

**Internal quality report  
standard form  
for LFS data**

**COUNTRY : SLOVENIA**

**SURVEY : LABOUR FORCE SURVEY**

**PERIODICITY OF STATISTICS : CONTINUOUS (SAMPLE SELECTION AND PUBLISHING OF DATA IS QUARTERLY)**

**AUTHORS OF QUALITY REPORT : IRENA SVETIN, KATJA RUTAR**  
[Irena.Svetin@gov.si](mailto:Irena.Svetin@gov.si), [Katja.Rutar@gov.si](mailto:Katja.Rutar@gov.si)

## General description of the design and methods used for the LFS

### - Coverage

Observation units are all individuals usually living in the selected households. A household is a single person or a group of persons, who live together and share expenses related to common living and eating. Temporarily absent members of the households without any other habitual residence were also included in the household. Persons living in institutions (army, hospital, prison, etc.) for a total period exceeding six months, students living away from home and persons living permanently or temporarily in other countries were excluded from the survey.

The definition of the target population followed the criterion for the resident population, i.e. all persons whose usual place of residence was on the territory of Slovenia. The survey covered only the population living in private households. The source for the number of population is the Central Population Register.

### - Reference week

is a week preceding the interview (from Monday to Sunday).

### - Periodicity of the results

Results are published quarterly and yearly.

### - Base used for the sample

Sampling frame is Central Register of Population of the Republic of Slovenia.

### - Sample unit

We select individuals who lead us to the households.

### - Overall sample rate

cca. 1%

### - Size of the sample

Each quarter around 7200 households are interviewed which is around 19000 persons.

### - Stratification

Sample is stratified according to type of settlement and statistical region.

### - Description of the rotation scheme

According to rotation pattern: 3-1-2 (households are 3 quarters in the sample, then one quarter left out and then interviewed for two more quarters)

### - Adjustment methods

Weighting, post-stratification.

### - Brief description of the method of calculating the weighting factors

In the first step the data are weighted for unequal probability of selection and for non-response. Next, the post-stratification is performed according to the known population distribution: age (8 groups), sex and region (12 regions). The post-stratification is done on individual level (members of the same household thus receive different weights). The quarterly data are weighted differently compared to the yearly data where all four quarters are represented equally. In a longitudinal analysis the weight from the last quarter is used as a longitudinal weight.

### - Data collection methods

First interview CAPI, repeated interviews (mostly) CATI.

### - Number of field staff

30 field interviewers.

### - % of proxy interviews

cca. 58 %

- Which method is used for the adjustment of non-response?  
Weighting.

- Item non-response - Imputation of missing variables

For almost all variables the imputation by using hot-deck method is used. There is no imputation for key variables: year of birth, whether work was performed in the previous week, main labour status, second work, whether some work was performed before, looking for a job in last four weeks, availability to start working in next 2 weeks.

# 1 RELEVANCE (optional)

## Users' description

**Table 1.1**

User	Classification of user <sup>1)</sup>	Description of user
1	Ex. European level	the European Parliament
2	Ex. Internal to Eurostat	researchers at A4
3		
.		
.		

1) Classification of users:

- Institutions:

European level: Commission (DGs, Secretariat General), Council, European Parliament, EMI, other European Agencies.

National or regional level: Ministries of Economy or Finance, Other Ministries (for sectoral comparisons), NSIs, etc.

Multi-national organisations: OECD, UN, IMF, etc.

- Social actors: Employers associations, trade unions, lobbies, at the European, national or regional level

- Media: International, national or regional specialised or for general public, interested both in figures and analyses/comments.

- Researchers, students

- Enterprises: for own market research activities or for consultancy services in the information sector.

## Users' needs

a) Users' needs origin

These tables should be filled per class of users

**Table 1.2.a**

User (from table 1.1)	Needs In term of theoretical concepts <sup>1)</sup>	Source <sup>2)</sup>	Reference document
1			
2			
3			
.			
.			

