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NATIONAL STATISTICAL INSTITUTE

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## **INTERMEDIATE QUALITY REPORT**

### **EU-SILC 2011 OPERATION**

**BULGARIA**

**SOFIA, December 2012**

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## INTRODUCTION

The Survey on Income and Living Conditions (SILC) in Bulgaria is an annual survey implemented by the NSI in the framework of Regulation (EC) No 1177/2003 of the European Parliament and of the Council. Basic aim of the survey is the study, both at European and national level of households' living conditions in relation to their income. The survey is the reference for comparative statistics on income distribution and social exclusion in the European Union.

In 2011, the survey was carried-out by the National Statistical Institute with the funds supplied by Eurostat grant nr. 10602.2010.002-2010.166.

This document presents the Intermediate Quality Report of EU-SILC 2011 in Bulgaria and follows the structure outlined in the Commission Regulation No. 28/2004.

The report is divided in four chapters:

- (1) Common Cross-sectional European Union Indicators
- (2) Accuracy
- (3) Comparability
- (4) Coherence

## 1. COMMON CROSS-SECTIONAL EUROPEAN UNION INDICATORS

### 1.1. Common cross-sectional EU indicators based on the cross-sectional component of EU-SILC

The common cross sectional EU indicators refer to those indicators in Council of the Open method of coordination, based on the cross sectional sample of year 2011, with reference income period the calendar year (2010). The indicators below have been calculated using Eurostat SAS program.

#### 1.1.1. Primary Indicators calculated from SILC\_2011

*Table 1. [OV-1a] At-risk-of poverty threshold (illustrative values)*

Type of household	Euro	PPS
One person household	1741	3428
Household with 2 adults and 2 children younger than 14 years	3656	7199

**Table 2. [OV-1a] At-risk-of poverty rate after social transfers (by age and gender)**

<b>age</b>	<b>sex</b>	<b>unit</b>	<b>2011</b>
<b>TOTAL</b>	<b>T</b>	1000PERS	<b>1673.5</b>
		PC_POP	<b>22.3</b>
	<b>M</b>	1000PERS	<b>757.7</b>
		PC_POP	<b>20.8</b>
	<b>F</b>	1000PERS	<b>915.8</b>
		PC_POP	<b>23.6</b>
<b>Y_LT18</b>	<b>T</b>	1000PERS	<b>369.5</b>
		PC_POP	<b>28.9</b>
<b>Y18_64</b>	<b>T</b>	1000PERS	<b>892.4</b>
		PC_POP	<b>18.2</b>
	<b>M</b>	1000PERS	<b>449.7</b>
		PC_POP	<b>18.4</b>
	<b>F</b>	1000PERS	<b>442.6</b>
		PC_POP	<b>18</b>
<b>Y65_MAX</b>	<b>T</b>	1000PERS	<b>411.6</b>
		PC_POP	<b>30.9</b>
	<b>M</b>	1000PERS	<b>118.3</b>
		PC_POP	<b>21.9</b>
	<b>F</b>	1000PERS	<b>293.3</b>
		PC_POP	<b>37</b>

**Table 3. [PN-S1] At-risk-of-poverty rate of older people**

<b>age</b>	<b>sex</b>	<b>2011</b>
<b>Y_GE60</b>	<b>T</b>	<b>27.5</b>
	<b>M</b>	<b>20.8</b>
	<b>F</b>	<b>32.4</b>
<b>Y_GE75</b>	<b>T</b>	<b>38.1</b>
	<b>M</b>	<b>26</b>
	<b>F</b>	<b>45.5</b>
<b>Y_LT60</b>	<b>T</b>	<b>20.5</b>
	<b>M</b>	<b>20.9</b>
	<b>F</b>	<b>20.2</b>
<b>Y_LT75</b>	<b>T</b>	<b>20.9</b>
	<b>M</b>	<b>20.5</b>
	<b>F</b>	<b>21.3</b>

