Central Statistical Bureau of Latvia

INTERMEDIATE QUALITY REPORT
EU-SILC 2008 OPERATION
IN LATVIA

Riga 2009

CONTENTS

Background

2008 was the fourth year, when EU-SILC is carried out in Latvia. The Latvian EU-SILC survey is an annual survey with a four-year rotational panel and has been carried out as independent survey, covering both cross-section and longitudinal primary target variables and also secondary target variables by single operation.

1. Common cross-sectional European Union indicators

Table 1.1. Laeken indicators and other indicators

Indicator	Value
Primary Laeken indicators of social cohesion	
At-risk-of-poverty rate after social transfers: Total	26
At-risk-of-poverty rate after social transfers: Males	23
At-risk-of-poverty rate after social transfers: Females	28
At-risk-of-poverty rate after social transfers: 0-17 total	25
At-risk-of-poverty rate after social transfers: 0-64 total	21
At-risk-of-poverty rate after social transfers: 0-64 males	20
At-risk-of-poverty rate after social transfers: 0-64 females	21
At-risk-of-poverty rate after social transfers: 18+ total	26
At-risk-of-poverty rate after social transfers: 18+ males	23
At-risk-of-poverty rate after social transfers: 18+ females	28
At-risk-of-poverty rate after social transfers: 18-24 total	17
At-risk-of-poverty rate after social transfers: 18-24 males	15
At-risk-of-poverty rate after social transfers: 18-24 females	19
At-risk-of-poverty rate after social transfers: 18-64 total	20
At-risk-of-poverty rate after social transfers: 18-64 males	19
At-risk-of-poverty rate after social transfers: 18-64 females	20
At-risk-of-poverty rate after social transfers: 25-49 total	18
At-risk-of-poverty rate after social transfers: 25-49 males	17
At-risk-of-poverty rate after social transfers: 25-49 females	18
At-risk-of-poverty rate after social transfers: 50-64 total	25
At-risk-of-poverty rate after social transfers: 50-64 males	25
At-risk-of-poverty rate after social transfers: 50-64 females	25
At-risk-of-poverty rate after social transfers: 65+ total	51
At-risk-of-poverty rate after social transfers: 65+ males	45
At-risk-of-poverty rate after social transfers: 65+ females	54
At-risk-of-poverty rate after social transfers: 18+, at work total	11
At-risk-of-poverty rate after social transfers: 18+, at work males	11
At-risk-of-poverty rate after social transfers: 18+, at work females	11
At-risk-of-poverty rate after social transfers: 18+, not at work total	48
At-risk-of-poverty rate after social transfers: 18+, not at work males	47
At-risk-of-poverty rate after social transfers: 18+, not at work females	48
At-risk-of-poverty rate after social transfers: 18+, unemployed total	53
At-risk-of-poverty rate after social transfers: 18+, unemployed males	55
At-risk-of-poverty rate after social transfers: 18+, unemployed females	50
At-risk-of-poverty rate after social transfers: 18+, retired total	55
At-risk-of-poverty rate after social transfers: 18+, retired males	53
At-risk-of-poverty rate after social transfers: 18+, retired females	56
At-risk-of-poverty rate after social transfers: 18+, other inactive total	33
At-risk-of-poverty rate after social transfers: 18+, other inactive males	34
At-risk-of-poverty rate after social transfers: 18+, other inactive females	32

Indicator	Value
At-risk-of-poverty rate after social transfers: No dependent children	32
At-risk-of-poverty rate after social transfers: Single total	61
At-risk-of-poverty rate after social transfers: Single males	49
At-risk-of-poverty rate after social transfers: Single females	67
At-risk-of-poverty rate after social transfers: Single <65 years	40
At-risk-of-poverty rate after social transfers: Single 65+	83
At-risk-of-poverty rate after social transfers: 2 adults no children, <65 years	20
At-risk-of-poverty rate after social transfers: 2 adults no children, 65+	47
At-risk-of-poverty rate after social transfers: All households with dependent children	21
At-risk-of-poverty rate after social transfers: Single parent	42
At-risk-of-poverty rate after social transfers: 2 adults 1 dependent child	13
At-risk-of-poverty rate after social transfers: 2 adults 2 dependent children	21
At-risk-of-poverty rate after social transfers: 2 adults 3+ dependent children	38
At-risk-of-poverty rate after social transfers: Owner or rent-free	24
At-risk-of-poverty rate after social transfers: Tenant	36
At-risk-of-poverty threshold (illustrative values, LVL per year): Single person	2 030
At-risk-of-poverty threshold (illustrative values, LVL per year): Two adults with two children younger than 14 years	4 262
Inequality of income distribution S80/S20 income quintile share ratio	7.3
Relative median at-risk-of-poverty gap: Total	29
Relative median at-risk-of-poverty gap: Males	27
Relative median at-risk-of-poverty gap: Females	30
Relative median at-risk-of-poverty gap: 0-17	29
Relative median at-risk-of-poverty gap: 18+ total	29
Relative median at-risk-of-poverty gap: 18+ males	27
Relative median at-risk-of-poverty gap: 18+ females	30
Relative median at-risk-of-poverty gap: 18-64 total	30
Relative median at-risk-of-poverty gap: 18-64 males	29
Relative median at-risk-of-poverty gap: 18-64 females	30
Relative median at-risk-of-poverty gap: 65+ total	27
Relative median at-risk-of-poverty gap: 65+ males	21
Relative median at-risk-of-poverty gap: 65+ females	30
Secondary Laeken indicators of social cohesion	
Dispersion around the risk-of-poverty threshold: 40% of median equivalised income, total	11
Dispersion around the risk-of-poverty threshold: 40% of median equivalised income, males	9
Dispersion around the risk-of-poverty threshold: 40% of median equivalised income, females	12
Dispersion around the risk-of-poverty threshold: 50% of median equivalised income, total	19
Dispersion around the risk-of-poverty threshold: 50% of median equivalised income, males	16
Dispersion around the risk-of-poverty threshold: 50% of median equivalised income, females	21
Dispersion around the risk-of-poverty threshold: 70% of median equivalised income, total	32
Dispersion around the risk-of-poverty threshold: 70% of median equivalised income, males	29
Dispersion around the risk-of-poverty threshold: 70% of median equivalised income, females	34
At-risk-of-poverty rate anchored at a fixed moment in time (2005): Total	7
At-risk-of-poverty rate anchored at a fixed moment in time (2005): Males	7
At-risk-of-poverty rate anchored at a fixed moment in time (2005): Females	7
At-risk-of-poverty rate before all transfers: Total	37
At-risk-of-poverty rate before all transfers: Males	34
At-risk-of-poverty rate before all transfers: Females	39
At-risk-of-poverty rate before transfers including old-age and survivors` benefits: Total	30
At-risk-of-poverty rate before transfers including old-age and survivors` benefits: Males	28
At-risk-of-poverty rate before transfers including old-age and survivors` benefits: Females	32
Gini coefficient	38
Other indicators	
Mean equivalised disposable income (LVL per year)	4 160

