STATISTIKOS DEPARTAMENTAS
STATISTICS LITHUANIA

INTERMEDIATE QUALITY REPORT
EU-SILC 2011 OPERATION

Vilnius 2012

1. Common cross-sectional European Union indicators

Table 1. Laeken indicators and other indicators

Overarching indicator	Value
Primary Laeken indicators of social cohesion	
At-risk-of-poverty rate after social transfers - total	**20.0**
At-risk-of-poverty rate after social transfers - men total	**19.8**
At-risk-of-poverty rate after social transfers - women total	**20.1**
At-risk-of-poverty rate after social transfers - 0-17 years	**24.3**
At-risk-of-poverty rate after social transfers – 65+ years	**12.1**
At-risk-of-poverty rate after social transfers – 18+ years	**19.0**
At-risk-of-poverty rate after social transfers - 18-64 years	**20.7**
At-risk-of-poverty rate after social transfers - men 65+ years	**10.0**
At-risk-of-poverty rate after social transfers - men 18+ years	**18.9**
At-risk-of-poverty rate after social transfers - men 18-64 years	**20.5**
At-risk-of-poverty rate after social transfers - women 65+ years	**13.2**
At-risk-of-poverty rate after social transfers - women 18+ years	**19.1**
At-risk-of-poverty rate after social transfers - women 18-64 years	**21.0**
At-risk-of-poverty rate after social transfers - employed	**10.1**
At-risk-of-poverty rate after social transfers – non-employed	**27.7**
At-risk-of-poverty rate after social transfers - unemployed	**53.1**
At-risk-of-poverty rate after social transfers - retired	**14.8**
At-risk-of-poverty rate after social transfers - other inactive	**29.1**
At-risk-of-poverty rate after social transfers - men, employed	**10.0**
At-risk-of-poverty rate after social transfers – men, non-employed	**28.8**
At-risk-of-poverty rate after social transfers - men, unemployed	**50.8**
At-risk-of-poverty rate after social transfers - men, retired	**12.3**
At-risk-of-poverty rate after social transfers - men, other inactive	**26.7**
At-risk-of-poverty rate after social transfers - women, employed	**10.1**
At-risk-of-poverty rate after social transfers – women, non-employed	**26.9**
At-risk-of-poverty rate after social transfers - women, unemployed	**56.3**
At-risk-of-poverty rate after social transfers - women, retired	**16.0**
At-risk-of-poverty rate after social transfers - women, other inactive	**31.0**
Median of the equivalised disposable household income	**13827.3**
At-risk-of-poverty threshold – single	**8296**
At-risk-of-poverty threshold - 2 adults, 2 children	**17422**
Inequality of income distribution S80/S20 income quintile share ratio	**5.8**
At risk-of-poverty rate anchored at a fixed moment in time (2005) - total	**9.3**
At risk-of-poverty rate anchored at a fixed moment in time (2005) – men total	**9.4**
At risk-of-poverty rate anchored at a fixed moment in time (2005) – women total	**9.2**
At risk-of-poverty rate anchored at a fixed moment in time (2005) – 0-17 years	**11.2**
At risk-of-poverty rate anchored at a fixed moment in time (2005) – 18-64 years	**10.4**
At risk-of-poverty rate anchored at a fixed moment in time (2005) – 65 + years	**3.1**
At risk-of-poverty rate anchored at a fixed moment in time (2005) – men 18-64 years	**10.2**
At risk-of-poverty rate anchored at a fixed moment in time (2005) – men 65+ years	**3.6**
At risk-of-poverty rate anchored at a fixed moment in time (2005) – women 18-64 years	**10.5**

Overarching indicator	Value
At risk-of-poverty rate anchored at a fixed moment in time (2005) – women 65+ years	2.9
Relative median at-risk-of-poverty gap - total	28.7
Relative median at-risk-of-poverty gap - men total	28.7
Relative median at-risk-of-poverty gap - women total	28.7
Relative median at-risk-of-poverty gap – 0-17 years	28.7
Relative median at-risk-of-poverty gap - 18-64 years	31.2
Relative median at-risk-of-poverty gap - 65+ years	10.3
Relative median at-risk-of-poverty gap - men, 18-64 years	30.8
Relative median at-risk-of-poverty gap - men, 65+ years	23.1
Relative median at-risk-of-poverty gap - women, 18-64 years	31.6
Relative median at-risk-of-poverty gap - women, 65+ years	7.6
Before social transfers except old-age and survivors' benefits	
At-risk-of-poverty rate before social transfers - total	31.8
At-risk-of-poverty rate before social transfers - men total	32.6
At-risk-of-poverty rate before social transfers – women total	31.1
At-risk-of-poverty rate before social transfers - 0-17 years	40.5
At-risk-of-poverty rate before social transfers - 18-64 years	33.3
At-risk-of-poverty rate before social transfers - 65+ years	15.5
At-risk-of-poverty rate before social transfers - 18+ years	29.7
At-risk-of-poverty rate before social transfers - men, 18-64 years	34.4
At-risk-of-poverty rate before social transfers - men, 65+ years	11.4
At-risk-of-poverty rate before social transfers - men, 18+ years	30.9
At-risk-of-poverty rate before social transfers - women, 18-64 years	32.4
At-risk-of-poverty rate before social transfers - women, 65+ years	17.6
At-risk-of-poverty rate before social transfers - women, 18+ years	28.7
Before social transfers including old-age and survivors' benefits	
At-risk-of-poverty rate before social transfers - total	49.4
At-risk-of-poverty rate before social transfers - men total	47.1
At-risk-of-poverty rate before social transfers - women total	51.4
At-risk-of-poverty rate before social transfers - 0-17 years	46.3
At-risk-of-poverty rate before social transfers - 18-64 years	40.5
At-risk-of-poverty rate before social transfers - 65+ years	87.5
At-risk-of-poverty rate before social transfers - 18+ years	50.2
At-risk-of-poverty rate before social transfers - men, 18-64 years	41.1
At-risk-of-poverty rate before social transfers - men, 65+ years	86.4
At-risk-of-poverty rate before social transfers - men, 18+ years	48.0
At-risk-of-poverty rate before social transfers - women, 18-64 years	40.0
At-risk-of-poverty rate before social transfers - women, 65+ years	88.1
At-risk-of-poverty rate before social transfers - women, 18+ years	52.0

