

Sources and methods used in EU Member States to compile ESA 2010 employment data measured in hours worked

This note provides an overview of the sources and methods used by EU Member States to compile regional employment measured in hours worked in the framework of the European System of Accounts (ESA) 2010. The ESA 2010 Transmission Programme requires the transmission of employment data for:

- total employment and employees in hours worked at NUTS 2 level and by 10 NACE categories at T+24 months.

A short questionnaire was addressed to regional account compilers and the replies were received in October 2021.

Main Results

A key difference is between countries that use mainly a single source and countries using a variety of sources. Among the countries of the first group, the primary source for compiling regional employment data in hours worked is the Labour Force Survey, which is a household survey, in Croatia, Ireland, Latvia, Lithuania, Malta, Poland and Romania. Administrative sources and business surveys are the single sources respectively in Denmark and France.

The combination of two sources, (LFS/business surveys; LFS/administrative sources; administrative sources/business survey (or others)) is used in: Austria, Belgium, Finland, Hungary, Netherlands and Slovakia.

Several countries (Cyprus, Czechia, Germany, Spain, Italy, Portugal, Sweden) use multiple sources:

- households survey (LFS or other kind of surveys),
- business surveys (Short Term Statistics (STS), Structural Business Statistics (SBS), survey on Employment, survey on Earnings, Labour Cost Survey),
- administrative sources (based mainly on Social Security Institute and Insurance Agency, government statistics).

The following table provides a more detailed view of the countries' replies on sources and estimation methods:

Country	Sources and estimation methods
Austria	Employment measured in hours worked is compiled by using households survey (LFS) and business surveys (STS, SBS) sources for the employees. LFS provides hours worked for the NACE activities A, GTI, K, M_N, OTQ, RTU. STS for the BTE, C, F activities. SBS for activities J and L. LFS survey is used as sole source to derive the hours worked by self-employed for all NACE activities. No adjustment is applied: sources provide information for compilation

	<p>of regionalised hours actually worked according to the domestic concept.</p> <p>The total hours are calculated by multiplying the number of jobs by the average number of hours actually worked by job.</p> <p>(For J and L activities: full time equivalent are used as in indicator for total hours worked and they are regionalised via the number of jobs (available at KLAU level)).</p>
Belgium	<p>The administrative data from the NSSO (National Social Security Office) is the source for estimation of hours worked by employees.</p> <p>The LFS survey provides the data in order to derive the hours worked by the self-employed.</p> <p>Administrative data (on paid days for full time/paid hours part time workers) are converted into hours actually worked: some adjustments and corrections are applied as deduction of paid leave, addition of undeclared work, calendar effects, hours worked by students/teachers etc. (Administrative data are used to construct a key by sector to regionalize the number of hours worked by employees). The domestic concept is followed.</p> <p>LFS contains the hours actually worked, they are calculated by region for all the A*10 NACE activities. (the number of hours worked by self-employed per week by region is multiplied by number of self-employed, thus providing the distributional key allowing to breakdown the volume of work of self-employed as estimated in National Accounts).</p>
Bulgaria	Not available.
Croatia	<p>LFS is the primary source for hours actually worked by employees and self-employed for all NACE activities (following the national concept). Other secondary sources are: Ministry of Internal Affairs, Employment Service, Pension Insurance Institute.</p> <p>From these sources, the hours worked by regions are compiled according to the domestic concept by applying adjustments to the national concept data: people working abroad and foreigners working in the country for up to one year.</p>
Cyprus	<p>Cyprus is a mono region country. Data sources are the National Accounts ones.</p> <p>Several sources are used: administrative ones (Social Insurance Registry and Government Statistics), business survey (Employment survey) and household survey (LFS). All sources provide data for hours worked by employees and self-employed for the NACE A*10 breakdown. Hours actually worked are derived. They are calculated by multiplying the average hours worked per week by economic activity by the number of persons employed in each activity.</p> <p>Adjustments are performed for short-term workers (in A and I activities), national guard soldiers (in O), people leaving in collective households (convents), ships.</p>
Czechia	<p>Primary source is a business survey (Labour Costs Survey) and it provides hours actually worked by employees for all the NACE</p>