1) For example: A common definition of the statistical unit "household"

2) For example: Regulation or directive/ SPC decision/ CEIES/CDIS/ partnership with a DG/ other.

b) Users needs satisfaction

**Table 1.2.b**

User (from table 1.1)	Measure-ment of user satisfaction? (Y/N)	State to what extend these needs have been fulfilled in the users' eyes	Reference document on user satisfaction
1			
2			
3			
.			
.			

## Relevance for users

Do we as specialists consider that the statistics provided to/ used by the users are relevant?

These tables should be filled per class of users

**Table 1.3**

User (from table 1.1)	Y/N	If Y or N, explain why.
1		
2		

3		
.		
.		

**Table 1.3 continued**

<i>Does your unit anticipate some changes for the future needs?</i>	
<i>Y/N</i>	<i>If Y give a short description</i>

## 2 ACCURACY

### Sampling errors

#### *Calculation of variance*

	<i>Results - Variance</i>
<i>Number of employed – Q1</i>	70565140
<i>Number of employed – Q2</i>	68645838
<i>Number of employed – Q3</i>	69412911
<i>Number of employed – Q4</i>	69273993
<i>Number of part-time employed – Q1</i>	6948436
<i>Number of part-time employed – Q2</i>	6507400
<i>Number of part-time employed – Q3</i>	6816292
<i>Number of part-time employed – Q4</i>	6449273
<i>Number of unemployed – Q1</i>	8440684
<i>Number of unemployed – Q2</i>	7435502
<i>Number of unemployed – Q3</i>	7133094
<i>Number of unemployed – Q4</i>	8622875
<i>Employment rate- Q1</i>	0,0000191581
<i>Employment rate- Q2</i>	0,0000188269
<i>Employment rate- Q3</i>	0,0000185761
<i>Employment rate- Q4</i>	0,0000185933
<i>Unemployment rate- Q1</i>	0,0000085031
<i>Unemployment rate- Q2</i>	0,0000075240
<i>Unemployment rate- Q3</i>	0,0000069064
<i>Unemployment rate- Q4</i>	0,0000085147
<i>Average number of hours usually worked – Q1</i>	0,012441
<i>Average number of hours usually worked – Q2</i>	0,011604
<i>Average number of hours usually worked – Q3</i>	0,011550
<i>Average number of hours usually worked – Q4</i>	0,011294

Reference on method of variance estimation: Taylor expansion method for complex sample design .

Reference on software used: SAS Release 8.02 (proc surveymeans) .

#### *Coefficient of variation (CV)*

	<i>CV of national aggregates</i>
<i>Number of employed – Q1</i>	0,93%
<i>Number of employed – Q2</i>	0,91%
<i>Number of employed – Q3</i>	0,89%
<i>Number of employed – Q4</i>	0,92%
<i>Number of part-time employed – Q1</i>	4,68%
<i>Number of part-time employed – Q2</i>	4,57%
<i>Number of part-time employed – Q3</i>	4,49%
<i>Number of part-time employed – Q4</i>	4,71%
<i>Number of unemployed – Q1</i>	4,49%
<i>Number of unemployed – Q2</i>	4,74%
<i>Number of unemployed – Q3</i>	4,53%

<i>Number of unemployed – Q4</i>	4,24%
<i>Employment rate- Q1</i>	0,81%
<i>Employment rate- Q2</i>	0,80%
<i>Employment rate- Q3</i>	0,78%
<i>Employment rate- Q4</i>	0,80%
<i>Unemployment rate- Q1</i>	4,38%
<i>Unemployment rate- Q2</i>	4,64%
<i>Unemployment rate- Q3</i>	4,43%
<i>Unemployment rate- Q4</i>	4,12%
<i>Average number of hours usually worked – Q1</i>	0,27%
<i>Average number of hours usually worked – Q2</i>	0,26%
<i>Average number of hours usually worked – Q3</i>	0,26%
<i>Average number of hours usually worked – Q4</i>	0,25%

Reference on method of CV estimation: Taylor expansion method for complex sample design .  
Reference on software used: SAS Release 8.02 (proc surveymeans) .