2. Accuracy

2.1. Sample design

2.1.1 Type of sampling design

2011 operation was the seventh wave of EU-SILC in Lithuania. For the first time households which were selected for the survey in 2005 divided into 4 rational groups. One of these groups was dropped out after 2005 operation and not included to the survey of 2006 according to the original integrated design. A new sub-sample of households was selected to the sample of year 2006. For new sample stratified sample design was used. Population register was used as a sampling frame. Simple random sample of persons was used in each stratum. The second group was dropped out after 2006 operation and not included to the survey of year 2007. A new sub-sample of households was selected to the sample of year 2007 according the same rules as selected a new sub-sample before and so was in every following year.

2.1.2 Sampling units

The sampling units are private households.

2.1.3 Stratification criteria

While selecting the new rotational group of the sample the country were grouped into 7 strata: 5 largest cities, other cities and rural area. Simple random sample of non–institutional persons aged 16 and over was selected from the Population Register in each stratum. Household which lives in the selected person's address was surveyed.

2.1.4 Sample size

The sample consisted of 6317 households. This number includes 4058 households, which responded to the survey in 2010 and where fallowed up during 2011 operation (3 rotational groups), newly selected rotational group – 2259 households.

2.1.5 Sample selection schemes

Within each of 7 strata simple random sample was used to select the person's address.

2.1.6. Sample distribution over time

Fixed income reference period was used and therefore the sample was not principally divided into months or weeks. Fieldwork period was from the middle of February 2011 till the end of July.

Table 2. Distribution of households by month of interview (HB050)

Month	Per cent
February	6.9
March	16.3
April	14.2
May	17.7
June	19.1
July	25.8

2.1.7. Renewal of sample: Rotational groups

In 2005 operation the sample was randomly divided into 4 equally sized rotational groups. In 2006 operation, first of four groups was dropped out after 2005 operation and not included to the survey of 2006 according to the original integrated design. Furthermore, for a split-off household the rotational group was set the same as one of original household. New rotational group was named as 1st. In 2007 operation, second of four groups was dropped out after 2006 operation and not included to the survey of 2007 according to the original integrated design. New rotational group was named as 2nd and etc. In 2011 operation, second of four groups was dropped out after 2010 operation and not included to the survey of 2011 according to the original integrated design. New rotational group was named as 2nd. For new sample stratified sample design was used. Residents' Register was used as a sampling frame. Simple random sample of persons was used in each stratum.

2.1.8. Weightings

The sample of the year 2011 consisted of the following sub-samples:

s_1 – sample of the person in the households enumerated in 2011, persons participate for the first time (only 2nd rotational group);
s_2 – sample of the person in the households enumerated in 2010, persons participate for the second time (only 1st rotational group);
s_3 – sample of the person in the households enumerated in 2009, persons participate for the third time (only 4th rotational group);
s_4 – sample of the person in the households enumerated in 2008, persons participate for the forth time (only 3rd rotational group).

Base weights of year 2011 are calculated independently for each sub-sample.

2.1.8.1. Sub-sample is selected for the first time in the survey (s_1).

1.1. Design weights
Inclusion probability of a household in each stratum of new sub-sample is equal:

$$\pi_{hk} = \frac{n_h m_{hk}}{N_h},$$

here m_{hk} – the number of persons in kth household aged 16 and over in hth stratum in Population Register; n_h – the number of households in hth stratum; N_h – the number of persons aged 16 and older in hth stratum.
Sample design weights are:

$$DB080_h = d_{hk} = \frac{1}{\pi_{hk}} .$$

2.1.8.1.2. Adjustments for non-response at household level
To estimate household response probability logistic regression model are used. Response bias is estimated for responding and non-responding households. Then for the each household k define variable:

Let define the response propensity of each household k:
$$p_k = \Pr(R_k = 1 | V_k)$$
where V_j – auxiliary variables (county group, urbanization status, age of person belonging to address), R_k is defined above.
Then the modified design weights are defined:
$$DB080_k^{(N)} = d_{hk}^{(N)} = \frac{d_{hk}}{p_k} .$$

2.1.8.1.3. Adjustment to external sources (calibration)
Modified design weights are calibrated, seeking for the weights, which would remain as close as possible to sample design weights and allow obtaining some exact demographic estimates – auxiliary variables:
-    number of persons aged 0 and older (including newborn children) by different strata;
-    number of persons by different age groups;
-    number of males by different age groups.
The product of calibration procedure is the calibrated household weight of sub-sample s_1; it is equals to the household base weight w_{1k}^1 for sub-sample s_1 of T (T – survey year).
Then the personal base weight of sub-sample s_1 of T is defined:
$$w_{1i}^1 = w_{1k}^1, \ \ i \in k..$$

 The SAS macro program CLAN is used to calculate calibrated weights.