The calculation of gender pay gap is based on other sources than EU-SILC. Wage statistics is used for calculating gender pay gap.

2. Accuracy

2.1. Sampling Design

In Latvia stratified two-stage sampling design was used for EU-SILC survey. At the first stage systematic sampling of the primary sampling units (Population Census counting areas) had been selected. At the second stage simple random sampling had been made to select secondary sampling units (addresses). The stratification had been made depending on degree of urbanization of area. The code of administrative territories was used for stratifying.

Table 2.1. Sampling design information

Stratum	1st stage	2nd stage	
	PSU's	SSU's	Households
1	316	2 168	2 203
2	189	1 301	1 338
3	189	1 444	1 470
4	236	1 984	2 031
All	**930**	**6 897**	**7 042**

2.1.1. Type of sample design

Stratified two-stage sampling was used for EU-SILC survey in Latvia. Systematic sampling with inclusion probabilities proportional to unit size had been carried out at the first stage and simple random sampling had been carried out at the second stage.

2.1.2. Sampling units

The Population Census counting areas were used as primary sampling units (PSU's) at the first stage. In general, all territory of Latvia is covered in lists of population counting areas. PSU's were selected by systematic sampling with inclusion probabilities proportional to population size (number of households) of PSU's.

Addresses were used as secondary sampling units (SSU's). Simple random sampling was used to select SSU's from PSU's selected at first sampling stage. In Latvia several households can be registered in one address. All households and individuals living in the selected address were included in EU-SILC survey in the urban areas, but in the rural areas only those households, which were formed by persons enumerated in the Household List (see 2.3.2.1.). If none of persons enumerated in the Household List lived in the selected address, then it was possible:
- to go for interview to the different address in the same local area (if interviewer knew the correct address of the persons enumerated in the Household List);

- to interview all households and individuals living in the selected address (the same as in urban areas).

2.1.3. Stratification and sub-stratification criteria

The stratification was made depending on degree of urbanization of area. Riga (the capital city), six largest towns, other towns and rural areas form four strata. The code of administrative territories was used for stratifying. The stratum is identified in the variable DB050.

2.1.4. Sample size and allocation criteria

According to the Regulation (EC) No 1553/2005 of European Parliament and of the Council of 7 September 2005 amending Regulation (EC) No 1177/2003 concerning Community statistics on income and living conditions (EU-SILC), Annex II in Latvia the minimum effective sample size is 3 750 households. The total gross sample size (number of households) has been made analysing non-response rates and design effects of previous EU-SILC surveys. To compensate the non-response and taking into account design effect it was decided to select 6 897 addresses. In Latvia more than one household can live in one address. Therefore, there were 7 042 households living in the selected addresses. In case if it was not possible to contact the selected address (address cannot be located, it was not possible to contact any person living in the address or the address was inaccessible, etc.) it was assumed that one household is living in selected address.

The response rates differ very much in each stratum. For this reason addresses were not included with probabilities proportional to stratum size, but the initial sample size was proportional to population size of each stratum. The initial sample size was adjusted according to response rates in each stratum to get the final sample size in each stratum. R_h is the number of persons aged 16 and over living in stratum h as at the beginning of 2008. n_h is number of respondents (aged 16 and over) of the stratum h and n_h / R_h is the sampling fraction in the corresponding stratum.

Table 2.2. Sampling fractions in the corresponding stratum

Stratum	R_h	n_h	n_h / R_h
1	603 858	2 981	0.0049
2	357 540	1 948	0.0054
3	320 900	2 338	0.0073
4	587 418	3 833	0.0065
Total	**1 869 716**	**11 100**	**0.0059**

2.1.5. Sample selection schemes

In the first stage 930 Population Census counting areas (PSU's) were selected by systematic sampling with inclusion probabilities proportional to their population size.

Simple random sampling without replacement was used to select 6 897 addresses (SSU's) in sampled PSU's. Non-proportional allocation was used to select SSU's.

2.1.6. Sample distribution over time

Sample distribution over time was not used because EU-SILC survey is organized on annual basis. The number of households successfully interviewed in each month of fieldwork is shown below in Table 2.3.

Table 2.3. Sample distribution over time

Month	Number of households	% of surveyed households	Cumulative % of surveyed households
April	479	9.2	9.2
May	1 606	30.9	40.1
June	1 585	30.5	70.6
July	1 467	28.2	98.9
August	59	1.1	100.0
TOTAL:	5 196	100	100

2.1.7. Renewal of sample: rotational groups

Latvia applies rotational panel where the sample is divided into four sub-samples. Each of them is representing whole population. Every year one of rotation group rotates out (is being dropped) and the new one is added to the sample.

2.1.8. Weightings

2.1.8.1. Design factor

The design weights (DB080) for addresses were calculated according the sample design:

$$DB080 = \frac{1}{prob\_adr};$$

$$prob\_adr = \frac{\text{hhpsupop} \cdot psustrat \cdot adrpsus}{hhstrpop \cdot adrp\sup},$$

where **prob_adr** - inclusion probabilities of addresses;

    hhpsupop - a number of households in each strata's each PSU of all population;

    psustrat - a number of the PSU's in each strata of sample;

> *adrpsus* - a number of addresses in each strata's each PSU of sample;
>
> *hhstrpop* - a number of households in each strata of all population;
>
> *adrpsup* - a number of addresses in each strata's each PSU of population.

