Labour Force Survey in the EU, EFTA, United Kingdom and candidate countries

MAIN CHARACTERISTICS OF NATIONAL SURVEYS, 2019

2021 edition

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Preface

This report describes the main characteristics of the European Union Labour Force Survey (EU-LFS) conducted in 2019 in the Member States of the European Union (EU), three EFTA countries (Iceland, Norway and Switzerland), the United Kingdom and four candidate countries (Montenegro, North Macedonia, Serbia and Turkey).

All of these countries provide Eurostat with EU-LFS microdata. The purpose of this report is to inform about the technical features of the surveys carried out in these countries, in order to enable users to interpret the EU-LFS results accurately.

The EU-LFS has been based on European legislation since 1973. The principal legal act is the Council Regulation (EC) No 577/98. The regulations are an important element assuring the quality of the EU-LFS.

In all countries, the EU-LFS is organised and managed by the National Statistical Institutes.

The EU-LFS is designed as a continuous quarterly survey which measures the labour status and other characteristics of the population in each quarter, by spreading the sample uniformly over all the weeks of the quarter.

The main characteristics of the national practices are presented in this report. The information is mostly organised along the same lines as in 'The European Union Labour Force Survey: Main Characteristics of the National Surveys 2018'. This will enable users to evaluate the degree of comparability achieved. Country sheets include a section on the main conceptual, methodological or organisational changes introduced in recent years, to allow the reader to have an idea of recent changes at a glance. Tables 1 to 3 (in Annex) provide summary information on some of the characteristics described in the report.

For more detailed information on the legal basis, results, common practices, methods and definitions of the European Union Labour Force Survey, see the EU-LFS Statistics Explained website at:

http://ec.europa.eu/eurostat/statistics-explained/index.php/EU_labour_force_survey

Eurostat wishes to thank the experts responsible for the national labour force surveys in the EU Member States, the EFTA countries, the United Kingdom and the candidate countries for their help in compiling the data presented in this report.

List of abbreviations

CAPI	Computer Assisted Personal Interviewing
CATI	Computer Assisted Telephone Interviewing
CAWI	Computer Assisted Web Interviewing
EC	European Commission
EFTA	European Free Trade Association
EU	European Union
FSU	Final sampling unit
ILO	International Labour Organization
ISCED	International Standard Classification of Education
LFS	Labour Force Survey
NUTS	Nomenclature des unités territoriales statistiques / Nomenclature of Territorial Units for Statistics
	NUTS0-NUTS3, LAU
PAPI	Paper and Pencil Interviewing
PSU	Primary sampling unit
Q	Quarter

Contents

BELGIUM (BE)

Background

The LFS started in 1983 as an annual survey, but has been continuous since January 1999 providing quarterly and yearly results. Major changes in recent years:

2006:   CAPI is introduced (but most of the interviews still in PAPI).
2008:   The national questions and instructions about education and training take into account the Bachelor/Master structure of higher education. As a consequence, a break is introduced between 2007 and 2008 for the level of education.
2009:   Imputations of the earnings variable (net wages) based on the structure of an earnings survey.
2011:   Final shift to CAPI as the main survey mode.
2017:   Revision of the sampling design; introduction of 2-(2)-2 rotational scheme; introduction of CAWI; revision of the weighting procedure.

Coverage

Population interviewed for employment status: 15 years and older (but people in households of which all members are 77 years or older, are excluded).

Population concept: Registered population.

Specific population subgroups:

- Primary/secondary students: Family home.
- Tertiary students: Family home.
- People working out of family home for an extended period for the purpose of work: Family home.
- People working away from family home but returning for weekends: Family home.
- Children alternating two places of residence: 'Most of the time' criteria.

Household concept: Housekeeping.

Household definition: Members living together in the same dwelling, sharing meals and expenditures (criteria not explicitly checked in sampling frame and during the interview).

Participation: Compulsory.

Description: The survey covers the entire country but only private households, where at least one person is younger than 77, are included in the survey. A household is the unit comprising either one person living alone or two or more persons living together in the same dwelling, sharing meals and expenditures.

Sampling strategy

Sampling design: Two stages stratified sampling plan.

Sampling frame: Population Register extended with information from tax and unemployment registers.

Sampling units: The PSU is the statistical section and the FSU is the household.

Sampling method: In the first stage of sampling, the PSUs are stratified by regions (NUTS2). In the second stage there is no stratification or sorting of FSUs.

Theoretical sample size (quarterly average): 6 695 households.

Sampling rate: 0.14%.

Rotation scheme: 2-(2)-2.

Description: The frame of PSUs consists of geographic areas, which are either 'statistical sections' or unions of statistical sections within 'statistical letters' or sub-municipalities. In the first stage of sampling, the PSUs are explicitly stratified by NUTS2 regions (i.e. provinces, where the Brussels Capital Region and the German community are separate strata). The PSU sampling frame, within each stratum, is further sorted on (1) the quintile of the number of private households in the PSU, (2) the quintile of the unemployment rate in the PSU and (3) the quintile of the average household income in the PSU. A systematic probability proportional to size sampling is applied in each first stage sampling stratum. The number of PSU draws or selections in each sampling stratum is fixed in advance, thereby 6 695 households are selected in total per quarter in the second stage. Larger PSUs can be selected more than once, while smaller PSUs are probably not selected. Basically, simple random sampling is applied to select households (FSUs) in each selected PSU. A sub-sample is used to survey most of the structural variables under the Commission Regulation (EC) No 377/2008, for which only yearly results are required. The sub-sample is determined according to a wave approach, i.e. it includes the units of each full quarterly sample which, according to the rotation scheme, are interviewed for the first time (1st wave).

Data collection

Techniques adopted: CAWI – CATI – CAPI.

Interviews by technique distribution: CAWI 38%, CATI 33%, CAPI 29%.

Response rate: 84.5%.

Proxy rate (15-74 years): 26.1%.

Description: The LFS is based on a mixed-mode design. Detailed information (relating to individuals aged 15 years and older) is collected by CAPI in the three or four weeks following the reference week. For the 2nd to the 4th wave, the data is collected using CAWI or CATI.

The average response rate was 84.5% and refusals accounted for 18.1% of the total non-response.

Weighting procedure

Method: Calibration, after correcting the sampling weights for non-response.

Variables used: Sex, age groups, regions (NUTS2), degree of urbanisation, household type and origin (on the basis of the country of birth of the adult household members).

Reference population for weighting: Population living in private households.

Description: The two-step quarterly weighting model can be formulated as: < IND; STRAT12 × SEX × AGECAT + RG_c; d/p; Lin >.

1) The third component, d/p, in this formal representation of the weighting model, means that, in step one, the sampling weights d are corrected using estimated response probabilities p at

household level; a random intercept logistic regression model, followed by smoothing, is used to estimate the p.

2) Proper calibration is applied to further adjust the corrected weights d/p. The first component IND indicates that calibration is done at the individual level. The second component is a formal expression for the linear structure of the calibration model in step two, indicating that calibration is to the joint distribution of variables STRAT12, SEX and AGECAT in the population; and the totals of calibrated weights for the rotation groups (RGs) involved in each quarterly sample are forced to be proportional to the initial sizes of these RGs (the notation RG_c stands for 'contrast constraints between RGs'). The fourth and last component, Lin, indicates the use of the linear method for calibration.

BULGARIA (BG)

Background

The LFS started in 1993, providing quarterly results from 2000 on based on a single reference week in the last month of the quarter. In 2003, the survey was redesigned as a continuous survey, providing quarterly results. Major changes in recent years:

2006: A new LFS questionnaire is used since the Q1 2006, increasing the number of available variables. WSTATOR – Parental leave, newly introduced in Bulgaria, is taken into account to determine the ILO labour status and is considered as employment from which the person concerned was absent during the reference period.

2007: The new NUTS2 codes are introduced.

2008: The wave approach is implemented in the national LFS at the beginning of the year. 25 variables are collected on an annual basis. The 3rd wave is used for data collection of annual variables. Sample size is increased by 1 504 households (to a total sample size of 19 504 households). Reference period is extended to all 13 weeks of the quarter. Several changes are introduced to the questionnaire to match more closely the list of EU-LFS variables and explanatory notes.

2012: Update of the sampling frame based on the Census of Population 2011. Changes in the weighting procedure.

2016: Sampling frame, based on the Census 2011 (updated using administrative data).

Coverage

Population interviewed for employment status: 15 years and over.

Population concept: Usual residence (12 months).

Specific population subgroups:

- Primary/secondary students: Family home.
- Tertiary students: Term address.
- People working out of family home for an extended period for the purpose of work: Family home.
- People working away from family home but returning for weekends: Family home.
- Children alternating two places of residence: 'Most of the time' criteria.

Household concept: Housekeeping.

Household definition: A household is defined as one person, who lives in a self-contained dwelling, or two or more persons, who live together in one dwelling or part of dwelling and have a common budget, regardless of the fact that some of them may not have kinship ties with each other.

Participation: Voluntary.

Description: The survey covers the whole country. Only private households are included. Persons living in student hostels or in workers' hostels are treated as private households.

The resident population includes all persons usually residing in Bulgaria, including persons temporarily abroad (less than one year). The survey covers all the members of the selected households including persons staying in hospitals or other health care institutions for less than one year; students in secondary schools even though studying at different place; students at military schools; and persons left for temporal or seasonal work within the country.

Sampling strategy

Sampling design: Two stages stratified sampling plan.

Sampling frame: Census 2011 (updated in 2016).

Sampling units: The PSU is the enumeration district and the FSU is the household.

Sampling method: In the first stage of sampling, the PSUs are stratified by districts (corresponding to NUTS3 regions) and type of place of residence (district centre, other town and village). In the second stage, an equal number of households (8 per quarter) is randomly selected.

Theoretical sample size (quarterly average): 19 552 households.

Sampling rate: 0.65%.

Rotation scheme: 2-(2)-2.

Description: The Labour Force Survey is based on a two stages stratified cluster sample. Clusters are the enumeration districts at the first stage and households at the second stage. In the first stage, 2 444 enumeration districts are selected with probability proportional to their size. In the second stage, within each PSU, an equal number of eight households are randomly selected.

The sample is stratified by districts (28 administrative districts at NUTS3 level), crossed with type of place of residence (three groups: district centre, other town and village). The total number of the strata is 83.

Since the third quarter of 2017, a new sample of PSUs and households (having the same sampling design) has been gradually implemented in the LFS.

A sub-sample is used to survey most of the structural variables under the Commission Regulation (EC) No 377/2008, for which only yearly results are required. The sub-sample is determined according to a wave approach, i.e. it includes the units of each full quarterly sample which, according to the rotation scheme, are interviewed for the third time (3rd wave).

Data collection

Techniques adopted: PAPI.

Interviews by technique distribution: PAPI 100%.

Response rate: 79.7%.

Proxy rate (15-74 years): 28.5%.

Description: The LFS data is collected with PAPI. All persons in the household aged 15 years and older are interviewed.

The average response rate was 79.7% and refusals accounted for 20.7% of the total non-response.

Weighting procedure

Method: Calibration.

Variables used: Sex, age group, region (NUTS3), type of place of residence (urban/rural).

Reference population for weighting: Population living in private households.

Description: The weights are calculated in three steps.

1) Initial weights are obtained as inverse of inclusion probability of each household.

2) The initial weights are multiplied by correction factor for households' non-response which is calculated separately for each wave as the ratio between the total number of selected households in a stratum and the number of interviewed households from the same stratum.

3) In the final step, the intermediate weights (corrected for non-response) are calibrated to the population estimates by the following variables: at national level by 5-year age group, sex and type of place of residence (urban/rural); at district level (NUTS3) by three age groups (0-14, 15-64, 65+), sex and type of place of residence (urban/rural).

For the calculation of the weights, the population estimates at the end of the previous quarter are used.

CZECHIA (CZ)

Background

The LFS has been conducted since December 1992 as a continuous quarterly survey, shifting from seasonal quarters to calendar quarters by the end of 1997. Major changes in recent years:

2011:   Implementation of the wave approach.

Coverage

Population interviewed for employment status: 15 years and older.

Population concept: Usual residence (12 months).

Specific population subgroups:

- Primary/secondary students: Family home.
- Tertiary students: Family home.
- People working out of family home for an extended period for the purpose of work: Family home.
- People working away from family home but returning for weekends: Family home.
- Children alternating two places of residence: 'Most of the time' criteria.

Household concept: Housekeeping.

Household definition: Members living together in the same dwelling, sharing household expenditures.

Participation: Voluntary.

Description: The survey covers the whole country. Only private households are surveyed. The target population comprises all persons usually living in the selected dwellings, regardless of the type of stay (permanent, temporary or non-registered). Temporarily absent persons (for less than one year) and domestic servants are included. It does not cover persons (students, workers, migrants) living in collective accommodation. Lodgers are considered as independent budget-keeping households. People living abroad are excluded.

Sampling strategy

Sampling design: Two stages stratified sampling plan.

Sampling frame: Register of Census Areas (2013).

Sampling units: The PSU is the Census area and the FSU is the dwelling.

Sampling method: In the first stage of sampling, the PSUs are stratified by probability proportional to their size. In the second stage, dwellings are randomly selected.

Theoretical sample size (quarterly average): 33 900 households.

Sampling rate: 0.60%.

Rotation scheme: 5.

Description: The strata consist of 77 districts with Prague considered as one district.

The PSUs are Census (enumeration) areas that are sampled (by randomised systematic sampling) with probability proportional to their size, i.e. the number of dwellings per Census area.

In the second stage, dwelling units are selected from the initial sample by simple random sampling.

The initial (1st wave) quarterly sample of PSUs is 1 130 Census areas (in total 5 650 Census areas), while the approximate final sample size is 33 900 dwelling units per quarter. Regarding the response rate, it amounts to 23 800 households on a quarterly basis.

A sub-sample is used to survey some structural variables (mostly on atypical work, the situation one year before and others) for which only yearly results are required. The sub-sample is determined according to a wave approach, i.e. it includes the units of each full quarterly sample which, according to the rotation scheme, are interviewed for the first time (1st wave).

Data collection

Techniques adopted: PAPI – CATI – CAPI – Other.

Interviews by technique distribution: PAPI 51%, CATI 19%, CAPI 17%, Other 13%.

Response rate: 78.1%.

Proxy rate (15-74 years): 41.7%.

Description: The LFS is based on a mixed-mode design. On first visits, the data is collected by face-to-face interviews (PAPI and CAPI), with subsequent interviews being partly carried out by CATI. Some interviews are conducted through PAPI and the information collected is inserted into a computer immediately afterwards.

The average response rate was 78.1% and refusals accounted for 79.2% of the total non-response.

Weighting procedure

Method: Post-stratification.

Variables used: Sex, age groups, district.

Reference population for weighting: Total resident population.

Description: The weights are based on post-stratification by 13 age groups, sex and the 77 districts. Demographic figures for each quarter in 2019 were forecasted from the definitive demographic data for end-of-year 2018, taken into account migration and natural development of the population.

DENMARK (DK)

Background

The LFS started in 1984 as an annual survey, but has been organised as a continuous survey providing quarterly results since 1994. Major changes in recent years:

2007:   Sample size more than doubled.
        Rotation scheme changed from 2-(3)-1 to 2-(2)-2.
        More efficient use of auxiliary variables in the weighting procedures.
        Face-to-face interviewing is used as a supplementary data collection method.
2009:   Sample size increased to 40 000 per quarter.
        Sampling scheme changed from three to seven strata.
2010:   No more CAPI interviews are conducted.
        Introduction of an extra module for the Danish Center for Social Science Research on the employment of disabled people in Q1.
2011:   At the end of 2011, the weights were revised for the entire period back to 2007.
2015:   A weighting method based on panels was implemented in Q3 2015, which only led to marginal changes in the data.
2016:   Sample structure renovation and sample size reduction. Introduction of CAWI techniques also for core variables in the questionnaire.
2019:   In September 2019, the weights were revised for the entire period back to 2008.

Coverage

Population interviewed for employment status: 15-74 years.

Population concept: Registered population, including people living in institutions.

Specific population subgroups:

- Primary/secondary students: Family home.
- Tertiary students: Term address.
- People working out of family home for an extended period for the purpose of work: Term address.
- People working away from family home but returning for weekends: Family home.
- Children alternating two places of residence: 'Most of the time' criteria (registered address).

Household concept: Housekeeping.

Household definition: Members living together in the same dwelling and (if the household consists of more than eight people) with common housekeeping.

Participation: Voluntary.

Description: The entire country is covered, apart from Greenland and the Faroe Islands. The survey covers persons living in either private or collective households with domicile in Denmark according to the Central Population Register.

Sampling strategy

Sampling design: One stage stratified sampling plan.

Sampling frame: Population Register and other registers.

Sampling units: The sampling unit is the individual.

Sampling method: The sample is stratified by gross income, net unemployment, socio-economic status and age. Individuals are interviewed for the core part of the LFS, whereas all persons of the household are interviewed for the household part.

Theoretical sample size (quarterly average): 33 328 individuals.

Sampling rate: 0.78%.

Rotation scheme: 2-(2)-2.

Description: The sample size was reduced in Q1 2016. Before 2016, individuals who had research protection were not interviewed, but this protection has been removed from Q1 2016. This effectively means an expansion of the number of people that actually can be interviewed. This is compensated by reducing the number of people who are drawn out to the sample. The reduction was fully implemented in 2018 with a quarterly sample size of 34 320 individuals.

Stratification is overall based on employment and unemployment. The variables used for the delimitation are gross income, net unemployment from the unemployment register, socio-economic status and age. Persons aged 16-64 years that were registered as unemployed in a specific quarter prior to the survey quarter are selected with a higher probability than their relative proportion of the total population.

Data collection

Techniques adopted: CATI – CAWI.

Interviews by technique distribution: CATI 54%, CAWI 46%.

Response rate: 55.7%.

Proxy rate (15-74 years): 8.2%.

Description: The LFS is based on a mixed-mode design. From 2016, both the core-LFS and the household sub-sample, is based on CATI, which is supplemented with CAWI.

The average response rate was 55.7% in 2019 and refusals accounted for 14.7% of the total non-response.

Weighting procedure

Method: Calibration.

Variables used: Sex, age groups, region (NUTS2), level of education, status in different employment registers.

Reference population for weighting: Individuals aged 15-74 years.

Description: The strata are weighted separately. Weighting is performed by using a combination of sex, age group (15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-74), level of education, status in different employment registers and region.

GERMANY (DE)

Background

The LFS is carried out as part of the annual micro-census, which is based on the 'micro-census law'. The micro-census has been carried out since 1957 in the old West Germany and, since 1991, in the new Bundesländer and East Berlin. In general, the micro-census is compulsory. Additionally, the questionnaire includes optional parts of the LFS and other special national programmes. Starting in 2005, the survey has been organised as a continuous survey covering all weeks of the year, providing quarterly results. The questionnaire was revised at the same time, especially questions relating to employment in the reference week. Major changes in recent years:

2006:   Implementation of the wave approach.
2007:   Questionnaire changed to better capture ILO employment.
2008:   Questionnaire further changed to match more closely the EU-LFS operational guidelines for the definition of labour status.
2009:   Respondents registered at the public employment office, but not looking for employment, are no longer classified as job seekers.
2012:   The full sample is used for the EU-LFS data collection.
2014:   Adaption of the extrapolation frame based on the 2011 Census data and in this context revision of LFS data for 2013, 2012 and 2011.

Coverage

Population interviewed for employment status: 15 years and over.

Population concept: Registered population, including people living in institutions.

Specific population subgroups:

- Primary/secondary students: Family home.
- Tertiary students: Term address (if private).
- People working out of family home for an extended period for the purpose of work: Family home.
- People working away from family home but returning for weekends: Family home.
- Children alternating two places of residence: 'Most of the time' criteria (parents' decision).

Household concept: Housekeeping.

Household definition: Members living together in the same dwelling with common housekeeping.

Participation: Compulsory.

Description: The survey covers private and collective households, except for military quarters. A private household comprises either a person living alone or two or more persons who live together or maintain a joint household. The members of a private household are characterised by the same dwelling and common housekeeping. Conscripts on compulsory military service and students are included in the household to which they belong. The resident population (statistical population) includes all inhabitants with their main place of residence and their secondary residence in the territory of Germany. Foreign armed forces and members of the diplomatic corps and their families are excluded. The reference week is the week before the interview.