2.1.8.2. Sub-sample participated for the second time in the survey (s_2).

Sub-sample s_2 participated in the survey for the second time. To construct base weights of sub-sample s_2 of T, we need to have base weights of this sub-sample of (T-1).
Base weights of (T-1) are calculated according steps which use in paragraph 2.1.8.1. Let denote base personal weight of sub-sample s_2 of (T-1) by w_{1i}^2.
To determine base weight w_{2i}^2 of T from base weight w_{1i}^2 of (T-1), we use following step:
for the each person i, who are enumerated at (T-1) and still in-scope at T define variable:
$$R_i = \begin{cases} 1, & \textit{if the person successfully enumerated at T} \\ 0, & \textit{otherwise.} \end{cases}$$

Using *logit* model, define the response propensity of each person i:
$$p_i = \Pr(R_i = 1 | V_i)$$
where V_i – auxiliary variables (like strata, total disposable household income, capacity to face unexpected financial expenses, lowest monthly income to make ends meet), R_i is defined

above.

Then the personal base weight of sub-sample s_2 of T is defined:

$$w_{2i}^2 = \frac{w_{1i}^2}{p_i}.$$

Additionally assign the weights for new members of households of sub-sample s_2:

a) children born to sample women receive the weight of the mother.
b) persons, moving into sample households from outside the survey population, receive the average of base weights of existing household members.
c) persons, moving into sample households from other non-sample households in the population, receive zero base weight.

2.1.8.3. Sub-sample participated for the third time in the survey (s_3).

Sub-sample s_3 participated in the survey for the third time. To construct base weights of sub-sample s_3 of T, we need to have base weights of this sub-sample of (T-1) and (T-2). Base weights of (T-2) are calculated according steps which use in paragraph 2.1.8.1. Base weights of (T-1) are calculated according steps which use in paragraph 2.1.8.2.

Let denote base personal weight of sub-sample s_3 of (T-2) by w_{1i}^3 and of (T-1) by w_{2i}^3.

To determine base weight w_{3i}^3 of T from base weight w_{2i}^3 of (T-1), we denote for the each person i of sub-sample s_3, who are enumerated at (T-1) and still in-scope at T variable:

$$R_{2i} = \begin{cases} 1, & \textit{if the person successfully enumerated at } (T-1) \textit{ and } T \\ 0, & \textit{otherwise.} \end{cases}$$

Using *logit* model, define the response propensity of each person i:

$$p_{2i} = \Pr(R_{2i} = 1 \mid V_{2i})$$

where V_{2i} – auxiliary variables (like strata, dwelling type, tenure status, total disposable household income, lowest monthly income to make ends meet). Then the personal base weight of sub-sample s_3 of T is defined:

$$w_{3i}^3 = \frac{w_{2i}^3}{p_{2i}}.$$

Additionally assign the weights for new members who come in to the households in to year T of sub-sample s_3 according to the previous paragraph.

We have persons of sub-sample s_3 who participated in (T-2), not participated in (T-1) and participated in T. They are returnees.

Base personal weight for returnees of sub-sample s_3 of (T-2) defined by w_{1i}^3. Denote for the each returnee i of sub-sample s_3, who are enumerated at (T-2) and respond at T variable:

$$R_{3i} = \begin{cases} 1, & \textit{if the person enumerated at } (T-2) \textit{ and } T \\ 0, & \textit{otherwise.} \end{cases}$$

Using *logit* model, define the response propensity of each person i:

$$p_{3i} = \Pr(R_{3i} = 1 \mid V_{3i})$$

where V_{3i} – auxiliary variables (total disposable household income). Then the returnees' base weight of sub-sample s_3 of T is defined:

$$w_{3i}^{3r} = \frac{w_{1i}^3}{p_{3i}}.$$

Then final base weight of sub-sample s_3 of T is

$$w_{3i}^{(3*)} = \begin{cases} w_{3i}^3 & \textit{if the person enumerated for 3 consecutive years;} \\ w_{3i}^{3r}, & \textit{if the person are returnees.} \end{cases}$$

2.1.8.4. Sub-sample participated for the third time in the survey (s_4).

Sub-sample s_4 (only 2nd rotational group) participated in the survey for the forth time. To construct base weights of sub-sample s_4 of T, we need to have base weights of this sub-sample of (T-3), (T-2), (T-1). Base weights of (T-3) are calculated according steps which use in paragraph 2.1.8.1. Base weights of (T-2) are calculated according steps which use in paragraph 2.1.8.2. Base weights of (T-1) are calculated according steps which use in paragraph 2.1.8.3. Base weights of T are calculated similarly as refer in paragraph 2.1.8.3

2.1.8.5. Final cross-sectional weights (DB080, RB060, PB040, RL070)
Each sub-sample with base weights represents the whole population. The four sub-samples are combined. Averages of person base weights ($4\,w_{1i}^1$, $2\,w_{2i}^2$, $\frac{4}{3}\,w_{3i}^{3*}$, w_{4i}^{4*}) are calculated for each household. As result we have the base weights for each household: w_h^1, w_h^2, w_h^3 and w_h^4. Then calculated modified base weights

$$w_h = \begin{cases} w_h^1 \cdot n_1 / \sum_{r=1}^4 n_r, \textit{if } h \in s_1; \\ w_h^2 \cdot n_2 / \sum_{r=1}^4 n_r, \textit{if } h \in s_2; \\ w_h^3 \cdot n_3 / \sum_{r=1}^4 n_r, \textit{if } h \in s_3; \\ w_h^4 \cdot n_4 / \sum_{r=1}^4 n_r, \textit{if } h \in s_4. \end{cases}$$

here n_r is the sample size of the sub-samples, r=1, 2, 3, 4.
Modified base weights are calibrated, seeking for the weights, which would remain as close as possible to sample design weights and allow obtaining some exact demographic estimates – auxiliary variables:
- number of persons aged 0 and older (including newborn children) by different strata;
- number of persons by different age groups;
- number of males by different age groups.
The product of calibration procedure is the calibrated household weight DB090 of year 2009.

