



STATISTIKOS DEPARTAMENTAS  
STATISTICS LITHUANIA

**INTERMEDIATE QUALITY REPORT  
EU-SILC 2009 OPERATION**

**Vilnius 2010**

# 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	20.6
At-risk-of-poverty rate after social transfers - men total	19.1
At-risk-of-poverty rate after social transfers - women total	21.9
At-risk-of-poverty rate after social transfers - 0-17 years	23.7
At-risk-of-poverty rate after social transfers – 65+ years	25.2
At-risk-of-poverty rate after social transfers – 18+ years	19.9
At-risk-of-poverty rate after social transfers - 18-64 years	18.5
At-risk-of-poverty rate after social transfers - men 65+ years	13.2
At-risk-of-poverty rate after social transfers - men 18+ years	17.6
At-risk-of-poverty rate after social transfers - men 18-64 years	18.4
At-risk-of-poverty rate after social transfers - women 65+ years	31.3
At-risk-of-poverty rate after social transfers - women 18+ years	21.7
At-risk-of-poverty rate after social transfers - women 18-64 years	18.6
At-risk-of-poverty rate after social transfers - employed	10.4
At-risk-of-poverty rate after social transfers – non-employed	32.7
At-risk-of-poverty rate after social transfers - unemployed	54.3
At-risk-of-poverty rate after social transfers - retired	27.6
At-risk-of-poverty rate after social transfers - other inactive	33.5
At-risk-of-poverty rate after social transfers - men, employed	9.6
At-risk-of-poverty rate after social transfers – men, non-employed	31.6
At-risk-of-poverty rate after social transfers - men, unemployed	56.7
At-risk-of-poverty rate after social transfers - men, retired	16.5
At-risk-of-poverty rate after social transfers - men, other inactive	36.8
At-risk-of-poverty rate after social transfers - women, employed	11.2
At-risk-of-poverty rate after social transfers – women, non-employed	33.3
At-risk-of-poverty rate after social transfers - women, unemployed	50.1
At-risk-of-poverty rate after social transfers - women, retired	32.7
At-risk-of-poverty rate after social transfers - women, other inactive	31.2
Median of the equivalised disposable household income	16625.43
At-risk-of-poverty threshold – single	9975.3
At-risk-of-poverty threshold - 2 adults, 2 children	20948
Inequality of income distribution S80/S20 income quintile share ratio	6.3
Aggregate replacement ratio – total	0.48
Aggregate replacement ratio – men total	0.47
Aggregate replacement ratio – women total	0.50
At risk-of-poverty rate anchored at a fixed moment in time (2005) - total	4.6
At risk-of-poverty rate anchored at a fixed moment in time (2005) – men total	5.3
At risk-of-poverty rate anchored at a fixed moment in time (2005) – women total	4.0
At risk-of-poverty rate anchored at a fixed moment in time (2005) – 0-17 years	5.8
At risk-of-poverty rate anchored at a fixed moment in time (2005) – 18-64 years	5.3
At risk-of-poverty rate anchored at a fixed moment in time (2005) – 65 + years	0.4