### Non sampling errors (for this chapter yearly information is enough)

#### What should be reported in the Quality Report on coverage errors ?

- Kind and impact of all types of coverage errors for the main variables.
- If this estimation is too costly or not feasible, the rates of under-coverage, over-coverage and misclassification.
- Measures taken to estimate the under-coverage and the main results obtained.

#### Frame errors

Give brief comments on the main problems of frame quality and the rates of undercoverage/ overcoverage/ classification errors of the statistical units

**Table 2.1.2.1 Frame quality, coverage rates and methodological notes**

<i>Country</i>	<i>Brief comments on the main problems of frame quality</i>	<i>Rate of under-coverage</i>	<i>Rate of over-coverage</i>	<i>Rate of classification errors<sup>1)</sup></i>	<i>Reference on frame errors</i>

1) Misclassification refers to statistical units having an erroneous classification where both the wrong and the correct one are within the target population.

## Measurement errors

### What should be reported in the Quality Report on measurement errors ?

Ideally, the Quality Report should provide:

- An assessment of the bias due to measurement errors for the main variables.
- Information on the estimators used to correct these biases.
- An assessment of their impact on the variance estimation.

However, since proper assessment of measurement errors is costly, difficult to implement and therefore seldom carried out, the Quality Report should initially be prepared in consideration of the following recommendations, at least:

- Provide evidence of measurement errors and give an idea of the importance of their magnitude and possible impact on accuracy,
- Describe the way the questionnaire was built up, the use of a cognitive laboratory, field tests of the questionnaire,
- Provide information on the intensity and efficiency of interviewer training: number of training days, skills test before starting fieldwork (rate of success and so on),
- If a permanent sample is used, rates of response consistency to same questions can be measured, and
- Results from models, for instance to assess the impact of using a financial year instead of a calendar year.

a) Errors due to the reporting unit and the interviewer

**Table 2.1.2.2.a**

Country	Is there information on these errors (Y/N)	Is there some measurement of the errors? (Y/N)	If Y give brief comments on the assessment of the errors

b) Errors due to the medium (questionnaire)

**Table 2.1.2.2.b**

Country	Date of the last <sup>(1)</sup> update of the questionnaire	Date of the last pilot survey in order to test the questionnaire	Number of respondents to the pilot survey	Report from cognitive laboratory available (Y/N)

<sup>(1)</sup> Date of last update of the questionnaire before the end of the reference period for this report

d) Are there any methodological notes on the measurement errors? If Y give the main references.

**Table 2.1.2.2.c**

Country	Methodological notes (Y/N)	Main references

Processing errors (only for countries not using Computer assisted data collection)

### What should be reported on processing errors in the Quality Report ?

The Quality Report should mention whether a quality control procedure was designed and implemented, and if not, the reasons why.

If yes, it should report on its main results in terms of:

- Bias and variance due to processing errors (not corrected) for the main variables.
- The possible weight of processing errors in the overall non-sampling errors and their predicted impact on the overall accuracy.

Or failing that:

- Assessment of the rates of processing errors of each type (if possible, according to the various steps of data processing).
- The description of the editing system.
- The rates of failed edits observed for the main variables.

**Table 2.1.2.3 Information available about different processing errors and the error rates**

Country	Info. on data capture errors <sup>1)</sup> (Y/N/NA)	Error rate in %	Info. on data codification errors (Y/N/NA)	Error rate in %	Info. on errors during the editing phase (Y/N/NA)	Error rate in %	Info. on other process errors <sup>2)</sup> (Y/N/NA)	Error rate in %

1) Errors that occur when information on a questionnaire is converted to a computer format

2) Mainly due to the use of computers (bugs in computer programs, wrong files etc.)