Sampling strategy

Sampling design: One stage cluster sample.

Sampling frame: Census 2011 updated with data from building licenses.

Sampling units: Clusters (sampling districts) of dwellings, households and persons.

Sampling method: All households in the sampling districts and all persons in the households are surveyed.

Theoretical sample size (quarterly average): 190 000 persons resp. 95 000 households.

Sampling rate: 0.25%.

Rotation scheme: 4 (annual basis).

Description: The sampling method applied, i.e. sorting, defining zones and sampling within the zones, ensures an effect similar to stratification. The regional strata (see 'stratification') are grouped to 131 'adjustment strata', at least to the extent that an average of 500 000 inhabitants are obtained. Bound expansion is performed at that regional level. Before sampling, the sample districts are sorted in terms of region, i.e. within each stratum they are sorted by regional stratum subgroup, administrative district, community size class, community and sample district number.

The sampling districts are stratified by region and size of the buildings. The stratification by size of the buildings is based on the size classes used to work out the sampling units.

All households and all persons in the households in a selected sampling district are interviewed.

Data collection

Techniques adopted: CAPI – PAPI – CATI.

Interviews by technique distribution: CAPI 58%, PAPI 32%, CATI 10%.

Response rate: 94.2%.

Proxy rate (15-74 years): 23.8%.

Description: The LFS is based on a mixed-mode design. The field staff of the 14 statistical offices of the federal states comprises interviewers. For all four waves, information is mainly collected by CAPI. Households that cannot be contacted by the interviewers (three attempts) or refuse face-to-face-interviews fill in a self-administered questionnaire. Besides these collection methods, a hotline for CATI is offered. Household members (18 years or older) are allowed to provide answers for other members.

The average response rate was 94.2% and there were no refusals.

Weighting procedure

Method: Post-stratification.

Variables used: Sex, age groups, region (NUTS2-NUTS3), nationality (group), number of persons in the household.

Reference population for weighting: Population living in private households.

Description: A two stages adjustment procedure is used.

1) Where possible, data is collected for households which fail to respond. This data can include: number of members of the household, nationality (German/foreigner), and for households comprising only one person: age (under or over 60 years) and sex. From this data, the weights of respondent households are increased to take account of non-responses in the region.

2) The sample, weighted to take account of non-response, is stratified a-posteriori by region, sex, age (<15, 15-44, 45+) and nationality (German/EU foreigners/non-EU foreigners except Turkey/Turkish) and is extrapolated to the population (adjusted in respect of military personnel).

ESTONIA (EE)

Background

The LFS started in 1997 as an annual survey and has been organised as a continuous quarterly survey since 2000. Major changes in recent years:

2007:   Quarterly sample size increased from 2 500 to 3 000 households.
2011:   Quarterly sample size increased to 3 200 households.
2013:   Quarterly sample size increased to 3 400 households and Census revisions (Population Census 2011).
2015:   Frame errors are excluded from the sample which decreased to 3 250 households.
2017:   Quarterly sample size increased to 4 000 households.
2018:   Quarterly sample size increased to 4 500 households.

Coverage

Population interviewed for employment status: 15-74 years.

Population concept: Usual residence (12 months), including people living in institutions.

Specific population subgroups:

- Primary/secondary students: Family home.
- Tertiary students: Family home (if they are economically dependent).
- People working out of family home for an extended period for the purpose of work: Family home (if they share income and family ties are kept).
- People working away from family home but returning for weekends: Family home.
- Children alternating two places of residence: Family home.

Household concept: Dwelling

Household definition: Members living together in the same dwelling and sharing joint financial and/or food resources.

Participation: Voluntary.

Description: The survey covers the whole country. Both private and collective households are surveyed. The target population comprises all persons aged 15-74 years with permanent residence in Estonia, i.e. those who have lived or intend to live in Estonia for more than one year.

The household is made up either of persons living alone or of two or more persons who share a household budget and usually occupy the same dwelling. Temporarily absent household members (absence shorter than one year for study, work etc.) are included.

Sampling strategy

Sampling design: One stage stratified sampling plan.

Sampling frame: Population Census 2011 updated with registers.

Sampling units: The sampling unit is the individual.

Sampling method: The sample is stratified by population size and inclusion probabilities. All household members are interviewed.

Theoretical sample size (quarterly average): 4 500 households.

Sampling rate: 0.73%.

Rotation scheme: 2-(2)-2.

Description: The sampling design is a stratified systematic sampling of individuals. All persons aged 15-74 years belonging into the household of the selected individual are interviewed. The 15 counties of Estonia and Tallinn are divided into four strata according to the population size (I – Tallinn, II – four bigger counties, III – ten smaller counties, IV – Hiiu county). Different inclusion probabilities are used in the strata, the highest being for Hiiu county.

Data collection

Techniques adopted: CATI – CAPI.

Interviews by technique distribution: CATI 70%, CAPI 30%.

Response rate: 73.0%.

Proxy rate (15-74 years): 17.0%.

Description: The LFS is based on a mixed-mode design. Since 2016, CAPI is used in the first wave. During later waves (2nd to the 4th wave), the interviews with respondents from households with one or two working-aged members are mainly conducted by CATI. Respondents from households with more than two working-aged members are surveyed by CAPI. Since 2018, most of the data is collected by CATI during the later waves.

All interviews are conducted by interviewers of the Data Processing and Registers Department of Statistics Estonia. The interviewing is normally done during the week immediately following the reference week but never later than during the two weeks following the reference week.

The average response rate was 73.0% and refusals accounted for 51.3% of the total non-response.

Weighting procedure

Method: Calibration.

Variables used: Sex, age groups, region (LAU), type of place of residence (urban/rural), national/non-national.

Reference population for weighting: Total resident population.

Description: The weights are calculated in a sequence of steps.

1) Since a stratified sampling is used, the initial weight that is inversely proportional to the inclusion probability in each stratum is calculated. The initial weight also depends on the size of the household.

2) For non-response adjustment, the non-response correction factors are computed. Homogeneous groups of respondents are formed on the basis of the household place of residence, size of the household, wave, sex and age groups according to the non-response rate. Within each group, the correction factor is inversely proportional to the overall response rate.

3) The weights are calibrated so that they produce exact population numbers in certain subgroups known from demographic data (including institutional population). For working-age persons, the subgroups by sex, age (5-year age groups), type of place of residence (urban/rural area), 15 counties (LAU) and the capital city) and Estonians/non-Estonians are considered. For this purpose, the logit weighting method is applied. For non-working-age persons, the non-response adjusted household's weights are calibrated by sex and 5-year age groups.

IRELAND (IE)

Background

The new LFS introduced from Q3 2017 replacing the Quarterly National Household Survey started in September 1997. The full series dating back to Q1 1998 was revised. Major changes in recent years:

2009:   Update of the survey to collect data on a calendar quarterly rather than a seasonal basis.

2012:   The introduction of a new sample based on the 2011 Census of Population began in Q4 2012 using a wave approach (persons interviewed in the 1st wave were taken from the 2011 Census). In Q4 2013, the entire sample was based on the new 2011 sample.

2016:   An additional new sample also based on the 2011 Census of Population was introduced incrementally from Q3 2016.

2017:   Introduction of the new LFS which involves changes in sampling design, questionnaire, data collection technique and weighting procedure.

2018:   The quarterly sample increased to 32 500 households from Q3 2018 onwards.

2019:   An additional new sample based on the 2016 Census of Population was introduced incrementally from Q2 2019.

Coverage

Population interviewed for employment status: 15 years and over.

Population concept: Usual residence (12 months).

Specific population subgroups:

- Primary/secondary students: Family home.
- Tertiary students: Term address.
- People working out of family home for an extended period for the purpose of work: Term address.
- People working away from family home but returning for weekends: Family home.
- Children alternating two places of residence: 'Most of the time' criteria.

Household concept: Dwelling

Household definition: Members living regularly together in the same dwelling and sharing the main living accommodation with each other.

Participation: Voluntary.

Description: Only private households are included. A person is defined to be a 'usual resident' of a private household if he/she lives regularly at the dwelling in question and shares the main living accommodation (i.e. kitchen, living room or bathroom) with the other members of the household.

Sampling strategy

Sampling design: Two stages stratified cluster sample.

Sampling frame: Population Census 2011 and 2016.

Sampling units: The PSU is a Census block and the FSU is the household.

Sampling method: In the first stage of sampling, the PSUs are stratified using administrative county data and the Pobal HP (Hasse and Pratschke) Deprivation Index and clustered into blocks (small areas). In the second stage, each block is split into rotation groups.

Theoretical sample size (quarterly average): 32 500 households (quarterly average).

Sampling rate: 0.7%.

Rotation scheme: 5.

Description: The Labour Force Survey (LFS) replaced the Quarterly National Survey effective from Q3 2017. A new independent sample based on the 2011 Census of Population was selected for the LFS and this was introduced incrementally from Q1 2016. A further new sample based on the 2016 Census of Population was introduced on a phased basis (over five quarters) from Q2 2019 and was fully operational by Q2 2020.

A two stages sample design is used. The sample frame of households is clustered into blocks (small areas) with each block containing a minimum of 60 occupied households on the night of the 2016 Census of Population. In the first stage, 1 300 blocks are selected using a probability proportional to size sampling. The sample introduced in 2019 was also stratified using administrative county data and the Pobal HP Deprivation Index. In the second or final sampling stage, each block is split into rotation groups each containing 20 households.

Data collection

Techniques adopted: CAPI – CATI.

Interviews by technique distribution: CAPI 61%, CATI 39%.

Response rate: 49.0%.

Proxy rate (15-74 years): 47.1%.

Description: The LFS is based on a mixed-mode design. From Q3 2017 onwards, interviews in the 1st wave are done using CAPI while all subsequent waves are carried out using CATI. Householders that do not agreed to conduct a telephone interview are interviewed in person.

The average response rate was 51.0% and refusals accounted for 24.3% of the total non-response.

Weighting procedure

Method: Calibration.

Variables used: Sex, age groups, region (NUTS3), nationality.

Reference population for weighting: Total resident population.

Description: The survey results are weighted to match with population estimates broken down by age (5-year age groups), sex and region (NUTS3 regions). After that, results are calibrated on broad national totals by broad age groups (0-14 and 15+) and sex. The estimates are calculated as follows:

1) The previous quarters' population estimate or Census of population at regional level is used as the base population.

2) A quarter of this population is aged on by one year.

3) Births for the relevant period are added to each region (source: registered births).

4) Deaths for relevant period are subtracted from each region (source: registered deaths).

5) Net migration (inflows from other regions minus outflows to other regions plus inflows from abroad minus outflows to abroad) is added to each region (main source).

A non-response adjustment into the weighting procedure for the LFS was introduced from Q3 2017 onwards. The adjustment applies extra weight to the groups who tend to be less likely to respond to the survey to make the results from the achieved sample more representative of the target sample and target population.

GREECE (EL)

Background

The LFS started in 1981 as an annual survey covering all weeks of the second quarter. In 1998, it was redesigned as a continuous survey providing quarterly results. Major changes in recent years:

2008: Households with all members aged 70 years or older are interviewed only in the 1st wave and no longer in all waves (except in the second quarter, when the age limit was set to 74 because of the ad hoc module). Introduction of NACE Rev2 for the classification of economic activity.

2009: Questions for variables full time/part time, permanent/temporary, job search and participation to non-formal education are reformulated. Information on the regional level NUTS3 is included in the dataset. New primary sampling units were selected and new sampling frames were compiled for the 4/6 of the sample.

2011: Introduction of ISCO-08 for the classification of occupation.

2013: Introduction of CAPI as an additional mode of data collection.

Coverage

Population interviewed for employment status: 15 years and older.

Population concept: Usual residence (12 months).

Specific population subgroups:

- Primary/secondary students: Family home.
- Tertiary students: Term address.
- People working out of family home for an extended period for the purpose of work: Family home (for sailors or fishermen).
- People working away from family home but returning for weekends: Family home.
- Children alternating two places of residence: Family home (time of interview).

Household concept: Housekeeping.

Household definition: Members living together in the same dwelling and sharing food and other essentials for living.

Participation: Compulsory.

Description: The survey covers only private households (group of persons who provide jointly at least the expenses for food). Included in the household are persons who have multiple residences, but stay in the household for 6 months or more; work during the week in another town but return regularly in the weekends in the household; are working in merchant shipping (considered members of the household irrespectively of the duration of absence) or are temporarily away (less than 6 months).

Sampling strategy

Sampling design: Two stages stratified sampling plan.

Sampling frame: List of cities blocks compiled at the Census 2011, updated from Q1 2015 to Q3 2016 (rate of renewal was 1/6 per quarter).

Sampling units: The PSU is the block of buildings and the FSU is the dwelling.

Sampling method: In the first stage of sampling, the PSUs are stratified by their size (number of households in the block). In the second stage, dwellings are systematically selected.

Theoretical sample size (quarterly average): 36 300 households.

Sampling rate: 0.79%.

Rotation scheme: 6.

Description: The sampling design is a two stages stratified sampling of dwellings. At the first stage, a random selection of building blocks with probability proportional to their size (where the size is defined as the number of households residing in the building block at the time of last Census) is carried out. Then, within the blocks selected at first stage, a systematic sampling of dwellings is performed.

Athens agglomeration is divided in 31 final strata and Thessaloniki agglomeration is divided in nine final strata. For these areas, the strata are defined by groups of municipalities. All other NUTS3 areas are divided in two or three final strata. The first stratum is composed by all settlements with population 10 000 persons or more, the second is composed by all settlements with population 2 000 – 9 999 persons and the third is composed by all settlements with population one – 1 999 persons.

Data collection

Techniques adopted: PAPI – CAPI.

Interviews by technique distribution: PAPI 97%, CAPI 3%.

Response rate: 71.2%.

Proxy rate (15-74 years): 38.5%.

Description: The LFS is based on a mixed-mode design. Interviews are carried out by PAPI or CAPI in the 1st wave. During later waves, interviews are also carried out by telephone (interviewers fill out a paper questionnaire by using their own phone).

The response rate was 71.2% and refusals accounted for 31.3% of the total non-response.

Weighting procedure

Method: Post-stratification.

Variables used: Sex, age groups, region (NUTS2).

Reference population for weighting: Population living in private households.

Description: Design weights are calculated as the inverse of the probability selection of the household (computed from the total number of households during the 2011 Census and the expected sample size), adjusted for non-response at primary unit level and finally post-stratified by region, sex and age.

SPAIN (ES)

Background

The LFS was launched for the first time in 1964, referring to some quarters in each year until 1968. Between 1969 and 1974, it was biannual, but quarterly from 1975 forward. In 1999, the survey was redesigned as a continuous survey providing quarterly results. Since 2005, the survey provides quarterly results for core variables and annual results for structural variables. Major changes in recent years:

2005: Variable nationality (Spanish or foreigner) included as a new auxiliary variable for calibration.
2006: Implementation of the wave approach.
2014: Updated figures from 2002 onwards, according to the 2011 Census and new auxiliary variables for calibration. The new variables used for this calibration are size of the household (five groups) and three groups of age for each sex at NUTS3 level.

Coverage

Population interviewed for employment status: 16 years and older.

Population concept: Usual residence (12 months).

Specific population subgroups:

- Primary/secondary students: Family home.
- Tertiary students: Family home.
- People working out of family home for an extended period for the purpose of work: Family home.
- People working away from family home but returning for weekends: Family home.
- Children alternating two places of residence: 'Most of the time' criteria (case-by-case decision).

Household concept: Dwelling

Household definition: Members living regularly together in the same dwelling.

Participation: Compulsory.

Description: The population residing in private households is covered, including servants. Persons temporarily living in collective institutions and persons who are temporarily absent are sampled via relatives living in private households. Foreign nationals are included in the resident population if they have lived or intend to live in Spain for more than one year.

Sampling strategy

Sampling design: Two stages stratified sampling plan.

Sampling frame: Population Census 2011 updated with registers.

Sampling units: The PSU is the geographical area and the FSU is the dwelling.

Sampling method: In the first stage of sampling, the PSUs are stratified by their size. In the second stage, dwellings are randomly selected.

Theoretical sample size (quarterly average): 78 750 dwellings.

Sampling rate: 0.42%.

Rotation scheme: 6.

Description: The sampling is a two stages sampling procedure with stratification of the PSUs. The PSUs are geographical areas in which all the country is split. These areas are stratified within each

province using the population size of the municipality. Within each stratum, the areas are sub-stratified according to the socio-economic characteristics of the population. The FSUs are private households (dwelling units). Units are selected in such a way as to obtain self-weighted samples within each stratum. The PSUs are selected with probability proportional to the size and FSUs are selected with equal probability.

A sub-sample is used to survey the structural variables under the Commission Regulation (EC) No 377/2008, for which only yearly results are required. The sub-sample is determined according to a wave approach, i.e. it includes the units of each full quarterly sample which, according to the rotation scheme, are interviewed for the sixth and last time (6th wave).

Data collection

Techniques adopted: CATI – CAPI.

Interviews by technique distribution: CATI 74%, CAPI 26%.

Response rate: 83.9%.

Proxy rate (16-74 years): 50.3%.

Description: All the information is collected by interviews. The LFS is based on a mixed-mode design. The first interview is done with CAPI. Interviews in the 2nd and subsequent waves are carried out by CATI, except when the family wants a personal interview or there is no telephone.

The average response rate was 83.9% and refusals accounted for 39.1% of the total non-response.

Weighting procedure

Method: Calibration.

Variables used: Sex, age groups, region (NUTS2 and NUTS3), nationals/non-nationals, household size.

Reference population for weighting: Population living in private households.

Description: The design uses Ratio Estimator and the auxiliary variable is the Population Projection at the stratum level.

1) Every quarter, population projections by age group (0-15 years and 16+ years) and Spanish provinces (in general corresponding to NUTS3 regions) are calculated. Projections by age and region are distributed by stratum in proportion to the population of each stratum. In each stratum, age group and region the weighting is determined by the ratio of the projection to the sample size.

2) The sample is then calibrated in order to adjust to the population distribution. The auxiliary information used is based on population estimates by sex and 5-year age groups and household size (five groups of 1, 2, 3, 4 and 5+ inhabitants) at NUTS2 level (Comunidades Autónomas), the nationality of the population aged 16 and more (national/non-national) at NUTS2 level and by sex and three aggregated age groups (16-29, 30-49, 50+) and region (NUTS3 or provinces).

3) A linear weighting method is used, in which each member of the household aged 16 years or older has the same weight.

FRANCE (FR)

Background

The LFS started in 1950 and was organised in 1954 as an annual survey. Since then, the survey was subjected to several changes. Major changes in recent years:

2003:   The survey is redesigned as a continuous survey, covering all weeks of the year.
2007:   Change in the weighting scheme. Implementation of a supplementary non-response survey, which results are incorporated in the final results from the LFS (via the weighting process).
2009:   Increase of the sample size (+50%) and change of the sampling frame (from Census to housing tax register). First edition of an annual LFS in Mayotte.
2013:   Substantial revision of the French LFS, including modifications of the questionnaire, improvements in the codification process (occupation, education level) and a redesign of the IT tool. From 2014, an annual LFS is conducted in Mayotte each year.
2014:   Integration of the overseas departments (Guadeloupe, Martinique, Guyane, La Réunion), except Mayotte, into the French quarterly LFS.
2018:   End of the supplementary non-response survey.
2019:   Renewed sample for Metropolitan France (starting in Q3 2019, will be completed in Q4 2020).

Coverage

Population interviewed for employment status: 15 years and older.

Population concept: Usual residence (12 months).

Specific population subgroups:

- Primary/secondary students: Family home.
- Tertiary students: Family home (if strong link with parents' home)
- People working out of family home for an extended period for the purpose of work: 'Most of the time' criteria.
- People working away from family home but returning for weekends: Family home.
- Children alternating two places of residence: Family home (night before interview, if 50% of time spent in each place of residence).

Household concept: Dwelling

Household definition: Members living regularly together in the same dwelling.

Participation: Compulsory.

Description: The LFS covers private households living in their main residence in France (excluding Mayotte). The resident population comprises persons living on French metropolitan territory and in the overseas departments (excluding Mayotte). All individuals aged 15 years or older in the household are surveyed.