The inclusion probability of the household and the individual is equal to the inclusion probability of the address. The design weights were adjusted for outliers (extremely high design weights) at the address level.

2.1.8.2. Non–response adjustments

The design weights adjusted for outliers $desig1\_w$ were adjusted for non-response (in household level) in each primary sampling unit (PSU) with correction coefficients k2_k3 and k4:

$$k2\_k3 = \frac{samplpsu \cdot \mathrm{cov}\_sum}{restppsu \cdot resp};$$

$$nonrespw = k2\_k3 \cdot desig1\_w;$$

$$k4 = \frac{m1}{m2};$$

$$nonr\_w = nonrespw \cdot k4,$$

where ***samplpsu*** - a number of households in each PSU of sample;

cov_sum – a number of households useful for survey in each PSU of sample;

restppsu - a number of households in each PSU of sample, which belong to target population;

resp – a number of responded households in each PSU of sample;

m1 – a number of addresses in sample, which have at least one responded household;

m2 – a number of responded households in sample.

2.1.8.3. Adjustments to external data (level, variables used and sources)

Cross-sectional weights were calibrated on basis of demographic data by breaking it down by degree of urbanization (three groups — Riga, 6 large towns and others), 11 age groups (16-20; 21-25; 26-30; 31-35; 36-40; 41-45; 46-50; 51-55; 56-60; 61-65; 66+) and sex. Another variable was demographic data by 6 regions of Latvia. The final household weights were used both for households and for individuals. Separately were calibrated cross-sectional weights for children (variable RL070). Demographic data by each of age from 0 to 12 were used.

2.1.8.4. Final cross-sectional weights

The final cross-sectional weights DB090 were calculated as the product of the design factor, non-response adjustment factor and calibration factor:

$$DB090 = nonr\_w \cdot g \,,$$

where **g** - g-weights of the regression estimator.

2.1.9. Substitutions

No substitution was used.

2.2. Sampling errors

2.2.1. Standard error and effective sample size

- **At-risk-of poverty rate and mean equivalised disposable income**

It was assumed that at-risk-of poverty rate is similar to ratio of two totals (ignoring that threshold is estimate from sample). Standard error and design effect for at-risk-of poverty rate were estimated as standard error and design effect for ratio. Standard error was estimated by using Taylor linearization method. The correction of finite population at PSU level was applied for variance estimate in each stratum. The same methodology was used for estimating standard error and design effect for mean equivalised disposable income.

- **Gini coefficient**

Linearization was applied for *Gini* coefficient. Standard error for *Gini* coefficient was estimated as standard error for total of linearized variable. The correction of finite population at PSU level was applied to variance estimate in each stratum.

- **Design effect**

Design effect was calculated as ratio of the variance for sampling design used in EU-SILC and the variance for simple random sampling of households.

- **Software**

The variance estimates and design effect were computed using the software SUDAAN and SPSS.

Table 2.4. Estimates, the standard error and design effect for common cross–sectional EU indicators

Indicator	Value	Achieved sample size	Standard error	Design effect	Effective sample size
At-risk-of-poverty rate after social transfers	26	5 196	0.79	1.44	3 617
At-risk-of-poverty rate before all transfers including old-age and survivor's benefits	30	5 196	0.86	1.49	3 497
At-risk-of-poverty rate before all transfers	37	5 196	0.90	1.45	3 576
Gini coefficient	38	5 196	0.66	-	-
Mean equivalised disposable income	4 160	5 196	123.26	1.57	3 306

2.3. Non-sampling errors

2.3.1. Sampling frame and coverage errors

Two sampling frames are built for each sampling stage. At the first stage counting areas from the list of Population Census 2000 are used as sampling frame. All territory of Latvia is divided in small territories (smaller than NUTS4) during the Population Census 2000. The list contains information about the number of households in each counting area.

At the second stage sampling frame is built from the Population Register, statistical register of dwellings and statistical register of households.

Second stage sampling frame was built by using the copy of Population Register given at the October 2007. Both statistical register of dwellings and statistical register of households was updated by using the Population Register. Thus the time lag between last update of the registers and the moment of actual EU-SILC survey sampling was around 4 months.

The over-coverage relates either to misclassified units that are in fact out of scope, or to units that do not exist in practice (i.e. address does not exist or is non-residential address or is unoccupied or not principal residence (DB120 = 23)). Overall, over-coverage rate of total amount of addresses included in EU-SILC survey was 3.2 % (222 from 7 042 addresses).

Table 2.5. Distribution of over coverage

Type of over-coverage	Number of addresses	Proportion of the over-coverage by type, (%)
Address does not exist (DB120 = 231)	22	11.4
Non - residential address (DB120 = 232)	134	69.4
Address is unoccupied (DB120 = 233)	15	7.8
Address is not principal residence (DB120 = 234)	22	11.4
Total	**193**	**100**

There are 29 addresses, which are not identified by over-coverage reason; those were addresses of households, which were surveyed in previous year.

The level of under-coverage is not estimated.

2.3.2. Measurement and processing errors

2.3.2.1. Measurement errors

The same as in EU-SILC 2007 operation 3 types of questionnaires were developed for EU-SILC 2008 operation: Household Register (to collect demographic information about all household members), Household Questionnaire (to collect all information related to household – dwelling costs, housing conditions, income components received at household level etc.), Personal Questionnaire (to collect all needed information for each household member aged 16 and over in previous calendar year) and Household List (additional document to record all necessary information about household member for tracing purposes and for linkage with data from administrative registers). The household members' first, second names, contact addresses, phone numbers (fixed and mobile phone numbers) and personal identification codes were recorded in Household List. The Blaise CAPI and CATI (for the first time) applications as well as the paper questionnaires of EU-SILC survey were available in Latvian and in Russian (the language of the largest ethnic minority in Latvia). Only households participating in EU-SILC survey for second, third or fourth time and who have specified phone numbers in previous waves, were used for CATI. Not all, but majority of households with phone numbers were used for CATI. It was possible for household to refuse from CATI and then CAPI was used. CAPI were used also in those cases when telephone interview was not possible (phone number was wrong, phone line damaged, phone line busy, etc.).