<b>Overarching indicator</b>	<b>Value</b>
At risk-of-poverty rate anchored at a fixed moment in time (2005) – men 18-64 years	<b>5.9</b>
At risk-of-poverty rate anchored at a fixed moment in time (2005) – men 65+ years	<b>0.5</b>
At risk-of-poverty rate anchored at a fixed moment in time (2005) – women 18-64 years	<b>4.7</b>
At risk-of-poverty rate anchored at a fixed moment in time (2005) – women 65+ years	<b>0.4</b>
Relative median at-risk-of-poverty gap - total	<b>23.1</b>
Relative median at-risk-of-poverty gap - men total	<b>27.8</b>
Relative median at-risk-of-poverty gap - women total	<b>20.7</b>
Relative median at-risk-of-poverty gap – 0-17 years	<b>25.4</b>
Relative median at-risk-of-poverty gap - 18-64 years	<b>28.4</b>
Relative median at-risk-of-poverty gap - 65+ years	<b>15.0</b>
Relative median at-risk-of-poverty gap - men, 18-64 years	<b>31.4</b>
Relative median at-risk-of-poverty gap - men, 65+ years	<b>13.4</b>
Relative median at-risk-of-poverty gap - women, 18-64 years	<b>25.9</b>
Relative median at-risk-of-poverty gap - women, 65+ years	<b>26.2</b>
Before social transfers except old-age and survivors' benefits	
At-risk-of-poverty rate before social transfers - total	<b>29.4</b>
At-risk-of-poverty rate before social transfers - men total	<b>28.6</b>
At-risk-of-poverty rate before social transfers – women total	<b>30.2</b>
At-risk-of-poverty rate before social transfers - 0-17 years	<b>37.3</b>
At-risk-of-poverty rate before social transfers - 18-64 years	<b>27.1</b>
At-risk-of-poverty rate before social transfers - 65+ years	<b>29.3</b>
At-risk-of-poverty rate before social transfers - 18+ years	<b>27.5</b>
At-risk-of-poverty rate before social transfers - men, 18-64 years	<b>27.0</b>
At-risk-of-poverty rate before social transfers - men, 65+ years	<b>17.5</b>
At-risk-of-poverty rate before social transfers - men, 18+ years	<b>25.6</b>
At-risk-of-poverty rate before social transfers - women, 18-64 years	<b>27.2</b>
At-risk-of-poverty rate before social transfers - women, 65+ years	<b>35.3</b>
At-risk-of-poverty rate before social transfers - women, 18+ years	<b>29.1</b>
Before social transfers including old-age and survivors' benefits	
At-risk-of-poverty rate before social transfers - total	<b>42.1</b>
At-risk-of-poverty rate before social transfers - men total	<b>39.8</b>
At-risk-of-poverty rate before social transfers - women total	<b>44.0</b>
At-risk-of-poverty rate before social transfers - 0-17 years	<b>40.6</b>
At-risk-of-poverty rate before social transfers - 18-64 years	<b>32.0</b>
At-risk-of-poverty rate before social transfers - 65+ years	<b>84.7</b>
At-risk-of-poverty rate before social transfers - 18+ years	<b>42.4</b>
At-risk-of-poverty rate before social transfers - men, 18-64 years	<b>31.4</b>
At-risk-of-poverty rate before social transfers - men, 65+ years	<b>83.2</b>
At-risk-of-poverty rate before social transfers - men, 18+ years	<b>39.1</b>
At-risk-of-poverty rate before social transfers - women, 18-64 years	<b>32.6</b>
At-risk-of-poverty rate before social transfers - women, 65+ years	<b>85.4</b>
At-risk-of-poverty rate before social transfers - women, 18+ years	<b>45.2</b>

## **2. Accuracy**

### **2.1. Sample design**

#### *2.1.1 Type of sampling design*

2009 operation was the fifth 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.

#### *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 6265 households. This number includes 4163 households, which responded to the survey in 2008 and where followed up during 2009 operation (4 rotational groups), newly selected rotational group – 2102 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 April 2009 till the middle of August.

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

Month	Per cent
April	9.4
May	23.4
June	22.0
July	27.4
August	17.8

#### 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 1<sup>st</sup>. 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 2<sup>nd</sup>. 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 3<sup>rd</sup>. 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 4<sup>th</sup>. 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 2009 consisted of the following sub-samples:

- $s_1$  – sample of the person in the households enumerated in 2009, persons participate for the first time (only 4<sup>th</sup> rotational group);
- $s_2$  – sample of the person in the households enumerated in 2008, persons participate for the second time (only 3<sup>d</sup> rotational group);
- $s_3$  – sample of the person in the households enumerated in 2007, persons participate for the third time (only 2<sup>nd</sup> rotational group).
- $s_4$  – sample of the person in the households enumerated in 2006, persons participate for the forth time (only 1<sup>st</sup> rotational group).

Base weights of year 2009 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 2008.

Then the personal base weight of sub-sample  $s_1$  of year 2008 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 2009, we need to have base weights of this sub-sample of year 2008.

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  $s_2$  of year 2008 by  $w_{1i}^2$ .