An annual LFS is carried out in Mayotte in Q2 with the same coverage (private households living in their main residence).

Sampling strategy

Sampling design: Two stages stratified sampling plan in Metropolitan France, one stage stratified sample in overseas departments and also one stage stratified sample in Mayotte.

Sampling frame: Housing-tax-register (old sample) resp. demographic file of dwellings and individuals ('Fideli') (new sample) for Metropolitan France, annual Census survey for overseas department (also called DOM) and a specific survey (cartographic survey) for Mayotte.

Sampling units: The PSU is the geographical area (no PSUs in DOM) and the FSU is the dwelling (Metropolitan France and DOM) resp. the address (Mayotte).

Sampling method: In the first stage of sampling, the PSUs are stratified by regions (NUTS2 for Metropolitan resp. NUTS3 for DOM). In the second stage, dwellings are systematically selected.

Theoretical sample size (quarterly average): 89 700 dwelling (including 72 000 considered as main residences) for Metropolitan France and DOM for each quarter. About 3 000 dwellings in Mayotte (Q2).

Sampling rate: 0.25% for Metropolitan France and DOM.

Rotation scheme: 6 quarters for Metropolitan France and DOM; 3 years for Mayotte.

Description: For Metropolitan France, the sampling design consists of a selection of around 3 000 sectors divided in six adjacent clusters; a cluster being a set of nearby dwellings of about 20 main residences. The sample is rotational: each cluster is surveyed six consecutive quarters, then replaced by a new cluster of the same sector. The same sample design (cluster / rotational) is used for overseas departments.

For Metropolitan France, the sample is stratified by regions (NUTS2). For each region, the sample is balanced, proportionally of the number of main residences, for some variables from the sample frame. For overseas departments, the sampling is stratified (geographic strata) and systematic (with equal inclusion probabilities within geographic strata).

For Metropolitan France and Dom, the sample is uniformly distributed among the 13 weeks of the quarter. Each cluster is committed to a fixed reference week.

A sub-sample is used for the yearly variables. The sub-sample is determined according to a wave approach, i.e. it includes the units of each full quarterly sample which, according to the rotation scheme, are interviewed for the first time (1st wave). Thus, the full sub-sample is spread over all the weeks of a year and has a size of 14 800 dwellings (including 12 300 considered as main residences).

For Mayotte, the sample is stratified according to the number of dwellings at the address and balanced according to characteristics of the dwellings and of the area. Dwellings are surveyed for three consecutive years.

Data collection

Techniques adopted: CATI – CAPI.

Interviews by technique distribution: CATI 56%, CAPI 44% (for Metropolitan France and DOM).

Response rate: 79.2% (for Metropolitan France and DOM).

Proxy rate (15-74 years): 25.0% (for Metropolitan France and DOM).

Description: The LFS is based on a mixed-mode design. The data is collected by CAPI in the 1st and the last waves. In the intermediate waves (2nd to 5th wave) CATI is used. The first interview of a household is conducted by CAPI regardless of the wave.

The average response rate was 79.2% and refusals accounted for 18.8% of the total non-response (for Metropolitan France and DOM).

Weighting procedure

Method: Calibration for Metropolitan France; two stages non-response correction for overseas departments and Mayotte.

Variables used:

For Metropolitan France: Individual characteristics (sex, age, region) and dwelling characteristics (number of dwellings, type of housing, size of the urban unit, new dwelling or not, number of rooms in the housing, individual house or building, social housing or not, income of the household in deciles).

For overseas departments: Individual characteristics (sex, age, region, diploma, birthplace), dwelling characteristics (individual house or building) and response at the previous wave.

For Mayotte: Individual characteristics (sex, age, birthplace), dwelling characteristics (nature of the dwelling, number of main residences), nature of the address and response at the previous wave.

Reference population for weighting: Population living in private households.

Description: Weighting procedures are different for Metropolitan France, overseas departments and Mayotte.

For Metropolitan France, a unique calibration is performed both to correct biases induced by non-response and to get consistency with external margins. The procedure is performed in each wave. The variables used are those indicated above. Some are derived from the sample base (region, dwelling characteristics, income of the household in deciles) and the others are external margins (population by sex, age, region).

For overseas departments, weights are first adjusted by using an estimation of response probabilities and are next calibrated on external margins. The procedure is performed on three groups of waves (1st, 2nd to 5th and 6th). Variables used for correction of non-response are derived from the sample base (region, individual house or building, response at the previous wave). Variables used for calibration are external margins (population by sex, age and region, population by diploma; population by birthplace, individual house or building).

For Mayotte, weights are first adjusted by using an estimation of response probabilities and are next calibrated on external margins. Variables used for correction of non-response are derived from the sample base (nature of the address, nature of the dwelling, response at the previous wave). Variables used for calibration are external margins (population by sex, age and birthplace, number of main residences).

CROATIA (HR)

Background

The LFS was carried out for the first time in November 1996 and in June 1997. From 1998 to 2006, the survey was semi-annual, i.e. data was processed and published each half-year. Interviews were carried out every month on a part of the total sampled households. Since 2007, the survey is a continuous one, i.e. interviews cover all weeks of the year, producing quarterly results. Major changes in recent years:

2007: Data available at NUTS2 level. Quarterly results available. Yearly sample size doubled. Rotation scheme changed to 2-(2)-2.

2014: Harmonization of educational variables (HATLEVEL, EDUCLEVL) according to ISCED 2011. Implementation of a new sample frame based on the Census 2011, new sample design and a new process of weighting the collected data. In order to achieve the consistency and comparability between the 2014 data and the already issued data for previous years, the data for the period from 2007 to 2013 has been revised in terms of weighting. Thus, the data has been weighted according to the 2011 Census data applying the calibration method.

2016: Implementation of the classification ISCED-F 2013. Replacement of the PAPI method of data collection with CAPI and CATI.

Coverage

Population interviewed for employment status: 15 years and older.

Population concept: Usual residence (12 months).

Specific population subgroups:

- Primary/secondary students: Family home.
- Tertiary students: Family home (if living in the country, else excluded).
- People working out of family home for an extended period for the purpose of work: Family home.
- People working away from family home but returning for weekends: Family home.
- Children alternating two places of residence: 'Most of the time' criteria (case-by-case decision).

Household concept: Dwelling

Household definition: Members living regularly together in the same dwelling, sharing food and other essentials for living.

Participation: Voluntary.

Description: The LFS covers the whole country. The target population comprises all persons who usually reside in Croatia or intend to stay in Croatia for at least 12 months. Only private households are surveyed. Household members are persons who are permanently present in the household or absent for less than one year.

The household is a small economic group of people that is usually, although not always, a group of relatives living together and sharing costs of living (housing, food etc.).

Sampling strategy

Sampling design: Two stages stratified sampling plan.

Sampling frame: Population Census 2011 (updated in 2019).

Sampling units: The PSU is the segment based on the Census area and the FSU is the dwelling.

Sampling method: In the first stage of sampling, the PSUs are stratified by regions (NUTS2) and type of place of residence (urban/rural). In the second stage, dwellings are randomly selected.

Theoretical sample size (quarterly average): 7 280 dwellings.

Sampling rate: 0.49%.

Rotation scheme: 2-(2)-2.

Description: The sampling design is a two stages stratified sample. First stage sampling is a list of area units called segments (PSU). They are defined according to the results of the Census 2011 which consist of a number of private households according to each enumeration area. Segments are selected by PPS systematic sampling. The size of a segment is measured by the number of private households in the segment according to the Population Census 2011.

The stratification is done by two NUTS2 regions and both of them are further divided in an urban and a rural part. Thus, the final number of strata is four.

Within the selected segments, ten dwellings are selected by a simple random sampling. All members of all private households in a dwelling are interviewed.

Data collection

Techniques adopted: CAPI – CATI.

Interviews by technique distribution: CAPI 63%, CATI 37%.

Response rate: 56.3%.

Proxy rate (15-74 years): 50.1%.

Description: The LFS is based on a mixed-mode design. Since the beginning of 2016, the earlier method of data collection 'on paper' has been replaced by new interviewing methods, namely CAPI and CATI. Data from all households selected to be sampled for the first time and households that either do not have a telephone/cell phone or do not want to be interviewed by phone is gathered by CAPI. All households that agreed in the 1st wave to be surveyed by phone are interviewed by CATI.

The average response rate was 56.3% and refusals accounted for 55.6% of the total non-response.

Weighting procedure

Method: Calibration.

Variables used: Sex, age groups, regions (NUTS2-NUTS3), type of place of residence (urban/rural), household size.

Reference population for weighting: Population living in private households.

Description: The weights are calculated in several steps.

1) Design weights are calculated as the inverse value of the selection probabilities of choosing dwellings in a sample. The weights are equal for dwellings, households and persons in one segment, because all households and persons in each selected dwelling are interviewed.

2) Defined weighting groups regarding non-response and response rates are calculated for each of these groups. The urban part of each 21 county constitute one group while the rural parts in each county are the second. As there are 21 counties, multiplied by two groups (urban and rural) there are 42 groups within the counties to define and calculate non-response rates. Non-response weights are the inverse value of these response rates. They are also equal for each segment.

3) Calibration is used for adjustment weighting. Distributions of the 5-year age groups, sex, regions and household size for the sub-sample of respondents is calibrated based on known auxiliary information from the Census 2011. It reduces sampling error, effecting the 'old' weights, but in limits of previously defined constraints in CALMAR software. The bounded linear method is used for calibration. The lower limit is set on 0.5 and upper on 3.

ITALY (IT)

Background

The LFS was launched as a quarterly survey in 1959. Since Q1 2004, the survey is a continuous one, covering all the weeks of the year. The labour status for each interviewed person is referred to a specific week (reference week), usually the one preceding the interview. Major changes in recent years:

2006:   Changes of the questionnaire to take into account the legal suppression of compulsory military or community service and to fully comply with the EU-LFS definition of unemployment.

2008:   From Q1 2008, people aged 15 are considered as out of the labour force, to take into account a change in the national legislation which increased the number of years of compulsory education. Employment and activity rates are still computed with reference to the working age population 15-64 to keep comparability. As very few 15 year olds are employed or unemployed, the impact on time-series is negligible.

2011:   From Q1 2011, the households composed by all members inactive and aged 75 years or older are no longer re-interviewed. This has been done since the transitions from inactivity to employment of people aged 75 years or older are almost null. Furthermore, to avoid statistical burden on this target population and in particular to reduce the costs of data collection. In these cases, the information collected during the last available interview is copied for the next waves in which the household would be surveyed.

2012:   A new stratification of the municipalities was made, to take into account updated information on their population and a reduction of the sample size by about 9% due to budget cuts. Consequently, a new selection of the municipalities has been done, the new selected municipalities were adopted in the sample in Q3 2012. Due to the rotation scheme, for five quarters until Q3 2013, old and new sampling designs were overlapping.

2015:   On January 2015, new population figures were available for the period 2002-2014, according to the results of the 2011 Population Census, Post Enumeration Survey of the 15th Italian population Census and administrative register updates for the post Census period. Consequently, LFS weights have been recalculated for the period Q1 2004 to Q3 2014.

Coverage

Population interviewed for employment status: 16 years and older.

Population concept: Usual residence (12 months).

Specific population subgroups:

- Primary/secondary students: Family home.
- Tertiary students: Family home.
- People working out of family home for an extended period for the purpose of work: Family home.
- People working away from family home but returning for weekends: Family home.
- Children alternating two places of residence: Most of the time (time of interview, if presence is shared equally).

Household concept: Housekeeping

Household definition: Members living regularly together in the same dwelling and linked by family and affection ties.

Participation: Compulsory.

Description: The target population is the resident population, which is the population recorded in the registry offices of the Italian municipalities. All the Italian regions are covered. Only private households are included in the sample. Private households are made up either of persons living alone or of two or more persons, whether or not of the same family, usually living in the same dwelling and with family (marriage, relationships, adoption, guardianship) or affection ties. Non-

resident households, people not living in private households and household members emigrated abroad or absent from the selected household for more than one year are not covered. Students in tertiary education, studying away from their parents' home, are included in the household.

Sampling strategy

Sampling design: Two stages stratified sampling plan.

Sampling frame: Municipal registers**.**

Sampling units: The PSU is the municipality and the FSU is the household.

Sampling method: In the first stage of sampling, the PSUs are stratified by regions (NUTS3) according to their population size. In the second stage, households are randomly selected.

Theoretical sample size (quarterly average): 71 510 households.

Sampling rate: 0.27%.

Rotation scheme: 2-(2)-2.

Description: Stratification of PSUs is carried out in each NUTS3 domain and is based on the population of the municipalities. Large municipalities, with population over a given threshold (also called self-representative municipalities), are always included in the sample. Smaller municipalities (non-self-representative) are grouped in strata, then one municipality in each stratum is selected with probability proportional to the population size.

The FSUs are the households and they are randomly selected from the registry offices in all municipalities drawn at the first stage.

Data collection

Techniques adopted: CATI – CAPI.

Interviews by technique distribution: CATI 53%, CAPI 47%.

Response rate: 83.0%.

Proxy rate (15-74 years): 34.9%.

Description: The LFS is based on a mixed-mode design. CAPI is usually used in the 1st wave, whereas CATI is usually used in the later waves. Interviews are carried out by professional interviewers. Households without a telephone and non-Italian households are always interviewed by CAPI.

The average response rate was 83.0% and refusals accounted for approximately 22.9% of the total non-response.

Weighting procedure

Method: Calibration.

Variables used: Sex, age groups, region (NUTS3), nationals/non-nationals, number of households.

Reference population for weighting: Population living in private households.

Description: The calibration estimator is used to obtain LFS estimates. Grossing-up weights are determined as follows:

1) Initial weights are obtained as the inverse of the inclusion probabilities of any household in the sample.

2) Correction factors for households' non-response are calculated as the reciprocal of the response ratios (computed for specific kinds of households and territorial domains). Following this,

intermediate weights corrected for non-response are computed, thus multiplying initial weights by these correction factors.

3) Starting from the intermediate weights, final grossing weights are obtained solving a minimisation problem under constraints. The function to be minimised is the distance between final and intermediate weights. The constraints concern the estimates of some auxiliary variables that have to be equal to the totals in the reference population derived from external sources. Main constraints are population by sex and 5-year age groups at NUTS2 level; and population by sex and five age groups at NUTS3 level. The final weights ensure that all members of a given household have the same weight.

Due to the calibration estimator, by applying final grossing-up weights, the sample reproduces the same distribution of the population according to the chosen auxiliary variables.

The grossing-up weights are computed on a monthly and a quarterly basis, whereas annual estimates are calculated as averages of the quarterly estimates.

CYPRUS (CY)

Background

The LFS was launched in 1999 as an annual survey in the second quarter of the year. Starting with Q2 2004, the survey was redesigned as a continuous survey providing quarterly results. Major changes in recent years:

2013:   Introduction of a new sample frame (Population Census 2011) and change of the sample design.
2016:   Calibration is used for weighting from this year onwards.

Coverage

Population interviewed for employment status: 15 years and older.

Population concept: Usual residence (12 months).

Specific population subgroups:

- Primary/secondary students: Family home.
- Tertiary students: Term address (if private address; students living abroad are excluded).
- People working out of family home for an extended period for the purpose of work: 'Most of the time' criteria.
- People working away from family home but returning for weekends: Family home.
- Children alternating two places of residence: 'Most of the time' criteria.

Household concept: Housekeeping

Household definition: Members living regularly together in the same dwelling, sharing household expenses, food and other essentials for living.

Participation: Compulsory.

Description: The survey covers the areas of Cyprus controlled by the Government of the Republic of Cyprus. Only private households are covered.

The resident population comprises persons who usually reside in Cyprus or intend to stay in Cyprus for at least 12 months. It excludes Cypriot students studying abroad as well as foreign armed forces and foreigners who work in embassies or diplomatic missions.

Sampling strategy

Sampling design: One stage stratified sampling plan.

Sampling frame: Census 2011 updated with register of domestic consumers of electricity.

Sampling units: The sampling unit is the household.

Sampling method: The sample is stratified by regions (district level) and the type of place of residence (urban/rural areas).

Theoretical sample size (quarterly average): 4 600 households.

Sampling rate: 1.4%.

Rotation scheme: 6.

Description: The sample frame refers to the number of households enumerated in the Population Census of 2011. In 2019, the Population Census of 2011 households frame was updated with the domestic consumers of electricity which were connected after the Census date. These were obtained from the Electricity Authority of Cyprus.

The sampling plan is stratified and within each stratum simple random sampling is applied. The variables used for stratification are the districts and the urban/rural areas within each district.

Data collection

Techniques adopted: CATI – CAPI.

Interviews by technique distribution: CATI 84%, CAPI 16%.

Response rate: 95.3%.

Proxy rate (15-74 years): 38.2%.

Description: The LFS is based on a mixed-mode design. Data is collected by CAPI in the 1st wave. Data in the subsequent waves (2nd to 6th) is collected with CATI.

The average response rate in 2019 was 95.3% and refusals accounted for 37.0% of the total non-response.

Weighting procedure

Method: Calibration.

Variables used: Calibration variables are sex and age groups while stratification variables are regions (districts) and type of place of residence (urban/rural).

Reference population for weighting: Population living in private households.

Description: The design weights, i.e. the inverse of the probabilities of inclusion of the households in the sample, are calculated and adjusted for non-response in each stratum. Following that, the adjusted weights for non-response are calibrated.

LATVIA (LV)

Background

The LFS started in November 1995, producing results in May and November each year. In 2002, the survey was redesigned as a continuous survey and results are produced each quarter. Major changes in recent years:

2006:   Data collection mode changed from PAPI to CAPI.
Changes of the questionnaire to match more closely the definition of unemployment of EU-LFS.
2007:   Sample size more than doubled, from 2 574 to 6 032 households.
Rotation scheme changed from 1-(1)-1-(1)-1 to 2-(2)-2. Since the 2nd quarter, CATI is introduced in combination with CAPI.
2010:   The weighting at household level was introduced.
2013:   The sampling design was revised. Enlargement of sample size has started and will be done in six quarters. Sample size has enlarged gradually – it grew each quarter in comparison with previous quarter.
2014:   Enlargement of sample size has finished. Since the 2nd quarter, the sample size is 7 488 households per quarter. The quarterly average statistical data on population living in private households is used in the weighting procedure. The new information used in weighting procedure: information from The State Revenue Service.
2017:   Introduction of sub-sampling for the yearly structural variables.
2018:   CAWI introduced for 2nd to the 4th wave in combination with CATI and CAPI.

Coverage

Population interviewed for employment status: 15-74 years.

Population concept: Usual residence (12 months).

Specific population subgroups:

- Primary/secondary students: Family home.
- Tertiary students: Family home (if they are economically dependent).
- People working out of family home for an extended period for the purpose of work: Family home.
- People working away from family home but returning for weekends: Family home.
- Children alternating two places of residence: Family home.

Household concept: Housekeeping

Household definition: Members living regularly together in the same dwelling, sharing household expenditures.

Participation: Voluntary.

Description: The survey covers the whole country. Only private households are surveyed.

The target population comprises all persons aged 15 to 74 years who are permanent residents in Latvia. Persons temporarily absent for one year or more are excluded.

Sampling strategy

Sampling design: Two stages stratified sampling plan.

Sampling frame: Population Register and the National Real Estate Cadastre Information System.

Sampling units: The PSU is the sampling area and FSU is the dwelling.

Sampling method: In the first stage of sampling, the PSUs are stratified by type of territory (degree of urbanisation). In the second stage, dwellings are randomly selected.

Theoretical sample size (quarterly average): 7 488 dwellings.

Sampling rate: 0.89%.

Rotation scheme: 2-(2)-2.

Description: Two sampling frames are built for each sampling stage because a two stages sampling is used. At the first stage, the list of sampling areas is used as the sampling frame. The sampling areas are territories which contain information about the number of dwellings in each sampling area. At the second stage, the sampling frame is built from the Demographic Statistics Data Processing System. The Demographic Statistics Data Processing System includes data from the Population Register and the National Real Estate. The strata are defined by their degree of urbanization (Riga, cities, towns and rural areas).