**Table 4.** [SI-S1a] At-risk-of-poverty rate, by household type

household type	2011
TOTAL	22.3
Households without dependent children	20.1
One adult younger than 65 years	32.8
One adult 65 years or older	61
Single female	59.1
Single male	35.2
Two adults younger than 65 years	12.7
Two adults, at least one aged 65 years and over	24.4
Three or more adults	10.2
Households with dependent children	23.9
Single parent with dependent children	35.4
Two adults with one dependent child	13.2
Two adults with two dependent children	16.8
Two adults with three or more dependent children	78.2
Three or more adults with dependent children	25.4

**Table 5.** [SI-S1c] At-risk-of-poverty rate, by most frequent activity status and by gender

activity status	sex	age	2010
Employment	T	Y_GE18	8.2
	M	Y_GE18	8.8
	F	Y_GE18	7.5
Non employment	T	Y_GE18	33.4
	M	Y_GE18	31.5
	F	Y_GE18	34.7
Unemployment	T	Y_GE18	52.2
	M	Y_GE18	56.8
	F	Y_GE18	46.6
Retired	T	Y_GE18	28.3
	M	Y_GE18	20.8
	F	Y_GE18	33.3
Inactive population - Other	T	Y_GE18	27.8
	M	Y_GE18	23.8
	F	Y_GE18	29.9

**Table 6. [OV-2] Inequality of income distribution S80/S20 income quintile share ratio**

age	indic_il	2011
TOTAL	S80_S20	6.5
Y_GE65	S80_S20	4.7
Y_LT65	S80_S20	6.8

**Table 7. [OV-1b] Relative median at-risk-of-poverty gap (by age and gender)**

age	sex	2011
TOTAL	T	30
	M	31.2
	F	29.4
Y18-64	T	32.9
	M	33
	F	31.3
Y_GE65	T	24.1
	M	19.2
	F	25.6
Y_GE75	T	25.3
	M	18.5
	F	27.2
Y_LT18	T	37.3

**Table 8. [OV-C11] At-risk-of-poverty rate before social transfers (by age and gender)**

age	sex	2011
TOTAL	T	41.5
	M	39.8
	F	43.2
Y18-64	T	31.7
	M	31
	F	32.5
Y_GE65	T	78.6
	M	79.1
	F	78.3
Y_LT18	T	40.4

**Table 9.** [SI-C6] At-risk-of-poverty rate before social transfers, by gender and selected age groups (except pensions)

age	sex	2011
TOTAL	T	27.1
	M	25.6
	F	28.6
Y18-64	T	23
	M	23.1
	F	23
Y_GE65	T	34.8
	M	26.1
	F	40.7
Y_LT18	T	34.9

### 1.1.2. Secondary indicators of social cohesion calculated from EU-SILC

**Table 10.** [PEPS01] Population at risk of poverty or social exclusion by age and gender (ilc\_peps01)

age	sex	unit	2011
TOTAL	T	1000PERS	3693.5
		PC_POP	49.1
	M	1000PERS	1733.1
		PC_POP	47.7
	F	1000PERS	1960.3
		PC_POP	50.5
Y18-64	T	1000PERS	2215.7
		PC_POP	45.2
	M	1000PERS	1092
		PC_POP	44.7
	F	1000PERS	1123.7
		PC_POP	45.6
Y_GE65	T	1000PERS	814.1
		PC_POP	61.1
	M	1000PERS	302.3
		PC_POP	56
	F	1000PERS	511.8
		PC_POP	64.6
Y_LT18	T	1000PERS	663.6
		PC_POP	51.8

**Table 11.** [PEES01] Intersections of Europe 2020 Poverty Target Indicators by age and gender

AGE	sex	indic_il	unit	2011
TOTAL	T	NR_DEP_NLOW	1000PERS	1871.9
			PC_POP	24.9
		NR_NDEP_LOW	1000PERS	59
			PC_POP	0.8
		R_NDEP_NLOW	1000PERS	318.3
			PC_POP	4.2
Y18-64	T	NR_DEP_NLOW	1000PERS	1201.1
			PC_POP	24.5
		NR_NDEP_LOW	1000PERS	48.2
			PC_POP	1
		R_NDEP_NLOW	1000PERS	159
			PC_POP	3.2
Y_LT18	T	NR_DEP_NLOW	1000PERS	268.3
			PC_POP	21
		NR_NDEP_LOW	1000PERS	10.9
			PC_POP	0.8
		R_NDEP_NLOW	1000PERS	60.7
			PC_POP	4.7

