

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

Country: Finland
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.

QNA and Flash estimates are obtained using LFS estimates as an indicator, adjusted to annual level.

Annual national account figures consists of preliminary annual figures (firm level data) and final annual figures (local kind of activity unit) and the estimation methods differ between these two. Preliminary annual figures are estimated using firm level multipliers so its also indicator based calculation adjusted to previous annual level. Final annual figures are obtained from the estimated main source data itself (business register, local kind of activity unit). In both cases LFS figures are used as a comparison data among other indicators/statistics. In NA we also do manual adjustments based on these different comparison indicators/statistics.

Business register's employment figures are obtained using regression models. These Regression models are applied using wages paid.

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.

The main original source for employment in the national accounts is business register. This is the source for most sectors, excluding parts of the public sector. Also some industries in S11 and S14 have their own sources for calculation of the employment: construction (estimate from Labor force survey) and farming (statistics on the finances of agricultural and forestry enterprises as a source).

The number of employees is estimated using changes in the wage-level and using LFS figures as a comparison indicators which should be followed. Regression models are applied using wages paid and persons employed by the company. Original source is in terms of persons (and especially their wages).

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.

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)?

We are using wages that are annual level register data, so we don't have to derive it. LFS data is available at monthly, quarterly and annual level and we don't have to derive it either, when calculating annual figures.

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).

original source is in terms of persons.

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 adjustments are based on the tax information on the persons under limited tax liability and on EU SILC –survey.

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.)?

In NA we estimate “black market” wages and additionally we estimate unobserved employment figures based on many comparison indicators for example average wages per hour.

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 other 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?

In case of NA's final annual figures, LFS data is always been used as a comparison data among other comparison indicators for example average wages per hour. NA's estimated figures should follow changes

and levels in LFS. For the most part it goes like that but not always. LFS estimates are utilized especially when we are estimating self-employed working hours.

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.

QNA and Flash estimates are obtained using LFS estimates as an indicator, adjusted to annual level.

Annual national account figures consists of preliminary annual figures (firm level data) and final annual figures (local kind of activity unit) and the estimation methods differ between these two. Preliminary annual figures are estimated using firm level multipliers so its also indicator based calculation adjusted to previous annual level. Final annual figures are obtained from the estimated main source data itself (business register, local kind of activity unit). In both cases LFS figures are used as a comparison data among other indicators/statistics.

Different regression models are applied when estimating hours worked and we also do manual adjustments based on different comparison indicators/statistics. Hours worked are estimated using changes in the wage-level and using LFS figures as a comparison indicators.

Our working hour estimation methods are a bit “old-fashioned” and we have plans to improve our estimation methods when we are doing the next time-series correction.

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?

Main source for hours worked in national accounts is the business register. This is the source for most sectors, excluding parts of the public sector. Also some industries in S11 and S14 have their own sources for calculation of the hours worked: construction (estimate from Labor force survey) and farming (statistics on the finances of agricultural and forestry enterprises as a source).

In the business register/structural business statistics the hours worked are obtained as follows. For companies included in the survey conducted by the labor cost index statistics, the number of hours worked is obtained from there. The rest of the companies are divided in two categories depending on if they employ more or less than ten workers. Different regression models are then applied for both of these groups. The explanatory variables in these models are wages paid and persons employed by the company.

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.

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 → Adjusted partly through wages
- Accounting for sickness leave → No adjustments made yet, because lack of data . This may change after the introduction of National incomes register in 2020.
- Accounting for strikes and temporary lay-offs → Adjusted through wages
- Accounting for paid but unreported overtime → Adjusted through wages
- Accounting for unpaid overtime → No adjustments 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.

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?

In that case we do adjustments assuming that the average wages per hour remain eligible (compared to all other comparison data).

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

In the end, all adjustments are done based on the overall consideration. We use a lot of comparison indicators/statistics to ensure integrity of different statistics and to avoid incoherence (average wages per hour, Labour Force Survey, wage and salary indices, production figures and NA's time-series).

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.

It is very hard to say how accurate tool Labour Force Survey is for the measurement of employment and hours worked. NA uses Labour Force Survey as a comparison data. NA's reporting level is so accurate that Labour Force Survey figures can be very misleading especially for smaller industries. S1 level figures are usually tolerable, but in a detailed level LFS sample size variation is a problem in many cases.

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?

Labour Force Survey is not the primary source of data we use. The difference would be very big **for many smaller industries** between our current national accounts estimates and those we would obtain if we did use the Labour Force Survey data as our primary source.

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

Industry-level NA is using is so accurate that in many cases figures of Labour Force Survey would be absurd.

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 currently producing flash estimates of employment (t+30 or t+45). Finnish Flash employment estimates are calculated using Labour Force Survey as indicator series and adjusted to annual level figures.

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

Revisions are tolerable.

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.)?

Yes we have couple big plans in the near future:

- 1) 2020 We start to use National incomes register that is electronic database of income information.
- 2) We also have an ongoing project here in Statistics Finland where we are improving our working hour estimations.

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.

No.

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.

Yes we do.

https://www.stat.fi/til/ttut/index_en.html

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.