To determine base weight  $w_{2i}^2$  of year 2008 from base weight  $w_{1i}^2$  of year 2008, we use following step:

for the each person  $i$ , who are enumerated at year 2008 and still in-scope at year 2009 define variable:

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

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

$$p_i = \Pr(R_i = 1 | V_i)$$

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 2009 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 2009, we need to have base weights of this sub-sample of year 2007 and year 2008. 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  $w_{1i}^3$ .

To determine base weight  $w_{2i}^3$  of year 2008 from base weight  $w_{1i}^3$  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  $s_3$  of year 2008 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 2008, we denote for the each person  $i$  of sub-sample  $s_3$ , 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:

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

Additionally assign the weights for new members who come in to the households in to year 2008 of sub-sample  $s_3$  according to the previous paragraph.

We have persons of sub-sample  $s_3$  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  $s_3$  of year 2007 defined by  $w_{1i}^3$ . Denote for the each returnee  $i$  of sub-sample  $s_3$ , 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  $s_3$  of year 2009 is defined:

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

Then final base weight of sub-sample  $s_3$  of year 2009 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  $s_3$  (only 4<sup>th</sup> rotational group) participated in the survey for the forth time. To construct base weights of sub-sample  $s_4$  of year 2009, we need to have base weights of this sub-sample of year 2006, 2007 and 2008. Base weights of year 2006 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 2006 by  $w_{1i}^4$ .

To determine base weight  $w_{2i}^4$  of year 2007 from base weight  $w_{1i}^4$  of year 2006, we use following step: for the each person  $i$ , who are enumerated at year 2006 and still in-scope at year 2007 define variable:

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

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 2007 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 2008 from base weight  $w_{2i}^4$  of year 2007, we denote for the each person  $i$  of sub-sample  $s_4$ , who are enumerated at year 2007 and still in-scope at year 2008 variable:

$$R_{2i} = \begin{cases} 1, & \text{if the person successfully enumerated at year 2008} \\ 0, & \text{otherwise} \end{cases}$$

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

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

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 2008 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 2008 of sub-sample  $s_4$  according to the previous paragraph.

We have persons of sub-sample  $s_4$  who participated in year 2008, not participated in year 2007 and participated in year 2006. They are returnees.

Base personal weight for returnees of sub-sample  $s_4$  of year 2006 defined by  $w_{1i}^4$ . Denote for the each returnee  $i$  of sub-sample  $s_4$ , who are enumerated at year 2006 and respond at year 2008 variable:

$$R_{3i} = \begin{cases} 1, & \text{if the person enumerated at year 2006 and 2008} \\ 0, & \text{otherwise} \end{cases}$$

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 2008 is defined:

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

Then final base weight of sub-sample  $s_3$  of year 2008 is

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

To determine base weight  $w_{4i}^4$  of year 2009 from base weight  $w_{3i}^{4*}$  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:

$$R_{4i} = \begin{cases} 1, & \text{if the person successfully enumerated at year 2009} \\ 0, & \text{otherwise} \end{cases}$$

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

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

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 2009 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 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  $w_{2i}^4$ . Denote for the each returnee  $i$  of sub-sample  $s_4$ , who are enumerated at year 2007 and respond at year 2009 variable:

$$R_{5i} = \begin{cases} 1, & \text{if the person enumerated at year 2007 and 2009} \\ 0, & \text{otherwise} \end{cases}$$

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

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

where  $V_{5i}$  – auxiliary variables (total disposable household income). Then the returnees' base weight of sub-sample  $s_3$  of year 2009 is defined:

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

Then final base weight of sub-sample  $s_4$  of year 2009 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	20.6	0.9	18.8	22.4	4.39	1.012
At-risk-of-poverty rate after social transfers - men total	19.1	1.1	17.0	21.2	5.56	1.025
At-risk-of-poverty rate after social transfers - women total	21.9	0.9	20.1	23.8	4.32	0.999
At-risk-of-poverty rate after social transfers - 0-17 years	23.7	1.9	20.0	27.3	7.83	1.004
At-risk-of-poverty rate after social transfers - 65+ years	25.2	1.2	22.8	27.6	4.83	1.056
At-risk-of-poverty rate after social transfers - 18+ years	19.9	0.8	18.3	21.4	4.05	1.025
At-risk-of-poverty rate after social transfers - 18-64 years	18.5	0.9	16.7	20.4	5.05	1.021
At-risk-of-poverty rate after social transfers - men 65+ years	13.2	1.5	10.3	16.0	11.05	1.043
At-risk-of-poverty rate after social transfers - men 18+ years	17.6	0.9	15.8	19.5	5.34	1.031
At-risk-of-poverty rate after social transfers - men 18-64 years	18.4	1.1	16.3	20.5	5.80	1.029
At-risk-of-poverty rate after social transfers - women 65+ years	31.3	1.6	28.2	34.4	5.08	1.054
At-risk-of-poverty rate after social transfers - women 18+ years	21.7	0.9	20.0	23.4	4.02	1.008
At-risk-of-poverty rate after social transfers - women 18-64 years	18.6	1.0	16.7	20.6	5.45	1.001
At-risk-of-poverty rate before social transfers - total	29.4	1.0	27.4	31.5	3.51	1.006
At-risk-of-poverty rate before social transfers - men total	28.6	1.2	26.3	31.0	4.22	1.023
At-risk-of-poverty rate before social transfers - women total	30.2	1.1	28.1	32.2	3.50	0.993
At-risk-of-poverty rate before social transfers - 0-17 years	37.3	2.2	33.1	41.6	5.78	1.013
At-risk-of-poverty rate before social transfers - 18-64 years	27.1	1.0	25.0	29.2	3.87	1.012
At-risk-of-poverty rate before social transfers - 65+ years	29.3	1.3	26.7	31.8	4.48	1.064
At-risk-of-poverty rate before social transfers - 18+ years	27.5	0.9	25.8	29.3	3.28	1.015
At-risk-of-poverty rate before social transfers - men. 18-64 years	27.0	1.2	24.7	29.3	4.38	1.021
At-risk-of-poverty rate before social transfers - men. 65+ years	17.5	1.7	14.2	20.8	9.67	1.087
At-risk-of-poverty rate before social transfers - men. 18+ years	25.6	1.0	23.5	27.7	4.10	1.027
At-risk-of-poverty rate before social transfers - women. 18-64 years	27.2	1.1	25.0	29.4	4.14	0.998
At-risk-of-poverty rate before social transfers - women. 65+ years	35.3	1.6	32.1	38.5	4.61	1.047
At-risk-of-poverty rate before social transfers - women. 18+ years	29.1	1.0	27.2	31.0	3.29	1.001
Mean equivalised disposable income	20343.2	372.0	19614.1	21072.3	1.83	0.963

## **2.3. Non-sampling errors**

### *2.3.1. Sampling frame and coverage errors*

The sampling frame of EU-SILC 2009 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 – 5.9; 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 2009 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, 2006, 2007 and 2008) of the survey was used to improve the questionnaire for the operation 2009.

The interviewers' training was carried-out by supervisors in each territorial statistical office in the first half of April. 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 87 interviewers were involved into 2009 year operation. One interviewer had an average 72 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 Statistics Division of Statistics Lithuania.

### 2.3.3. Non-response errors

#### 2.3.3.1. Achieved sample size

Achieved sample size: 5132 households and 11214 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)
<b>Total</b>	<b>5132</b>	<b>11214</b>
1	1355	2844
2	1307	2846
3	1149	2553
4	1321	2971

#### 2.3.3.2. Unit non-response

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

Address contact rate:

$$Ra = \frac{5865}{6265 - 368} \approx 0.995.$$

The proportion of completed household interviews accepted for the database:

$$Rh = \frac{5132}{6265} \approx 0.819$$

Household non-response rates:

$$NRh = (1 - Ra * Rh) * 100 = (1 - 0.995 * 0.819) * 100 = 18.51.$$

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

$$Rp = \frac{11214}{11214} \approx 1.$$

Individual non-response rate:

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

Overall individual non-response rate:

$$*NRp = (1 - Ra * Rh * Rp) * 100 = (1 - 0.995 * 0.819 * 1) * 100 \approx 18.51.$$