Household cross-sectional weight is assigned to each of its members $RB050_i = DB090_h$, $i \in h$. $RB050$ are personal cross-sectional weights.

The cross-sectional weight $PB040$ for persons aged 16 or more is equal to the $RB050$ cross-sectional weight of aged 16 or more.
The children cross-sectional weight for child care $RL070$ is equal to the $RB050$ cross-sectional weight of group from 0 to 12 years old.

SAS macro program CLAN is used for calculation of the calibrated weights.

2.1.9. Substitutions

No substitution was used.

2.2. Sampling errors

The variance estimates were computed using *SAS* macro program *CLAN*.

Table 3. Estimates, their standard error, confidence interval and design effect for the common cross-sectional indicators

Indicator	Value	Standard error	Confidence interval at 95%		CV(%)	Deff (calibration used)
At-risk-of-poverty rate after social transfers - total	**20,0**	0,9	18,2	21,8	4,66	0,951
At-risk-of-poverty rate after social transfers - men total	**19,8**	1,1	17,7	22,0	5,49	0,975
At-risk-of-poverty rate after social transfers - women total	**20,1**	1,0	18,2	22,1	4,91	0,954
At-risk-of-poverty rate after social transfers - 0-17 years	**24,3**	1,9	20,6	28,0	7,75	0,917
At-risk-of-poverty rate after social transfers - 65+ years	**12,1**	0,9	10,3	14,0	7,77	1,066
At-risk-of-poverty rate after social transfers - 18+ years	**19,0**	0,8	17,3	20,6	4,44	0,983
At-risk-of-poverty rate after social transfers - 18-64 years	**20,7**	1,0	18,8	22,7	4,87	0,981
At-risk-of-poverty rate after social transfers - men 65+ years	**10,0**	1,4	7,3	12,7	13,78	1,109
At-risk-of-poverty rate after social transfers - men 18+ years	**18,9**	1,0	16,9	20,8	5,33	0,993
At-risk-of-poverty rate after social transfers - men 18-64 years	**20,5**	1,2	18,2	22,7	5,62	0,991
At-risk-of-poverty rate after social transfers - women 65+ years	**13,2**	1,2	10,9	15,6	9,07	1,055
At-risk-of-poverty rate after social transfers - women 18+ years	**19,1**	0,9	17,3	20,8	4,59	0,988
At-risk-of-poverty rate after social transfers - women 18-64 years	**21,0**	1,1	18,9	23,1	5,11	0,983
At-risk-of-poverty rate before social transfers - total	**31,8**	1,1	29,6	33,9	3,40	0,944
At-risk-of-poverty rate before social transfers - men total	**32,6**	1,3	30,1	35,0	3,90	0,966
At-risk-of-poverty rate before social transfers - women total	**31,1**	1,1	28,9	33,3	3,62	0,949
At-risk-of-poverty rate before social transfers - 0-17 years	**40,5**	2,2	36,2	44,7	5,37	0,947
At-risk-of-poverty rate before social transfers - 18-64 years	**33,3**	1,2	31,1	35,6	3,49	0,963
At-risk-of-poverty rate before social transfers - 65+ years	**15,5**	1,0	13,5	17,5	6,56	1,063
At-risk-of-poverty rate before social transfers - 18+ years	**29,7**	1,0	27,8	31,6	3,28	0,965
At-risk-of-poverty rate before social transfers - men. 18-64 years	**34,4**	1,3	31,7	37,0	3,90	0,978
At-risk-of-poverty rate before social transfers - men. 65+ years	**11,4**	1,4	8,6	14,2	12,46	1,097
At-risk-of-poverty rate before social transfers - men. 18+ years	**30,9**	1,2	28,6	33,2	3,78	0,980
At-risk-of-poverty rate before social transfers - women. 18-64 years	**32,4**	1,2	30,0	34,7	3,72	0,966
At-risk-of-poverty rate before social transfers - women. 65+ years	**17,6**	1,3	15,0	20,1	7,42	1,057
At-risk-of-poverty rate before social transfers - women. 18+ years	**28,7**	1,0	26,8	30,6	3,42	0,969
Mean equivalised disposable income	**15914,9**	214,3	15495,0	16334,9	1,35	0,849

2.3. Non-sampling errors

2.3.1. Sampling frame and coverage errors

The sampling frame of EU-SILC 2011 was the Residents' Register. The Residents' Register is updated regularly. However, not all movements of population within country are reflected, whereas not all population report about changing of address to the migration office. Consequently, the households, living in selected person's address, were surveyed.

Percentage of non-contacted addresses by the reasons: address does not exist or is non-residential address or is unoccupied (DB120=23) out of total selected addresses – 3; address can not be located (DB120=21) – 0,6.

2.3.2. Measurement and processing errors

2.3.2.1. Measurement errors

The measurement errors originate from the questionnaire (its wording, design), the data collection method, the interviewers and the respondents. While it is impossible to avoid this type of errors completely, procedures were taken to reduce them as much as possible.

The questionnaires for EU-SILC 2011 were developed according to the EU-SILC regulations and EU-SILC doc 65/04. The questionnaires were tested during the first wave of pilot survey conducted in 2004. Designing questionnaires for main operation errors and interviewers feedbacks from the pilot survey were considered. Also the experience from the different waves (2005 – 2011) of the survey was used to improve the questionnaire for the operation 2011.