The sampling areas are selected from each stratum using systematic sampling with probability proportional to size. The FSUs are selected from the PSUs by a simple random sampling method in each sampled PSU.

A sub-sample is used to survey most of the structural variables under the Commission Regulation (EC) No 377/2008, for which only yearly results are required. The sub-sample is determined according to a wave approach, i.e. it includes the units of each full quarterly sample which, according to the rotation scheme, are interviewed for the first time (1st wave).

Data collection

Techniques adopted: CAPI – CATI – CAWI.

Interviews by technique distribution: CAPI 62%, CATI 34%, CAWI 4%.

Response rate: 64.9%.

Proxy rate (15-74 years): 36.2%.

Description: The LFS is based on a mixed-mode design using CAPI, CATI and CAWI. Interviews are conducted by employees of the Interviewers' Coordination Section and Household Survey Preparation and Supervision Section.

The average response rate was 64.9% and refusals accounted for 31.9% of the total non-response.

Weighting procedure

Method: Calibration.

Variables used: Sex, age groups, region (NUTS3), type of place of residence (urban/rural), employment agency registers, revenue service registers.

Reference population for weighting: Population living in private households.

Description: The initial weights are calculated according to the sample design, with all persons within the same PSU having equal design weights. The design weights are adjusted using the data in each stratum for each wave and each survey technique. The design weights are adjusted using the data of response level in each stratum for each wave and survey technique (CAPI/CATI+CAWI). The CATI and CAWI groups are merged due to the insufficient number of respondents in the CAWI group. The quarterly weights are then adjusted on the basis of demographic data and data of the State employment agency and the State Revenue Service. Yearly weights are calculated as quarterly weights divided by four.

For adjustment of the quarterly weights, demographic data is broken down by the type of municipality (Riga, cities, towns, rural areas), as in stratification, 14 age groups and sex as well as in NUTS3 (six regions), three age groups, eight cities of Republic, the information from the State employment agency by sex and five age groups and the information from the State Revenue Service by sex and seven age groups.

All persons within the same household have equal initial and final weights.

LITHUANIA (LT)

Background

The LFS started in April 1998 as a semi-annual survey with one reference week in both the second and fourth quarter. Since Q3 2002, the redesigned survey has been a continuous one. Major changes in recent years:

2006:   Labour Exchange data (i.e. the registered employment/unemployment status) is no longer used as auxiliary information for the calculation of weights.

2007:   Gradual increase of the theoretical sample size from 4 000 households (2006) to 7 000 (2007) to 8 000 (2008).

2015:   CAWI has been introduced.

Coverage

Population interviewed for employment status: 15 years and older.

Population concept: Usual residence

Specific population subgroups:

- Primary/secondary students: Family home.
- Tertiary students: Family home.
- People working out of family home for an extended period for the purpose of work: Term address.
- People working away from family home but returning for weekends: Family home.
- Children alternating two places of residence: Family home.

Household concept: Housekeeping.

Household definition: Members living regularly together in the same dwelling, sharing household expenditures, food and other essentials for living.

Participation: Voluntary.

Description: The survey covers the whole country. Only private households are surveyed.

The target population comprises all persons usually living in the households of the selected dwellings, including those who are temporarily abroad for a period of less than a year. The population also includes foreign nationals who have been living in Lithuania for at least one year.

A household is a person living alone or a group of persons sharing the same living accommodation and expenditure, including collective provision of vital needs. Only the members of the selected private households (family) are interviewed.

Sampling strategy

Sampling design: Simple random sampling.

Sampling frame: Population Register.

Sampling units: The sampling unit is the household.

Sampling method: The sample of a fixed number of persons of the sampling frame is selected by a simple random sampling including all members of their households.

Theoretical sample size (quarterly average): 8 000 households.

Sampling rate: 1.00%.

Rotation scheme: 2-(2)-2.

Description: The sampling unit are persons living in the private household. All members of the selected persons' household are surveyed according to a one stage simple random sampling design.

The sample is constructed as follows: having selected a simple random sample of the fixed number of persons of the sampling frame, the members of their households are added. Even if, according to the address sampled, some or all of the people were not included in the list of the sample, all household members actually living at the address are interviewed. Thus, a cluster sample of persons is obtained. All people living at the selected address belong to the same cluster. The actual composition of the cluster is indicated by the interviewer when visiting the household.

Data collection

Techniques adopted: CAWI – CAPI – CATI.

Interviews by technique distribution: Not available.

Response rate: 77.9%.

Proxy rate (15-74 years): 34.8%.

Description: The LFS is based on a mixed-mode design. At first, respondents can answer the LFS questionnaire by CAWI. If they choose not to do so, interviews are conducted by CAPI or CATI according to the circumstances. The interview usually takes place during the week immediately following the reference week but never later than five weeks after.

The average response rate was 77.9% and refusals accounted for 36.4% of the total non-response.

Weighting procedure

Method: Calibration.

Variables used: Sex, age groups, region (LAU), type of place of residence (urban/rural).

Reference population for weighting: Population living in private households.

Description: The weighting method for the Lithuanian LFS is based on the generalised calibration method introduced by Deville and Särndal in 1992. The initial household design weights are calculated, taking into account the unequal selection probabilities of the households. Then, these are adjusted based on auxiliary information relating to population data on 60 municipalities and the intersection of 13 age-groups, sex and urban/rural. All household members have the same sampling weight.

LUXEMBOURG (LU)

Background

In 2003, a new survey design was launched for the LFS, which is characterised by continuous data collection by telephone interviews, replacing the annual spring survey dating from 1983. The survey yields annual results as an average of the whole year. Since 2007, the survey has been providing quarterly and annual results. Major changes in recent years:

2007:   Dissemination of quarterly results in addition to annual ones.
2015:   Rotational scheme of household has been introduced. Data is collected also by CAWI. Instead of random dialling, a representative random sample is used.

Coverage

Population interviewed for employment status: 15 years and older.

Population concept: Registered population.

Specific population subgroups:

- Primary/secondary students: Family home.
- Tertiary students: 'Most of the time' criteria.
- People working out of family home for an extended period for the purpose of work: Family home.
- People working away from family home but returning for weekends: Family home.
- Children alternating two places of residence: 'Most of the time' criteria.

Household concept: Housekeeping

Household definition: Members living regularly together in the same dwelling, sharing food and other essentials for living.

Participation: Compulsory.

Description: The resident population comprises persons registered as residing in one of the municipalities. The sampling frame covers only private households in Luxembourg. Cross-border workers (which make up almost 50% of the workforce) are not taken into account.

The household is defined as persons living together in the same household, subtenants and military personnel returning home at the weekend are excluded.

Sampling strategy

Sampling design: Simple random sampling.

Sampling frame: Population Register.

Sampling units: The sampling unit is the individual.

Sampling method: The individuals are selected from the national register of population by a simple random sampling.

Theoretical sample size (quarterly average): 9 000 individuals.

Sampling rate: 1.60%.

Rotation scheme: 5.

Description: A single stage random sample is applied. A representative random sample from the national people register (Registre national des personnes physiques) is selected. The sampling unit is the reference person of the household and all the individuals included in the aforementioned households are considered as targets of the survey.

Data collection

Techniques adopted: CAWI – CATI.

Interviews by technique distribution: CAWI 73%, CATI 27%.

Response rate: 60.9%.

Proxy rate (15-74 years): 26.5%.

Description: The LFS is based on a mixed-mode design. The data is collected by CATI and CAWI.

The average response rate was 60.9% and refusals accounted for 6.2% of the total non-response.

Weighting procedure

Method: Post-stratification.

Variables used: Sex, age groups, nationals/non-nationals, household size.

Reference population for weighting: Population living in private households.

Description: Data from the survey is post-stratified by sex, age classes: (0-14, 15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65+), household size and nationality (national/foreigner). All persons of these strata have the same weight, calculated by dividing the population in each stratum by the number of interviewed persons in the same stratum.

HUNGARY (HU)

Background

The LFS started in 1992 as a quarterly survey. Until 2002, the reference week in each month was the week which included the 12th day of the month. From 2003 to 2005, three weeks of each month were surveyed. Since the beginning of 2006, the survey is a continuous one, covering all weeks of the year. Interviews are done during the week immediately following the reference week. Major changes in recent years:

2006:   Changes in the questionnaire to fully harmonize with the list of EU-LFS variables and explanatory notes.
2011:   Establishing a team for central coding of occupations (according to the HSCO-08 and ISCO-08) to ensure high quality of the data continuously.
2012:   Replacement of PAPI with CAPI for all waves.
2014:   Grossing up of LFS data is based on the adjusted population number of the 2011 Census (December). Revisions back to 2006.
2015:   Changes of the questionnaire concerning information of non-formal education (break in time series of LLL indicator).

Coverage

Population interviewed for employment status: 15-74 years.

Population concept: Usual residence (12 months).

Specific population subgroups:

- Primary/secondary students: Family home.
- Tertiary students: Family home (if they are not abroad).
- People working out of family home for an extended period for the purpose of work: Family home (if they contribute to family income).
- People working away from family home but returning for weekends: Family home.
- Children alternating two places of residence: 'Most of the time' criteria.

Household concept: Housekeeping

Household definition: Members living regularly together in the same dwelling, sharing income, household expenditures, food and other essentials for living.

Participation: Voluntary.

Description: The survey covers the whole country and only private households are surveyed.

The inclusion or exclusion of the temporary absent persons – like persons living in student homes or worker homes – depends on their economic contribution to the household. For the person living abroad the same rule applies, they are surveyed only if they are contributing to the common household budget. Lodgers and domestic servants are surveyed and registered as separate households, since they live in the sampled dwelling.

Sampling strategy

Sampling design: Two stages stratified sampling plan.

Sampling frame: Dwellings register.

Sampling units: The PSU is the settlement and the FSU is the dwelling.

Sampling method: In the first stage of sampling, the PSUs are stratified by administrative units and size. In the second stage, dwellings are selected by a systematic random sampling.

Theoretical sample size (quarterly average): 37 710 dwellings.

Sampling rate: 0.92%.

Rotation scheme: 6.

Description: The LFS sample is a multi-stage stratified sample of dwellings based on the 2011 Population and Housing Census. The last update of the sampling frame was in 2013. The LFS sample is stratified by administrative units (i.e. the capital city and 19 counties) and by size categories of the localities. The total number of strata is 278, of which 175 are self-representing localities. The remaining 103 strata contain 513 non-self-representing sampled localities.

At national level, self-representing localities are those which have at least 3 975 dwellings (i.e. approximately 5 000 inhabitants), while all other localities are non-self-representing. The former are all included in the sample with certainty, while a stratified (sub-)sample is selected from the latter with probability proportional to their size. In case of non-self-representing localities, design strata are defined as cross-classes of four size categories and 19 administrative units (counties). In such cases, the PSUs are localities and the FSUs are dwellings. In contrast, in the case of self-representing localities, the PSUs are dwellings, thus sampling has only one stage. The FSUs are dwellings in each case. They are selected with systematic random sampling from lists of addresses belonging to the sampled localities. All households residing in the selected dwelling are surveyed.

Data collection

Techniques adopted: CAPI – CATI.

Interviews by technique distribution: CAPI 63%, CATI 37%.

Response rate: 73.1%.

Proxy rate (15-74 years): 40.9%.

Description: The LFS is based on a mixed-mode design. Data is collected by CAPI or CATI. Respondents participating for the first time are interviewed face-to-face. The following interviews can be conducted depending on the situation – by CATI or CAPI. Interviews are done during the week immediately following the reference week.

The average response rate was 73.1% and refusals accounted for 34.5% of the total non-response.

Weighting procedure

Method: Calibration.

Variables used: Sex, age groups, region (NUTS3), type of place of residence (urban/rural), number of households.

Reference population for weighting: Population living in private households.

Description:

1) Design (or design-based) weights are determined. For any stratum of the sample, a unique design weight is defined as the ratio of the total number of dwellings in the stratum to that in the sub-sample for that stratum. Some adjustments are additionally included at this stage.

2) Calibrated weights are calculated with the method of generalised raking. All members in a sampled household have the same calibrated weight as the household.

3) The method of deriving controls is based on the demographic components method combined with Census-based proportions. Control totals are provided by population projection for the non-institutionalised population. It is based on the Census 2011 results which are adjusted by births, deaths, relocations within the country (each being monthly data) and migration (annual data) from official data sources.

MALTA (MT)

Background

The LFS started in 2000, providing quarterly results from 2001 on. The survey was redesigned as a quarterly continuous survey in 2004. At the same time, a new sampling frame was introduced. Major changes in recent years:

2006:   Weighting scheme changed to correct for non-response in successive waves.
2007:   Quarterly sample size increased from 2 500 to 3 200 households.
2008:   Rotation scheme changed from 2- to 2-(2)-2.
2012:   New sampling frame based on the Census 2011. For the data collection 2006-2011, the Census 2005 was used.
2018:   The weighting methodology was changed and time series of the main indicators were revised backward till 2012.
2019:   New sampling frame based on a statistical population register, using a number of administrative sources.

Coverage

Population interviewed for employment status: 15 years and older.

Population concept: Usual residence (12 months).

Specific population subgroups:

- Primary/secondary students: Family home.
- Tertiary students: Family home (if financially dependents).
- People working out of family home for an extended period for the purpose of work: Family home (if less than a year).
- People working away from family home but returning for weekends: 'Most of the time' criteria.
- Children alternating two places of residence: 'Most of the time' criteria.

Household concept: Housekeeping

Household definition: Members living regularly together in the same dwelling, sharing income, household expenditures, food and other essentials for living.

Participation: Compulsory.

Description: The survey covers the whole country. Only private households are surveyed.

The survey covers private households, including people who are temporarily absent from their usual place of residence. Children or any other members who are living in another dwelling or institution are excluded.

Sampling strategy

Sampling design: Systematic random sampling.

Sampling frame: Population Register.

Sampling units: The sampling unit is the household.

Sampling method: The households are selected from the register of population by a systematic random sampling.

Theoretical sample size (quarterly average): 3 200 households.

Sampling rate: 1.57%.

Rotation scheme: 2-(2)-2.

Description: The sampling plan is a one stage systematic random sample of households selected from a register of population. In the register, the eligible households are ordered by address details, number of males and females in household and number of persons aged 0-14, 15-24, 25-44, 45-64, and 65 and older. All persons living in the household are interviewed.

Data collection

Techniques adopted: CATI – PAPI.

Interviews by technique distribution: CATI 75%, PAPI 25%.

Response rate: 66.7%.

Proxy rate (15-74 years): 44.7%.

Description: The LFS is based on a mixed-mode design. Each household is contacted via ordinary mail to inform them about been chosen to participate in the LFS. In the 1st wave, an interviewer who is assigned to a group of households carries out the interview in one of two ways i.e. in person or by telephone.

In the later waves, the interviews are usually carried out using CATI or PAPI (only when the households do not provide a telephone number, do not have a telephone landline or do not want to be interviewed over the phone).

The average response rate was 66.7% and refusals accounted for 8.3% of the total non-response.

Weighting procedure

Method: Calibration.

Variables used: Sex, age groups, region (LAU), nationality.

Reference population for weighting: Population living in private households.

Description: For weighting procedures, the design weights are computed through calibration with the logit method. The following benchmarks are used: region (LAU), sex with nested age groups (0-14, 15-17, 18-19, 20-24, 25-29, continue 5-year age groups until 75-79, 80 and older) and nationality. Each person in the dataset has an individual weight according to one's region, gender, age group and nationality. For this reason, members in the same household do not have the same weight and household weights are not computed.

NETHERLANDS (NL)

Background

The LFS started in 1987 as an annual survey. In 2000, it was redesigned as a continuous quarterly survey. Major changes in recent years:

2010:   Revision of sampling design and weighting scheme.
2012:   Introduction of CAWI.
2015:   The LFS weights were recalculated from 2011 onwards. Breaks in the series of unemployment due to LFS redesigns in 2010 and 2012 were corrected for in the new weights. Until this revision of weights, the series were continued on the levels for unemployment from before the redesigning.

Coverage

Population interviewed for employment status: 15 years and older.

Population concept: Registered population.

Specific population subgroups:

- Primary/secondary students: 'Most of the time' criteria.
- Tertiary students: 'Most of the time' criteria.
- People working out of family home for an extended period for the purpose of work: 'Most of the time' criteria.
- People working away from family home but returning for weekends: 'Most of the time' criteria.
- Children alternating two places of residence: 'Most of the time' criteria.

Household concept: Housekeeping

Household definition: Members living regularly together in the same dwelling, sharing household expenditures, food and other essentials for living.

Participation: Voluntary.

Description: The resident population comprises persons residing in the Netherlands. The survey covers only private households. The private household comprises either persons living alone or two or more persons, whether or not they are of the same family, who usually occupy the same dwelling and share a joint budget.

The survey is based on sliding reference weeks, meaning that respondents answer the questions about the current week.

Sampling strategy

Sampling design: Two stages stratified sampling plan.

Sampling frame: List of postal addresses and Population Register.

Sampling units: The PSU is the municipality and the FSU is the household address.

Sampling method: In the first stage of sampling, the PSUs are stratified by regions (NUTS3). In the second stage, mailing addresses are selected by a systematic random sampling.

Theoretical sample size (quarterly average): 41 100 households.

Sampling rate: 0.50%.

Rotation scheme: 5.

Description: In the first stage, municipalities are selected systematically with a probability proportional to the number of addresses in the municipalities. Moreover, the number of addresses,

which have to be selected in the second stage, are determined for selected municipalities. For municipalities which are selected with a probability of one, the number of addresses which have to be selected in the second stage equals the product of the sampling rate and the number of addresses in the municipality. With the current sample size, every municipality is selected with a probability of one. In the second stage, addresses are selected randomly in the selected municipalities, with the number of addresses per municipality as determined in the first stage.

Mailing addresses, which represent the FSU, are selected systematically out of a mailing list sorted by postal code. For addresses with more than one letterbox, all letterboxes appear in the list. If a selected mailing address includes only one household, this household is selected. If the address includes more than one household, a maximum of three households are selected.

A sub-sample is used to survey the structural variables (for which only yearly results are required) concerning, for example, atypical work, previous work experience of persons not in employment and ad-hoc modules. The sub-sample is determined according to a wave approach, i.e. it includes the units of each full quarterly sample which, according to the rotation scheme, are interviewed for the second time (2nd wave). This corresponds to one fifth of each quarterly sample.

Data collection

Techniques adopted: CATI – CAWI – CAPI.

Interviews by technique distribution: CATI 71%, CAWI 23%, CAPI 6%.

Response rate: 49.3%.

Proxy rate (15-74 years): 44.9%.

Description: The LFS is based on a mixed-mode design. Initially, everyone is approached by CAWI. Non-respondents are re-approached by CATI or CAPI. When a telephone number is available, people are re-approached by CATI. When there is no telephone number available, the approach is face-to-face by CAPI. Interviews in the next four waves are carried out by CATI. In the CATI questionnaire, data gathered in the preceding wave (CAWI, CATI or CAPI) is included.

The average response rate was 49.3% and refusals accounted for 70.9% of the total non-response.

Weighting procedure

Method: Post-stratification.

Variables used: Sex, age groups, region (municipalities with over 30 thousand residents), ethnic background, household type, income, registration at the unemployment office.

Reference population for weighting: Population living in private households.

Description: Weighting of the respondents is done in two stages.

1) All respondents are assigned an inclusion weight. These are calculated in such a way that unequal inclusion probabilities that occur because of the sampling method are corrected.

2) Final weights are determined. Thus, biases because of non-response are reduced based on information about sex, age, ethnic background, place of residence and some other regional classifications are used. In addition, administrative sources about the income and registration at unemployment office are used. Furthermore, information on the correlation in the panel-overlap between subsequent quarters is used and all waves are weighted in one step.

AUSTRIA (AT)

Background

The LFS covering the whole questionnaire of the European Labour Force Survey started as an annual survey in March 1995. In 2004, the LFS was redesigned as a continuous survey, covering all weeks of the year. Key data on employment and unemployment has been collected within the Austrian micro-census quarterly since 1968, but ILO definitions have been used only from 1994 onwards. Major changes in recent years:

2004:   Replacement of PAPI with CATI for the 2nd to the 5th wave.
2006:   Replacement of PAPI with CAPI for 1st wave interviews.
2014:   Change of the weighting scheme (Census 2011 and inclusion of register based information) and revision of weights for the period 2004-2013.
2018:   New data collection tool called 'Statsurv' used, an internal development.