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

Address contact rate:

$$Ra = \frac{1788}{2102 - 282} \approx 0.982 .$$

The proportion of completed household interviews accepted for the database:

$$Rh = \frac{1321}{2102} \approx 0.628 .$$

Household non-response rates:

$$NRh = (1 - Ra * Rh) * 100 = (1 - 0.982 * 0.628) * 100 = 38.33 .$$

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

$$Rp = \frac{2971}{2971} \approx 1$$

Individual non-response rate:

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

Overall individual non-response rate:

$$* NRp = (1 - Ra * Rh * Rp) * 100 = (1 - 0.982 * 0.628 * 1) * 100 \approx 38.33 .$$

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	%
<b>Total (DB120=11 to 23)</b>	<b>1470</b>	<b>100</b>	<b>1440</b>	<b>100</b>	<b>1253</b>	<b>100</b>	<b>2102</b>	<b>100</b>	<b>6265</b>	<b>100</b>
Address contacted (DB120=11)	1443	98.2	1406	97.6	1228	98.0	1788	85.1	5865	93.6
Address non-contacted (DB120=21 to 23)	27	1.8	34	2.4	25	2.0	314	14.9	400	6.4
<b>Total address non-contacted (DB120=21 to 23)</b>	<b>27</b>	<b>100</b>	<b>34</b>	<b>100</b>	<b>25</b>	<b>100</b>	<b>314</b>	<b>100</b>	<b>400</b>	<b>100</b>
Address cannot be located (DB120=21)	0	0	0	0	0	0	28	8.9	28	7.0
Address unable to access (DB120=22)	0	0	0	0	0	0	4	1.3	4	1.0
Address does not exist or is non- residential address or is unoccupied or not principal residence (DB120=23)	27	100	34	100	25	100	282	89.8	368	92.0



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	%
<b>Total (DB130=11 to 24)</b>	<b>1443</b>	<b>100</b>	<b>1406</b>	<b>100</b>	<b>1228</b>	<b>100</b>	<b>1788</b>	<b>100</b>	<b>5865</b>	<b>100</b>
Household questionnaire completed (DB130=11)	1355	93.90	1307	92.96	1149	93.57	1321	73.88	5132	87.50
Interview not completed (DB130=21 to 24)	88	6.10	99	7.04	79	6.43	467	26.12	733	12.50
<b>Total interview not completed (DB130=21 to 24)</b>	<b>88</b>	<b>100</b>	<b>99</b>	<b>100</b>	<b>79</b>	<b>100</b>	<b>467</b>	<b>100</b>	<b>733</b>	<b>100</b>
Refusal to co-operate (DB130=21)	54	61.36	62	62.63	55	69.62	460	98.50	631	86.08
Entire household temporarily away for duration of fieldwork (DB130=22)	31	35.23	36	36.36	24	30.38	3	0.64	94	12.82
Household unable to respond (illness, incapacity, etc) (DB130=23)	2	2.27	1	1.01	0	0	2	0.43	5	0.68
Other (DB130=24)	1	1.14	0	0	0	0	2	0.43	3	0.41
<b>Household questionnaire completed (DB135=1 to 2)</b>	<b>1355</b>	<b>100</b>	<b>1307</b>	<b>100</b>	<b>1149</b>	<b>100</b>	<b>1321</b>	<b>100</b>	<b>5132</b>	<b>100</b>
Interview accepted to database (DB135=1)	1355	100	1307	100	1149	100	1321	100	5132	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*

