



STATISTIKOS DEPARTAMENTAS
STATISTICS LITHUANIA

**INTERMEDIATE QUALITY REPORT
EU-SILC 2010 OPERATION**

Vilnius 2011

1. Common cross-sectional European Union indicators

Table 1. Laeken indicators and other indicators

Overarching indicator	Value
<i>Primary Laeken indicators of social cohesion</i>	
At-risk-of-poverty rate after social transfers - total	20.2
At-risk-of-poverty rate after social transfers - men total	20.7
At-risk-of-poverty rate after social transfers - women total	19.8
At-risk-of-poverty rate after social transfers - 0-17 years	23.3
At-risk-of-poverty rate after social transfers – 65+ years	10.2
At-risk-of-poverty rate after social transfers – 18+ years	19.5
At-risk-of-poverty rate after social transfers - 18-64 years	21.8
At-risk-of-poverty rate after social transfers - men 65+ years	8.1
At-risk-of-poverty rate after social transfers - men 18+ years	20.3
At-risk-of-poverty rate after social transfers - men 18-64 years	22.3
At-risk-of-poverty rate after social transfers - women 65+ years	11.2
At-risk-of-poverty rate after social transfers - women 18+ years	18.9
At-risk-of-poverty rate after social transfers - women 18-64 years	21.3
At-risk-of-poverty rate after social transfers - employed	12.3
At-risk-of-poverty rate after social transfers – non-employed	27.1
At-risk-of-poverty rate after social transfers - unemployed	55.5
At-risk-of-poverty rate after social transfers - retired	13.3
At-risk-of-poverty rate after social transfers - other inactive	29.8
At-risk-of-poverty rate after social transfers - men, employed	10.3
At-risk-of-poverty rate after social transfers – men, non-employed	31.7
At-risk-of-poverty rate after social transfers - men, unemployed	55.8
At-risk-of-poverty rate after social transfers - men, retired	11.9
At-risk-of-poverty rate after social transfers - men, other inactive	31.1
At-risk-of-poverty rate after social transfers - women, employed	14.0
At-risk-of-poverty rate after social transfers – women, non-employed	23.7
At-risk-of-poverty rate after social transfers - women, unemployed	54.9
At-risk-of-poverty rate after social transfers - women, retired	14.0
At-risk-of-poverty rate after social transfers - women, other inactive	28.8
Median of the equivalised disposable household income	14015.76
At-risk-of-poverty threshold – single	8409.5
At-risk-of-poverty threshold - 2 adults, 2 children	17660
Inequality of income distribution S80/S20 income quintile share ratio	7.3
At risk-of-poverty rate anchored at a fixed moment in time (2005) - total	9.5
At risk-of-poverty rate anchored at a fixed moment in time (2005) – men total	10.8
At risk-of-poverty rate anchored at a fixed moment in time (2005) – women total	8.3
At risk-of-poverty rate anchored at a fixed moment in time (2005) – 0-17 years	12.1
At risk-of-poverty rate anchored at a fixed moment in time (2005) – 18-64 years	10.6
At risk-of-poverty rate anchored at a fixed moment in time (2005) – 65 + years	1.7
At risk-of-poverty rate anchored at a fixed moment in time (2005) – men 18-64 years	11.8
At risk-of-poverty rate anchored at a fixed moment in time (2005) – men 65+ years	1.9
At risk-of-poverty rate anchored at a fixed moment in time (2005) – women 18-64 years	9.5