The interviewers' training was carried-out by supervisors in each territorial statistical office in the first half of February. Supervisors passed training course in Statistics Lithuania organized by specialists from Living standard statistics and Interviewers management divisions before that. Interviewers' manual presenting instructions on filling in the questionnaires and detailed explanations for all income components, particularly benefits, were prepared. Special emphasis was placed on tracing rules and specifics of assigning household and person numbers in the longitudinal survey. Methodical explanations were combined with practical tests using laptops. Fieldwork has started immediately after interviewers training.

Fieldwork was carried out by permanent interviewers. In total 95 interviewers were involved into 2011 year operation. One interviewer had an average 54 selected addresses.

2.3.2.2. Processing errors

Data were entered by interviewers. Completed questionnaires were checked by supervisors. Necessary call-backs were made. *Abbyy eFormFiller* software was used for data entry. The computer program included the possible logical checks between questions and questionnaires, also a package of alerts (warning and error ones) related to ranges of admissible values and logical connections between questions. Coding controls were implemented in post-data-collection. After the data entry was finished the data were checked for consistency by specialists of the Living Standard and Employment Statistics Division of Statistics Lithuania.

2.3.3. Non-response errors

2.3.3.1. Achieved sample size

Achieved sample size: 5201 households and 11030 persons aged 16 or older.

Table 4. Accepted interviews

Rotational group	Number of households for which an interview is accepted for the database (DB135 = 1)	Number of persons aged 16 or older who are members of the households for which the interview is accepted for the database (DB135 = 1) and who completed personal interview (RB250 = 11 to 14)
Total	**5201**	**11030**
1	1545	3250
2	1338	2803
3	1085	2304
4	1233	2673

2.3.3.2. Unit non-response

The following rates are computed according to Eurostat definitions for the total sample.

Address contact rate:

$$Ra = \frac{6059}{6317 - 191} \approx 0.989 \ .$$

The proportion of completed household interviews accepted for the database:

$$Rh = \frac{5201}{6317} \approx 0.823$$

Household non-response rates:

$$NRh = \left(1 - (Ra * Rh)\right) * 100 = \left(1 - (0.989 * 0.823)\right) * 100 = 18.61 \ .$$

The proportion of completed personal interviews within the households accepted for the database:

$$Rp = \frac{11030}{11030} \approx 1 \ .$$

Individual non-response rate:

$$NRp = \left(1 - (Rp)\right) * 100 = (1 - 1) * 100 = 0 \ .$$

Overall individual non-response rate:

$$* NRp = \left(1 - (Ra * Rh * Rp)\right) * 100 = \left(1 - (0.989 * 0.823 * 1)\right) * 100 \approx 18.61 \ .$$

The following rates are computed according to Eurostat definitions for the new replication.

Address contact rate:

$$Ra = \frac{2072}{2259 - 138} \approx 0.977 \ .$$

The proportion of completed household interviews accepted for the database:

$$Rh = \frac{1338}{2259} \approx 0.592 \ .$$

Household non-response rates:

$$NRh = (1 - (Ra * Rh)) * 100 = (1 - (0.977 * 0.592)) * 100 = 42.16 \ .$$

The proportion of completed personal interviews within the households accepted for the database:

$$Rp = \frac{2803}{2803} \approx 1$$

Individual non-response rate:

$$NRp = (1 - (Rp)) * 100 = (1 - 1) * 100 = 0$$

Overall individual non-response rate:

$$* NRp = (1 - (Ra * Rh * Rp)) * 100 = (1 - (0.977 * 0.592 * 1)) * 100 \approx 42.16 \ .$$

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

Table 5. Distribution of households by '*record of contact at address*'

	Rotational group 1		Rotational group 2		Rotational group 3		Rotational group 4		Total	
	N	%	N	%	N	%	N	%	N	%
Total (DB120=11 to 23)	**1614**	**100**	**2259**	**100**	**1143**	**100**	**1301**	**100**	**6317**	**100**
Address contacted (DB120=11)	1588	98.4	2072	91.7	1122	98.2	1277	98.2	6059	95.9
Address non-contacted (DB120=21 to 23)	26	1.6	187	8.3	21	1.8	24	1.8	258	4.1
Total address non-contacted (DB120=21 to 23)	**26**	**100**	**187**	**100**	**21**	**100**	**24**	**100**	**258**	**100**
Address cannot be located (DB120=21)	0	0	35	18.7	1	4.7	0	0	36	14.0
Address unable to access (DB120=22)	7	26.9	14	7.5	6	28.6	4	16.7	31	12.0
Address does not exist or is non-residential address or is unoccupied or not principal residence (DB120=23)	19	73.1	138	73.8	14	66.7	20	83.3	191	74.0

Table 6. Distribution of address contacted by 'household questionnaire result' and by 'household interview acceptance'