<b>Income variable</b>	<b>% of households having received an amount</b>	<b>% of households with missing values (before imputation)</b>	<b>% of households with partial* information (before imputation)</b>
Total household gross income (HY010)	99.5	0.0	0.2
Total disposable household income (HY020)	99.4	0.0	0.1
Total disposable household income before social transfers except old-age and survivor's benefits (HY022)	97.4	0.0	0.3
Total disposable household income before social transfers including old-age and survivor's benefits (HY023)	72.1	0.0	0.6
<b><i>Gross income components at household level</i></b>			
Income from rental of a property or land (HY040G)	4.4	0.0	0.0
Family/child related allowances (HY050G)	21.4	0.0	0.0
Social exclusion not elsewhere classified (HY060G)	4.1	0.0	0.0
Housing allowances (HY070G)	4.5	0.0	0.0
Regular inter-household cash transfer received (HY080G)	3.3	0.0	0.0
Interest, dividends, etc. (HY090G)	6.7	0.0	0.0
Income received by people aged under 16 (HY110G)	0.1	0.0	0.0
Regular taxes on wealth (HY120G)	15.9	0.0	0.0
Regular inter-household cash transfer paid (HY130G)	4.2	0.0	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)	47.3	1.1
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)	7.9	0.2
Value of goods produced for own consumption (PY070G)	9.6	0.0
Pension from individual private plans (PY080G)	0.1	0.0
Unemployment benefits (PY090G)	1.9	0.0
Old-age benefits (PY100G)	32.7	0.1
Survivor's benefits (PY110G)	1.9	0.2
Disability benefits (PY130G)	8.2	0.6
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 (179);
- b. Number of persons with no information on household type, when applicable to indicator (5).

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 (28) or address unable to access DB120=22 (4).

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)
<b>At-risk-of-poverty rate after social transfers</b>				
Total <sup>1</sup>	12852	0	NA	28
<b>By age and gender<sup>1</sup></b>				
men total	6039	0	NA	28
women total	6813	0	NA	28
0-17 years	2055	0	NA	28
18-24 years	1192	0	NA	28
25-49 years	3753	0	NA	28
50-64 years	2902	0	NA	28
65+ years	2950	0	NA	28
18+ years	10797	0	NA	28
18-64 years	7847	0	NA	28
0-64 years	9902	0	NA	28
men, 18-24 years	663	0	NA	28
men, 25-49 years	1792	0	NA	28
men, 50-64 years	1322	0	NA	28
men, 65+ years	1164	0	NA	28
men, 18+ years	4941	0	NA	28
men, 18-64 years	3777	0	NA	28
men, 0-64 years	4875	0	NA	28
women, 18-24 years	529	0	NA	28
women, 25-49 years	1961	0	NA	28
women, 50-64 years	1580	0	NA	28
women, 65+ years	1786	0	NA	28
women, 18+ years	5856	0	NA	28
women, 18-64 years	4070	0	NA	28
Women, 0-64 years	5027	0	NA	28
<b>By most frequent activity status<sup>2</sup> and gender</b>				
Total 18+ years	10618	179	NA	28
employed	5498	-	NA	28
non-employed	5120	-	NA	28
unemployed	413	-	NA	28
retired	3188	-	NA	28
other inactive	1519	-	NA	28
total men 18+ year	4843	98	NA	28
men, employed	2721	-	NA	28

	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	2122	-	NA	28
men, unemployed	259	-	NA	28
men, retired	1174	-	NA	28
men, other inactive	689	-	NA	28
total women 18+ years	5775	81	NA	28
women, employed	2777	-	NA	28
women, non-employed	2998	-	NA	28
women, unemployed	154	-	NA	28
women, retired	2014	-	NA	28
women, other inactive	830	-	NA	28
<b><i>By household type<sup>3</sup></i></b>				
single, < 65 years	519	0	NA	28
single, 65+ years	704	0	NA	28
single, male	351	0	NA	28
single, female	872	0	NA	28
single, total	1223	0	NA	28
2 adults, no children, both < 65	1481	5	NA	28
2 adults, no children, at least one 65+	1894	5	NA	28
other households without children	2258	5	NA	28
single parent, at least one child	380	5	NA	28
2 adults, 1 child	1251	5	NA	28
2 adults, 2 children	1180	5	NA	28
2 adults, 3+ children	554	5	NA	28
other households with children	2625	5	NA	28
households without children	6857	5	NA	28
households with children	5990	5	NA	28
<b><i>By accommodation tenure status</i></b>				
owner or rent-free	12643	0	NA	28
tenant	209	0	NA	28
<b>Inequality of income distribution S80/S20 income quintile share ratio</b>	12852	0	NA	28