The interviewers of CSB carried out the fieldwork of EU-SILC survey. For the field staff was organised a 1 or 2 (for new interviewers) days intensive training session. The aims of the training were to introduce fieldwork staff with methodology of EU-SILC survey, to instruct interviewers for accurate fieldwork execution of the survey and give them information to motivate respondents for participation in the survey. Several tests (including practical interview to fill EU-SILC questionnaires) were developed to check interviewers' knowledge after training session.

To increase response rates several steps had been made to introduce Latvian residents with EU-SILC survey before starting fieldwork. Press release had been prepared; several publications had been made in newspapers to provide publicity of EU-SILC survey. Introduction letter with EU-SILC booklet was sent to selected address to establish first contact with household before interview.

Measurement errors had been detected by logical checks and verification of received data.

2.3.2.2. Processing errors

2008 was the third year when program in BLAISE is introduced. Comparing with 2007, data entry program was not changed significantly in 2008.

Still 7.2% of personal interviews are completed using paper questionnaires. Paper questionnaires are used when laptop can't be used (for example, for security considerations, discharged battery, etc.). Completed paper questionnaires later were entered into laptop by the same interviewer, who has done interview, and then transmitted to CSB.

Quantity of personal data from previous year of the survey introduced into the program has been increased comparing with 2007. For the first time information about respondent's name, surname, personal identification code, date of birth and sex were prefilled in BLAISE data entry programme for new rotational group if respondent actually lived in the same address as specified in Population Register.

Data have been transformed from BLAISE to MS ACCESS (modified version of application of 2007), where initial database has been analysed and corrected. Data from EU-SILC 2008 operation have been compared with data from previous EU-SILC operations, when it was possible. Compliance of the database with Eurostat requirements has been checked with SAS program.

2.3.3. Non-response errors

2.3.3.1. Achieved sample size

5 196 households' interviews were accepted for the database and used for analysis.

There are 10 910 persons aged 16 years and older who are members of households for which the interview is accepted for the database, and who completed a personal interview.

2.3.3.2. Unit non-response

<u>For the total sample (four rotational groups)</u>

The final response rates were calculated according to formulas given by Eurostat:
- Household non-response rate $NRh = 23.4$
- Individual non-response rate $NRp = 1.7$
- Overall non-response rate $*NRp = 24.7$

For the new households (rotational group 4)

The final response rates were calculated according to formulas given by Eurostat:

- Household non-response rate $NRh = 36.3$

- Individual non-response rate $NRp = 2.0$

- Overall non-response rate $*NRp = 37.6$

2.3.3.3. Distribution of households (original units) by 'record of contact at address' (DB120), by 'household questionnaire result' (DB130) and by 'household interview acceptance' (DB135)

Table 2.6. Distribution of households by 'record of contact at address' (DB120) for each rotational group

	Rotational group 1		Rotational group 2		Rotational group 3		Rotational group 4		Total	
	N	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
Total (DB120 = 11 to 23)	**1 019**	**100**	**1 246**	**100**	**1 588**	**100**	**3 157**	**100**	**7 010**	**100**
Address contacted (DB120 = 11)	987	96.9	1 207	96.9	1 520	95.7	2 850	90.3	**6 564**	**93.6**
Address non-contacted (DB120 = 21 to 23)	32	3.1	39	3.1	68	4.3	307	9.7	**446**	**6.4**
Total address non-contacted (DB120 = 21 to 23)	**32**	**100**	**39**	**100**	**68**	**100**	**307**	**100**	**446**	**100**
Address cannot be located (DB120 = 21)	3	9.4	1	2.6	2	2.9	11	3.6	**17**	**3.8**
Address unable to access (DB120 = 22)	21	65.6	28	71.8	50	73.5	108	35.2	**207**	**46.4**
Address does not exist or is non-residential address or is unoccupied or not principal residence (DB120 = 23)	8	25.0	10	25.6	16	23.5	188	61.2	**222**	**49.8**

It should be noticed, that there is no information about 32 addresses.

Table 2.7. Distribution of addresses contacted by 'household questionnaire result' and by 'household interview acceptance' for each rotational group

	Rotational group 1		Rotational group 2		Rotational group 3		Rotational group 4		Total	
	N	%	N	%	N	%	N	%	N	%
Total (DB130 = 11 to 24)	986	100	1 207	100	1 519	100	2 848	100	6 560	100
Household questionnaire completed (DB130 = 11)	888	90.1	1 073	88.9	1 351	88.9	1 893	66.5	5 205	79.3
Interview not completed (DB130 = 21 to 24)	98	9.9	134	11.1	168	11.1	955	33.5	1 355	20.7
Total interview not completed (DB130 = 21 to 24)	98	100	134	100	168	100	955	100	1 355	100
Refusal to co-operate (DB130 = 21)	45	45.9	74	55.2	105	62.5	453	47.4	677	50.0
Entire household temporarily away for duration of fieldwork (DB130 = 22)	32	32.7	30	22.4	28	16.7	414	43.4	504	37.2
Household unable to respond (illness, incapacity, etc) (DB130 = 23)	4	4.1	14	10.4	9	5.4	28	2.9	55	4.1
Other (DB130 = 24)	17	17.3	16	11.9	26	15.5	60	6.3	119	8.8
Household questionnaire completed (DB135 = 1 to 2)	888	100	1 073	100	1 351	100	1 893	100	5 205	100
Interview accepted to database (DB135 = 1)	887	99.9	1 070	99.7	1 350	99.9	1 889	99.8	5 196	99.8
Interview rejected (DB135 = 2)	1	0.1	3	0.3	1	0.1	4	0.2	9	0.2

It should be noticed, that there is no information about 32 addresses and DB130 is missing for 4 households.

2.3.3.4. Distribution of substituted units

Substitution was not used.

2.3.3.5. Item non-response

The tables below show the amount following information on each income component at personal and at household level:

- percentage of persons/households having received an amount of income (other than 0);
- percentage of persons/households having received an income but with no information about amount of the received income have been obtained from the questionnaire (missing value);
- percentage of persons/households providing partial information about income variable in the questionnaire (responding part of questions related to income amounts).