Overarching indicator	Value
At risk-of-poverty rate anchored at a fixed moment in time (2005) – women 65+ years	1.6
Relative median at-risk-of-poverty gap - total	32.6
Relative median at-risk-of-poverty gap - men total	37.0
Relative median at-risk-of-poverty gap - women total	28.9
Relative median at-risk-of-poverty gap – 0-17 years	35.5
Relative median at-risk-of-poverty gap - 18-64 years	33.6
Relative median at-risk-of-poverty gap - 65+ years	9.2
Relative median at-risk-of-poverty gap - men, 18-64 years	37.1
Relative median at-risk-of-poverty gap - men, 65+ years	16.8
Relative median at-risk-of-poverty gap - women, 18-64 years	31.5
Relative median at-risk-of-poverty gap - women, 65+ years	8.4
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	32.1
At-risk-of-poverty rate before social transfers – women total	31.6
At-risk-of-poverty rate before social transfers - 0-17 years	43.6
At-risk-of-poverty rate before social transfers - 18-64 years	32.9
At-risk-of-poverty rate before social transfers - 65+ years	13.3
At-risk-of-poverty rate before social transfers - 18+ years	29.1
At-risk-of-poverty rate before social transfers - men, 18-64 years	32.8
At-risk-of-poverty rate before social transfers - men, 65+ years	9.9
At-risk-of-poverty rate before social transfers - men, 18+ years	29.5
At-risk-of-poverty rate before social transfers - women, 18-64 years	32.9
At-risk-of-poverty rate before social transfers - women, 65+ years	15.1
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	48.1
At-risk-of-poverty rate before social transfers - men total	45.1
At-risk-of-poverty rate before social transfers - women total	50.6
At-risk-of-poverty rate before social transfers - 0-17 years	47.1
At-risk-of-poverty rate before social transfers - 18-64 years	39.0
At-risk-of-poverty rate before social transfers - 65+ years	86.8
At-risk-of-poverty rate before social transfers - 18+ years	48.3
At-risk-of-poverty rate before social transfers - men, 18-64 years	38.3
At-risk-of-poverty rate before social transfers - men, 65+ years	86.3
At-risk-of-poverty rate before social transfers - men, 18+ years	45.3
At-risk-of-poverty rate before social transfers - women, 18-64 years	39.7
At-risk-of-poverty rate before social transfers - women, 65+ years	87.0
At-risk-of-poverty rate before social transfers - women, 18+ years	50.8

2. Accuracy

2.1. Sample design

2.1.1 Type of sampling design

2010 operation was the sixth wave of EU-SILC in Lithuania. For the first time households which were selected for the survey in 2005 divided into 4 rotational 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. The third group was dropped out after 2007 operation and not included to the survey of year 2008. A new sub-sample of households was selected to the sample of year 2008 according the same rules as selected a new sub-sample before. The fourth group was dropped out after 2008 operation and not included to the survey of year 2009. A new sub-sample of households was selected to the sample of year 2009 according the same rules as selected a new sub-sample before. The first group was dropped out after 2009 operation and not included to the survey of year 2010. A new sub-sample of households was selected to the sample of year 2010 according the same rules as selected a new sub-sample before.

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 6372 households. This number includes 3831 households, which responded to the survey in 2009 and where followed up during 2010 operation (3 rotational groups), newly selected rotational group – 2541 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 2010 till the end of July.

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

Month	Per cent
February	6.0
March	16.2
April	17.0
May	18.1
June	20.2
July	22.5

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. In 2008 operation, third of four groups was dropped out after 2007 operation and not included to the survey of 2008 according to the original integrated design. New rotational group was named as 3rd. In 2009 operation, fourth of four groups was dropped out after 2008 operation and not included to the survey of 2009 according to the original integrated design. New rotational group was named as 4th. In 2010 operation, first of four groups was dropped out after 2009 operation and not included to the survey of 2010 according to the original integrated design. New rotational group was named as 4th. 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 2010 consisted of the following sub-samples:

- s_1 – sample of the person in the households enumerated in 2010, persons participate for the first time (only 1st rotational group);
- s_2 – sample of the person in the households enumerated in 2009, persons participate for the second time (only 4th rotational group);
- s_3 – sample of the person in the households enumerated in 2008, persons participate for the third time (only 3^d rotational group);
- s_4 – sample of the person in the households enumerated in 2007, persons participate for the forth time (only 2nd rotational group).