**Table 12.** People living in households with very low work intensity by age and gender

age	sex	unit	2011
Y18-59	T	1000PERS	444.4
		PC_POP	10.1
	M	1000PERS	224
		PC_POP	10.2
	F	1000PERS	220.3
		PC_POP	10.1
Y_LT18	T	1000PERS	178.9
		PC_POP	14
Y_LT60	T	1000PERS	623.3
		PC_POP	11
	M	1000PERS	316.5
		PC_POP	11.1
	F	1000PERS	306.8
		PC_POP	10.9



**Table 13.** [SI-P8]% of pop lacking at least 4 items in the economic strain and durables dimension by age and gender

age	sex	unit	n_item	2010
TOTAL	T	PC_POP	GE4	43.6
	M	PC_POP	GE4	42.5
	F	PC_POP	GE4	44.6
Y12-17	T	PC_POP	GE4	45.8
	M	PC_POP	GE4	47.4
	F	PC_POP	GE4	44.3
Y18-64	T	PC_POP	GE4	40.3
	M	PC_POP	GE4	40
	F	PC_POP	GE4	40.6
Y6-11	T	PC_POP	GE4	47.5
	M	PC_POP	GE4	47
	F	PC_POP	GE4	48.1
Y_GE65	T	PC_POP	GE4	53.7
	M	PC_POP	GE4	49.6
	F	PC_POP	GE4	56.5
Y_LT18	T	PC_POP	GE4	45.6
Y_LT6	T	PC_POP	GE4	43.4
	M	PC_POP	GE4	41.9
	F	PC_POP	GE4	45

**Table 14.** [SI-S4] Mean number of items lacked by persons considered as deprived in the 'economic strain and durables' dimension by age and gender

age	sex	2010
TOTAL	T	4.5
	M	4.5
	F	4.5
Y18-64	T	4.4
	M	4.4
	F	4.4
Y_GE65	T	4.4
	M	4.3
	F	4.5
Y_LT18	T	4.7

## 1.2. Other indicators

### 1.2.1. Equivalised disposable income

	National currency	Euro
Mean equivalised disposable income	6694.41	3422.85
Median equivalised disposable income	5674.36	2901.30

## 2. ACCURACY

### 2.1. Sample design

#### 2.1.1. Type of sampling design

Four-year rotation panel is used for EU-SILC in Bulgaria. It contains 4 independent sub-samples and follows stratified two-stage cluster sampling design.

Separated strata are formed based on the country administrative-territorial division. All private households in the country are covered.

2011 was the sixth year for the Bulgarian EU-SILC survey. In 2011 a new rotational group (number 9) with 2055 households was introduced.

#### 2.1.2. Sampling units

Two stage sampling on a territorial principle is implemented as follows:

- on the first stage - the census enumeration units (PSU) are selected;
- on the second stage - the households are identified.

#### 2.1.3. Stratification and sub-stratification criteria

Sampling criteria is based on the administrative-territorial distribution of the population of the country and comprises all the households in the country. Data base prepared for the Population Census 2011 was used as sampling frame for selection of the last rotational group (R9). The data base was based on the Population Census 2001 data base currently updated with data from the Information System “Demography” (ISD) and the National Civil Registration System and supplemented with data on newly constructed dwellings, maintained by the municipalities.

The sample is stratified by administrative-territorial districts in the country (NUTS3) and the household’s location. As a result 56 strata are formed (28 of urban and 28 of rural population). Municipalities and settlements are ranged according to the number of their population within each stratum.

#### 2.1.4. Sample size and allocation criteria

The necessary sample size for Bulgaria is determined in the Annex II of the Framework Regulation (1177/2003) to guarantee an effective sample size with regard to the at-risk-of-poverty indicator of 4500 households. The longitudinal sample for two successive waves should comprise at least 3500 households.