	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)
<b>Relative median at-risk-of-poverty gap</b>				
Total	2391	0	NA	28
<i>By age and gender</i>				28
men total	1034	0	NA	28
women total	1357	0	NA	28
0-17 years	497	0	NA	28
18-64 years	1374	0	NA	28
65+ years	520	0	NA	28
18+ years	1894	0	NA	28
men, 18-64 years	651	0	NA	28
men, 65+ years	116	0	NA	28
men, 18+ years	767	0	NA	28
women, 18-64 years	723	0	NA	28
women, 65+ years	404	0	NA	28
women, 18+ years	1127	0	NA	28
<b>Dispersion around the at-risk-of-poverty threshold</b>				
40%	12852	0	NA	28
50%	12852	0	NA	28
70%	12852	0	NA	28
<b>At-risk-of-poverty rate before social transfers except old-age and survivors' benefits</b>				
Total <sup>1</sup>	12852	0	NA	28
<i>By age and gender<sup>1</sup></i>				28
men total	6039	0	NA	28
women total	6813	0	NA	28
0-17 years	2055	0	NA	28
18-64 years	7847	0	NA	28
65+ years	2950	0	NA	28
18+ years	10797	0	NA	28
men, 18-64 years	3777	0	NA	28
men, 65+ years	1164	0	NA	28
men, 18+ years	4941	0	NA	28
women, 18-64 years	4070	0	NA	28
women, 65+ years	1786	0	NA	28
women, 18+ years	5856	0	NA	28

	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)
<b>At-risk-of-poverty rate before social transfers including old-age and survivors' benefits</b>				
Total <sup>1</sup>	12852	0	NA	28
<b><i>By age and gender<sup>1</sup></i></b>				28
men total	6039	0	NA	28
women total	6813	0	NA	28
0-17 years	2055	0	NA	28
18-64 years	7847	0	NA	28
65+ years	2950	0	NA	28
18+ years	10797	0	NA	28
men, 18-64 years	3777	0	NA	28
men, 65+ years	1164	0	NA	28
men, 18+ years	4941	0	NA	28
women, 18-64 years	4070	0	NA	28
women, 65+ years	1786	0	NA	28
women, 18+ years	5856	0	NA	28
<b>Gini coefficient</b>	12852	0	NA	28
<b>Mean equivalised disposable income</b>	12852	0	NA	28

<sup>1</sup> children born in 2009 are included;

<sup>2</sup> the information on activity status refers to the population of individuals aged 18+

<sup>3</sup> 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 (21 cases). In case of full/partial imputation the variable RB250 (data status) = 21 "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
<b>Total</b>	11214	11193	0	21	0	0	0	0	0	0
<b>%</b>	100	99.81	0	0.19	0	0	0	0	0	0
<b>Rotation 1</b>	2844	2843	0	1	0	0	0	0	0	0
<b>%</b>	100	99.96	0	0.04	0	0	0	0	0	0
<b>Rotation 2</b>	2846	2845	0	1	0	0	0	0	0	0
<b>%</b>	100	99.96	0	0.04	0	0	0	0	0	0
<b>Rotation 3</b>	2553	2543	0	10	0	0	0	0	0	0
<b>%</b>	100	99.61	0	0.39	0	0	0	0	0	0
<b>Rotation 4</b>	2971	2962	0	9	0	0	0	0	0	0
<b>%</b>	100	99.70	0	0.30	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
<b>Total*</b>	11193	6613	0	2963	34	1583	0
<b>%</b>	100	59.08	0	26.47	0,30	14.14	0
<b>Rotation 1</b>	2843	1483	0	950	2	408	0
<b>%</b>	100	52.16	0	33.42	0,07	14.35	0
<b>Rotation 2</b>	2845	1457	0	950	8	430	0
<b>%</b>	100	51.21	0	33.39	0,28	15.11	0
<b>Rotation 3</b>	2543	1347	0	780	9	407	0
<b>%</b>	100	52.97	0	30.67	0,35	16.00	0
<b>Rotation 4</b>	2962	2326	0	283	15	338	0
<b>%</b>	100	78.53	0	9.55	0,51	11.41	0

\*Full imputed not included

## 2.5. Interview duration

Mean duration of household interview (HB100) - 25 minutes.