### Non response errors

#### **Response and non response rates separate for new part and panel in %**

	New Part					Panel				
	Q1	Q2	Q3	Q4	2001	Q1	Q2	Q3	Q4	2001
Eligibility rate	96,4	94,1	95,4	96,2	95,5	99,4	99,6	99,4	97,3	98,9
Noneligibility rate	3,6	5,9	4,7	3,8	4,5	0,6	0,4	0,6	2,7	1,1
Response rate	81,8	82,6	82,4	79,0	81,4	91,7	90,8	90,4	92,6	91,4
Non response rate	18,2	17,4	17,6	21,0	18,6	8,3	9,2	9,6	7,4	8,6
Refusal rate1 (without non-contac)	13,0	12,0	11,7	15,2	13,0	6,6	7,4	7,6	6,0	6,9
Refusal rate 2	12,4	11,5	11,1	14,4	12,3	6,5	7,4	7,5	6,0	6,9
Non-contact rate	4,6	4,7	5,7	5,0	5,0	0,9	0,9	1,0	0,6	0,9
Completion rate	78,8	77,7	78,6	76,0	77,8	91,2	90,5	89,9	90,1	90,4

Data are weighted for non response on the level of strata.

#### **Reasons for non response for the new part of sample (not for panel) in %**

	Q1	Q2	Q3	Q4	2001
No time	16,6	16,5	13,6	17,4	16,1
Bad experience with surveys	0,9	1,8	1,5	2,3	1,6
Always refuse	43,8	37,5	40,5	43,4	41,4
Other reasons for refusal	10,9	10,1	7,7	5,1	8,3
Longer absence	4,1	4,9	13,6	1,5	5,9
Unknown reason for absence	10,9	18,3	13,3	17,9	15,2
Unable to answer	5,9	4,6	5,3	4,5	5,1
Other reasons for non-response	6,8	6,4	4,4	7,8	6,4

Smaller households and unemployed persons tend with higher probability not to respond in repeated interviewing.



### 3 TIMELINESS AND PUNCTUALITY

**What should be reported in the Quality Report on timeliness and punctuality ?**

- The data which were not punctually delivered according to the dates stated in Regulations, official timetables or other agreements.
- The mean delay of data non-punctually delivered, assessed in appropriate units: number of days, working days, weeks and so on.
- The maximum observed delay.
- The reasons for late delivery: bottle-necks in the production phase, breakdown, strikes, etc.
- The ways for improving timeliness whenever necessary: use of electronic means...
- The mean timeliness of data, possibly for comparison with the timeliness of past deliveries of comparable data (in case of a repetitive operation).

a) Reference period, transmission date and coverage

**Table 3.a**

Country	Quarter	Main dates in the national production process		
		Date of data collection beginning	Date of end of the quality check for statistics requested by Eurostat	Date of national publication

b) Reason for late delivery (to be filled only in case of late delivery)

Country	Quarter	Describe reasons for late delivery mentioning all bottle-necks

b) Ways for improving timeliness (to be filled only in case of late delivery)

Country	Quarter	Describe ways for improving timeliness

### 4 ACCESSIBILITY AND CLARITY

**What should be reported in the Quality Report on accessibility and clarity ?**

- A summary description of the conditions of access to data: means, support, marketing conditions, possible restrictions, existing service-level agreement, etc.
- A summary description of the accompanying information to data (documentation, explanation, quality limitations, etc).
- A summary description of the possible further assistance available to users.

- A presentation of possible improvements, compared to the previous situation.

## 5 COMPARABILITY

### Comparability and accuracy

Comparability is related to, and sometimes confused with, accuracy. The more accurately data are calculated (increasing the number of significant figures in the results, for instance), the greater the risk to touch the limit of comparability. Care should be paid in reporting to properly allocate errors under the appropriate component.

### **What should be reported in the Quality Report on comparability ?**

#### **For each approach (time, geographic, between domains):**

- The differences in concepts and methods of measurements, separately.
- An assessment of the effects of these differences.
- Comments on results.

#### Additionally for comparability over time

- Details of changes in definitions, coverage or methods. When the comparison of statistics from two consecutive periods may be more affected by legal events than by the socio-economic trends, it is important to report on this aspect too. Any change in legislation at the national level having consequences on continuity should be reported. The consequences of non-negligible changes should also be reported.

#### Additionally for Geographical comparability

- Details of the differences of concept applied at National and European levels and estimation of consequences for resulting statistics.
- Compliance with the existing European recommendations for measurement, and possible deviations from these norms and the corresponding assessment of consequences on the estimates.