The total gross sample size (number of households) has been made analyzing the non-response rates and design effects of the previous EU-SILC surveys (2008-2010).

The total sample size in 2011 is 7344 households:

- 5289 “old” (longitudinal 2008, 2009 and 2010),
- 2055 “new” households (drawn in 2011).

#### 2.1.5. Sample selection schemes

The number of census enumeration units (PSU) is calculated for each strata included in the sample.

The clusters on the first stage are chosen with probability proportion to population size (number of households) in the PSUs. Systematic sampling of secondary units (households) in each primary unit Selected is applied. Each PSU contains 5 households.

#### 2.1.6. Sample distribution over time

As the survey is annual, the sample of households is not distributed over time. The survey is carried from May to July of the year 2011 with reference period of data the previous year (2010).

*Table 15. Sample distribution (household questionnaire) over time*

Month	Data	Number	%
May	1 – 10	999	5,8
	11 – 20	2266	13,2
	21 – 31	1934	11,2
June	1 – 10	3020	17,6
	11 – 20	2318	13,5
	21 – 31	3142	18,3
July	1 – 10	2670	15,5
	11 – 20	850	4,9
	21 – 31	0	0,0
	<b>Total</b>	<b>17199</b>	<b>100.00</b>

#### 2.1.7. Renewal of sample: rotational groups

Bulgaria applies a rotational panel in which the sample is divided into four sub-samples. Each of them is representing the whole population. Each year one of the rotation groups is dropped out and a new one is added to the sample.

2006 is the first year of EU-SILC in Bulgaria. The rotational group R2 (with a size 1451) is dropped out in 2008 and 2935 new households are added as rotational group R6. In 2009 the third rotational

group R3 (with a size 1072) is dropped out and 2915 new households are added as rotational group R7. The rotational group R4 (with a size 894) is dropped out in 2010 and 2155 new households are added as rotational group R8. In 2011 the rotational group R5(941 household) is dropped out and 2055 new households are chosen.- R9.

*Table 16. Size of rotational groups (selected sample)*

Rotational group	Year of survey					
	2006	2007	2008	2009	2010	2011
<b>R1</b>	1530	-	-	-	-	-
<b>R2</b>	1530	1451*	-	-	-	-
<b>R3</b>	1530	1444*	1072	-	-	-
<b>R4</b>	1530	1445*	1079	894	-	-
<b>R5</b>		1530	1444*	974	941	-
<b>R6</b>			2935	2571*	1863	1765
<b>R7</b>				2915	2260	1975
<b>R8</b>					2155	1549
<b>R9</b>						<b>2055</b>
<b>Total sample (households)</b>	<b>6120</b>	<b>5870</b>	<b>6530</b>	<b>7354</b>	<b>7219</b>	<b>7344</b>

\*Including households which are not interviewed during the previous year

### 2.1.8. Weightings

Weighting factors were calculated as required to take into account the units' probability of selection, non-response and to adjust the sample to external data relating to the distribution of households and persons in the target population, such as sex and age, residence or administrative-territorial districts (NUTS 3).

#### Design weights

For the first year of the panel, the design weights are equal to the inverses of the corresponding household inclusion probabilities. These weights are household design weights DB080.

For households in subsamples R6 (fourth year), R7 (third year) and R8 (second year) the household design factors were calculated by following general steps:

- Computation of panel person base weights, coming from the final cross-sectional weight of the precedent year of survey;
- Non-response adjustments due to panel attrition;
- Computation of base weights for persons entering panel households for the first time:
  - children, born to sample women - the base weight is equal to the mother's base weight;
  - persons moving into sample household from outside the survey population – the base weight is the average of base weights of existing household members;

- persons moving into sample households from other non-sample households in the population have a basic panel weight equal to zero;
- Computation of household weights by averaging within household over all household members.

#### Non-response adjustment

Correction for non-response at the first year of subsamples R9 was done with Weighting within classes procedures:

The design weights were modified by a factor inversely proportional to the response rate within strata. Coefficients of these corrections were computed separately according to classes of locality as ratios: the sum of design weights of selected units to the sum of design weights of responding units.