Base weights of year 2010 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 k th household aged 16 and over in h th stratum in

Population Register; n_h – the number of households in h th stratum; N_h – the number of persons aged 16 and older in h th 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 propensities are estimated for responding and non-responding households. Then for the each household k define variable:

$$R_k = \begin{cases} 1, & \text{if the household } k \text{ responds;} \\ 0, & \text{otherwise.} \end{cases}$$

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 year 2009.

Then the personal base weight of sub-sample s_1 of year 2009 is defined:

$$w_{1i}^1 = 4 \cdot w_{1k}^1, \quad i \in k..$$

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 year 2010, we need to have base weights of this sub-sample of year 2009.

Base weights of year 2009 are calculated according steps which use in paragraph 1 (sub-sample is selected for the first time in the survey). Let denote base personal weight of sub-sample s_2 of year 2009 by w_{1i}^2 .

To determine base weight w_{2i}^2 of year 2009 from base weight w_{1i}^2 of year 2009, we use following step:

for the each person i , who are enumerated at year 2009 and still in-scope at year 2010 define variable:

$$R_i = \begin{cases} 1, & \text{if the person successfully enumerated at year 2010} \\ 0, & \text{otherwise.} \end{cases}$$

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 year 2010 is defined:

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

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 year 2010, we need to have base weights of this sub-sample of year 2008 and year 2009. Base weights of year 2008 are calculated according steps which use in paragraph 1 (sub-sample is selected for the first time in the survey). Let denote base personal weight of sub-sample s_3 of year 2008 by w_{1i}^3 .

To determine base weight w_{2i}^3 of year 2009 from base weight w_{1i}^3 of year 2008, we use following step: for the each person i , who are enumerated at year 2007 and still in-scope at year 2009 define variable:

$$R_{1i} = \begin{cases} 1, & \text{if the person successfully enumerated at year 2009} \\ 0, & \text{otherwise.} \end{cases}$$

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

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

where V_{1i} – auxiliary variables (like strata, total disposable household income), R_{1i} is defined above. Then the personal base weight of sub-sample s_3 of year 2009 is defined:

$$w_{2i}^3 = \frac{w_{1i}^3}{p_{1i}}.$$

Additionally assign the weights for newborns, for persons moving into sample households from outside the survey population and for persons moving into sample households from other non-sample households in the population according to the previous paragraph.

To determine base weight w_{3i}^3 of year 2009 from base weight w_{2i}^3 of year 2009, we denote for the each person i of sub-sample s_3 , who are enumerated at year 2008 and still in-scope at year 2010 variable:

$$R_{2i} = \begin{cases} 1, & \text{if the person successfully enumerated at year 2010} \\ 0, & \text{otherwise.} \end{cases}$$

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

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

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 year 2010 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 2009 of sub-sample s_3 according to the previous paragraph.

We have persons of sub-sample s_3 who participated in year 2010, not participated in year 2009 and participated in year 2008. They are returnees.

Base personal weight for returnees of sub-sample s_3 of year 2008 defined by w_{1i}^3 . Denote for the each returnee i of sub-sample s_3 , who are enumerated at year 2008 and respond at year 2010 variable:

$$R_{3i} = \begin{cases} 1, & \text{if the person enumerated at year 2008 and 2010} \\ 0, & \text{otherwise.} \end{cases}$$

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

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

where V_{3i} – auxiliary variables (total disposable household income). Then the returnees' base weight of sub-sample s_3 of year 2010 is defined:

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

Then final base weight of sub-sample s_3 of year 2010 is

$$w_{3i}^{3*} = 4/3 \cdot w_{3i}^3.$$

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

Sub-sample s_4 (only 2^d rotational group) participated in the survey for the forth time. To construct base weights of sub-sample s_4 of year 2010, we need to have base weights of this sub-sample of year 2007, 2008 and 2009. Base weights of year 2007 are calculated according steps which use in paragraph 1 (sub-sample is selected for the first time in the survey). Let denote base personal weight of sub-sample s_3 of year 2007 by w_{1i}^4 .