Table 2.8. Distribution of item non-response for income variables collected at household level

Income variable	% of households having received an amount	% of households with missing values (before imputation)	% of households with partial information (before imputation)
Total household gross income (HY010)	99.5	22.3	76.1
Total disposable household income (HY020)	99.7	10.6	88.6
Total disposable household income before social transfers other than old-age and survivor's benefits (HY022)	98.9	12.8	85.9
Total disposable household income before social transfers including old-age and survivor's benefits (HY023)	90.3	4.8	92.8
Net income components at household level			
Imputed rent (HY030N)	93.6	100	0
Income from rental of a property or land (HY040N)	1.3	1.4	0
Interest, dividends, profit from capital investments in unincorporated business (HY090N)	3.1	22.4	3.1
Family/Children related allowances (HY050N)	32.6	95.1	4.7
Social exclusion not elsewhere classified (HY060N)	7.2	37.0	4.0
Housing allowances (HY070N)	4.4	9.1	0
Regular inter-household cash transfer received (HY080N)	10.8	9.7	0
Interest repayments on mortgage (HY100N)	5.1	100	0
Income received by people aged under 16 (HY110N)	1.5	42.1	15.8
Regular taxes on wealth (HY120N)	60.6	10.5	0
Regular inter-household cash transfer paid (HY130N)	10.1	5.3	0
Tax on income and social contributions (HY140N)	69.7	11.8	87.7

Income variable	% of households having received an amount	% of households with missing values (before imputation)	% of households with partial information (before imputation)
Gross income components at household level			
Imputed rent (HY030G)	93.6	100	0
Income from rental of a property or land (HY040G)	1.3	1.4	0
Interest, dividends, profit from capital investments in unincorporated business (HY090G)	3.1	31.7	2.5
Family/Children related allowances (HY050G)	32.6	95.1	4.7
Social exclusion not elsewhere classified (HY060G)	7.2	37.0	4.0
Housing allowances (HY070G)	4.4	9.1	0
Regular inter-household cash transfer received (HY080G)	10.8	9.7	0
Interest repayments on mortgage (HY100G)	5.1	100	0
Income received by people aged under 16 (HY110G)	1.5	64.5	7.9
Regular taxes on wealth (HY120G)	60.6	10.5	0
Regular inter-household cash transfer paid (HY130G)	10.1	5.3	0
Tax on income and social contributions (HY140G)	69.7	11.8	87.7

Table 2.9. Distribution of item non-response for income variables collected at personal level

Income variable	% of persons 16+ having received an amount	% of persons 16+ with missing values (before imputation)	% of persons 16+ with partial information (before imputation)
Net income components at personal level			
Employee cash or near cash income (PY010N)	60.2	16.1	33.7
Non-cash employee income (PY020N)	4.9	43.7	11.4
Company car (PY021N)	1.0	100	0
Contributions to individual private pension plans (PY035N)	1.6	5.2	0
Cash benefits or losses from self-employment (PY050N)	4.3	8.1	0.6
Value of goods produced by own-consumption (PY070N)	18.2	100	0
Pension from individual private plans (PY080N)	0	0	0
Unemployment benefits (PY090N)	5.4	88.2	5.3
Old-age benefits (PY100N)	30.7	98.0	1.2
Survivor's benefits (PY110N)	1.4	100	0
Sickness benefits (PY120N)	10.1	84.4	1.0
Disability benefits (PY130N)	4.7	100	0
Education-related benefits (PY140N)	1.7	5.5	0

Income variable	% of persons 16+ having received an amount	% of persons 16+ with missing values (before imputation)	% of persons 16+ with partial information (before imputation)
Gross income components at personal level			
Employee cash or near cash income (PY010G)	60.2	16.1	75.9
Non-cash employee income (PY020G)	4.9	43.7	11.4
Company car (PY021G)	1.0	100	0
Contributions to individual private pension plans (PY035G)	1.6	5.2	0
Cash benefits or losses from self-employment (PY050G)	4.3	8.1	6.4
Value of goods produced by own-consumption (PY070G)	18.2	100	0
Pension from individual private plans (PY080G)	0	0	0
Unemployment benefits (PY090G)	5.4	92.5	4.4
Old-age benefits (PY100G)	30.7	98.5	1.0
Survivor's benefits (PY110G)	1.4	100	0
Sickness benefits (PY120G)	10.1	84.4	1.0
Disability benefits (PY130G)	4.7	100	0
Education-related benefits (PY140G)	1.7	5.5	0

Missing values of income components were filled using Hot Deck imputation methods. The main principle of the Hot Deck method is to use the current data (donors) to provide imputed values for records with missing values.

Before imputation data of households was divided in similar groups by type of dwelling, year the dwelling was built and number of rooms in dwelling. Data of individuals were divided in similar groups by district, NACE, sex. After this distribution we obtained all groups of households and persons with similar income level. This factor improved imputation results.

According to the signed agreement between CSB and State Social Insurance Agency (SSIA) micro-data files regarding pensions and state social benefits paid to EU-SILC 2008 respondents (during 2007) were received from SSIA and used to prepare income variables. Only information about some minor benefits, which are administrated by local municipalities or pensions paid by other countries and service pensions, which are not administrated by SSIA, is asked in questionnaires. Thus imputation factor to the large extent shows the percentage of collected data (minor income components) from recorded value in the data files (mainly from administrative registers).

2.4. Mode of data collection

Table 2.10. Distribution of household members aged 16 and over by Data status (RB250) and rotational group
HOUSEHOLD MEMBERS AGED 16 AND OVER (RB245 = 1)

	Total	RB250 = 11	RB250 = 12	RB250 = 13	RB250 = 21	RB250 = 22	RB250 = 23	RB250 = 31	RB250 = 32	RB250 = 33
Total	**11 100**	**0**	**0**	**10 910**	**13**	**0**	**59**	**105**	**10**	**3**
%	**100**	**0**	**0**	**98.3**	**0.1**	**0**	**0.5**	**0.9**	**0.1**	**0.0**
Rotational group 1	**1 917**	0	0	1 885	1	0	13	15	2	1
%	**100**	0	0	98.3	0.1	0	0.7	0.8	0.1	0.1
Rotational group 2	**2 278**	0	0	2 228	4	0	12	32	0	2
%	**100**	0	0	97.8	0.2	0	0.5	1.4	0	0.1
Rotational group 3	**2 831**	0	0	2 805	1	0	9	14	2	0
%	**100**	0	0	99.1	0.0	0	0.3	0.5	0.1	0
Rotational group 4	**4 074**	0	0	3 992	7	0	25	44	6	0
%	**100**	0	0	98.0	0.2	0	0.6	1.1	0.1	0