Coverage

Population interviewed for employment status: 15 years and older.

Population concept: Usual residence.

Specific population subgroups:

- Primary/secondary students: Family home.
- Tertiary students: Term address (if they live in a private household, students from collective households are excluded).
- People working out of family home for an extended period for the purpose of work: Family home.
- People working away from family home but returning for weekends: Family home.
- Children alternating two places of residence: 'Most of the time' criteria.

Household concept: Dwelling

Household definition: Members living regularly together in the same dwelling.

Participation: Compulsory.

Description: Only the population in private households is included. The resident population comprises persons who have their main residence on Austrian territory during the reference week.

A private household is made up of all people actually living in a dwelling.

Sampling strategy

Sampling design: One stage stratified sampling plan.

Sampling frame: Register of residents.

Sampling units: The sampling unit is the dwelling.

Sampling method: The sample is stratified by regions (NUTS2).

Theoretical sample size (quarterly average): 22 500 dwellings.

Sampling rate: 0.60%.

Rotation scheme: 5.

Description: The sampling design is a stratified single random sample from the sampling frame, with each region ('Bundesland' - NUTS2) forming a stratum.

The sampling unit is the dwelling with at least one person with main residence. All people in the selected dwellings are surveyed.

Data collection

Techniques adopted: CATI – CAPI.

Interviews by technique distribution: CATI 62%, CAPI 38%.

Response rate: 93.9 %.

Proxy rate (15-74 years): 25.4%.

Description: The LFS is based on a mixed-mode design. CAPI is used in the 1st wave and CATI is generally used in the 2nd to the 5th wave.

The average response rate was 93.9% and refusals accounted for 30.1% of the total non-response.

Weighting procedure

Method: Calibration.

Variables used: Sex, age groups, region (NUTS2), nationality, household size, register based labour status.

Reference population for weighting: Population living in private households.

Description: The weights are calculated in two steps.

1) For each record a basic weight, which depends on the stratum and the domain, is calculated.

2) The weights are adjusted so that the resulting distribution is in accordance to the population within the federal regions (Bundesländer, NUTS2). Calibration is performed by iterative proportional fitting and the following specifications are used for calibration:

   - Total number of persons in private households in NUTS2 region b (= 1, …, 9), age class a (1 = 0-2 years, 2 = 3-5 years, 3 = 6-9, 4 = 10-14, … (5-year classes) …, 18 = 80-84, 19 = 85+) and sex s (= 1, 2);

   - Total number of persons in private households in NUTS2 region b (= 1, …, 9) with nationality n (1 = Austria, 2 = EU-15 without Austria, 3 = EU from 2004 onwards, 4 = European non-EU states, 5 = Turkey, 6 = others);

   - Total number of persons in private households in NUTS2 region b (= 1, …, 9) with register based labour status l (1 = standard employment, 2 = non-standard employment, 3 = self-employment, 4 = unemployment, 5 = out of labour force) and sex s (=1, 2);

   - Total number of households in NUTS2 region b (= 1, …, 9) with g (= 1, 2, …, 5+) residents.

In the first step, a basic weight is calculated for each person. This is followed by a calibration procedure with iterative proportional fitting. Finally, each member of the household has the same weight.

POLAND (PL)

Background

The LFS started in May 1992 as a quarterly survey, using data collection in one reference week per quarter. Since Q4 1999, the survey covers all weeks of the year. Major changes in recent years:

2006:   Introduction of CAPI supplementing PAPI. Changes of the questionnaire in order to identify people absent from work (identification of lay-offs) more accurately and comply with the EU-LFS operational guidelines for the definition of labour status.
2009:   Questionnaire changed to align more precisely to the EU-LFS operational guidelines for the definition of labour status.
2010:   Sample size doubled in order to adjust precision to the requirement set out in Article 3.2.
2011:   From Q1 2011 onwards, the occupational data is compiled in accordance with the Classification of Occupations and Specializations 2010 (KZiS 2010), being a national adaptation of ISCO-08. The KZiS 2010 replaced the KZiS 2007.
2012:   From Q3 2012, generalization of the survey results on the population was carried out with the use of the data on the population of Poland aged 15 years and over coming from the balances compiled on the new basis of the results from the National Census of Population and Housing 2011.
2014:   Introduction of CATI as a supplementary mode of data collection.
2015:   From Q1 2015 onwards, data on occupation is compiled in accordance with the Classification of Occupations and Specializations 2014 (KZiS 2014) which replaced KZiS 2010.
2016:   Since Q1 2016, all new samples (people surveyed for the first time) are selected according to a new stratification scheme. As previously, the main division of strata is based on voivodships (highest administrative divisions) and strata within voivodships are created depending on the size of a place. However, also one or two of the biggest voivodship towns form the separate strata among these inter-voivodship strata. Moreover, the correction of weights respective to lack of responses is calculated at the voivodship level and calibration of results separately for all 16 voivodships – NUTS2 level (instead of country level).

Coverage

Population interviewed for employment status: 15 years and older.

Population concept: Usual residence (12 months).

Specific population subgroups:

- Primary/secondary students: Family home.
- Tertiary students: Term address.
- People working out of family home for an extended period for the purpose of work: 'Most of the time' criteria.
- People working away from family home but returning for weekends: Family home.
- Children alternating two places of residence: 'Most of the time' criteria.

Household concept: Housekeeping

Household definition: Members living regularly together in the same dwelling, sharing income, household expenditures, food and other essentials for living.

Participation: Voluntary.

Description: The survey covers the whole country. The target population covers all persons aged 15 years and older with usual residence in Poland. Only private households are surveyed. Persons living in institutional households (army, hospital, prison, hostels etc.) are excluded from the survey, if their length of stay in these institutions is planned to be one year or longer. The same applies to persons living permanently or temporarily in other countries.

Sampling strategy

Sampling design: Two stages stratified sampling plan.

Sampling frame: OBS - statistical sampling frame for social surveys.

Sampling units: The PSU is the Census cluster in towns and enumeration district in rural areas and the FSU is the dwelling.

Sampling method: In the first stage of sampling, the PSUs are stratified by regions (NUTS2) and type of place of residence (urban/rural). In the second stage, dwellings are randomly selected.

Theoretical sample size (quarterly average): 55 458 dwellings.

Sampling rate: 0.40%.

Rotation scheme: 2-(2)-2.

Description: The PSUs refer, with few exceptions, to Census clusters in towns and enumeration districts in rural areas. PSUs are stratified by urban/rural division of voivodships, as well as division within voivodships depending on the size of the place, with rural areas included among the smallest ones. In case of new sub-samples in the survey, one to two of the biggest voivodship towns have formed separate strata in voivodships. PSUs are sampled within strata with sampling probability proportional to the number of dwellings in a PSU. In the second stage, a total of 55 458 dwelling units per quarter are sampled from selected PSUs stratified by size of the municipality.

Data collection

Techniques adopted: CAPI – PAPI – CATI.

Interviews by technique distribution: CAPI 87%, PAPI 12%, CATI 1%.

Response rate: 54.2%.

Proxy rate (15-74 years): 36.2%.

Description: The LFS is based on a mixed-mode design. The data is collected mainly by CAPI. In case of problems with the IT equipment or on respondents' request, paper questionnaires are used. CATI is only applied to households with one member aged 15 years or older and on the condition that he/she previously expressed the approval of being surveyed this way in the next wave. CATI is applied only for the 2nd to the 4th (last) wave.

The average response rate was 54.2% and refusals accounted for 51.9% of the total non-response.

Weighting procedure

Method: Post-stratification.

Variables used: Sex, age groups, region (NUTS2), type of place of residence (urban/rural).

Reference population for weighting: Population living in private households.

Description: The weights are computed using a four-step procedure.

1) The initial design weights are calculated for dwelling units, i.e. the inverse of the selection probabilities for the final sampling units in each stratum.

2) The weighted response rates are calculated for sampling units stratified a posteriori by six place-of-residence categories in each voivodship.

3) The initial weights are adjusted by the response rates.

4) The adjusted weights are modified using population estimates stratified a posteriori by the urban-rural division, sex and 12 age groups (15-17, 18-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65+) plus three age groups (0-4, 5-9, 10-14) for children living in the surveyed households separately in each voivodship.

PORTUGAL (PT)

Background

The LFS started in 1983 as a quarterly survey. Since 1998, the survey is a continuous one yielding quarterly results. Major changes in recent years:

2011:   Implementation of CATI as one of the data collection mode and revision of the questionnaire.
2013:   Implementation of a new sampling frame from the National Dwellings Register.

Coverage

Population interviewed for employment status: 15 years and older.

Population concept: Usual residence (12 months).

Specific population subgroups:

- Primary/secondary students: Family home (if not abroad for more than 12 months).
- Tertiary students: Family home (if not abroad for more than 12 months).
- People working out of family home for an extended period for the purpose of work: Term address (if away for more than 12 months).
- People working away from family home but returning for weekends: Family home.
- Children alternating two places of residence: Family home (time of interview).

Household concept: Dwelling

Household definition: Members living regularly together in the same dwelling.

Participation: Compulsory.

Description: The whole geographical territory of Portugal is covered, i.e. mainland, Madeira and the Azores.

The resident population consists of individuals living in private dwellings during the reference week, although the survey also covers the individuals living in collective dwellings who represent a potential for the labour market, insofar as they have family ties with the private dwelling (national servicemen or students). Individuals who are absent for short periods of time (less than one year) and who are not permanently occupying other dwellings are also included.

Sampling strategy

Sampling design: Stratified two stages cluster sampling plan.

Sampling frame: National Dwelling Register (NDR), restricted to all private dwellings as usual residence.

Sampling units: The PSU is the geographical area and the FSU is the dwelling.

Sampling method: In the first stage of sampling, the PSUs are stratified by regions (NUTS3). In the second stage, FSUs are selected by a systematic random sampling.

Theoretical sample size (quarterly average): 22 572 dwellings.

Sampling rate: 0.60%.

Rotation scheme: 6.

Description: The sampling frame is stratified by NUTS3 and in each stratum the PSUs are selected systematically with probability proportional to the number of private dwellings as usual residence. The PSUs are composed by one or more contiguous grid INSPIRE cells with 1 km^2 of area, having at least 300 private dwellings as usual residence. In total, 1 254 PSUs are selected. In the second

stage, dwellings are selected by a systematic random sampling. All persons living in the same dwelling are interviewed.

Dwellings are kept in the sample for six consecutive quarters before being replaced by an identical number of dwellings in the same PSU. One-sixth of the sample is replaced each quarter.

Data collection

Techniques adopted: CATI – CAPI.

Interviews by technique distribution: CATI 69%, CAPI 31%.

Response rate: 81.1%.

Proxy rate (15-74 years): 49.0%.

Description: The LFS is based on a mixed-mode design. All information is obtained by interviews. The 1st wave is carried out by CAPI, while the data in the other five waves is generally collected by CATI.

The average response rate was 81.1% and refusals accounted for 15.2% of the total non-response.

Weighting procedure

Method: Calibration.

Variables used: Sex, age groups, region (NUTS2 and NUTS3).

Reference population for weighting: Total resident population.

Description: The weight is derived as the product of a design weight (which incorporates design information and non-response) and a factor that calibrates the sample to the independent demographic estimates using a posteriori stratification method by:

- NUTS2, sex and 5-year age groups;
- NUTS3 (or groups of NUTS3) by six age groups;
- NUTS3 (or groups of NUTS3) by sex.

ROMANIA (RO)

Background

The LFS started in 1993 with a pilot survey, followed by two annual surveys in 1994 and 1995. In 1996, a continuous LFS started, providing quarterly results. Major changes in recent years:

2006: Full and uniform coverage of the weeks of each quarter.
2014: National LFS is fully aligned to the definition of the resident population.

Coverage

Population interviewed for employment status: 15 years and older.

Population concept: Usual residence (12 months).

Specific population subgroups:

- Primary/secondary students: Family home.
- Tertiary students: Family home.
- People working out of family home for an extended period for the purpose of work: Family home (if family ties are kept).
- People working away from family home but returning for weekends: Family home.
- Children alternating two places of residence: Family home.

Household concept: Housekeeping

Household definition: Members living regularly together in the same dwelling linked by family ties and sharing income, household expenditures, food and other essentials for living.

Participation: Voluntary.

Description: The whole country is covered and only private households are surveyed. The target population comprises persons residing in Romania.

The survey covers all members of the selected households including the persons absent from home for a longer period, living inside the country or abroad (for the latter, only if the total duration of staying abroad is less than 12 months), if they are preserving family relations with the household to which they belong. This covers pupils and students away for study, persons left for work, prisoners, and persons temporary in hospitals or sanatoria for medical cure.

Sampling strategy

Sampling design: Two stages stratified sampling plan.

Sampling frame: Census 2011.

Sampling units: The PSU is a group of Census section and the FSU is the dwelling.

Sampling method: In the first stage of sampling, the PSUs are stratified by regions (NUTS3) and type of place of residence (urban/rural). In the second stage, dwellings are selected by a systematic random sampling.

Theoretical sample size (quarterly average): 28 512 dwellings.

Sampling rate: 0.38%.

Rotation scheme: 2-(2)-2.

Description: The sampling plan is a two stages probability sampling of housing units.

In the first stage, a stratified random sample of 792 areas (PSUs) was designed after the 2011 Census, using as stratification criteria the residence area (urban/rural) and county (corresponding to NUTS3 level) - 88 strata in all. This is the Multifunctional Sample of Territorial Areas, known as the

master sample EMZOT. The EMZOT sample has 450 PSUs selected from urban area and 342 PSUs selected from rural area.

In the second stage, the dwellings are systematically selected from the initial sample of PSUs. The final quarterly sample consists of 28 512 dwelling units each quarter. All households within each sampling unit are included.

Data collection

Techniques adopted: CAPI – PAPI.

Interviews by technique distribution: CAPI 53%, PAPI 47%.

Response rate: 87.5%.

Proxy rate (15-74 years): 17.5%.

Description: The data is collected by face-to-face interviews (CAPI, PAPI). The data is collected with identical questionnaires throughout the whole year. The questionnaire is divided into three parts: dwelling questionnaire, individual questionnaire and continuous education questionnaire.

The average response rate was 87.5% and refusals accounted for 25.1% of the total non-response.

Weighting procedure

Method: Calibration.

Variables used: Sex, age groups, region (NUTS2), type of place of residence (urban/rural), number of households.

Reference population for weighting: Total resident population.

Description: The weights are calculated in three steps.

1) The inverse of the selection probabilities to each sampled dwelling unit is built.

2) Adjustment for non-response, categorising the responding dwelling units by the following characteristics: county (NUTS3) and urban/rural residency.

3) Calibration of the secondary weights to the best latest available population totals by region, urban-rural residency, sex, 14 age groups (0-14, 15-19, …, 70-74, 75 and older) and to the household totals by region, using the SAS macro Calmar.

The current demographic statistics used to calibrate the LFS estimates also include the institutional population.

SLOVENIA (SI)

Background

The LFS started in 1993 as an annual survey, using four weeks in May as the reference period. Since Q2 1997, the LFS has been conducted as a continuous survey, providing quarterly results. Major changes in recent years:

2007:   Question on self-declared main labour status moved to the end of the questionnaire, to comply with the EU-LFS operational guidelines for the definition of labour status.
2008:   New definition of resident population is introduced.

Coverage

Population interviewed for employment status: 15 years and older.

Population concept: Usual residence (12 months).

Specific population subgroups:

- Primary/secondary students: Family home.
- Tertiary students: Family home.
- People working out of family home for an extended period for the purpose of work: Term address.
- People working away from family home but returning for weekends: Family home.
- Children alternating two places of residence: Family home.

Household concept: Housekeeping

Household definition: Members living regularly together in the same dwelling sharing income, household expenditures, food and other essentials for living.

Participation: Voluntary.

Description: The survey covers the whole country. Only individuals in private households are surveyed. Members of the household temporarily absent for a period exceeding 12 months (in nursing home, prison, student accommodation) and persons living in other countries are excluded from the survey. Foreign nationals are included if they correspond to the criteria of household. Household members up to 15 years old are asked only few questions.

Sampling strategy

Sampling design: One stage stratified sampling plan.

Sampling frame: Central Population Register.

Sampling units: The sampling unit is the household.

Sampling method: The sample is stratified by regions (NUTS3) and type of settlement.

Theoretical sample size (quarterly average): 7 700 households.

Sampling rate: 1%.

Rotation scheme: 3-(1)-2.

Description: The sampling method is a stratified systematic random sampling of addresses. All members of the household at the selected address are included.

Strata are defined by NUTS3 (12) and type of settlement, defined according to the settlement size and proportion of farmers (6). Stratum allocation is proportional to the population distribution, adjusted by previous non-response rates by stratum.

Data collection

Techniques adopted: CATI – CAPI.

Interviews by technique distribution: CATI 60%, CAPI 40%.

Response rate: 77.7%.

Proxy rate (15-74 years): 52.8%.

Description: The LFS is based on a mixed-mode design. The 1st wave is conducted by CAPI. All repeated interviews are carried out by CATI if the household has a telephone, otherwise by CAPI.

The average response rate was 77.7%. Refusals accounted for 55.2% of the total non-response.

Weighting procedure

Method: Calibration.

Variables used: Sex, age groups (8), NUTS3 (12).

Reference population for weighting: Total resident population.

Description: The data is weighted for unequal probability of selection and non-response and calibrated according to the known population distribution: age groups (0-14, 15-19, 20-29, 30-39, 40-49, 50-59, 60-69, 70+), sex and region (NUTS3 level, 12). The calibration is done on a household level, thus members of the same household have identical weights, and benchmarked to population totals. People living in institutions are included in population totals.

SLOVAKIA (SK)

Background

The LFS started in 1993 as a continuous, quarterly survey using seasonal quarters. In 2000, the Slovakian LFS changed to calendar quarters. Major changes in recent years:

2006:   New structure of the national questionnaire.
2011:   Implementation of CAPI as a new mode.
2012:   Sampling frame based on Census of Population 2011.

Coverage

Population interviewed for employment status: 15 years and older.

Population concept: Usual residence (12 months).

Specific population subgroups:

- Primary/secondary students: Family home.
- Tertiary students: Family home.
- People working out of family home for an extended period for the purpose of work: Family home.
- People working away from family home but returning for weekends: Family home, term address or 'most of the time' criteria.
- Children alternating two places of residence: Term address.

Household concept: Housekeeping

Household definition: Members living regularly together in the same dwelling sharing income, household expenditures, food and other essentials for living.

Participation: Compulsory.

Description: The whole country is covered. Only private households are surveyed. People living on their own constitute one-person households.

The target population of the survey is every person aged 15 and older, living in the household of the selected dwelling without regard to permanent, temporary or unregistered stays. Data for students living in hostels, schoolchildren at boarding schools and persons living temporarily in worker homes are collected within the households to which they belong. Inmates of prison or mental institutions and foreign citizens staying temporarily are not surveyed.

Sampling strategy

Sampling design: Two stages stratified sampling plan.

Sampling frame: Census 2011.

Sampling units: The PSU is the Census administrative units and the FSU is the dwelling.

Sampling method: In the first stage of sampling, the PSUs are stratified by regions. In the second stage, dwellings are selected by simple random sampling.

Theoretical sample size (quarterly average): 10 250 dwellings.

Sampling rate: 0.60%.

Rotation scheme: 5.

Description: The PSUs correspond to the Census Administrative Units. These are selected at the first sampling stage in each district with probability proportional to the district's population size. Each PSU can be selected more than once. At the second stage, five dwelling units are selected from each instance of the PSU using a simple random sampling method.

Data collection

Techniques adopted: CATI – PAPI – CAPI.

Interviews by technique distribution: CATI 41%, PAPI 36%, CAPI 23%.

Response rate: 81.6%.

Proxy rate (15-74 years): 51.3%.

Description: The LFS is based on a mixed-mode design. In the 1st wave, the data is collected by face-to-face interviews (CAPI and PAPI). All other interviews are mainly carried out by CATI.