To determine base weight w_{2i}^4 of year 2008 from base weight w_{1i}^4 of year 2007, we use following step: for the each person i , who are enumerated at year 2007 and still in-scope at year 2008 define variable:

$$R_{1i} = \begin{cases} 1, & \text{if the person successfully enumerated at year 2008} \\ 0, & \text{otherwise.} \end{cases}$$

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

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

where V_{1i} – auxiliary variables (like strata, total disposable household income), R_{1i} is defined above. Then the personal base weight of sub-sample s_4 of year 2008 is defined:

$$w_{2i}^4 = \frac{w_{1i}^4}{p_{1i}}.$$

Additionally assign the weights for newborns, for persons moving into sample households from outside the survey population and for persons moving into sample households from other non-sample households in the population according to the previous paragraph.

To determine base weight w_{3i}^4 of year 2009 from base weight w_{2i}^4 of year 2008, we denote for the each person i of sub-sample s_4 , who are enumerated at year 2008 and still in-scope at year 2009 variable:

$$R_{2i} = \begin{cases} 1, & \text{if the person successfully enumerated at year 2009} \\ 0, & \text{otherwise.} \end{cases}$$

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

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

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 year 2009 is defined:

$$w_{3i}^4 = \frac{w_{2i}^4}{p_{2i}}.$$

Additionally assign the weights for new members who come in to the households in to year 2009 of sub-sample s_4 according to the previous paragraph.

We have persons of sub-sample s_4 who participated in year 2009, not participated in year 2008 and participated in year 2007. They are returnees.

Base personal weight for returnees of sub-sample s_4 of year 2007 defined by w_{1i}^4 . Denote for the each returnee i of sub-sample s_4 , who are enumerated at year 2007 and respond at year 2009 variable:

$$R_{3i} = \begin{cases} 1, & \text{if the person enumerated at year 2007 and 2009} \\ 0, & \text{otherwise.} \end{cases}$$

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

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

where V_{3i} – auxiliary variables (total disposable household income). Then the returnees' base weight of sub-sample s_4 of year 2009 is defined:

$$w_{3i}^4 = \frac{w_{1i}^4}{p_{3i}}.$$

Then final base weight of sub-sample s_3 of year 2009 is

$$w_{3i}^{4*} = w_{3i}^4.$$

To determine base weight w_{4i}^4 of year 2010 from base weight w_{3i}^{4*} of year 2009, we denote for the each person i of sub-sample s_4 , who are enumerated at year 2009 and still in-scope at year 2010 variable:

$$R_{4i} = \begin{cases} 1, & \text{if the person successfully enumerated at year 2010} \\ 0, & \text{otherwise.} \end{cases}$$

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

$$p_{4i} = \Pr(R_{4i} = 1 | V_{4i})$$

where V_{4i} – 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 year 2010 is defined:

$$w_{4i}^4 = \frac{w_{3i}^{4*}}{p_{4i}}.$$

Additionally assign the weights for new members who come in to the households in to year 2010 of sub-sample s_4 according to the previous paragraph.

We have persons of sub-sample s_4 who participated in year 2010, not participated in year 2009 and participated in year 2008. They are returnees.

Base personal weight for returnees of sub-sample s_4 of year 2008 defined by w_{2i}^4 . Denote for the each returnee i of sub-sample s_4 , who are enumerated at year 2008 and respond at year 2010 variable:

$$R_{5i} = \begin{cases} 1, & \text{if the person enumerated at year 2008 and 2010} \\ 0, & \text{otherwise.} \end{cases}$$

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

$$p_{5i} = \Pr(R_{5i} = 1 | V_{5i})$$

where V_{5i} – auxiliary variables (total disposable household income). Then the returnees' base weight of sub-sample s_3 of year 2010 is defined:

$$w_{4i}^4 = \frac{w_{2i}^4}{p_{5i}}.$$

Then final base weight of sub-sample s_4 of year 2010 is

$$w_{4i}^{4*} = 1 \cdot w_{4i}^4.$$

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 (w_{1i}^1 , w_{2i}^2 , w_{3i}^{3*} , w_{3i}^{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