	Rotational group 1		Rotational group 2		Rotational group 3		Rotational group 4		Total	
	N	%	N	%	N	%	N	%	N	%
Total (DB130=11 to 24)	**1588**	**100**	**2072**	**100**	**1122**	**100**	**1277**	**100**	**6059**	**100**
Household questionnaire completed (DB130=11)	1545	97.3	1338	64.6	1085	96.7	1233	96.6	5201	85.8
Interview not completed (DB130=21 to 24)	43	2.7	734	35.4	37	3.3	44	3.4	858	14.2
Total interview not completed (DB130=21 to 24)	**43**	**100**	**734**	**100**	**37**	**100**	**44**	**100**	**858**	**100**
Refusal to co-operate (DB130=21)	30	69.8	561	76.4	27	73.0	31	70.5	649	75.6
Entire household temporarily away for duration of fieldwork (DB130=22)	12	27.9	102	13.9	7	18.9	12	27.3	133	15.5
Household unable to respond (illness, incapacity, etc) (DB130=23)	0	0	5	0.7	0	0	0	0	5	0.6
Other (DB130=24)	1	2.3	66	9.0	3	8.1	1	2.2	71	8.3
Household questionnaire completed (DB135=1 to 2)	**1545**	**100**	**1338**	**100**	**1085**	**100**	**1233**	**100**	**5201**	**100**
Interview accepted to database (DB135=1)	1545	100	1338	100	1085	100	1233	100	5201	100
Interview rejected (DB135=2)	0	0	0	0	0	0	0	0	0	0

2.3.3.4. Item non-response

The following tables show the share of item non-response for income variables on household and individual level.

Table 7. Distribution of item non-response, household-level variables

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)	98.8	0.0	4.4
Total disposable household income (HY020)	99.1	0.0	4.5
Total disposable household income before social transfers except old-age and survivor's benefits (HY022)	96.0	0.0	4.9
Total disposable household income before social transfers including old-age and survivor's benefits (HY023)	75.9	0.0	8.3
Gross income components at household level			
Income from rental of a property or land (HY040G)	4.1	0.1	0.0
Family/child related allowances (HY050G)	25.8	2.0	0.0
Social exclusion not elsewhere classified (HY060G)	15.7	0.4	0.0
Housing allowances (HY070G)	2.6	0.1	0.0
Regular inter-household cash transfer received (HY080G)	5.9	1.4	0.0
Interest, dividends, etc. (HY090G)	6.8	1.5	0.0
Income received by people aged under 16 (HY110G)	0.1	0.0	0.0
Regular taxes on wealth (HY120G)	21.8	0.6	0.0
Regular inter-household cash transfer paid (HY130G)	3.7	0.7	0.0

Table 8. Distribution of item non-response, person-level variables

Income variable	% of persons 16+ having received an amount	% of persons with missing values (before imputation)
Gross income components at personal level		
Employee cash or near cash income (PY010G)	47.1	2.2
Non-cash employee income (PY020G)	3.0	0.0
Company car (PY021G)	0.6	0.0
Contributions to individual private pension plans (PY035G)	0.7	0.0
Cash benefits or losses from self-employment (PY050G)	7.8	0.4
Pension from individual private plans (PY080G)	0.0	0.0
Unemployment benefits (PY090G)	3.3	0.0
Old-age benefits (PY100G)	24.5	0.3
Survivor's benefits (PY110G)	11.3	0.1
Disability benefits (PY130G)	9.7	0.0
Education-related allowances (PY140G)	1.7	0.0

2.3.3.5. Total item non-response and number of observations in the sample at unit level of the common cross-sectional European Union indicators based on the cross-sectional component of EU-SILC and for equivalised disposable income

Item non-response:
      a. Number of persons with no information on most frequent activity status, when applicable (164);
      b. Number of persons with no information on household type, when applicable to indicator (2).

Non-response at individual level, i.e. an individual questionnaire is missing (0).

Non-response at household level, i.e. interview rejected for data base DB135=2 (0), address cannot be located DB120=21 (36) or address unable to access DB120=22 (31).

Table 9. Number of observations and total item non-response

	Number of sample observations (achieved sample size)	Number of sample observations not taken into account due to item non-response	Non-response at individual level (if applicable)	Non-response at household level (number of households)
At-risk-of-poverty rate after social transfers				
Total[1]	12494	0	NA	1 116
By age and gender[1]				
men total	5781	0	NA	-
women total	6713	0	NA	-
0-17 years	1794	0	NA	-
18-24 years	1186	0	NA	-
25-49 years	3467	0	NA	-
50-64 years	3212	0	NA	-
65+ years	2835	0	NA	-
18+ years	10700	0	NA	-
18-64 years	7865	0	NA	-
0-64 years	9645	0	NA	-
men, 18-24 years	633	0	NA	-
men, 25-49 years	1590	0	NA	-
men, 50-64 years	1510	0	NA	-
men, 65+ years	1139	0	NA	-
men, 18+ years	4872	0	NA	-
men, 18-64 years	3733	0	NA	-
men, 0-64 years	4634	0	NA	-
women, 18-24 years	553	0	NA	-
women, 25-49 years	1877	0	NA	-
women, 50-64 years	1702	0	NA	-
women, 65+ years	1696	0	NA	-
women, 18+ years	5828	0	NA	-
women, 18-64 years	4132	0	NA	-
women, 0-64 years	5011	0	NA	-
By most frequent activity status[2] and gender				
total 18+ years	10536	164	NA	-
employed	4793	-	NA	-
non-employed	5743	-	NA	-
unemployed	950	-	NA	-
retired	3198	-	NA	-
other inactive	1595	-	NA	-
total men 18+ year	4789	86	NA	-
men, employed	2254	-	NA	-