The average response rate was 81.6% and refusals accounted for 83.5% of the total non-response.

Weighting procedure

Method: Post-stratification.

Variables used: Sex, age groups, region (NUTS3).

Reference population for weighting: Total population.

Description: Data from the survey for all persons participating in the survey are weighted by administrative data on the total population (including people living in institutions); as of 1st January 2019 by region, sex and age groups. Extrapolation to the population is done at the level of individuals.

The population and the sample are subjected of a post-stratification by NUTS3 administrative region (eight regions altogether), sex and 5-year age groups.

FINLAND (FI)

Background

The LFS started in 1959. Finnish LFS data has been delivered to Eurostat since 1995. In the late 1990s, various kinds of methodological development took place and changes were introduced to the Finnish LFS to reflect EU harmonisation. Since 2000, the Finnish LFS is a strictly continuous survey. Major changes in recent years:

2007:   Implementation of the wave approach.
2008:   Extension of the wave approach. Redesign of the questionnaire to tie in with Regulation 430/2005.

Coverage

Population interviewed for employment status: 15-74 years.

Population concept: Registered population, including people living in institutions.

Specific population subgroups:

- Primary/secondary students: Family home.
- Tertiary students: Family home (if family ties are kept) or term address.
- People working out of family home for an extended period for the purpose of work: Family home (if family ties are kept) or term address.
- People working away from family home but returning for weekends: Family home.
- Children alternating two places of residence: Family home.

Household concept: Housekeeping

Household definition: Members living regularly together in the same dwelling sharing meals or income.

Participation: Voluntary.

Description: The LFS is a monthly survey of individuals with the reference weeks distributed uniformly throughout the month (4 or 5 reference weeks). The quarterly sample (usually 13 reference weeks) consists of three separate and independent monthly samples. The survey provides monthly, quarterly and annual results.

The whole country and the Autonomous Territory of the Åland Islands are covered, as well as both private and collective households.

The target population comprises people aged 15 to 74 who are registered as permanently resident in Finland, including those who are temporarily abroad for a period of less than a year, members of the armed forces, and the institutional population. It also includes foreign nationals who have been living in Finland for at least a year or intend to do so. Persons living in institutions cannot be separated from the total population.

The information concerning the household composition and other members of the household are collected in the last wave.

Sampling strategy

Sampling design: One stage stratified sampling plan.

Sampling frame: Population Register.

Sampling units: The sampling unit is the individual.

Sampling method: The sample is stratified by regions (NUTS1). Only the household member selected in the sampling procedure is interviewed.

Theoretical sample size (quarterly average): 36 339 individuals.

Sampling rate: 0.88%.

Rotation scheme: 3-(1)-2.

Description: The sampling design used in Finland is a stratified systematic sampling of persons where the strata are formed according to NUTS1 regions with over-sampling from the Autonomous Territory of the Åland Islands.

In each stratum, systematic random selection is applied to the frame sorted according to the domicile code and personal identity number which yields implicit geographic stratification. So far, no indication of selection bias due to systematic sampling has been encountered, thus the selection procedure can be approximated by simple random sampling without replacement.

A sub-sample is used to survey some structural variables (mostly on relations between household members, atypical work, reasons for leaving last job/not seeking employment/not being available to start work within two weeks, situation one year before and others) in compliance with the Commission Regulation (EC) 377/2008, for which only yearly results are required. The sub-sample is determined according to a wave approach, i.e. it includes the units of each full quarterly sample which, according to the rotation scheme, are interviewed for the fifth and last time (5th wave).

Data collection

Techniques adopted: CATI – CAPI.

Interviews by technique distribution: CATI 99%, CAPI 1%.

Response rate: 62.7%.

Proxy rate (15-74 years): 4.1%.

Description: The LFS is based on a mixed-mode design (CATI and CAPI). Interviews are carried out in Finnish, Swedish and English. Demographic information (sex, year of birth, marital status, nationality) and information about the highest level of completed education or training, and field of education are obtained from administrative sources (Population Register, Register of Completed Education and Degrees).

The average response rate was 62.7% and refusals accounted for 55.2% of the total non-response.

Weighting procedure

Method: Calibration.

Variables used: Sex, age groups, region (NUTS3), registered unemployment.

Reference population for weighting: Total population.

Description: The weighting procedure is carried out in two steps.

1) Post-stratified weights: Mainland Finland has been divided into 194 post-strata by sex, age group and region. Autonomous Territory of the Åland Islands has been divided into two post-strata by sex.

2) Calibrated weights: The post-stratified weights are calibrated according to sex, age group, region, reference week and status in Ministry of Labour's job-seeker register.

Specific weighting procedures are adopted for the household sub-sample and for the sub-sample of structural variables collected by the wave approach.

SWEDEN (SE)

Background

The LFS started in 1959, with a quarterly survey introduced in 1963 and a monthly survey in 1970. From 1993, the reference weeks are distributed uniformly throughout the year and the survey provides monthly, quarterly and annual results. In April 2005, a new questionnaire was introduced, together with a full renewal of the weighting scheme. Major changes in recent years:

2009:   A number of questions in the LFS were revised in order to minimise the risk of misclassification of the labour force status of sample persons due to the introduction of new programs at the public employment office, specifically phase 3 of the activity and development guarantee. The scope of this program was very limited during 2009, but it was expected to increase during 2010 because more people had finished the first two phases.

2010:   The monthly sample was increased by 8 000 persons, from approximately 21 000 to 29 000. This change was requested by the Swedish government with the purpose of enabling a more detailed presentation of statistics concerning persons not at work and statistics on labour market flows.

2019:   Revision of the LFS for the period July 2018 to September 2019, which consists of using only half of the sample, following the detection of quality deficiencies. As the resulting statistics are based on half of the sample, this increases the uncertainty, particularly at a more disaggregated level.

Coverage

Population interviewed for employment status: 15-74 years.

Population concept: Registered population, including people living in institutions.

Specific population subgroups:

- Primary/secondary students: Family home.
- Tertiary students: Term address.
- People working out of family home for an extended period for the purpose of work: Family home.
- People working away from family home but returning for weekends: Family home.
- Children alternating two places of residence: 'Most of the time' criteria.

Household concept: Housekeeping

Household definition: Members living together in the same dwelling, sharing food and other essentials for living and household expenditures.

Participation: Voluntary.

Description: Through sampling of individuals, persons living in both private and collective households are covered. People living in a collective household are also recorded in the Central Population Register and are therefore sampled as well as those living in private households. For the purposes of the survey, the resident population comprises persons between the ages of 15 and 74 who are domiciled in Sweden according to the Population Register. A household is either a person that lives alone or persons that live together and share household expenses. Members of the household are included in the 8th (last) wave according to EU definitions of economic households.

Sampling strategy

Sampling design: One stage stratified sampling plan.

Sampling frame: Population Register.

Sampling units: The sampling unit is the individual.

Sampling method: One sample is stratified by county, sex and age and the other by region, sex, country of birth and age group. Only the household member selected in the sampling procedure is interviewed.

Theoretical sample size (quarterly average): 45 680 individuals.

Sampling rate: 0.60%.

Rotation scheme: 8.

Description: The total sample consists of two separate samples.

The first sample is stratified according to county and sex. In this way, 48 strata are constructed. The inclusion probabilities are in general proportional to the size of the strata, although some small counties have to be overrepresented in the sample. The age group 16-64 is also overrepresented.

The second sample is stratified according to region, sex, country of birth, age group (13-24, 25-54, 55-66) and information from Statistics Sweden's Income and Taxation register (IoT) combined with information from Statistics Sweden's Longitudinal integration database for health insurance and labour market studies (LISA). In this way 105 strata are constructed. Individuals that have specific characteristics according to IoT and LISA are overrepresented.

Data collection

Techniques adopted: CATI.

Interviews by technique distribution: CATI 100%.

Response rate (15-74 years): 50.2%.

Proxy rate (15-74 years): 2.1%.

Description: Information is collected by CATI. The number of interviewers who conduct the interviews varies between 210–250 persons per month. Data on sex, age, region, country of birth, industrial code, level and field of education and years of residence in Sweden is collected from administrative registers.

The response rate was 50.2% and refusals accounted for 34.3% of the total non-response.

Weighting procedure

Method: Generalised regression estimation - Calibration.

Variables used: Sex, age groups, region (NUTS3), country of birth, registered employment and unemployment.

Reference population for weighting: Total resident population.

Description: The estimates are built on regression estimators (GREG) with a set of auxiliary information. The auxiliary variables are: sex, age (13 age groups), region (NUTS3), nationality at birth, information on employed persons by industry and persons who have enrolled at a job-centre as unemployed and are looking for work. The registers which are used to obtain the auxiliary variables are the Register of Total Population (RTB), the Employment Register (RAMS) and the Swedish Public Employment Service´s register of job-seekers (SOK).

Each month, the last wave of the individual LFS-sample is used as the starting point for identifying sampled households, i.e. the household sample is a network sample. The weights are based on the calibration approach for two-phase sampling in Estevao and Särndal (2002). Design weights according to the network sampling design, adjusted for non-response at the household level, are used as starting weights in the calibration. Only information at the individual level is used for the calibration.

ICELAND (IS)

Background

The LFS started in 1991 as a semi-annual survey. Since 2003, the survey covers all weeks of the year uniformly, providing quarterly results.

Coverage

Population interviewed for employment status: 16-74 years.

Population concept: Registered population, including people living in institutions.

Specific population subgroups:

- Primary/secondary students: 'Most of the time' criteria.
- Tertiary students: 'Most of the time' criteria.
- People working out of family home for an extended period for the purpose of work: 'Most of the time' criteria.
- People working away from family home but returning for weekends: 'Most of the time' criteria.
- Children alternating two places of residence: 'Most of the time' criteria.

Household concept: Dwelling.

Household definition: Members living together in the same dwelling.

Participation: Voluntary.

Description: Since the beginning of 2011, the survey covers persons aged 16-74 years in both private and collective households.

The resident population comprises persons registered with domicile in Iceland, excluding persons attached to foreign missions and registered persons living abroad for more than six months, nonetheless including Icelandic personnel in missions abroad.

Sampling strategy

Sampling design: One stage sampling plan.

Sampling frame: Population Register.

Sampling units: The sampling unit is the individual.

Sampling method: The individuals are selected from the national register of population by random sampling.

Theoretical sample size (quarterly average): 5 010 persons.

Sampling rate: 1.95%.

Rotation scheme: 3-(2)-2.

Description: The sampling plan is a one stage simple random sample without stratification and the sampling unit is the individual. Each quarter one fifth of the sample is renewed by a single random sample without replacement of persons younger than 75 years in the first week of the quarter and older than 16 years in the last week at the end of the rotation cycle. A person younger than 16 years on the last day of the reference week is not included in the weekly sample until this age is reached.

The quarterly sample is sorted by sex, age and residence and then allocated systematically (with random start) to the 13 weeks of the quarters so that each week is representative of the total sample by age, sex and residence.

The sub-sample is selected from the 5th (last) wave so that the sampling probability is inversely proportional to the number of persons aged 16-74 years in the household of the drawn individual.

Data collection

Techniques adopted: CATI.

Interviews by technique distribution: CATI 100%.

Response rate: 61.9%.

Proxy rate (15-74 years): 0.12%.

Description: The data is collected by CATI. Information on sex, age, years of residence, citizenship and marital status is obtained from administrative sources (National Population Register).

The response rate was 61.9% and refusals accounted for 21.8% of the total non-response.

Weighting procedure

Method: Post-stratification.

Variables used: Sex, age groups.

Reference population for weighting: Total population.

Description: The a posteriori stratification variables are 5-year age groups and sex.

The weighting factors are calculated as follows:

$W = N(sa)/[n(sa) + n'(sa)]$

where N = population, s = sex, a = age, n = sample size and n' = estimated over-coverage (i.e. registered persons living abroad for more than six months as detected in the field work).

NORWAY (NO)

Background

The LFS started in 1972 as a quarterly survey and was based on one reference week each quarter. As from 2nd quarter 1988, the data was collected monthly with one reference week each month. From 1996, the survey has been designed as a continuous survey providing quarterly results, using the wave approach. Major changes in recent years:

2006:   Redesign of questionnaire for improved EU comparability of ILO labour status.
        Lower age limit moved to 15.
2018:   New estimation method.

Coverage

Population interviewed for employment status: 15-74 years.

Population concept: Registered and legal population, including people living in institutions.

Specific population subgroups:

- Primary/secondary students: Family home.
- Tertiary students: Family home or term address (case-by-case decision).
- People working out of family home for an extended period for the purpose of work: Family home or term address (case-by-case decision).
- People working away from family home but returning for weekends: Family home.
- Children alternating two places of residence: Family home.

Household concept: Housekeeping.

Household definition: Members living together in the same dwelling linked by family ties.

Participation: Compulsory.

Description: The target population is the total population aged 15-74, residing in Norway (according to the Central Population Register). The survey covers private and collective households.

Sampling strategy

Sampling design: One stage stratified sampling plan.

Sampling frame: Population Register.

Sampling units: The sampling unit is the household.

Sampling method: The sample is stratified by regions (NUTS3). All household resp. family members are interviewed.

Theoretical sample size (quarterly average): 24 000 individuals.

Sampling rate: 0.60%.

Rotation scheme: 8.

Description: Inhabitants in all municipalities are randomly selected, on the basis of a register of family units. Each family member aged 15-74 years participates in the survey answering questions about their situation during a specified reference week.

The sampling frame is based on the Central Population Register, which is continuously updated by the local registration offices. The sampling frame is stratified according to county (NUTS3 regions). Each quarter, the sample approximately consists of 24 000 persons (around 12 000 households), corresponding to a sampling rate of about 0.60%.

A sub-sample is used to survey some of the structural variables (mostly for atypical work, reasons for

leaving last job/ not seeking employment/ not being available to start work within two weeks and others) under the Commission Regulation (EC) No 377/2008, for which only yearly results are required. The sub-sample is determined according to a wave approach, i.e. it includes the units of each full quarterly sample which, according to the rotation scheme, are interviewed for the first and for the eighth and last time (1st and 8th wave).

Data collection

Techniques adopted: CATI.

Interviews by technique distribution: CATI 100%.

Response rate: 83.7%.

Proxy rate (15-74 years): 14.6%.

Description: All interviews are carried out by CATI. For the coding of industry, information from registers is used. Moreover some demographic data is collected from the Central Population Register and data on education is based on the Central Register of Education.

The response rate was 83.7% and refusals accounted for 1.8% of the total non-response.

Weighting procedure

Method: Multiple model-calibration

Variables used: Sex, age groups, marital status, level of education, family size, region (NUTS2 and NUTS3) register labour market employment status (with the consistency treated categories: full-time, part-time employee, self-employed, register unemployed more / less than 3 months, disability pensioner, others), immigrant status and country of origin and on government measures and persons with disabilities at Norwegian Labour and Welfare Administration (NAV) income.

Reference population for weighting: Total population.

Description: The estimation method in LFS is done in several stages and are called multiple model calibration (MMK). Initially, the main labour market status of LFS, which is employed, unemployed, outside the workforce, are modelled consistent with a multinomial logit model, explained with a number of register variables known to all in the population. The model provides predicted probabilities every month for each main labour market status in LFS for everybody in the population. The monthly weights in LFS are calibrated using these predicted probabilities and some register variables directly. This means that the weights also become consistent with the population for the number in the Population Register by sex, different age groups and region, as well as consistent weights for the number of full / part-time wage earners by sex and registered employed (yes/no) cross classified by immigrants in two groups. The initial weights before calibration, which is the ratio of the number of people in the population to the gross sample per. county (NUTS3) at the reference time for the statistics (proxy design weights). For more detailed technical information about the new estimation method, please see Documents 2018/16 [https://www.ssb.no/en/arbeid-og-lonn/artikler-og-publikasjoner/new-estimation-methodology-for-the-norwegian-labour-force-survey]

In order to weight the quarterly averages evenly for all reference weeks, a week-proportional adjustment of monthly weights is carried out. That is, the monthly weights are multiplied by 4/13 or 5/13, depending on whether the months contain resp. four or five whole weeks.

SWITZERLAND (CH)

Background

The LFS was carried out for the first time in 1991 as an annual survey. It was conducted in the second quarter of each year (April-June), having the week before the interview as the reference week. In 2010, the LFS was redesigned as a quarterly survey, providing results as quarterly average. Major changes in recent years:

2010:   Shifting from an annual to a quarterly survey, making the participation compulsory and revising the questionnaire.
2012:   Shifting from a compulsory to voluntary participation in Q3 2012.
2014:   Introduction of a new sampling frame for both sub-samples (Sampling Frame for Person and Household Surveys) in Q2 2014.

Coverage

Population interviewed for employment status: 15-89 years.

Population concept: Usual residence (12 months).

Specific population subgroups:

- Primary/secondary students: Family home.
- Tertiary students: Most of the time.
- People working out of family home for an extended period for the purpose of work: Most of the time.
- People working away from family home but returning for weekends: Most of the time.
- Children alternating two places of residence: Term address.

Household concept: Dwelling.

Household definition: Members living regularly together in the same dwelling (four nights per week or more).

Participation: Voluntary.

Description: The survey population consists of all persons living in private households aged 15-89 years. Persons aged 90 years or older are not interviewed in the Swiss LFS, however, they still remain in the sample and socio-demographic information for these persons is derived from register data. Concerning their labour market status, they are all considered as inactive. Only one person per household is selected for the interview.

The Swiss LFS covers only the permanent resident population in Switzerland and excludes some types of foreign persons. The permanent resident population includes all persons officially residing in Switzerland for the entire year. This includes: Swiss citizens, foreign citizens holding a permanent residence permit or a residence permit valid for at least one year, international civil servants, diplomats and their family members.

Sampling strategy

Sampling design: Two stages stratified sampling plan.

Sampling frame: Sampling Frame for Person and Household Surveys.

Sampling units: The PSU is the household and the FSU is the individual.

Sampling method: Both samples (standard and foreign persons) are stratified by regions (NUTS3 – canton). Only one household member is interviewed.

Theoretical sample size (quarterly average): 36 588 individuals.

Sampling rate: 0.51%.

Rotation scheme: 2-(2)-2.

Description: The sample for the Swiss LFS is divided into two parts:

- Standard sample (72 110 household/persons).

- Extra sample of foreign persons, additionally stratified by nationality (16 906 persons).

The base used for both sub-samples is the SFSO's Sampling Frame for Person and Household Surveys, which contains administrative data provided by cantonal and communal resident's register offices and covers 100% of Switzerland's permanent resident population. This gross sample is first matched with a catalogue of all registered phone numbers (covering 70 to 75% of the target population). Subsequently, the remaining sample units are contacted by mail and asked to provide a phone number on which they can be reached for the interview (=ALTEL-sub-sample). Once a household has been selected for a survey conducted by the SFSO, it remains ineligible for any other SFSO-survey during four years (coordination methods are used to reach this goal). Initially, a random Poisson sample of households is drawn from the sampling frame. Subsequently, one person of each household in this first stage sample is selected by simple random sampling. The samples are stratified by canton (the sample size of each stratum is proportionate to the population size of the respective canton).

A sub-sample is used to survey some structural variables (mostly on atypical work, the situation one year before, and others) under the Commission Regulation (EC) No 377/2008, for which only yearly results are required. The sub-sample is determined according to a wave approach, i.e. it includes the units of each full quarterly sample which, according to the rotation scheme, are interviewed for the first and the third time (1st and 3rd wave).

Data collection

Techniques adopted: CATI.

Interviews by technique distribution: CATI 100%.

Response rate: 77.8%.

Proxy rate (15-74 years): 2.4%.

Description: The data is collected by CATI. Part of the information on person and household characteristics is derived from register data. Information gathered in the previous wave is included in the questionnaire. The questionnaire is available in four languages (German, French, Italian and English).

The response rate was 77.8% and refusals accounted for 11.7% of the total non-response.

Weighting procedure

Method: Calibration.

Variables used: Sex, age groups, region (NUTS3), marital status, nationality, registered employment and unemployment characteristics, others.

Reference population for weighting: Population living in private households.

Description: The weighting procedure is based on a two-phase process.

1) The design weights are obtained as the reciprocal of the inclusion probability of the sample units.