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

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	20.2	1.0	18.3	22.2	4.94	1.002
At-risk-of-poverty rate after social transfers - men total	20.7	1.2	18.4	23.0	5.64	1.039
At-risk-of-poverty rate after social transfers - women total	19.8	1.0	17.8	21.8	5.23	1.025
At-risk-of-poverty rate after social transfers - 0-17 years	23.3	2.0	19.4	27.1	8.39	0.920
At-risk-of-poverty rate after social transfers - 65+ years	10.2	0.9	8.4	12.0	9.05	1.243
At-risk-of-poverty rate after social transfers - 18+ years	19.5	0.9	17.8	21.3	4.57	1.092
At-risk-of-poverty rate after social transfers - 18-64 years	21.8	1.1	19.7	23.9	4.89	1.077
At-risk-of-poverty rate after social transfers - men 65+ years	8.1	1.4	5.4	10.7	16.81	1.370
At-risk-of-poverty rate after social transfers - men 18+ years	20.3	1.0	18.2	22.3	5.17	1.023
At-risk-of-poverty rate after social transfers - men 18-64 years	22.3	1.2	20.0	24.7	5.33	1.003
At-risk-of-poverty rate after social transfers - women 65+ years	11.2	1.2	8.9	13.5	10.39	1.221
At-risk-of-poverty rate after social transfers - women 18+ years	18.9	0.9	17.1	20.7	4.93	1.171
At-risk-of-poverty rate after social transfers - women 18-64 years	21.3	1.1	19.0	23.5	5.40	1.173
At-risk-of-poverty rate before social transfers - total	31.8	1.1	29.6	34.1	3.59	1.118
At-risk-of-poverty rate before social transfers - men total	32.1	1.4	29.4	34.8	4.24	1.110
At-risk-of-poverty rate before social transfers - women total	31.6	1.1	29.4	33.9	3.61	1.128
At-risk-of-poverty rate before social transfers - 0-17 years	43.6	2.3	39.1	48.0	5.22	1.072
At-risk-of-poverty rate before social transfers - 18-64 years	32.9	1.2	30.5	35.2	3.66	1.145
At-risk-of-poverty rate before social transfers - 65+ years	13.3	1.0	11.3	15.3	7.60	1.181
At-risk-of-poverty rate before social transfers - 18+ years	29.1	1.0	27.1	31.1	3.46	1.156
At-risk-of-poverty rate before social transfers - men. 18-64 years	32.8	1.3	30.3	35.4	4.02	1.092
At-risk-of-poverty rate before social transfers - men. 65+ years	9.9	1.4	7.1	12.7	14.41	1.308
At-risk-of-poverty rate before social transfers - men. 18+ years	29.5	1.2	27.2	31.8	3.92	1.107
At-risk-of-poverty rate before social transfers - women. 18-64 years	32.9	1.3	30.4	35.5	3.90	1.188
At-risk-of-poverty rate before social transfers - women. 65+ years	15.1	1.3	12.5	17.6	8.61	1.153
At-risk-of-poverty rate before social transfers - women. 18+ years	28.7	1.0	26.7	30.8	3.63	1.185
Mean equivalised disposable income	17324.0	313.7	16709.1	17939.0	1.81	0.905

2.3. Non-sampling errors

2.3.1. Sampling frame and coverage errors

The sampling frame of EU-SILC 2010 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 – 6,1; address can not be located (DB120=21) – 0,4.

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 2010 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 – 2010) of the survey was used to improve the questionnaire for the operation 2010.

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 98 interviewers were involved into 2010 year operation. One interviewer had an average 65 selected addresses.

