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.**

For non residents working in Luxembourg :

- o   Non residents working for resident producer units are included in social security files,SBS and business registers are identified by their residence.
- o   Prostitution (appartement) : data are collected by survey.
- o   Local agents of Luxembourg embassies outside Luxembourg are estimated on the basis of budget data.

- o For resident workers working for non resident producers :
- o Agents of international organisations not affiliated at the national social security system: the data are collected by survey.
- o Local agents of these organisations and of foreign embassies affiliated at the national social security system are identified in the social security files.
- o Other : Data for employees working in DE/FR/BE are obtained from related social security files.

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.)?**

Adjustments made for the unobserved economy are employment in domestic services (estimation) and prostitution (survey).

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.)?**

Employees affiliated to the national social security system but working in fact in branch offices outside Luxembourg are excluded (especially in water transport ("Pavillon maritime" and "Bateliers Rhénans").

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?**

LFS provides information on the national concept of employment. The economy of Luxembourg is so open that it is very difficult to transform estimates of national employment into domestic employment by the traditional methods. Therefore, alternative sources are used providing information directly on the domestic concept. In fact the national concept of employment in national accounts is also calculated from the domestic concept and not on the basis of LFS. The differences are measured and monitored.

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.**

For employees, hours worked are estimated in combining data from the short term activity survey in industry and construction (STS), the quadrennial Labour Cost Survey. Both surveys include data on hours payed, hours actually worked worked, holydays sickness leaves, payed and unpayed overtime etc. Social security data includes information on the hours paid, sickness leaves and "chômage intempéries". All indicated sources contain the information about hours paid. Short-

term statistics and labour cost survey allows to calculate the ratio between hours actually worked and hours paid which is then extrapolated to whole population of employed persons covered by social security data.

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 sources are Social security files (hours payed) combined with short term activity survey and Labour Cost survey (see previous question).
For selfemployed only the data recorded in the SBS survey are used. No social security data is used of hours worked for selfemployed persons.

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 adjustments mentioned above are made on the basis of the monthly activity survey (for industry and construction) and on the basis of the triannual Labour Cost Surveys for most service branches . In services, the adjustments are estimated between two Labour Cost Surveys.

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.**

Downward adjustment made for Residents working outside the economic territory : Water transport ("Pavillon maritime" and "Bateliers Rhénans"), and Local agents working for EU, International org., embassies.

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?**

Domestic services : The hours worked are adjusted to the results of the family budget survey.
Prostitution : The hours worked are estimated.

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

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.**

See answers to questions 1.8 and 2.1 for measurement of employment and hours worked.

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?**

> *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?**

Quarterly flash estimates (unadjusted and seasonnaly adjusted) are produced at (t+30) and (t+45) in the framework of Eurostat feasibility study for an employment flash estimate.

T+30 days : for quarter T, 1 month is based on admionistrative data and 2 months are estimated. T+45 days : for quarter T, 2 months are based on administrative data and 1 month is estimated.

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

Revisions can be monitored in the "Template for employment flash tests" being sent to Eurostat (QoQ and YoY growth rates), at T+30 and T+45 days.

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.)?**

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 or labour input or productivity, please use the space below to inform us about this work.**