### **5.1 Comparability over time**

- a) *Has there been any change in **concepts** that would affect comparability with a previous reference time? If yes, please give a description of the impact on the statistics. Enumerate all concepts or definitions that have been changed since last year*

**Table 5.1.a**

	<i>Change in concepts compared to previous year (Y/N/?)</i>	<i>Impact of the changes on the statistics</i>

5.1.a Has there been any change in **measurement** that would affect comparability with a previous reference time? If yes, please give a description of the impact on the statistics. Enumerate all changes in measurement that have been changed since last year

**Table 5.1.a** (Measurement - For example changes in data collection, procedure for seasonal adjustment, use of auxiliary information)

	Change in measurement (Y/N/?)	Impact of the changes on the statistics

b) If there is a change over time what is the quantitative estimate of this effect? Give the estimates (in percentage) for the characteristic and level of classification according to 5.1.a. Indicate if statistics are fully (F) or partially (P) adjusted for the changes.

**Table 5.1.b**

	Quantitative estimate (Y/N)	Estimation of effect for aggregates <sup>1)</sup>	Estimation of adjustment F/P for aggregate	Are statistics revised (Y/N) <sup>2)</sup>

1) A statistical measure has to be chosen (total, median, mean etc.)

2) Indicate (Y/N) in the last column if past statistics is revised or if estimated differences are published.

## 5.2 Geographical comparability

a) Is there any divergence of the **statistical concept** from European concepts? If yes, please give a description of the impact on the statistics.

**Table 5.2.a** (European concept or National proxy concept used) List all concepts where any divergences can be found

	Impact of the divergence on the statistics

c) What are the quantitative assessments of the differences? Give a summary of consequences and effects on the statistics. Give the estimates (in percentage) for the characteristic and level of classification according to 5.2.a. Indicate if statistics are full (F) or partial (P) adjusted for the changes.

**Table 5.2.c**

	Quantitative estimate (Y/N)	Estimation of effect for aggregates <sup>1)</sup>	Estimation of effect for first level of breakdown			Estimate of adjustment F/P for aggregates
			Median	Min	Max	

1) A statistical measure has to be chosen (total, mean, median etc)

## 6 COHERENCE

**Table 6.b1** Coherence of LFS data with National Accounts data

	Description of difference in concept	Description of difference in measurement	Give an assessment of the effects of the differences	Give references to description of differences

Total employment				
Total employment by NACE				
Number of hours worked				

**Table 6.b2 Coherence of LFS data with Business statistics data**

	Description of difference in concept	Description of difference in measurement	Give an assessment of the effects of the differences	Give references to description of differences
Total employment				
Total employment by NACE				
Number of hours worked				

**Table 6.b3 Coherence of LFS data with registered unemployment**

	Description of difference in concept	Description of difference in measurement	Give an assessment of the effects of the differences	Give references to description of differences
Men Unemployed under 25 years				
Men Unemployed 25 years and over				
Women Unemployed under 25 years				
Women Unemployed 25 years and over				

## 7 COMPLETENESS

### What should be reported in the Quality Report on completeness ?

- The number or % of unavailable results, compared to what should be available.
- References of relevant documents, if existing, at national level.
- Reasons for incompleteness as well as the prospects for future solutions.

a) *Rate of available statistics*

**Table 7.a Eurostat**

	<i>% of variables not available</i>	<i>Short comments on reasons for non-available statistics and prospects for future solutions</i>

## **8 COST AND BURDEN**

### **What should be reported in the Quality Report on cost and burden ?**

- Costs supported by National Statistical Institutes (refer, for instance, to Eurostat proposal of measurement for the implementation of the SBS regulation, March 1999)
- Response burden (refer, for instance, to the ONS method proposed in the framework of its Compliance Plan 1998 /2000 (described in Eurostat document: Doc.EUROSTAT/D2/SSE/MAR99/3.2).

Or failing that:

An evaluation of the burden on respondents, only in physical terms (hours,...)