2.3.2.2. Processing errors

Completed interview were checked by supervisors for exhaustiveness. Necessary call-backs were made. In the cases when paper questionnaires were filled-in, data were entered by interviewers. *Blaise* software was used for interview and 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 that 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: 5314 households and 11606 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	5314	11606
1	1611	3457
2	1285	2783
3	1133	2490
4	1285	2876

2.3.3.2. Unit non-response

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

Address contact rate:

$$Ra = \frac{5949}{6372 - 386} \approx 0.994 .$$

The proportion of completed household interviews accepted for the database:

$$Rh = \frac{5314}{6372} \approx 0.834$$

Household non-response rates:

$$NRh = (1 - (Ra * Rh)) * 100 = (1 - (0.994 * 0.834)) * 100 = 17.10 .$$

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

$$Rp = \frac{11606}{11606} \approx 1 .$$

Individual non-response rate:

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

Overall individual non-response rate:

$$* NRp = (1 - (Ra * Rh * Rp)) * 100 = (1 - (0.994 * 0.834 * 1)) * 100 \approx 17.10 .$$

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

Address contact rate:

$$Ra = \frac{2160}{2541 - 344} \approx 0.983 .$$

The proportion of completed household interviews accepted for the database:

$$Rh = \frac{1611}{2541} \approx 0.634 .$$

Household non-response rates:

$$NRh = (1 - (Ra * Rh)) * 100 = (1 - (0.983 * 0.634)) * 100 = 37.68 .$$

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

$$Rp = \frac{3457}{3457} \approx 1$$

Individual non-response rate:

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

Overall individual non-response rate:

$$* NRp = (1 - (Ra * Rh * Rp)) * 100 = (1 - (0.983 * 0.634 * 1)) * 100 \approx 37.68 .$$

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)	2541	100	1332	100	1176	100	1323	100	6372	100
Address contacted (DB120=11)	2160	85.0	1313	98.6	1164	99.0	1312	99.2	5949	93.4
Address non-contacted (DB120=21 to 23)	381	15.0	19	1.4	12	1.0	11	0.8	423	6.6
Total address non-contacted (DB120=21 to 23)	381	100	19	100	12	100	11	100	423	100
Address cannot be located (DB120=21)	24	6.3	0	0	0	0	0	0	24	5.7
Address unable to access (DB120=22)	13	3.4	0	0	0	0	0	0	13	3.1
Address does not exist or is non-residential address or is unoccupied or not principal residence (DB120=23)	344	90.3	19	100	12	100	11	100	386	91.2

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)	2160	100	1313	100	1164	100	1312	100	5949	100
Household questionnaire completed (DB130=11)	1611	74.6	1285	97.9	1133	97.3	1285	97.9	5314	89.3
Interview not completed (DB130=21 to 24)	549	25.4	28	2.1	31	2.7	27	2.1	635	10.7
Total interview not completed (DB130=21 to 24)	549	100	28	100	31	100	27	100	635	100
Refusal to co-operate (DB130=21)	539	98.2	14	50.0	19	61.3	16	59.3	588	92.6
Entire household temporarily away for duration of fieldwork (DB130=22)	4	0.7	13	46.4	12	38.7	11	40.7	40	6.3
Household unable to respond (illness, incapacity, etc) (DB130=23)	6	1.1	0	0	0	0	0	0	6	0.9
Other (DB130=24)	0	0	1	3.6	0	0	0	0	1	0.2
Household questionnaire completed (DB135=1 to 2)	1611	100	1285	100	1133	100	1285	100	5314	100
Interview accepted to database (DB135=1)	1611	100	1285	100	1133	100	1285	100	5314	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)	99.3	0.0	1.8
Total disposable household income (HY020)	99.4	0.0	1.4
Total disposable household income before social transfers except old-age and survivor's benefits (HY022)	97.5	0.0	1.4
Total disposable household income before social transfers including old-age and survivor's benefits (HY023)	74.6	0.0	1.7
<i>Gross income components at household level</i>			
Income from rental of a property or land (HY040G)	3.8	0.2	0.0
Family/child related allowances (HY050G)	23.2	0.1	0.0
Social exclusion not elsewhere classified (HY060G)	4.0	0.0	0.0
Housing allowances (HY070G)	5.4	0.0	0.0
Regular inter-household cash transfer received (HY080G)	3.7	0.3	0.0
Interest, dividends, etc. (HY090G)	6.0	0.1	0.0
Income received by people aged under 16 (HY110G)	0.1	0.0	0.0
Regular taxes on wealth (HY120G)	15.1	0.2	0.0
Regular inter-household cash transfer paid (HY130G)	3.8	0.3	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)
<i>Gross income components at personal level</i>		
Employee cash or near cash income (PY010G)	55.0	0.2
Non-cash employee income (PY020G)	2.5	0.0
Company car (PY021G)	0.5	0.0
Contributions to individual private pension plans (PY035G)	0.9	0.0
Cash benefits or losses from self-employment (PY050G)	8.7	0.3
Value of goods produced for own consumption (PY070G)	9.6	0.0
Pension from individual private plans (PY080G)	0.3	0.0
Unemployment benefits (PY090G)	2.7	0.2
Old-age benefits (PY100G)	23.9	0.4
Survivor's benefits (PY110G)	1.9	0.2
Disability benefits (PY130G)	8.2	0.6
Education-related allowances (PY140G)	1.4	0.2