Table 2.11. Distribution of household members aged 16 and over by Type of interview (RB260) and rotational group
HOUSEHOLD MEMBERS AGED 16 AND OVER ((RB245 = 1) and (RB250 = 11 or 13))

	Total	RB260 = 1	RB260 = 2	RB260 = 3	RB260 = 4	RB260 = 5
Total	**10 910**	**781**	**6 821**	**1 593**	**9**	**1 706**
%	**100**	**7.2**	**62.5**	**14.6**	**0.1**	**15.6**
Rotational group 1	**1 885**	109	898	408	1	469
%	**100**	5.8	47.6	21.6	0.1	24.9
Rotational group 2	**2 228**	87	1 092	476	0	573
%	**100**	3.9	49.0	21.4	0	25.7
Rotational group 3	**2 805**	186	1 576	646	5	392
%	**100**	6.6	56.2	23.0	0.2	14.0
Rotational group 4	**3 992**	399	3 255	63	3	272
%	**100**	10.0	81.5	1.6	0.1	6.8

2.5. Interview duration

Mean duration of household interview: 13 minutes and 57 seconds.

Mean interview duration per household: 26 minutes and 18 seconds.

Thus, mean interview duration per household is lower than the one-hour limit set in Regulation No 1177/2003.

3. Comparability

3.1. Basic concepts and definitions

Overall, there are no differences between national interpretations of EU-SILC basic definitions and concepts and common standards set up in Commission regulations and doc. EU-SILC 065 (2008 operation).

3.1.1. The reference population

There were no divergences from common definition. Persons living in private households within national territory were the reference population of EU-SILC survey.

3.1.2. The private household definition

There were no divergences from common definition.

3.1.3. The household membership

There were no divergences from common definition. Due to the complexity of household membership several practical and comprehensive explanations based on concrete cases (examples) were given to interviewers.

3.1.4. The income reference period

There were no divergences from common definition. In Latvia the income reference period is previous calendar year (2007).

3.1.5. The period of taxes on income and social insurance contributions

In Latvia the taxes and social insurance contributions refer to the income received during the income reference period (2007). The only exception is repayments or receipts for tax adjustment. These are taxes and social insurance contributions, which are received/paid during the income reference period, but may refer to previous years. Those repayments/receipts are included in variable HY140 (tax on income and social contributions).

3.1.6. The reference period for taxes on wealth

In Latvia the reference period for taxes on wealth refer to the income reference period (2007).

3.1.7. The lag between the income reference period and current variables

The lag between end of income reference period and current variables is from 3 to 7 months.

3.1.8. The total duration of the data collection of the sample

Fieldwork (data collection) started in the beginning of April 2008 and lasted till the beginning of August 2008.

3.1.9. Basic information on activity status during the income reference period

There were no divergences from common definitions.

3.2. Components of income

Classification of net and gross income components in national EU-SILC survey is made according to description of doc. EU-SILC 065 (2008 operation).

3.2.1.1 Total household gross income

There are no divergences from common standards.

3.2.1.2. Total disposable household income

There are no divergences from common standards.

3.2.1.3. Total disposable household income, before social transfers other than old-age and survivor's benefits

There are no divergences from common standards, but, as we have provided income components of gross and net series, total disposable household income, before social transfers other than old-age and survivor's benefits was calculated from variable HY020 using only net income components (as it was done before 2007), because old age pensions and disability benefits above certain amount is taxable income and thus real total disposable household income before all social transfers would have been wrongly decreased by paid taxes from old age pension and disability benefits.

3.2.1.4. Total disposable household income, before social transfers including old age and survivor's benefits

There are no divergences from common standards, but, as we have provided income components of gross and net series, total disposable household income, before social transfers including old age and survivor's benefits was calculated from variable HY020 using only net income components (as it was done before 2007), because old age pensions and disability benefits above certain amount is

taxable income and thus real total disposable household income before all social transfers would have been wrongly decreased by paid taxes from old age pension and disability benefits.

3.2.1.5. Imputed rent

Using the experience gained from the calculation of imputed rent for Household Budget survey it was decided to use log-linear regression model for calculation of imputed rent also for EU-SILC. Following variables were used for calculation of imputed rent:

- tenure discount;

- urban / rural area;

- region;

- area of dwelling in square metres.

Using the log-linear regression model the equivalent market rent is estimated. In the case where the accommodation is rented at a lower price than the market price, the rent actually paid is deducted from the equivalent market rent. Then from the Household Budget Survey the amount of minor repairs or/and refurbishment expenditure is calculated (as average percentage from the equivalent market rent) and deducted from the estimated equivalent market rent thus obtaining final value of imputed rent (HY030G/HY030N).

3.2.1.6. Income from rental property and land

There are no divergences from common standards.

3.2.1.7. Family/children-related allowances

There are no divergences from common standards.

3.2.1.8. Social exclusion payments not elsewhere classified

There are no divergences from common standards.

3.2.1.9. Housing allowances

There are no divergences from common standards.

3.2.1.10. Regular inter-household cash transfers received

There are no divergences from common standards.

3.2.1.11. Interest, dividends, profit from capital investments in unincorporated business

There are no divergences from common standards.

3.2.1.12. Interest paid on mortgages

There are no divergences from common standards.

Interest paid on mortgages was not asked directly to the household respondent, but it was calculated from the answers to the questions about:

- the average payment per month;
- the average mortgage interest rate;
- year, when dwelling was purchased;
- duration of mortgage loan.

3.2.1.13. Income received by people aged under 16

There are no divergences from common standards. Basically there are included wages and salaries received during holidays or out of school time.

3.2.1.14. Regular taxes on wealth

There are no divergences from common standards. Taxes on land and real estate are included in this variable.

3.2.1.15. Regular inter-household transfers paid

There are no divergences from common standards.

3.2.1.16. Tax on income and social contributions

There are no divergences from common standards.

3.2.1.17. Repayments/receipts for tax adjustments

There are no divergences from common standards. Included in variable HY140.