The response probability for the households at wave 2, 3, 4 ( subsamples R6, R7 and R8) is obtained by a logistic regression model. The following variables were used in the model:

- strata
- size of household
- sex
- age group
- activity
- educational level
- poverty indicators

#### Adjustments to external data (calibration)

After the non-response adjustments, the final weights were obtained applying the integrated calibration method. Combining the four independent subsamples, calibration is done on individual-level data, imposing equality of g-weights for individuals in the same household. We used truncated linear function in order to limit g-weights close enough to 1.

The following external information was used:

- Distribution of the population by administrative-territorial districts (NUTS 3) and residence – urban/rural
- Distribution of the population by age groups (0 – 15, 16 – 19, 20 – 24, 25 – 29, 30 – 34, 35 – 39, 40 – 44, 45 – 49, 50 – 54, 55 – 59, 60 – 64, 65 – 69, 70 – 74, 75 or more), sex and residence – urban/rural

This information was derived from the Information System Demography (ISD).

Calibration was carried out with a G calib2.0 program (designed by Statistics Belgium).

#### Final cross-sectional weights

After calibration the final household cross-sectional weight DB090 is get.

The personal cross-sectional weight of an individual (RB050) is equal to the cross-sectional weight DB090 of its household.

Personal cross-sectional weights for all household members aged 16 and over (PB040) are obtained by correction for within household non-response of the RB050. After that the same calibration method as described above is used in order to adjust the weights to external sources.

### 2.1.9. Substitutions

No substitution was applied if the household did not enter the survey.

## 2.2. Sampling errors

### 2.2.1. Standard error and effective sample size

Computations of standard errors were carried out using JRR - SAS programs for variance estimation of the measures required for Intermediate quality Report

subpopulation	est	stat_se	kish	n
HCR, after social transfers: Age 0-17	0.28731	0.01285	1.11034	2012
HCR, after social transfers: Age 18-24	0.23267	0.01454	1.15329	1293
HCR, after social transfers: Age 25-49	0.17837	0.0074	1.11465	4948
HCR, after social transfers: Age 50-64	0.1694	0.01052	1.16302	3856
HCR, after social transfers: Age 65+	0.30887	0.08788	1.13334	4107
HCR, after social transfers: Male	0.20839	0.00887	1.15757	8188
HCR, after social transfers: Female	0.23587	0.00823	1.14522	8992
HCR, after social transfers: Male Age 0-17	0.28968	0.01494	1.11843	1053
HCR, after social transfers: Male Age 18-24	0.23972	0.01847	1.14049	697
HCR, after social transfers: Male Age 25-49	0.17875	0.00789	1.11544	2508
HCR, after social transfers: Male Age 50-64	0.17252	0.03988	1.15323	1805
HCR, after social transfers: Male Age 65+	0.21908	0.0367	1.14517	1653
HCR, after social transfers: Female Age 0-17	0.28476	0.01601	1.10155	959
HCR, after social transfers: Female Age 18-24	0.22507	0.01575	1.16618	596
HCR, after social transfers: Female Age 25-49	0.17798	0.0096	1.11382	2440
HCR, after social transfers: Female Age 50-64	0.16661	0.00937	1.17206	2051
HCR, after social transfers: Female Age 65+	0.37007	0.02137	1.13244	2454
HCR, after social transfers: Male Age 18+	0.19185	0.00982	1.14711	7135
HCR, after social transfers: Female Age 18+	0.22741	0.00865	1.13816	8033
HCR, after social transfers: Male Age 18-64	0.18454	0.00734	1.1391	5010
HCR, after social transfers: Female Age 18-64	0.17962	0.00783	1.15072	5087
HCR, after social transfers: Male Age 65+	0.20652	0.00743	1.14892	6535
HCR, after social transfers: Female Age 65+	0.20145	0.03057	1.15304	6538
HCR, after social transfers: One person hh under 65 years	0.32832	0.02452	1.18056	533
HCR, after social transfers: One person hh 65 years and over	0.61012	0.01729	1.14043	1101
HCR, after social transfers: One person hh Male	0.35188	0.05814	1.19955	509
HCR, after social transfers: One person hh Female	0.59103	0.01809	1.19029	1125
HCR, after social transfers: One person hh Total	0.50732	0.01578	1.18338	1634