	Number of sample observations (achieved sample size)	Number of sample observations not taken into account due to item non-response	Non-response at individual level (if applicable)	Non-response at household level (number of households)
men, non-employed	2535	-	NA	-
men, unemployed	549	-	NA	-
men, retired	1224	-	NA	-
men, other inactive	759	-	NA	-
total women 18+ years	5750	78	NA	-
women, employed	2539	-	NA	-
women, non-employed	3211	-	NA	-
women, unemployed	401	-	NA	-
women, retired	1974	-	NA	-
women, other inactive	836	-	NA	-
By household type[3]				
single, < 65 years	593	0	NA	-
single, 65+ years	735	0	NA	-
single, male	409	0	NA	-
single, female	919	0	NA	-
single, total	1328	0	NA	-
2 adults, no children, both < 65	1680	2	NA	-
2 adults, no children, at least one 65+	1818	2	NA	-
other households without children	1669	2	NA	-
single parent, at least one child	568	2	NA	-
2 adults, 1 child	1599	2	NA	-
2 adults, 2 children	1356	2	NA	-
2 adults, 3+ children	528	2	NA	-
other households with children	1946	2	NA	-
households without children	6495	2	NA	-
households with children	5997	2	NA	-
By accommodation tenure status				
owner or rent-free	12302	0	NA	-
tenant	192	0	NA	-
Inequality of income distribution S80/S20 income quintile share ratio	12494	0	NA	-

	Number of sample observations (achieved sample size)	Number of sample observations not taken into account due to item non-response	Non-response at individual level (if applicable)	Non-response at household level (number of households)
Relative median at-risk-of-poverty gap				
Total	2062	0	NA	-
By age and gender				
men total	966	0	NA	-
women total	1096	0	NA	-
0-17 years	398	0	NA	-
18-64 years	1432	0	NA	-
65+ years	232	0	NA	-
18+ years	1664	0	NA	-
men, 18-64 years	692	0	NA	-
men, 65+ years	77	0	NA	-
men, 18+ years	769	0	NA	-
women, 18-64 years	740	0	NA	-
women, 65+ years	155	0	NA	-
women, 18+ years	895	0	NA	-
Dispersion around the at-risk-of-poverty threshold				
40%	12494	0	NA	1 116
50%	12494	0	NA	1 116
70%	12494	0	NA	1 116
At-risk-of-poverty rate before social transfers except old-age and survivors' benefits				
Total[1]	12494	0	NA	1 116
By age and gender[1]				
men total	5781	0	NA	-
women total	6713	0	NA	-
0-17 years	1794	0	NA	-
18-64 years	7865	0	NA	-
65+ years	2835	0	NA	-
18+ years	10700	0	NA	-
men, 18-64 years	3733	0	NA	-
men, 65+ years	1139	0	NA	-
men, 18+ years	4872	0	NA	-
women, 18-64 years	4132	0	NA	-
women, 65+ years	1696	0	NA	-
women, 18+ years	5828	0	NA	-

	Number of sample observations (achieved sample size)	Number of sample observations not taken into account due to item non-response	Non-response at individual level (if applicable)	Non-response at household level (number of households)
At-risk-of-poverty rate before social transfers including old-age and survivors' benefits				
Total[1]	12494	0	NA	1 116
By age and gender[1]				
men total	5781	0	NA	-
women total	6713	0	NA	-
0-17 years	1794	0	NA	-
18-64 years	7865	0	NA	-
65+ years	2835	0	NA	-
18+ years	10700	0	NA	-
men, 18-64 years	3733	0	NA	-
men, 65+ years	1139	0	NA	-
men, 18+ years	4872	0	NA	-
women, 18-64 years	4132	0	NA	-
women, 65+ years	1696	0	NA	-
women, 18+ years	5828	0	NA	-
Gini coefficient	12494	0	NA	1 116
Mean equivalised disposable income	12494	0	NA	1 116

[1] children born in 2011 are included;
[2] the information on activity status refers to the population of individuals aged 18+
[3] all persons aged less then 18 are considered as dependent children, plus those economically inactive persons aged 18-24 living with at least one of their parents.

2.4. Mode of data collection

The method for data collection was computer assisted personal interview (CAPI). If necessary, telephone interviews were allowed. Proxy interviews were allowed for persons temporarily away or in incapacity. To avoid non-response within household proxy interview as an exception was allowed when it was no possibility to make personal interview and another member of household could provide the information. Some data collected by proxy interview were amended by telephone, but method of data collection was not changed in the microdata.

According to Eurostat recommendations for dealing with the individual non-response problem full/partial imputation of missing personal interviews were used (7 cases). In case of full/partial imputation the variable RB250 (data status) = 14 "information completed from record imputation" and flag of variable RB260_F (type of interview) = -2.

Table 10. Distribution of household members aged 16 and over by 'data status' (RB250) and rotational group
HOUSEHOLD MEMBERS 16+ (RB245=1 to 3)

	Total	RB250=11	=12	=14	=21	=22	=23	=31	=32	=33
Total	11030	11030	0	0	0	0	0	0	0	0
%	100	100	0	0	0	0	0	0	0	0
Rotation 1	3250	3250	0	0	0	0	0	0	0	0
%	100	100	0	0	0	0	0	0	0	0
Rotation 2	2803	2803	0	0	0	0	0	0	0	0
%	100	100	0	0	0	0	0	0	0	0
Rotation 3	2304	2304	0	0	0	0	0	0	0	0
%	100	100	0	0	0	0	0	0	0	0
Rotation 4	2673	2673	0	0	0	0	0	0	0	0
%	100	100	0	0	0	0	0	0	0	0

Table 11. Distribution of household members aged 16 and over by 'Type of Interview' (RB260) and rotational group
HOUSEHOLD MEMBERS 16+ (RB245=1 to 3) and RB250=11 or 13

	Total	RB260=1	RB260=2	RB260=3	RB260=4	RB260=5	Missing
Total*	11030	6231	1	3302	38	1458	0
%	100	56.49	0.01	29.94	0.34	13.22	0
Rotation 1	3250	1703	0	1129	2	416	0
%	100	52.40	0	34.74	0.06	12.80	0
Rotation 2	2803	2110	0	345	29	319	0
%	100	75.28	0	12.31	1.03	11.38	0
Rotation 3	2304	1090	0	871	2	341	0
%	100	47.31	0	37.80	0.09	14.80	0
Rotation 4	2673	1328	1	957	5	382	0
%	100	49.68	0.04	35.80	0.19	14.29	0

*Full imputed not included

2.5. Interview duration

Mean duration of household interview (HB100) - 23 minutes.
Mean duration of personal interview (PB120) - 22 minutes.
Mean interview duration per household – 70 minutes.