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

Mean interview duration per household – 71 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 2009 operation income data were collected for the reference year 2008.

##### *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 2008).

##### *The reference period for taxes on wealth*

No difference to the common definition. Taxes on wealth paid during the income reference period (year 2008) 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 4 to 8 months.

##### *The total duration of the data collection of the sample*

The fieldwork period started on 20<sup>th</sup> of April 2009 and ended on the 14<sup>th</sup> of August. 82.2% of households were interviewed till the end 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 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) 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 Household Budget Survey (HBS), wage statistics and administrative data.

The HBS was continuous survey until 2008. The survey conducted in line with the current methodology had been carried out since 1996. The HBS used two data collection methods combined into one: the interview conducted by an interviewer and self-registration of particular household indicators. Social and economic information on household members, their living conditions and income were collected during the interview. HBS was the source for calculation income inequality indicators until started EU-SILC survey.

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

There are differences between EU-SILC and HBS income components definitions. Only comparable income components are presented in Table 12.

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

Income component	EU-SILC 2009	HBS 2008	Other sources*
Annual number of people, thousands			
Cash or near cash employee income (PY010N)	1,472.3	1,377.4	1,301.6
Old-age benefits (PY100)	666.9	681.4	670.0
Survivors benefits (PY110)	65.8	31.8	...
Annual number of households, thousands			
Housing allowances (HY070)	72.8	38.8	...

\* Wage statistics in the case of PY010 and administrative source in the case of PY100

The number of people receiving employee income is higher in SILC than in the HBS and wage statistics. In HBS, the yearly income figures are derived from monthly data. People who were employed, but did not receive income during the survey month (being on vacation, started job and so on) were not included in this category. In case of wage statistics, this figure is lower whereas the job according verbal agreement has not been taken into account.

The differences between the estimate of number of persons receiving old-age benefits derived from SILC, HBS and administrative source are not substantial.

The estimate of number of people receiving survivor's benefits is two times higher in SILC than in HBS. The reason of the difference is in assignment of survivor benefits value for eligible person. In SILC values of benefit are recorded to each person 16 years and older who receive this benefits. Whereas in HBS, values of benefit received by persons younger than 18 years old are recorded to the older persons in that household.

The number of households receiving housing allowances is lower in the HBS. This difference is related to the survey design of HBS and the seasonal aspect of housing allowances. As was noted above, the yearly income figures are derived from monthly data in HBS. The compensations to cover expenditure of the heating of dwelling are the most part of housing allowances and are paid in winter time. So, the number of households receiving them is lower in HBS data.

#### 4.2. Comparison of other target variables with external source

Table 13. Distribution of households by type of dwelling

Dwelling type	EU-SILC 2009	HBS 2008
	%	%
Detached house	33.2	28.5
Semi-detached or terraced house	8.0	9.1
Apartment or flat	58.7	62.2
Some other kind of accommodation	0.0	0.2
Total	100	100

Table 14. Distribution of households by amenities in the dwellings

Amenities in the dwellings	EU-SILC 2009	HBS 2008
	%	%
Bath or shower	80.9	81.9
Indoor flushing toilet	79.9	81.8

The estimates of the number of household by household type and amenities in the dwellings are almost the same in EU-SILC and HBS.

In the table 15 data about the distribution of population by main economic activity status are presented. Main activity status during the income reference period in EU-SILC 2009 is main activity status during 2008 so can be compared with the data from HBS 2008.

Table 15. Distribution of population aged 16 and over by main activity status during the income reference period

Activity status	EU-SILC 2009	HBS 2008
	%	%
At work	55.7	56.5
Unemployed	4.4	4.8
In retirement	21.3	21.9
Other inactive person	18.6	16.8
Total	100	100

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

Activity status	EU-SILC 2009	LFS 2009 II quarter <sup>1)</sup>
	Number of people, thousands	
At work	1,427.6	1,422.3
Unemployed	250.0	223.1
Total	2,778.3	2,844.9

<sup>1)</sup> Persons age 15 and over

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