HCR, after social transfers: 2 adults no dependant children, both adults under 65 years	0.12742	0.01652	1.13514	1670
HCR, after social transfers: 2 adults no dependant children, at least one adult 65 years or more	0.24372	0.03289	1.14324	2336
HCR, after social transfers: Other hh without dependant children	0.10217	0.02627	1.11575	3442
HCR, after social transfers: Single parent hh,one or more dependant children	0.35391	0.03835	1.23167	308
HCR, after social transfers: 2 adults one dependant child	0.13236	0.01065	1.067	1362
HCR, after social transfers: 2 adults two dependant children	0.16766	0.01432	1.15191	1464
HCR, after social transfers: 2 adults three or more dependant children	0.78235	0.02533	1.07437	250
HCR, after social transfers: Other hh with dependant children	0.25358	0.01458	1.1036	4708
HCR, after social transfers: Hh without dependant children	0.20119	0.01761	1.11862	9082
HCR, after social transfers: Hh with dependant children	0.23906	0.01032	1.12495	8092
HCR, after social transfers: Accommodation tenure status:Owner or rent free	0.22115	0.00858	1.15016	16647
HCR, after social transfers: Accommodation tenure status:Tenant	0.25724	0.02515	1.11539	533
HCR, after social transfers: Main activity status: Employed	0.10019	0.00534	1.15632	6789
HCR, after social transfers: Main activity status: Unemployed	0.48053	0.0193	1.14893	1658
HCR, after social transfers: Main activity status: Retired	0.28459	0.02698	1.14113	5453
HCR, after social transfers: Main activity status: Other inactive	0.26907	0.01086	1.13142	3280
HCR, after social transfers: Main activity status: Employed, Male	0.10871	0.00644	1.16221	3543
HCR, after social transfers: Main activity status: Unemployed, Male	0.4796	0.02867	1.14419	888
HCR, after social transfers: Main activity status: Retired, Male	0.21846	0.0592	1.15965	2193
HCR, after social transfers: Main activity status: Other inactive, Male	0.27112	0.0127	1.13627	1564
HCR, after social transfers: Main activity status: Employed, Female	0.09083	0.00533	1.1477	3246
HCR, after social transfers: Main activity status: Unemployed, Female	0.48156	0.13913	1.15302	770
HCR, after social transfers: Main activity status: Retired, Female	0.33073	0.02723	1.13677	3260
HCR, after social transfers: Main activity status: Other inactive, Female	0.26725	0.01258	1.12703	1716
HCR, after social transfers: Work intensity: hh without dependent children, w=0	0.42138	0.05102	1.14672	3849
HCR, after social transfers: Work intensity: hh without dependent children, 0<w<1	0.12236	0.00836	1.14088	2815
HCR, after social transfers: Work intensity: hh without dependent children, w=1	0.02299	0.00219	1.14323	2418
HCR, after social transfers: Work intensity: hh with dependent children, w=0	0.7568	0.02202	1.08255	632
HCR, after social transfers: Work intensity: hh with dependent children, 0<w<0.5	0.54371	0.02315	1.10736	1690
HCR, after social transfers: Work intensity: hh with dependent children, 0.5<=w<1	0.13814	0.01109	1.1274	4011