3.2.1.18. Cash or near-cash employee income

There are no divergences from common standards.

3.2.1.19. Non-cash employee income

There are no divergences from common standards.

Special method has been used to evaluate the non-cash employee income from use of company car for personal purposes. According to Latvian situation method based on system analyses model has been chosen for calculating employee non-cash income from use company car for personal purposes. Components for calculating monetary value of this non-cash employee have been included in questionnaires and collected directly from respondents: class of the car, year of the car make, total amount of kilometres driven by company car in previous calendar year (2007), annual amount of kilometres driven by the vehicle for private use, company car user's occupation, coverage of car related costs made by employer: fuel, car's technical inspection, tire purchase (i.e. did the employer pay bills for fuel purchasing, car's technical inspection, tire purchase), restrictions of use of company car (i.e. if employer created restrictions to employee for use of private care for personal purposes). It was assumed that employer covered all costs related to use of company car for the employee's personal use.

3.2.1.20. Employers' social contributions

There are no divergences from common standards.

3.2.1.21. Cash profits or losses from self-employment (including royalties)

The net (and gross) income and losses from self-employment were asked to each household member in age of 16 years and over (in income reference period) in Personal Questionnaire. Respondents were asked to tell net amount of self-employment income they had for personal use (incl. making private savings) or losses from self-employment activities during income reference period. There were also the questions about paid taxes to evaluate the gross income.

3.2.1.22. Value of goods produced for own consumption

The value of goods produced for own consumption was calculated using the information from Household Budget Survey (HBS). Household member responsible for agricultural production was asked to pick the products, which household produced for own consumption during income reference period, from the list (obtained from HBS). This question was asked only to those households, which used the land for certain types of agricultural activity. Depending on the size of household and consumed products, the value of goods produced for own consumption was calculated. Value of goods produced for own consumption was counted to responsible household member.

3.2.1.23. Unemployment benefits

There are no divergences from common standards.

3.2.1.24. Old-age benefits

There are no divergences from common standards.

3.2.1.25. Survivors' benefits

There are no divergences from common standards.

3.2.1.26. Sickness benefits

There are no divergences from common standards.

3.2.1.27. Disability benefits

There are no divergences from common standards.

3.2.1.28. Education related allowances

There are no divergences from common standards.

3.2.1.29. Gross monthly earnings for employees

Value is not recorded as Latvia uses wage statistics for calculating gender pay gap.

3.2.2. The source of collecting income variables

According to the signed agreement between CSB and State Social Insurance Agency (SSIA) micro-data files regarding pensions and state social benefits paid to EU-SILC 2008 respondents (during 2007) were received from SSIA and used to prepare income variables. Only information about some minor benefits, which are administrated by local municipalities or pensions paid by other countries and service pensions, which are not administrated by SSIA, is asked in questionnaires. The exception is net employee cash or near cash income (PY010N), which is available as well from State Revenue Service (SRS), but it was decided to use information from questionnaires. Gross employee cash or near cash income (PY010G) was obtained counting up net employee cash or near cash income from questionnaires with paid taxes from SRS. Information from SRS is also used for imputation purposes if amount of net employee cash or near cash income is missing in questionnaire and in those cases when SRS information shows higher income than reported in questionnaire.

Household income variables (such as imputed rent, income from rental property and land, housing allowances etc.) were collected from household respondent, which is responsible for issues related to dwelling and household as a whole. Exception was income from interest, dividends/ profit from capital investment. This variable together with personal income variables (such as employee

income, self-employment income, education related allowances, etc.) was collected from each household member eligible for personal interview.

3.2.3. The form in which income target variables at component level were obtained

See 3.2.2.

3.2.4. The method used for obtaining income target variables in required form

See 3.2.2.

4. Coherence

In this section will be compared the EU-SILC data with various external data sources: the Household Budget Survey (HBS), the Labour Force Survey (LFS), wage statistics and social protection statistics.

The HBS is continuous survey of households, which has been carried out since 1995 (comparable data since 2002). The annual net sample size is approximately 4 thousand households. The HBS is designed to collect information on consumption expenditure of households (information on income is collected to divide households in quintile groups). The HBS was the source of Laeken indicators until introduction of EU-SILC (in 2005).

The LFS is a continuous survey, which has been carried out according to a common EU methodology since 1995. The annual sample size is about 30 thousand person aged 15 - 74. The LFS is the main source for labour market information.

4.1. *Comparison of income target variables and number of persons who receive income from each 'income component' with external sources*

In EU-SILC the average monthly employee cash or near cash income (PY010) was 375 LVL. In wage statistics this figure is lower – 286 LVL. Data of EU-SILC survey has been calculated for respondent, who received employee cash or near cash income (PY010) and who has been working as employee (full-time) at least one month during the income reference period (PL210). The acquired results show that EU-SILC data by 31% exceeded enterprise statistical data on average labour income amount in 2007 (by 18 % in 2006). The higher estimates from EU-SILC are due to the fact that in EU-SILC the average wages and salaries are calculated for persons receiving income, whereas in wage statistics the unit of enumeration is the job. Thus, in EU-SILC all employee income is counted into one variable (income from main job, second, third etc.), whereas in wage statistics, the wages from second, third etc. job are counted separately. It should be also taken into account that wage statistics is based on the information provided by the employers and for a certain cases it corresponds to part of wages from which have been deducted taxes (information about informal employee income might be left behind).

Table 4.1. presents the number of persons receiving income components in EU-SILC, HBS and in additional external sources. It should be taken into account that in HBS part of income components are obtained only at the household level and for this reason comparisons are made only among those income components, which are obtained in the same way as in EU-SILC. Besides, definitions of

income components can vary between sources and for that reason only the components for which sufficiently comparable definitions are presented in the table below.

Table 4.1. Number of persons receiving several income components in 2007 (in thousands)

EU-SILC target variable	EU-SILC	HBS	Other sources
Employee cash or near cash income (PY010N)	1 211.3	966.6	1 030.4[1]
Old-age benefits (PY100N)	447.5	469.7	467.2[2]
Survivor's benefits (PY110N)	21.0	11.9	24.3[2]
Disability benefits (PY130N)	86.6	56.5	66.0[2]

[1] Labour Force Survey
[2] At the end of year, Social protection statistics (the State Social Insurance Agency) data

In EU-SILC the number of people receiving employee income is by 181 thousand higher than in the Labour Force Survey and by 245 thousand higher than in HBS.