2) These weights are adjusted for non-response and finally the sample is calibrated on age, sex, canton of residence (NUTS3), and other variables (nationality, residence permit, duration of residence, marital status, labour market status, number of jobs, income decile, grade of invalidity to work, reception of invalidity or old age pension, registration at public employment office, duration of registration at public employment office, economic activity of the local unit, legal form of the local unit) using the calibration software CALMAR.

UNITED KINGDOM (UK)

Background

The LFS started in 1973 as a biennial survey (not using the ILO definition of unemployment). It was redesigned in 1984 as an annual survey and from 1992 onwards as a continuous, quarterly survey. Major changes in recent years:

2006: Change from seasonal to calendar quarters.
2007: Redefinition of some NUTS2 regions.
2008: Change of residency rules (i.e. the six-month residency rule removed from household surveys), in order to improve coverage of short-term migrants and temporary foreign workers.
Implementation of the wave approach.
2010: Adaptations of the sample design relating to multiple-occupancy addresses and to households consisting only of adults aged 75 years and older.

Coverage

Population interviewed for employment status: 16 years and older.

Population concept: Usual residence (12 months).

Specific population subgroups:

- Primary/secondary students: Family home.
- Tertiary students: Term address (if private), family home (if collective residence).
- People working out of family home for an extended period for the purpose of work: Family home (up to six months).
- People working away from family home but returning for weekends: Family home.
- Children alternating two places of residence: 'Most of the time' criteria (address registered for welfare payments if presence is shared equally).

Household concept: Housekeeping

Household definition: Members living regularly together in the same dwelling sharing cooking facilities and a living/sitting room or a dining area.

Participation: Voluntary.

Description: The survey covers private households and includes people who are temporarily absent. Students living in university accommodation (e.g. halls of residence) are sampled via their parents living in private households. In Great Britain, an additional sample is drawn to cover persons living in National Health Service/Hospital Trust accommodation.

A household response unit is one person living alone or a group of people (not necessarily related) living at the same address who share cooking facilities and a living/sitting room or a dining area. This includes students who live in halls of residence in term-time and residents in National Health Service.

Sampling strategy

Sampling design: One stage stratified sampling plan.

Sampling frame: Postal addresses / telephone numbers / housing units.

Sampling units: The sampling unit is the household.

Sampling method: The sample is implicitly stratified by geographical areas (postcode).

Theoretical sample size (quarterly average): 87 100 households.

Sampling rate: 0.33%.

Rotation scheme: 5.

Description: The sampling design is a stratified single stage systematic (single random in Northern Ireland) probability sampling.

The survey unit is the postal address (the telephone number in the far north of Scotland). For most of Great Britain, the survey base is the Royal Mail's PAF (Postcode Address File), a database of all addresses receiving mail. The list is limited to addresses receiving fewer than 50 items of post per day, in order to exclude businesses. Because of the very low population density in the far north of Scotland (north of the Caledonian Canal), interviews are carried out exclusively by telephone with telephone directories being used as sampling frames. In Northern Ireland, the Rating and Valuation List (which serves for the administration of land taxes) is used.

Most of Great Britain constitutes one stratum, while the far north of Scotland forms a separate stratum and Northern Ireland three strata: Belfast and eastern and western Northern Ireland.

In Great Britain, a systematic sample is drawn each quarter from the three sampling bases, which yields 16 640 PAF addresses, 80 telephone numbers for the north of Scotland and nine units of National Health Service housing. As the PAF is broken down geographically, the systematic sampling ensures that the sample is representative at regional level. In Northern Ireland, a simple random sample is drawn, each quarter, from each of the three strata, giving 650 addresses in all. Additionally, 260 additional ('booster') new addresses are added to the sample in Q2 of each year; these are spread equally across the five waves. Thus, in any one quarter, a total of about 17 380 addresses are newly-selected in the UK for the main LFS (excluding the Northern Ireland boosters).

Since all adults within a household are sampled, the person-level survey may be regarded (mainly) as a one stage cluster sample of people, with the clusters (or primary sampling units) being the households.

A sub-sample is used to survey some structural variables (mostly on atypical work, the situation one year before, and others) under the Commission Regulation (EC) No 377/2008, for which only yearly results are required. The sub-sample is determined according to a wave approach, i.e. it includes the units of each full quarterly sample which, according to the rotation scheme, are interviewed for the first time (1st wave).

Data collection

Techniques adopted: CATI – CAPI.

Interviews by technique distribution: CATI 53%, CAPI 47%.

Response rate: 53.2%.

Proxy rate (15-74 years): 34.8%.

Description: The LFS is based on a mixed-mode design. In the 1st wave, interviews are carried out by CAPI. In the far north of Scotland (north of the Caledonian Canal) and for interviews in the 2nd to the 5th wave, wherever possible, interviews are carried out by CATI. All information is obtained by interview.

The average response rate was 53.2% and refusals accounted for 83.3% of the total non-response.

Weighting procedure

Method: Calibration.

Variables used: Sex, age groups, region (LAU).

Reference population for weighting: Population living in private households.

Description: The adjustment procedure is based on a three-stage a posteriori stratification. In each case, figures are based on independent demographic estimates.

1) The stratification variable for the first stage is the Local Authority District or Unitary Authority. This stage makes it possible to make adjustments for different rates of non-response in the various local authority areas and ensures that the results are geographically representative.

2) The second-stage variables are sex and age group (0-15, each year of age in the 16-24 group and 25+). This stratification is intended to ensure that the age profile of the 16-24 year olds is correct at the national level.

3) The variables in the third stage are region, sex and 5-year age group.

The three stages are applied by means of an iterative procedure designed to ensure that the estimates are consistent with the stratification variable sets.

MONTENEGRO (ME)

Background

The LFS started in 2004 as an annual survey. Since 2008, the LFS is carried out continuously during a whole year and survey results are published quarterly. Major changes in recent years:

2012:   Introduction of the Census of Population, Households and Dwellings 2011 as the sampling frame.
2014:   Adoption of ISCED 2011 classification.
2017:   Sample size increased to 2 964 households quarterly. Adoption of a 2-(2)-2 rotational scheme.

Coverage

Population interviewed for employment status: 15 years and older.

Population concept: Usual residence (12 months).

Specific population subgroups:

- Primary/secondary students: Family home.
- Tertiary students: 'Most of the time' criteria (case-by-case decision).
- People working out of family home for an extended period for the purpose of work: 'Most of the time' criteria (case-by-case decision).
- People working away from family home but returning for weekends: Family home.
- Children alternating two places of residence: 'Most of the time' criteria.

Household concept: Housekeeping.

Household definition: Members usually living together in the same dwelling and sharing food and other essentials for living, income and household expenses.

Participation: Voluntary.

Description: The Labour Force Survey covers the whole country. The target population comprises all persons with residence in Montenegro that live in private households. Members of the household temporary absent for a period exceeding 12 months are excluded from the survey.

Survey units are all household members, regardless of their age and current presence at home.

Sampling strategy

Sampling design: Two stages stratified sampling plan.

Sampling frame: Census of Population, Households and Dwellings 2011.

Sampling units: The PSU is the enumeration area and the FSU is the household.

Sampling method: In the first stage of sampling, the PSUs are stratified by regions and degree of urbanization. In the second stage, the households are randomly selected.

Theoretical sample size (quarterly average): 2 964 households.

Sampling rate: 1.54%.

Rotation scheme: 2-(2)-2.

Description: The sample design is a two stage sampling with stratification of the primary units carried out by region and degree of urbanization (eight strata).

Enumeration areas of the Census of Population, Households and Dwellings 2011 are used as the PSUs. Within each stratum, an indirect additional stratification is made by partial ordering of PSU (PSUs are sorted by municipality) and PSUs are selected by systematic probabilities sampling with

regard to the size (the number of households). At the second stage, households are selected by simple random procedure within the PSUs.

Data collection

Techniques adopted: PAPI.

Interviews by technique distribution: PAPI 100%.

Response rate: 79.3%.

Proxy rate (15-74 years): 39.7%.

Description: Data is collected by PAPI. Interviews are done during the week immediately following the reference week.

The response rate was 79.3% and refusals accounted for 26.1% of the total non-response.

Weighting procedure

Method: Calibration.

Variables used: Sex, age groups, region (strata).

Reference population for weighting: Population living in private households.

Description: Calculation of weights is made in several successive steps. At first, so-called design weights are calculated. The design weight of a household is calculated as the inverse of inclusion probabilities of PSU and final sampling unit. All persons of the same household have the design weight equal to the design weight of that household. The design weights are further adjusted according to the actual response level and calibrated according to:

- Census 2011 data by strata, sex and age groups;

- Data from administrative sources (number of employed persons from Tax Authority and number of 'health insured persons' i.e. persons who have health insurance based on unemployment).

The calibration of weights is made only for the weights at the individual level.

NORTH MACEDONIA (MK)

Background

Starting with 2004, the LFS is conducted as a continuous quarterly survey throughout the year. The survey provides quarterly and annual (averages) results. Major changes in recent years:

2006:   Delivery of microdata to Eurostat.
2011:   Introduction of CATI.
2018:   Introduction of CAPI.

Coverage

Population interviewed for employment status: 15-79 years.

Population concept: Usual residence (12 months).

Specific population subgroups:

- Primary/secondary students: Family home.
- Tertiary students: Family home.
- People working out of family home for an extended period for the purpose of work: Family home (if family ties are kept).
- People working away from family home but returning for weekends: Family home.
- Children alternating two places of residence: Family home.

Household concept: Housekeeping.

Household definition: Members living regularly together in the same dwelling linked by family ties.

Participation: Voluntary.

Description: The Macedonian LFS covers the whole country. It is a private household survey which provides some socio-demographic information on population without age limit and labour market information on the population aged 15-79 years.

The survey applies to all the members of the selected households including persons absent from home for a longer period (over 6 months), if they are preserving family ties with the household to which they belong (military duty, pupils and students away for study, workers, prisoners, persons temporarily in hospitals or sanatoria for medical treatment). They are surveyed via the relatives living in the selected households. In the case of persons living abroad, they are surveyed only if they are absent up to 12 months. People living permanently in collective units (elderly, handicapped etc.) are excluded from the survey.

Sampling strategy

Sampling design: Two stages stratified sampling plan.

Sampling frame: Census 2002 updated with survey results on randomly selected statistical areas.

Sampling units: The PSU is the enumeration district and the FSU is the household.

Sampling method: In the first stage of sampling, the PSUs are stratified by regions and type of place of residence (urban/rural). In the second stage the households are randomly selected.

Theoretical sample size (quarterly average): 5 000 households.

Sampling rate: 0.90%.

Rotation scheme: 2-(2)-2.

Description: The sample design strata are defined in terms of geographic regions and area types (urban/rural). Total number of strata is 16.

In each sampled enumeration district (ED), a fixed number of households (eight) is randomly selected. The final quarterly sample consists on the whole of 5 000 households and is made up of three monthly sub-samples. There is no overlap between monthly sub-samples.

Data collection

Techniques adopted: CAPI – CATI.

Interviews by technique distribution: CAPI 54%, CATI 46%.

Response rate: 84.2%.

Proxy rate (15-74 years): 53.1%.

Description: The LFS is based on a mixed-mode design. Data is collected by CAPI (introduced in 2018) and CATI (introduced in 2011). Interviews are done during the week immediately following the reference week. Data is collected with identical questionnaires through the whole year. The questionnaire is divided into two parts, a household and an individual one.

The average response rate was 84.2% and refusals accounted for 37.5% of the total non-response.

Weighting procedure

Method: Calibration.

Variables used: Sex, age groups, region (NUTS3), household number and size.

Reference population for weighting: Population living in private households.

Description: Data is weighted for the unequal probability of selection.

1) The inverse of the selection probabilities is assigned to each sampled household unit.

2) Design weights are adjusted for non-response by multiplying the basic weights by inverse of response rate at strata level.

3) Calibration of the secondary weights to the best latest available regional population totals for sex and 15 age groups and to the estimated number of households at regional level and to the estimated number of households on regional level and estimated number of households by size.

All household members have the same final weight.

SERBIA (RS)

Background

The LFS is conducted as a continuous quarterly survey throughout the year. The survey provides quarterly and annual (averages) results. Since 2008, the questionnaire has continuously been harmonised to reach compliance with latest Eurostat recommendations. Major changes in recent years:

2010:   Delivery of microdata to Eurostat.
2010:   LFS carried out on semi-annual basis. One fixed reference week per semester.
2012:   Yearly sample increased to 20 048 households (1 432 households more than 2011).
2013:   Sampling frame is the Population Census 2011. Yearly sample increased to 22 196 households.
        Adoption of ISCO-08 classification.
2014:   LFS carried out quarterly. One fixed reference week per quarter. Sample revision including the introduction of the rotational pattern 2-(2)-2. Yearly sample increased to 44 660 households (sampling rate 1.8%). Weighting procedure changed. Adoption of ISCED 2011 classification. CAPI instead of PAPI introduced in the fourth quarter.
2015:   LFS carried out continuously. Yearly sample increased to 54 578 households (yearly sampling rate 2.2%).
2016:   Yearly sample increased to 67 150 households (yearly sampling rate 2.7%). Weighting procedure updated and back calculation of new weights performed back to 2014. Results in a break in Q1 2014. Adoption of ISCED-F 2013 classification.
2017:   Yearly sample increased to 70 200 households (yearly sampling rate 2.8%).
2018:   Yearly sample increased to 74 360 households (yearly sampling rate 3.0%).
2019:   Yearly sample increased to 76 960 households (yearly sampling rate 3.1%).

Coverage

Population interviewed for employment status: 15 years and older.

Population concept: Usual residence (12 months).

Specific population subgroups:

- Primary/secondary students: Family home.
- Tertiary students: Family home (if economically dependent), otherwise term address.
- People working out of family home for an extended period for the purpose of work: Family home (if they visit once a week), otherwise term address.
- People working away from family home but returning for weekends: Family home.
- Children alternating two places of residence: 'Most of the time' criteria (case-by-case decision).

Household concept: Housekeeping.

Household definition: Members living together in the same dwelling sharing income and household expenses.

Participation: Voluntary.

Description: The survey covers private households in the whole country excluding Kosovo and Metohija.

Household members are family members or persons who declare to live together and jointly spend their income for basic living support (cost of housing, food etc.). For temporary absent persons (less than one year), data is obtained from other family members. Data for students is obtained from the original household, if they are economic dependent from that household. Institutional households are excluded.

Sampling strategy

Sampling design: Two stages stratified rotation panel.

Sampling frame: 2011 population Census.

Sampling units: The PSU is the enumeration district (ED) and the FSU is the household.

Sampling method: In the first stage of sampling, the PSUs are stratified by regions (NUTS3) and type of place of residence (urban/other). In the second stage the households are randomly selected.

Theoretical sample size (quarterly average): 19 240 households.

Sampling rate: 0.80%.

Rotation scheme: 2-(2)-2.

Description: PSUs are selected systematically with probability proportional to their size (PPS) within each stratum (territory and settlement type) from the ED list. The size measure for each ED is the number of persons, aged 15 years and older. EDs for each rotation group are stratified according to the type of settlement (urban and other) and 25 areas (NUTS3 level). EDs are sorted within each stratum according to the municipality and serial numbers. Using systematic selection on the sorted list, a high level of implicit geographical stratification and effective sample distribution is provided. FSUs are randomly selected, from the household list, obtained for each ED.

The sample for each quarter consists of four rotation groups (sub-samples), with a 2-(2)-2 rotation scheme. The overlap between two consecutive quarters is 50%.

Data collection

Techniques adopted: CATI – CAPI.

Interviews by technique distribution: CATI 63%, CAPI 37%.

Response rate: 75.0%.

Proxy rate (15-74 years): 51.3%.

Description: The LFS is based on a mixed-mode design. The data collection mode is CAPI on the 1st and the later waves if no phone contact is available. For the 2nd to the 4th waves, the data is collected by CATI, if a phone contact is available.

The average response rate was 75.8%. Among the non-response, refusals amounted to 24.0%.

Weighting procedure

Method: Inverse of inclusion probability, then correction for non-response, then calibration.

Variables used: Sex, five-year age groups, NUTS3, number of households by size (six groups).

Reference population for weighting: The reference population for calibration includes the population in collective households.

Description: The initial weight for households is equal to the inverse of inclusion probability (this inclusion probability is a product of inclusion probabilities from each stage), and corrects for non-response. In order to obtain estimates for the population that corresponds to the current demographics projections, a calibration procedure is performed based on the distribution of the population by sex, age (five-year age groups), level of territory (level NUTS3), and the distribution of households according to the number of household members (six groups) at the level of territory. The household and each person from that household have the same final weight.

TURKEY (TR)

Background

The LFS started in 1966. The regular annual LFS applying ILO recommendations started in October 1988. The Turkish LFS was carried out in April and October each year from 1989 to 1999 with major changes in design introduced in October 1994. In 2004, the questionnaire was revised to comply with the Eurostat regulation. From 2000 onwards, the survey has produced quarterly results and from 2005, monthly results use 3-month averages. Since 2014, the survey is conducted throughout the whole year (all 52 weeks). Major changes in recent years:

2006:   Delivery of microdata to Eurostat.
2009:   Changes to the questionnaire, including: an improved verification of ILO labour status of seasonal workers; the deletion of some variables considered unsuitable for the country situation (ex; variables on atypical works); fine tunings on the wording of some questions, to better align with the Commission Regulation No 1897/2000 and in particular to the twelve principles for the formulation of questions on labour status.
Definition for resident population aligned to the Census 2011 recommendations, mainly regarding the treatment of students.
2014:   Fully introduction of a yearly continuous survey, changes in the sampling design and in the weighting scheme.

Coverage

Population interviewed for employment status: 15 years and older.

Population concept: Usual residence (12 months).

Specific population subgroups:

- Primary/secondary students: Family home.
- Tertiary students: Term address.
- People working out of family home for an extended period for the purpose of work: Family home (if less than one year).
- People working away from family home but returning for weekends: Family home (if returning within 15 days).
- Children alternating two places of residence: Family home.

Household concept: Dwelling.

Household definition: Members living together in the same dwelling.

Participation: Compulsory.

Description: The survey covers the whole country. Only private households are surveyed.

The population surveyed comprises all persons in the country excluding residents of collective households. Small settlements (villages, districts etc.) that have less than 20 households are not covered in the sampling frame (at most 1% of the population is excluded).

A household comprises one person or a group of persons with or without a family relationship who live in the same house or in the same part of the house, who meet their common requirements together and take part in household keeping activities.

Sampling strategy

Sampling design: Two stages stratified sampling plan.

Sampling frame: National addresses database.

Sampling units: The PSU is the housing block and FSU is the household address.

Sampling method: In the first stage of sampling, the PSUs are stratified by areas (provinces) and type of place of residence (urban/rural). In the second stage the households are selected based on a rotation pattern.

Theoretical sample size (quarterly average): 44 000 households.

Sampling rate: 0.22%.

Rotation scheme: 2-(2)-2.

Description: The sampling frame is National Address Database which is based on Address Based Population Register System. It is continuously updated.

The sampling design is a two stage stratified cluster sampling with eight sub-samples. PSUs are selected with probability proportional to their household sizes from Province x Urban/Rural classes. The implicit strata are defined as 81 provinces and urban-rural areas (162 strata). An urban area is defined as a settlement with more than 20 000 inhabitants, rural area is defined as a settlement with less than 20 000 inhabitants based on current Address Based Population Register System. The selection of the FSUs is based on the rotation pattern. When the PSU's are entered to the sample for the first time, 20 households are selected systematically and divided into two parts namely the sets A and B. Every quarter ten of those (one set A or B) are involved in the survey.

Data collection

Techniques adopted: CAPI.

Interviews by technique distribution: CAPI 100%.

Response rate: 95.1%.

Proxy rate (15-74 years): 10.6%.

Description: The data is collected by CAPI.

Overall response rate was 95.1% and refusals accounted for around 0.1% of the total non-response.

Weighting procedure

Method: Calibration.

Variables used: Sex, age groups, region (NUTS2), type of place of residence (urban/rural).

Reference population for weighting: Population living in private households.

Description: The procedure takes into account the data of the related 3 months. Moving average procedure is applied, so each month, the weights of aggregated three month data are calculated.