HCR, after social transfers: Work intensity: hh with dependent children, w=1	0.03586	0.00499	1.11606	1759
HCR, before social transfers including pensions: Male Age 0-17	0.3451	0.01651	1.10907	1053
HCR, before social transfers including pensions: Male Age 18-24	0.28514	0.01645	1.13356	697
HCR, before social transfers including pensions: Male Age 25-49	0.22464	0.0092	1.11203	2508
HCR, before social transfers including pensions: Male Age 50-64	0.22286	0.01011	1.14758	1805
HCR, before social transfers including pensions: Male Age 65+	0.26129	0.01097	1.14813	1653
HCR, before social transfers including pensions: Female Age 0-17	0.35574	0.01739	1.10509	959
HCR, before social transfers including pensions: Female Age 18-24	0.27702	0.01751	1.15054	596
HCR, before social transfers including pensions: Female Age 25-49	0.22596	0.00944	1.11732	2440
HCR, before social transfers including pensions: Female Age 50-64	0.21752	0.00937	1.16449	2051
HCR, before social transfers including pensions: Female Age 65 +	0.40673	0.01088	1.13535	2454
HCR, before social transfers excluding pensions: Male Age 0-17	0.4033	0.01709	1.1065	1053
HCR, before social transfers excluding pensions: Male Age 18-24	0.33533	0.67451	1.11774	697
HCR, before social transfers excluding pensions: Male Age 25-49	0.29122	0.00997	1.09977	2508
HCR, before social transfers excluding pensions: Male Age 50-64	0.31715	0.0116	1.14203	1805
HCR, before social transfers excluding pensions: Male Age 65+	0.79125	0.01015	1.12795	1653
HCR, before social transfers excluding pensions: Female Age 0-17	0.40578	0.0178	1.10203	959
HCR, before social transfers excluding pensions: Female Age 18-24	0.35212	0.019	1.13872	596
HCR, before social transfers excluding pensions: Female Age 25-49	0.28176	0.00999	1.10608	2440
HCR, before social transfers excluding pensions: Female Age 50-64	0.37363	0.01127	1.14718	2051
HCR, before social transfers excluding pensions: Female Age 65+	0.78269	0.00892	1.16884	2454
Median equivalised disposable income	5674.36	132.63	1.15592	17180
At-risk-of-poverty threshold, one person hh	2012.87	72.361	1.18241	1634
At-risk-of-poverty threshold, hh 2 adults 2 dependent children	3423.05	270.755	1.11038	1464
S80/S20	6.52	0.235	1.14026	17180
Relative median at-risk-of-poverty gap: Male Age 0-17	0.38	0.02	1.11783	1053
Relative median at-risk-of-poverty gap: Male Age 18-24	0.3	0.076	1.11863	697
Relative median at-risk-of-poverty gap: Male Age 25-49	0.36	0.04	1.12053	2508
Relative median at-risk-of-poverty gap: Male Age 50-64	0.3	0.07	1.16385	1805
Relative median at-risk-of-poverty gap: Male Age 65+	0.19	0.02	1.12931	1653
Relative median at-risk-of-poverty gap: Female Age 0-17	0.38	0.031	1.10585	959
Relative median at-risk-of-poverty gap: Female Age 18-24	0.31	0.042	1.12273	596
Relative median at-risk-of-poverty gap: Female Age 25-49	0.34	0.033	1.13011	2440
Relative median at-risk-of-poverty gap: Female Age 50-64	0.27	0.021	1.16413	2051
Relative median at-risk-of-poverty gap: Female Age 65+	0.26	1.381	1.1364	2454
Median income below the at-risk-of-poverty threshold	6694.41	51.431	1.15592	17177



HCR P.L.as 50% median	0.16	0.005	1.16356	17180
HCR P.L.as 70% median	0.29	0.008	1.14866	17180
HCR P.L.as 40% median	0.1	0.018	1.19639	17180
Gini coefficient	0.35	0.004	1.11341	17177
Mean equivalised disposable income	6694.41	69.92	1.12813	17177

## 2.3. Non-sampling errors

### 2.3.1. Sampling frame and coverage errors

The sample for EU-SILC 2011 is selected from the sampling frame based on the Population Census 2011. The data base includes all private households and their current members residing in the country. Persons living in collective households and in institutions are excluded from the target population. Student's and worker's hostels are excluded at the first stage of selection of PSU, because student's and worker's households rarely stay on the same addresses and are difficult to trace. The frame is regularly updated according to the administrative changes made.

Addresses and household data within the selected PSUs are updated according to the Information System "Demography" data (ISD). Data source for the natural movement and the internal migration of the population is the National Civil Registration System.