Comparing data on employees net wage (table 4.2.) we can see that EU-SILC data lightly better represent employees with comparatively higher wages and salaries (above LVL 300 per month).

Table 4.2. Employees' in age between 16 and 74 years monthly net wages in 2007

	EU-SILC	LFS[1]
Employees	**100**	**100**
Of which by wage (in LVL):		
under 109.01	5.1	9.4
109.01-150.00	10.6	14.0
150.01-200.00	13.4	15.4
200.01-300.00	21.7	22.9
300.01-500.00	29.6	17.7
500.01-1000.00	16.4	4.7
1000.01 and more	3.0	0.4
Wage was not calculated	x	2.4
Wage was calculated but not paid	x	0.8
Unspecified	x	12.3
No employee cash or near cash income reported	0.2	x

[1] Main job, in age 15-74

4.2. Comparison of other target variables with external sources

Important background indicator is a mean size of household. The official statistics in this area is based on the Population Census data. For the periods between the censuses it is based on calculations. According to these calculations, in 2008 the mean household size was 2.49 persons. Data on the mean size of households are given in Table 4.3.

Table 4.3. Mean size of household in 2008

	Population statistics	EU-SILC	HBS
Mean size of household, persons	2.49	2.65	2.53

A comparison of data shows that such survey as EU-SILC probably under-represents single-person households and other households with a small number of persons. The risk of failing to make contacts with these households is much higher.

A comparison of the breakdown of households by the number of persons in household (Table 4.4), by age of household members (Table 4.5) and by demographical type of household (Table 4.6) does not show any substantial differences.

Table 4.4. Distribution of households by size in 2008

	EU-SILC		HBS	
	%	number of households, in thousands	%	number of households, in thousands
All households	**100**	**845.8**	**100**	**885.2**
of which by number of members:				
1 person	26.7	225.5	24.7	218.9
2 persons	25.8	217.9	32.3	285.7
3 persons	22.1	187.3	20.9	185.4
4 persons	14.6	123.3	13.9	123.2
5 persons and more	10.9	91.8	8.2	72.1

Table 4.5. Distribution of household's member by age (in per cent) in 2008

	EU-SILC	HBS
All household members	100	100
of which by age brackets		
0-15	16.5	16.6
16-24	14.1	12.7
25-49	35.9	33.0
50-64	17.8	19.9
65+	15.8	17.9

Table 4.6. Distribution of households by demographical type (in per cent) in 2008

	EU-SILC	HBS
All households	100	100
of which:		
One person	26.6	24.7
of which:		
below the age of 65	13.7	11.8
over the age of 65	12.9	12.9
Couple without children	14.1	22.6
One adult with children	3.9	3.4
Couple with 1 child	8.7	8.5
Couple with 2 children	5.1	6.1
Couple with 3 and more children	1.8	2.0
Other households with children	14.6	11.6
Other households without children	25.0	21.2

Table 4.7. presents the distribution of population by ISCED level in EU-SILC and in LFS. As it can be seen, there are differences in overall distribution, but they are not substantial. It should be noted that in EU-SILC survey information of Personal Questionnaire was missing about 2.0% persons in age between 16 and 74 years. This represents 33.6 thousand persons of overall population in this age. Due to lack of personal information (P file data) about these persons in EU-SILC survey there could be differences in both data sources (EU-SILC and LFS).

Table 4.7. Distribution of population in age between 16 and 74 years by ISCED level in 2008

	EU-SILC		LFS[1]	
	thousand of persons	%	thousand of persons	%
ISCED 0	4.7	0.3	4.1	0.2
ISCED 1	31.2	1.8	64.1	3.6
ISCED 2	387.7	23.0	365.9	20.4
ISCED 3	829.4	49.2	900.3	50.1
ISCED 4	84.0	5.0	87.3	4.9
ISCED 5	342.6	20.3	364.1	20.3
ISCED 6	2.6	0.2	4.9	0.3
Total[2]	**1 684.8**	**100**	**1 796.4**	**100**

[1] In age 15-74
[2] Number of persons without education and number of persons, what have not indicated the level of education, are included in the total

Tables 4.8. – 4.10. represents socio-economic status of household member and those who are in employment. There are no significant differences between EU-SILC and data of other surveys. Emerging differences are probably related to the fact that the main activity status is entirely self-defined in EU-SILC at the time of interview, whereas in the LFS self-defined activity status refers to the last three months.

Table.4.8. Distribution of household members by socio-economic status (in per cent) in 2008

	EU-SILC	HBS
All household members	**100**	**100**
of which:		
At work	48.1	49.7
Unemployed	4.8	3.7
In retirement or early retirement	18.3	20.2
Other inactive person	28.9	26.4

Table 4.9. Distribution of population in age between 16 and 74 years by self-defined economic status in 2008

	EU-SILC		LFS	
	thousand of persons	%	thousand of persons	%
Working	1 040.4	61.7	1 107.3	62.7
Unemployed	100.4	6.0	97.5	5.5
Pupil, student	145.7	8.6	160.8	9.1
In retirement	252.5	15.0	243.4	13.8
Permanently disabled	39.1	2.3	55.4	3.1
Domestic task	65.1	3.9	69.6	3.9
Other inactive	41.7	2.5	32.0	1.8
Total	**1 684.8**	**100**	**1 766.0**	**100**

Table 4.10. Status of employed population in the main job in 2008

	EU-SILC	LFS
Age	**16+**	**15-74**
All employed	**100**	**100**
Employees (workers)	93.7	90.0
Employers (owners)	2.7	3.3
Self-employed	3.2	5.5
Unpaid person who helps another member of the family in enterprise or private practice, craft or farm work	0.4	1.3

Table 4.11. presents the share of households by the type of dwelling. The differences between the two data sources are small.

Table 4.11. Distribution of households by the type of dwelling in 2008

	EU-SILC	HBS
Detached house	23.8	23.6
Semi-detached house or terraced house	3.9	4.2
Apartment or flat	72.0	71.5
Other kind of accommodation	0.3	0.8
Total	**100**	**100**