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 (267);
- b. Number of persons with no information on household type, when applicable to indicator (7).

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 (24) or address unable to access DB120=22 (13).

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	13235	0	NA	1 058
By age and gender¹				
men total	6221	0	NA	-
women total	7014	0	NA	-
0-17 years	2048	0	NA	-
18-24 years	1299	0	NA	-
25-49 years	3857	0	NA	-
50-64 years	3177	0	NA	-
65+ years	2854	0	NA	-
18+ years	11187	0	NA	-
18-64 years	8333	0	NA	-
0-64 years	10381	0	NA	-
men, 18-24 years	711	0	NA	-
men, 25-49 years	1822	0	NA	-
men, 50-64 years	1483	0	NA	-
men, 65+ years	1138	0	NA	-
men, 18+ years	5154	0	NA	-
men, 18-64 years	4016	0	NA	-
men, 0-64 years	5083	0	NA	-
women, 18-24 years	588	0	NA	-
women, 25-49 years	2035	0	NA	-
women, 50-64 years	1694	0	NA	-
women, 65+ years	1716	0	NA	-
women, 18+ years	6033	0	NA	-
women, 18-64 years	4317	0	NA	-
women, 0-64 years	5298	0	NA	-
By most frequent activity status² and gender				
total 18+ years	10920	267	NA	-
employed	5318	-	NA	-
non-employed	5602	-	NA	-
unemployed	834	-	NA	-
retired	3160	-	NA	-
other inactive	1608	-	NA	-
total men 18+ year	5000	154	NA	-
men, employed	2531	-	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	2469	-	NA	-
men, unemployed	516	-	NA	-
men, retired	1204	-	NA	-
men, other inactive	749	-	NA	-
total women 18+ years	5920	113	NA	-
women, employed	2787	-	NA	-
women, non-employed	3133	-	NA	-
women, unemployed	318	-	NA	-
women, retired	1956	-	NA	-
women, other inactive	859	-	NA	-
<i>By household type³</i>				
single, < 65 years	563	0	NA	-
single, 65+ years	678	0	NA	-
single, male	385	0	NA	-
single, female	856	0	NA	-
single, total	1241	0	NA	-
2 adults, no children, both < 65	1680	7	NA	-
2 adults, no children, at least one 65+	1806	7	NA	-
other households without children	1855	7	NA	-
single parent, at least one child	530	7	NA	-
2 adults, 1 child	1647	7	NA	-
2 adults, 2 children	1672	7	NA	-
2 adults, 3+ children	600	7	NA	-
other households with children	2197	7	NA	-
households without children	6582	7	NA	-
households with children	6646	7	NA	-
<i>By accommodation tenure status</i>				
owner or rent-free	13043	0	NA	-
tenant	192	0	NA	-
Inequality of income distribution S80/S20 income quintile share ratio	13235	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	2342	0	NA	-
By age and gender				
men total	1123	0	NA	-
women total	1219	0	NA	-
0-17 years	473	0	NA	-
18-64 years	1662	0	NA	-
65+ years	207	0	NA	-
18+ years	1869	0	NA	-
men, 18-64 years	817	0	NA	-
men, 65+ years	58	0	NA	-
men, 18+ years	875	0	NA	-
women, 18-64 years	845	0	NA	-
women, 65+ years	149	0	NA	-
women, 18+ years	994	0	NA	-
Dispersion around the at-risk-of-poverty threshold				
40%	13235	0	NA	1 058
50%	13235	0	NA	1 058
70%	13235	0	NA	1 058
At-risk-of-poverty rate before social transfers except old-age and survivors' benefits				
Total ¹	13235	0	NA	1 058
By age and gender¹				
men total	6221	0	NA	-
women total	7014	0	NA	-
0-17 years	2048	0	NA	-
18-64 years	8333	0	NA	-
65+ years	2854	0	NA	-
18+ years	11187	0	NA	-
men, 18-64 years	4016	0	NA	-
men, 65+ years	1138	0	NA	-
men, 18+ years	5154	0	NA	-
women, 18-64 years	4317	0	NA	-
women, 65+ years	1716	0	NA	-
women, 18+ years	6033	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	13235	0	NA	1 058
<i>By age and gender¹</i>				
men total	6221	0	NA	-
women total	7014	0	NA	-
0-17 years	2048	0	NA	-
18-64 years	8333	0	NA	-
65+ years	2854	0	NA	-
18+ years	11187	0	NA	-
men, 18-64 years	4016	0	NA	-
men, 65+ years	1138	0	NA	-
men, 18+ years	5154	0	NA	-
women, 18-64 years	4317	0	NA	-
women, 65+ years	1716	0	NA	-
women, 18+ years	6033	0	NA	-
Gini coefficient	13235	0	NA	1 058
Mean equivalised disposable income	13235	0	NA	1 058