3. Comparability

3.1. Basic concepts and definitions

The reference population

No difference to the common definition. The target population of EU-SILC is all persons living in private households within the national territory of Lithuania at the time of data collection. Collective households and institutions are excluded from the target population.

The private household definition

No difference to the common definition. The private household is defined as a person living alone or a group of people, who live together in the same private dwelling and share expenditures, including the joint provision of the essentials of living.

The household membership

No difference to the common definition.

The income reference period used

No difference to the common definition. The income reference period was a fixed twelve-month period, namely the last calendar year. In the 2011 operation income data were collected for the reference year 2010.

The period for taxes on income and social insurance contributions

No difference to the common definition. Taxes on income and social insurance contributions, as well as tax repayments and receipts refer to the income reference period (year 2010).

The reference period for taxes on wealth

No difference to the common definition. Taxes on wealth paid during the income reference period (year 2010) were recorded.

The lag between the income reference period and current variables

The lag between the end of the income reference period and current variables ranges from 2 to 7 months.

The total duration of the data collection of the sample

The fieldwork period started on 14th of February 2011 and ended on the 31th of July.

Basic information on activity status during the income reference period

This information was collected with the questionnaire by an activity calendar covering each month of the income reference period.

3.2. Components of income

3.2.1. Differences between the national definitions and standard EU-SILC definitions

Imputed rent

For estimating of Imputed rent we used two step model.
1 step. Stratification method, using data from Housing Rental Price Survey was applied.
2 step. Log-linear regression method was used to estimate the rest of the missing values.

Cash or near cash employee income

To calculate Sickness benefits (PY120) data from the State Social Insurance Fund Board and the State Tax Inspectorate were used. The algorithm based on country health insurance system was used for missing values.

No-cash employee income

All components of this variable were collected. The values related to company car were recorded under variable PY021 and were added to the calculation variables HY010, HY020, HY022 and HY023.

Cash benefits or losses from self-employment

The self-employment income was collected as the amount of money drawn out of the business for household, personal use. Income from agriculture, included in this variable, was calculated as difference of total revenue from agricultural activity and total expenditure on it.

Value of goods produced for own-consumption

Variable was collected and recorded to microdata file, but was not added to the calculation variables HY010, HY020, HY022 and HY023.
The quantities of products, used for own consumption, were collected during interview. The value of goods produced for own consumption was estimated by multiplying quantity by estimated market prices of goods from the Price statistics.

Gross monthly earnings for employees

Variable was not collected because EU-SILC is not used to calculated gender pay gap.

3.2.2. The source or procedure used for the collection of income variables

Where applicable the EU-SILC income target variables were split into sub-components. The sub-components were defined according to the Lithuanian regulations and benefit system. All data related to income variables were collected from interviews.
Administrative data were used for making the survey income data more accurate or for supplementing them. The State Social Insurance Fund Board data and the State Tax Inspectorate under the Ministry of Finance of the Republic of Lithuania data have been linked to sample data and used for checking cash or near-cash employee income (PY010, PY120),

social insurance contributions and taxes on income (components of HY140), old-age benefits (PY100). Maternity and maternity/paternity allowances (component of HY050), dividends and interest (component of HY090), care allowance, social assistance, old-age, and survivor's pensions have been taken from the administrative data; we just asked if person received income from maternity allowance, dividends or not.

3.2.3. The form in which income variables at component level have been obtained

Employee cash and near-cash income (PY010), self-employment income (PY050), unemployment benefits (PY090), family/children related allowances (HY050), interest, dividends, profit from capital investments (HY090), income received by people aged under 16 (HY110) were collected in net and/or gross. The remaining variables were collected only in gross.

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

The gross-net/net-gross conversion was used for either gross or net was collected. Conversion algorithms were created on the bases of country tax system. All income variables that are subjected to taxation and/or social insurance contribution were recorded gross and net in to the microdata files. Other income variables were recorded only gross.

4. Coherence

This section will compare the EU-SILC data to wage statistics and administrative data.

4.1. Comparison of income target variables and number of persons who received income from each 'income component', with external source

Table 12. Comparison of income target variables and number of persons/households who received income components

Income component	EU-SILC 2011	Wage statistics 2011
	Annual number of people, thousands	
Cash or near cash employee income (PY010N)	1 270.5	1 333.9

4.2. Comparison of other target variables with external source

Table 13. Comparison number of persons age 16 and over by self-defined current economic status

Activity status	EU-SILC 2011	LFS 2011 [1]
	Number of people, thousands	
At work	1 305.7	1 256.5*
Unemployed	273.2	226.1*
Total	2 695.9	2 581.7*

[1] *Persons age 15 and over*

population figures recalculated based on the 2011 Population and Housing Census data were used

Regina Deveikyte
Head, Living Standard and Employment Statistics Division
Statistics Lithuania
Phone +370 5 2364 919
e-mail: regina.deveikyte@stat.gov.lt