	<p>activities following the national concept (it is adjusted to the domestic one using LFS).</p> <p>Secondary sources are households survey (LFS) and administrative one (Social Security administration). LFS provides data on hours worked by employees and self-employed for the NACE activities according to the domestic and national concept. The administrative source provides data for employees' hours worked. They are direct data sources for hours actually worked.</p>
Denmark	<p>The main sources are administrative ones: Employment in Business (EiB) and the Register-based labour force statistics (RAS).</p> <p>Hours worked for employees are distributed according to employees' data in full-time equivalents from EiB. Hours are regionalized by using the number of paid hours.</p> <p>Hours worked for self-employed are regionalized by the number of self-employed persons from RAS.</p> <p>Hours worked are compiled for all the NACE activities except Construction, Air transport and Extraction of oil and gas and Mining support activities. Domestic principles is followed.</p> <p>For the excluded NACE activities, various indicators are used as secondary source and the regionalization of hours worked is performed using the same indicators to regionalize the Gross Value Added. Domestic concept is followed.</p>
Estonia	Not available.
Finland	<p>The main source is the Business register at LKAU level) with few exceptions (parts of the public sector, some industries in Non-financial corporations and Households sectors) for hours worked by both employees and self-employed.</p> <p>Other sources (Structure of Earnings, Statistics from Natural Resources institute of Finland, Finnish Workers' Compensation Center) are used for estimating the hours worked by employees and self-employed for some parts of the public sector, for NACE industry A, for NACE industry T). The hours actually worked are directly estimated at regional level from primary source data or indirectly by the use of indicators from Other sources.</p>
France	<p>Only source used is a business survey (Employment survey), which provides data to calculate the hours worked at regional level (NUTS3) and at NACE A*10 industry breakdown.</p> <p>The survey provides employment data (Total and employees) by NUTS 3 and by A*10 NACE activity; hours worked per activity (A*10). The average number of annual hours worked per employee and per activity is calculated and multiplied by each level of employment at NUTS 3 and by activity to get the total hours worked.</p>
Germany	<p>Data sources used are numerous: LFS (included in the Microcensus), business survey (Survey of earnings), administrative ones (Federal Employment agency, Public official statistics, statistical business register), other sources as Work group employment statistics.</p> <p>All the available statistical information on employment is taken into</p>

	<p>account for the estimation and the focus is on the Working Time Measurement Concept.</p> <p>A componentwise accounting approach is followed and for the calculation, several factors are included: calendar effects and vacation time, collective components (agreed/customary working hours, annual paid holidays), cyclical components (short-time work, paid and unpaid overtime), personal components (sick leave, part-time and full-time employees, parental leave), other components (secondary jobs, strikes). The labour volume (or volume of work) is calculated and it describes the total hours actually worked by all employed persons (sum of employees and self-employed persons) per year.</p> <p>The hours are compiled for the NACE A*21 industries breakdown, following the domestic concept.</p>
Greece	Not available.
Hungary	<p>The data sources are household survey (LFS) and business survey (Quarterly labour report).</p> <p>From LFS data the usual working hours for self-employed by NACE breakdown are estimated. Quarterly labour report provides the hours actually worked calculated for employees by NACE activities.</p> <p>For both sources the data follow the domestic concept.</p> <p>The hours are estimated first at national level.</p> <p>The calculation of the hours is performed by multiplying the average number of self-employed/employees (estimated in national accounts) by the aggregated value of usual working hours/hours actually worked per person.</p> <p>The region/activity ratios of LFS data are used as proxy to regionalize the national aggregates.</p>
Ireland	<p>The source is the LFS household survey. The usual hours worked are compiled for employees and self-employed for all the NACE activities at regional level.</p>
Italy	<p>The main source to estimate the hours actually worked by employees and self-employed is a mixed source: LFS integrated at micro level with Social Security Institute data.</p> <p>LFS data is combined with administrative information, which allows classifying each job as “declared” (when social contributions are paid for it) or “undeclared” (when administrative information is absent).</p> <p>The so-called “LFS ADMIN” data provide the estimates of regional hours actually worked per capita for declared and undeclared jobs (main and secondary ones) for all the NACE activities.</p> <p>Other sources are used: households survey (Multipurpose Survey On Households: aspects of daily life) for estimates of regional non declared jobs for domestic services, administrative (National Social Security Institute) for estimates of regional declared jobs for domestic personnel employed by households, Other sources (Enterprises Local Units Business Register, Agriculture Register, Accounts of General Government employees, Public Institution Statistical Register, Non Profit Institutions and Public Institutions registers) for estimates of</p>