¹ children born in 2010 are included;

² the information on activity status refers to the population of individuals aged 18+

³ all persons aged less than 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	11606	11599	0	7	0	0	0	0	0	0
%	100	99.94	0	0.06	0	0	0	0	0	0
Rotation 1	3457	3450	0	7	0	0	0	0	0	0
%	100	99.80	0	0.20	0	0	0	0	0	0
Rotation 2	2783	2783	0	0	0	0	0	0	0	0
%	100	100	0	0	0	0	0	0	0	0
Rotation 3	2490	2490	0	0	0	0	0	0	0	0
%	100	100	0	0	0	0	0	0	0	0
Rotation 4	2876	2876	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*	11599	6071	0	3664	54	1810	0
%	100	52.34	0	31.59	0.47	15.60	0
Rotation 1	3450	2674	0	308	18	450	0
%	100	77.51	0	8.93	0.52	13.04	0
Rotation 2	2783	1123	0	1194	14	452	0
%	100	40.35	0	42.90	0.50	16.25	0
Rotation 3	2490	1016	0	1035	8	431	0
%	100	40.80	0	41.57	0.32	17.31	0
Rotation 4	2876	1258	0	1127	14	477	0
%	100	43.73	0	39.19	0.49	16.59	0

*Full imputed not included

2.5. Interview duration

Mean duration of household interview (HB100) - 23 minutes.

Mean duration of personal interview (PB120) - 21 minutes.

Mean interview duration per household – 69 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 2010 operation income data were collected for the reference year 2009.

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 2009).

The reference period for taxes on wealth

No difference to the common definition. Taxes on wealth paid during the income reference period (year 2009) 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 2010 and ended on the 31th of July. 77.5 % of households were interviewed till the end of June.

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 Household Budget Survey deducting expenses incurred in the production.

Gross monthly earnings for employees

Variable was not collected because EU-SILC is not used to calculate 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 from capital investments (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 2010	Wage statistics 2010
	Annual number of people, thousands	
Cash or near cash employee income (PY010N)	1 521.1	1 094.2

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 2010	LFS 2010¹
	Number of people, thousands	
At work	1 348.9	1 343.7
Unemployed	327.1	291.1
Total	2 767.9	2 814,0

¹⁾ Persons age 15 and over

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