The weighting procedure is based on a three-phase process:

1) Initial weights (design weights) are calculated inversely proportional to their selection probabilities (proportional probability selection at the first stage, systematic at the second stage)

2) Non-response adjustment (excluding the out of scope units with their weights) of households is applied on the basis of blocks, thus initial weights are adjusted for non-response.

3) In order to estimate quarterly LFS results, the weights are calibrated by the '15th of middle month projections' created on address based Population Register. In the procedure, an integrated calibration method is applied. Furthermore, a trimming procedure is applied to avoid the use of extreme weights. In the calibration, 'NUTS2 by urban-rural' and 'age group by sex' distributions are adjusted iteratively. Finally, an adjustment by register distribution of household size is applied.

Glossary

Target population

The target population is the population about which information is sought and estimates are required. For the EU-LFS, the target population consists of all persons residing in private households in the territory of the reporting country at the time of the data collection.

For all participating countries (with some exceptions), the population interviewed about the employment status is generally 15 years and older.

Population concept

For the majority of the countries, the definition of the population currently relies on the concept of the 'usual residence', which is founded on UN recommendations where the 'usual residence' is the place where a person normally spends the daily period of rest, regardless of temporary absences for purposes of recreation, holidays, visits to friends and relatives, business, medical treatment or religious pilgrimage.

Article 2 of the Regulation (EC) 2019/1700 ([1]) and Articles 3 and 4 of the Commission Implementing Regulation (EU) 2019/2181 ([2]) define the concept of 'usual residence' and specify the rules for specific cases. Please note that these two regulations entered into force on 1 January 2021.

Specific population subgroups

Regarding specific population subgroups, the rules mentioned in Articles 3 and 4 of the Commission Implementing Regulation (EU) 2019/2181 (entered into force on 1 January 2021) should be understood as follows:

- 'Family home' means a housing unit occupied by the members of a multi-person household, as well as by a person who spends some time elsewhere but retains close ties with the members of the multi-person private household, especially through family relationships or regular stays;

- 'Term address' is used for people who mainly live in a private household different from the household object of the survey. This concept is usually applied to tertiary students and, in specific circumstances, to persons outside the family home for an extended period of time for the purpose of work. People are out of scope if they live in a collective household.

- The 'most of the time' criteria is applied for persons outside the family home for an extended period of time (e.g. for the purpose of work). Their place of usual residence is the family home, if they significantly contribute to the household income and are not usual residents of any other private household. The 'most of the time' criteria is also applied for children alternating between two places of residence. In case of an equal amount of time spend there, the place in the reference week is to be chosen and, in specific circumstances, the place of usual residence of the guardian who receives the child benefit.

([1]) See Regulation (EU) 2019/1700 of the European Parliament and of the Council of 10 October 2019

([2]) See Commission Implementing Regulation (EU) 2019/2181 of 16 December 2019

Household concept

The household concept mainly refers to housekeeping and dwelling concepts:

- The 'housekeeping' concept refers to persons who live together, providing oneself or themselves with the essentials of living; persons who usually reside together in a housing unit or part of a housing unit and share income or household expenses.

- The 'dwelling' concept refers to buildings, part thereof, other premises or living quarters used for human habitation and includes 'conventional dwellings' and 'other housing units' as defined in the Annex to Commission Regulation (EC) No 1201/2009 [3]

Sampling design

The sampling design specifies the way (rules and operations) the sample is drawn.

STRATIFICATION

Stratified random sampling is a method of sampling that involves the division of a reference population into smaller groups known as strata. In stratified random sampling, or stratification, the strata are formed based on members' shared attributes or characteristics. In general, not all the elements of the strata are sampled, but a further selection procedure is applied at the strata level.

CLUSTERING

Cluster sampling or clustering is a sampling method in which the reference population is divided into groups (known as clusters) and a simple random sample of the groups is selected. Then, all the elements in each selected cluster are included in the sample.

Sampling frame

The sampling frame is the reference list(s) from which the sample (e.g. individuals, households, addresses or dwellings) is drawn.

Sampling unit

A sampling unit is one of the units into which the sampling frame is divided for the purpose of sampling, each unit being regarded as individual and indivisible when the selection is made. In the context of the LFS, sampling units are generally dwellings, households, addresses or individuals.

Sampling rate

The sampling rate is the ratio between the size of the sample and the size of the reference population from which the sample was selected.

Rotation scheme

The sample rotation scheme specifies how often and for which reference quarters a sampling unit

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[3] See Commission Regulation (EC) 1201/2009 of 30 November 2009

should provide information in the survey.

The schemes adopted by countries are:

- **2-(2)-2:** Each unit is interviewed four times in the course of six quarters. Respondents are interviewed in two consecutive quarters, then they are temporarily removed for the next two quarters and entered again for the following two quarters, thereafter being ultimately removed from the survey. It involves an overlap of 50% between consecutive quarters and 50% between the same quarters in consecutive years.

- **5-:** Each unit is interviewed five times in the course of five quarters. Sampling units are asked to take part in the survey for five consecutive quarters and are then replaced by other units. Thus, one fifth of the units in the survey is replaced each quarter and it involves an overlap of 80% between consecutive quarters and 20% between the same quarters in consecutive years.

- **6-:** Each unit is interviewed six times in the course of six quarters. Sampling units are asked to take part in the survey for six consecutive quarters and they are then replaced by other units. Thus, one sixth of the units in the survey is replaced each quarter and it involves an overlap of 83.3% between consecutive quarters and 33.3% between the same quarters in consecutive years.

- **4- on annual basis:** Each unit is interviewed once per year. Each sampling unit remains in the sample for four years and 25% of the sample is replaced each year.

- **3-(1)-2:** Each unit is interviewed five times in the course of six quarters. Respondents are interviewed in three consecutive quarters, then temporarily removed for the next quarter and entered again for the following two quarters, thereafter being definitively removed from the survey. It involves an overlap of 60% between consecutive quarters and 40% between the same quarters in consecutive years.

- **8-:** Each unit is interviewed eight times in the course of eight quarters. Sampling units are asked to take part in the survey for eight consecutive quarters and are then replaced by other units. Thus, one eighth of the units in the survey is replaced each quarter and it involves an overlap of 87.5% between consecutive quarters and 50% between the same quarters in consecutive years.

- **3-(2)-2:** Each unit is interviewed five times in the course of seven quarters. Respondents are interviewed in three consecutive quarters, then they are temporarily removed for the next two quarters and entered again for the following two quarters, thereafter being definitively removed from the survey. It involves an overlap of 60% between consecutive quarters and 40% between the same quarters in consecutive years**.**

Data collection techniques

The different kinds of data collection modes used in the LFS are the following:

- **PAPI (Paper and Pencil Interviewing):** PAPI is a face-to-face interviewing technique in which the interviewer enters the responses into a paper questionnaire. If no interviewer is present and respondents enter the answers themselves, it is considered a self-administered questionnaire.

- **CAPI (Computer Assisted Personal Interviewing):** CAPI is a face-to-face interviewing technique in which the interviewer uses a computer to administer the questionnaire. Responses are directly entered into the application and control and editing can be directly performed.

- **CATI (Computer Assisted Telephone Interviewing):** CATI is a telephone surveying technique in which the interviewer follows a questionnaire displayed on a screen. Responses are directly entered into the application. It is a structured system of interviewing that speeds up the collection, control and editing of the information collected.

- **CAWI (Computer Assisted Web Interviewing):** CAWI is an Internet surveying technique in which respondents follow a questionnaire provided on a website and enter the responses into the application themselves.

Proxy rate

The proxy rate is the percentage of proxy interviews among all interviews. A proxy interview is an interview with someone (e.g. one member of the household) other than the person from whom information is being sought.

Response rate

The response rate is the ratio of the number of units for which data (for at least some variables) has been collected to the total number of units designated for data collection. Most of the countries calculate non-response on the basis of the household unit, with the exception of Denmark, Estonia, Luxembourg, Malta, Slovakia, Finland, Sweden, Iceland, Norway and Switzerland, which calculate non-response at the level of the individuals.

Weighting methods

The main methods adopted from the countries to compute weights are:

- **Post-stratification**: Post-stratification is applied to survey data by stratifying sample units after the data collection by using information collected in the survey and auxiliary information to adjust weights to population control totals or for non-response adjustment.

- **Calibration**: The calibration approach to estimate for finite populations consists of:

    - A computation of weights that incorporate specified auxiliary information and are restrained by calibration equation(s);

    - The use of these weights to compute linearly weighted estimates of totals and other finite population parameters: weight times variable value, summed over a set of observed units;

    - An objective to obtain nearly design unbiased estimates as long as non-response and other non-sampling errors are absent.

- **Generalised regression estimation**: Generalised regression estimator (GREG) is a model assisted estimation method designed to improve the accuracy of the estimates by means of auxiliary information. GREG estimator guarantees the coherence between sampling estimates and known totals of the auxiliary variables as well.

Annex (Tables)

Table 1: Coverage of the EU-LFS by country, 2019

	Participation	Population interviewed for employment status	Population in institutional households	Basis of sampling frame
Belgium	Compulsory	15-76	No	Population Register (2017)
Bulgaria	Voluntary	15+	Via the household (only students and temp workers)	Census 2011 (updated 2016)
Czechia	Voluntary	15+	No	Register of Census Areas (2013)
Denmark	Voluntary	15-74	Sampled	Population Register and other registers
Germany	Compulsory	15+	Sampled	Census 2011 (updated with data from building licenses 2017)
Estonia	Voluntary	15-74	Sampled	Census 2011 + Population register
Ireland	Voluntary	15+	No	Census 2016
Greece	Compulsory	15+	No	Census 2011 (updated in 2016)
Spain	Compulsory	16+	Via the household	Census 2011 + Population registers
France	Compulsory	15+	No	Tax register (Metrop.) + annual population census (DOM)
Croatia	Voluntary	15+	No	Census 2011 (updated 2019)
Italy	Compulsory	16+	No	Municipal registers
Cyprus	Compulsory	15+	Via the household	Census 2011 (updated by electricity consumers register)
Latvia	Voluntary	15-74	No	Population register and the National Real Estate
Lithuania	Voluntary	15+	No	Register of residents
Luxembourg	Compulsory	15+	No	Population Register
Hungary	Voluntary	15-74	No	Register of dwellings
Malta	Compulsory	15+	No	Population register
Netherlands	Voluntary	15+	No	List of postal addresses and population register
Austria	Compulsory	15+	No	Register of residents
Poland	Voluntary	15+	No	OBS - statistical sampling frame for social surveys
Portugal	Compulsory	15+	Via the household (only students and commuting workers)	Register of national dwellings (based on Census 2011)
Romania	Voluntary	15+	Via the household	Census 2011
Slovenia	Voluntary	15+	No	Central Population register
Slovakia	Compulsory	15+	Via the household (only schoolchildren, students and temp workers)	Census 2011
Finland	Voluntary	15-74	Sampled	Population register

Sweden	Voluntary	15-74	Sampled	Population register (updated 2018)
Iceland	Voluntary	16-74	Sampled	Population register
Norway	Compulsory	15-74	Sampled	Population register
Switzerland	Voluntary	15+ (-89)	No	Sampling Frame for Person and Household Surveys (register of residents)
United Kingdom	Voluntary	16+	Via the household (additional sample for persons in NHS accommodation)	Postal addresses / telephone numbers (N Scotl) / Rating and Valuation Lists (Northern Irel)
Montenegro	Voluntary	15+	No	Census 2011
North Macedonia	Voluntary	15-79	No	Census 2002 (updated 2017)
Serbia	Voluntary	15+	No	National Address Database
Turkey	Compulsory	15+	No	National Address Database

Table 2: Sampling designs of the EU-LFS by country, 2019

	Sampling design	Primary sampling unit	Final sampling unit	Variables used for the stratification	Overall sampling rate per quarter
Belgium	Two stages stratified	Statistical sections	Households	Region (NUTS2)	0.14%
Bulgaria	Two stages stratified	Census enumeration districts	Households	Region (NUTS3), urban/rural	0.65%
Czechia	Two stages stratified	Census areas	Dwellings	Region (NUTS3)	0.60%
Denmark	One stage stratified	-	Persons	Age, gross income, net unemployment (registers), socioeconomic status.	0.78%
Germany	One stage cluster	-	Clusters (sampling districts) of dwellings, households and persons	Region and size of building	0.25%
Estonia	One stage stratified	-	Persons	Group of regions by population size	0.73%
Ireland	Two stages stratified	Census blocks (of 60 households)	Households	Region, Pobal HP Deprivation Index	0.70%
Greece	Two stages stratified	Blocks of buildings	Dwellings	Region (NUTS3)	0.79%
Spain	Two stages stratified	Geographical areas	Dwellings	Population size of municipality	0.42%
France	Two stages stratified (one stage stratified in overseas)	Geographical sectors (No PSU in DOM)	Dwellings	Region (NUTS2 - Metrop. + infra NUTS3 - DOM)	0.25%
Croatia	Two stages stratified	Segments based on Census areas	Dwellings	Region (NUTS2), urban/rural	0.49%
Italy	Two stages stratified	Municipalities	Households	Region (NUTS3)	0.27%
Cyprus	One stage stratified	-	Households	Region, urban/rural	1.40%
Latvia	Two stages stratified	Sampling areas	Dwellings	Region, urban/rural	0.89%
Lithuania	Simple Random Sampling	-	Households	-	1.00%
Luxembourg	Simple Random Sampling	-	Persons	-	1.60%
Hungary	Two stages stratified	Settlements	Dwellings	Administrative units, size categories of localities	0.92%
Malta	Systematic Random sampling	-	Households	-	1.57%
Netherlands	Two stages stratified	Municipalities	Household address	Region (Corop - NUTS3)	0.50%
Austria	One stage stratified	-	Dwellings	Region (Bundesland - NUTS2)	0.60%

Poland	Two stages stratified	Census clusters (towns) / enumeration districts (rural)	Dwellings	Region (NUTS2), urban/rural	0.40%
Portugal	Two stages cluster	Geographical areas	Dwellings	Region (NUTS3)	0.60%
Romania	Two stages stratified	Census sections	Dwellings	Region (NUTS3), urban/rural	0.38%
Slovenia	One stage stratified	-	Households	Region (NUTS3), type of settlement	1.00%
Slovakia	Two stages stratified	Census administrative units	Dwellings	Region (LAU)	0.60%
Finland	One stage stratified	-	Persons	Region (NUTS1)	0.88%
Sweden	One stage stratified	-	Persons	Sex, age group, region, country of birth	0.60%
Iceland	Simple Random Sampling	-	Persons	–	1.70%
Norway	One stage stratified	-	Households	Region (NUTS3)	0.60%
Switzerland	Two stages stratified	Households	Persons	Region (NUTS3)	0.51%
United Kingdom	One stage stratified	-	Households	Region	0.33%
Montenegro	Two stages stratified	Enumeration area	Households	Region, urban/rural	1.54%
North Macedonia	Two stages stratified	Enumeration districts	Households	Region (NUTS3), urban/rural	0.90%
Serbia	Two stages stratified	Enumeration districts	Households	Region (NUTS3), urban/other	0.80%
Turkey	Two stages stratified	Housing blocks	Household Address	Region (NUTS3), urban/rural	0.22%

Table 3: Rotation scheme, response and proxy rates, weighting and achieved sample in the EU-LFS by country 2019

	Rotation scheme	Response rate	Proxy rate	Achieved sample (average quarter 2019)		Variables of weighting
				House-holds	Persons 15-74	
Belgium	2-(2)-2	84.5	26.1	16 100	29 700	Sex, age group, region (NUTS2), household type and origin, level of urbanisation
Bulgaria	2-(2)-2	79.7	28.5	14 500	25 100	Sex, age group, region (NUTS3), urban/rural
Czechia	5-	78.1	41.7	23 700	38 300	Sex, age group, region (NUTS2)
Denmark	2-(2)-2	55.7	8.2	-	21 600	Sex, age group, region (NUTS2), socio-economic status, income, nationality, level of education, registered unemployment
Germany	4-(annual)	94.2	23.8	93 100	140 400	Sex, age group, region (NUTS2-NUTS3), nationality, number of persons in households
Estonia	2-(2)-2	73.0	17.0	3 100	5 600	Sex, age group, region (LAU), urban/rural, nationality
Ireland	5-	49.0	47.1	14 600	26 000	Sex, age group, region (NUTS3), nationality
Greece	6-	71.2	38.5	25 900	40 700	Sex, age group, region (NUTS2)
Spain	6-	83.9	50.3	66 400	122 300	Sex, age group, region (NUTS2 & NUTS3), nationality, household size
France	6-	79.2	26.9	57 000	91 300	Sex, age group, region (NUTS2), house characteristics and typology, other
Croatia	2-(2)-2	56.3	50.1	3 600	6 800	Sex, age group, region (NUTS2-NUTS3), urban/rural, household size
Italy	2-(2)-2	83.0	34.9	64 400	103 500	Sex, age group, region (NUTS3), nationality, number of households
Cyprus	6-	95.3	38.2	3 800	7 300	Sex, age group, regions, urban/rural

Latvia	2-(2)-2	64.9	36.2	4 700	7 000	Sex, age group, region (NUTS3), urban/rural, registered unemployment, revenue service register
Lithuania	2-(2)-2	77.9	34.8	8 000	11 600	Sex, age group, region (LAU), urban/rural
Luxembourg	5-	60.9	26.5	5 200	6 600	Sex, age group, size of households, nationality
Hungary	6-	73.1	40.9	22 600	38 700	Sex, age group, region (NUTS3), number of households, urban/rural
Malta	2-(2)-2	66.7	44.7	2 000	4 100	Sex, age group, region (LAU), number of households, nationality, registered employed non-nationals
Netherlands	5-	49.3	44.9	42 100	81 100	Sex, age group, region (LAU), ethnic background, household type, income, registered unemployment
Austria	5-	93.9	25.4	20 100	33 400	Sex, age group, region (NUTS2), nationality, household size, registered (un)employment
Poland	2-(2)-2	54.2	36.2	26 700	49 400	Sex, age group, region (NUTS2), urban/rural
Portugal	6-	81.1	49.0	15 300	27 900	Sex, age group, region (NUTS3)
Romania	2-(2)-2	87.5	17.5	23 300	45 400	Sex, age group, region (NUTS2), urban/rural, households total
Slovenia	3-(1)-2	77.7	52.8	5 900	11 700	Sex, age group, region (NUTS3)
Slovakia	5-	81.6	51.3	8 600	17 100	Sex, age group, region (NUTS3)
Finland	3-(1)-2	62.7	4.1	-	26 800	Sex, age group, region (NUTS3), registered unemployment
Sweden	8-	50.2	2.1	-	23 200	Sex, age group, region (NUTS3), country of birth, registered unemployment
Iceland	3-(2)-2	100	0.7	-	3 000	Sex, age group

Norway	8-	83.7	14.6	13 600	20 400	Sex, age group, region (NUTS3), marital status, education, family size, employment status, nationality, migration background, income
Switzerland	2-(2)-2	77.8	2.4	-	27 300	Sex, age group, region (NUTS3), marital status, nationality, registered unemployment, other
United Kingdom	5-	53.2	34.8	36 300	64 700	Sex, age group, region (LAU)
Montenegro	2-(2)-2	79.3	39.7	2 100	4 800	Sex, age group, region
North Macedonia	2-(2)-2	84.2	53.1	4 000	9 800	Sex, age group, region (NUTS3), number of households and household size
Serbia	2-(2)-2	75.0	51.3	11 800	24 100	Sex, age group, region (NUTS3), household size
Turkey	2-(2)-2	95.1	10.6	36 800	86 600	Sex, age group, region (NUTS2), urban/rural

Labour Force Survey in the EU, EFTA, United Kingdom and candidate countries
MAIN CHARACTERISTICS OF NATIONAL SURVEYS, 2019

The present report describes the main characteristics of the Labour Force Survey (LFS) in the Member States of the European Union, as well as three EFTA countries, the United Kingdom and four candidate countries in 2019. All these countries provide Eurostat with LFS micro-data for publication. The aim of this report is to provide users with the means to accurately interpret the LFS results by providing information regarding the technical features of the Labour Force Surveys carried out in these countries.

For more information
https://ec.europa.eu/eurostat/