	<p>regional hours actually worked for specific categories of persons employed.</p> <p>The domestic concept is followed for all the sources. Adjustments in LFS ADMIN data are applied to correct the main distortions in hours worked (i.e. overestimation of hours declared) and procedures are in place to check and correct the regional hours worked in case of extreme variation at economic activity level.</p>
Latvia	<p>The LFS household survey is the only source for estimating hours actually worked by NACE activities and by regions.</p> <p>The Total hours are calculated for employed and self-employed at their main and secondary jobs. No adjustment to regionalize data is applied.</p>
Lithuania	<p>LFS is the main source for deriving the hours actually worked by employees and self-employed by A*10 NACE activities. An administrative source (Ministry of National Defence Republic of Lithuania) provides data on hours for conscripts for activity O.</p> <p>LFS provides information according to the place of residence (of the worker) and also interregional flows, which are used to re-estimate the hours actually worked by place of work.</p> <p>Adjustments to LFS data are applied in order to derive estimates according to the domestic concept.</p>
Luxembourg	Not available.
Malta	<p>The source is the LFS household survey. The hours actually worked are compiled for employees and self-employed for the A*10 NACE activities.</p>
Netherlands	<p>An administrative source (Register of the Employees Insurance Agency) is the main source for hours actually worked by employees. However, LFS household survey provides information to estimate the unpaid overtime hours of employees.</p> <p>The LFS allows the estimation of hours actually worked by self-employed. Part of self-employed hours worked are derived from the satellite Self-employed Persons and the System of Social Statistical Datasets (SSB).</p> <p>The regionalization of hours worked by employees is obtained by combining data sources (Employees' Register), a survey (Survey on Regional Employment) and the use of an algorithm. While for the self-employed it is used the satellite Self- Employed Persons database, based on the Dutch Business Register and combined with fiscal information. To derive a regional distribution, the information is linked to the hours worked from LFS on person level.</p>
Poland	<p>The household survey LFS is the primary source for the compilation of hours actually worked by employees and self-employed by the A*10 NACE activities.</p> <p>The actually hours worked are calculated by regions from the LFS data by multiplying the number of employees/self-employed by the average number of hours worked (adjustments are applied to reach the domestic concept). A business survey (Annual survey on employment, wages and salaries) is marginally used for compiling the hours worked</p>

	by employees.
Portugal	<p>Two sources are mainly used to compile the hours worked for employees and self-employed for all NACE categories: LFS and Simplified Business Information survey. Administrative data (Lists of Personnel by establishment) is a secondary source used.</p> <p>The concept underlying the calculation of the hours is hours effectively worked. From the data sources, this information at A*10 NACE breakdown and at NUTS 3 level is extracted and the average effective weekly duration is multiplied by the number of workers (and weeks) in order to obtain the total number of effective annual hours.</p>
Romania	<p>The household survey LFS is the source for compiling the actually hours worked for all the NACE activities at regional level for employees and self-employed.</p> <p>LFS provides data at NUTS2 level on the number of weekly hours actually worked, by principal and secondary activity and by NACE activity. They are multiplied by the number of actually worked weeks in the reference year to obtain the total hours.</p>
Slovakia	<p>The primary source is business surveys (Annual and quarterly business surveys) for several sectors. The hours actually worked by employees according to the domestic concept are directly reported at regional level. The secondary administrative source (Social Insurance agency) provides the employees and self-employed persons at regional and industry level for the household sector. The regional hours are calculated by using regional breakdown of employment in persons and average hours worked by an employee computed from the business surveys.</p>
Slovenia	Not available.
Spain	<p>Several sources are used to compile the actually hours worked by employees and self-employed:</p> <p>household survey (LFS), business surveys (Structural Business Statistics, Central Business Directory, Personnel records of RENF), administrative source (National Social Security System register), mixed sources (LFS, Social Security system, Private Education Financing and Expenditure Statistic (Finygas), Education Statistics of the Ministry of Education and Vocational Training).</p> <p>The hours actually worked are derived for different NACE activities depending on the sources and the domestic concept is followed (adjustments are applied to LFS data).</p> <p>Regarding the LFS, the concept of hours worked relates to hours usually worked and not actually worked.</p> <p>For household and business surveys sources: the hours worked are calculated as hours worked per person by NUTS 2 multiplied by the final estimation of the workers and as a proportional distribution of employment based on the data sources. For business survey SBS, the hours worked are also directly estimated from data. For the administrative and mixed sources, the hours worked are calculated as proportional distribution of employment based on the data sources.</p>

Sweden	Several sources are used to compile the hours worked by employees and self-employed by A*10 NACE breakdown: household survey (LFS), business survey (Short-term statistics on salaries in governmental sector, in municipalities, in regional authorities, on wages and salaries in private sector), administrative sources (Labour statistics and Gross pay based on administrative sources). The hours worked are measured at national level, which are based on LFS and regionalized by the labour statistics from administrative sources (RAMS).
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