Percentage of non-contacted addresses by reasons: address does not exist or is non-residential address or is unoccupied (DB120=23) out of total selected addresses – 3.6%; address can not be located (DB120=21) – 0.1%.

### 2.3.2. Measurement and processing errors

#### 2.3.2.1. Measurement errors

The questionnaire for EU-SILC 2011 was developed on the basis of the Commission Regulation (EC) 481/2010, EU-SILC065 (2011 operation) and Guidelines for Description of secondary target variables and corresponding questionnaire: 2011 Module on Intergenerational transmission of poverty

EU-SILC survey in 2011 was carried out in May/July. EU-SILC is a non-obligatory, representative survey of individual households, performed by a face-to-face interview technique with the use of the PAPI method. Two types of questionnaires: individual and household questionnaire were applied. The fieldwork and all project implementation activities were done by NSI with annual grants from EC.

The training ship for interviewers was held on 26-28 April 2011. All responsible persons (supervisors) for the survey from each regional statistical office, interviewer and persons responsible for methodology from NSI took part in it. Household's registries and person's ID were marked with special attention. The training program included methodology, specific areas of income variables and variables from the new module 2011, which were presented to the participants. A discussion was held with the participants of the seminar related to the problems in collecting data and specific questions

which required legislation knowledge. At the end of the course different examples of households and income sources were presented to the attendants and the training was evaluated.

### **2.3.2.2. Processing errors**

#### *Data-entry phase*

EU-SILC data were collected with two kinds of paper questionnaires – household and individual questionnaire. The data entry program was developed in Visual Basic.Net. MS Access has been used as database.

A large number of edit checks (hard and soft) between questions in both questionnaires were implemented for ensuring data correctness and consistency. For example, two external files (at household and personal level) were used for verifying correctness of identifiers and for checking against previously collected information – household composition and questions such as day, month and year of birth, sex etc. for those individuals who are not observed for the first time. All gross income values were checked if they are equal or greater than net values (hard error) and if net values are greater or equal than gross values divided by two (soft error). In order to check the consistency of data on child allowances an additional check has been implemented – the program checks if the number and age of children in the household corresponds to the child allowances received in the household (hard error). Another check that has been added is between the salary of an individual, his/her profession and the minimum insurance income (soft error). According to national legislation the minimum insurance income is set to a certain level according to the profession type. For checking purposes, lower and upper boundaries, narrower than absolute, were set for most of the questions on income (e.g. social benefits, pensions) based upon national legislation. Internal files (implemented in the database) that hold valid ISCO-08 and NACE codes and descriptions were included.

During data entry phase, data entry operators were enabled to generate progress report by using SQL queries. The report contained form IDs, form status, number of errors and number of suppressed signals. A report for the number of individuals and households been interviewed or not grouped by interviewee had been added.

#### *Data processing phase*

After data-entry phase, further data checking and editing was performed by SILC unit, using SPSS scripts.

Initially, data were checked whether all questionnaires have been entered and completed. Special attention was paid to split-off households. Next, all suppressed signals and remarks made by data entry operators were checked up and relevant corrections were made. After that, data were converted to SPSS data sets. Extreme income values were compared with data provided by National Social Security Institute or administrative data sources and data from previous waves, where possible and corrected if necessary. All SILC target variables were computed after checking original variable(s). Finally, four transmission files were converted to .csv format and verified by Eurostat` SAS checking programs.

The main errors detected in the post-data-collection process were related to double registration of child allowances and personal income from agriculture, property or land. Both of them were recorded in household` and individual` questionnaires. As well as this, there were values that exceeded the maximum possible sizes of unemployment, old-age, survivor`, sickness and disability benefits.

All gross income values were checked if they are equal or greater than net values (hard error) and if net values are greater or equal than gross values divided by two (soft error).

The rates of failed edits for income variables are not available.

### 2.3.3. Non-response errors

#### 2.3.3.1. Achieved sample size

**Table 17.** Number of households for which an interview is accepted for the database. Rotational group breakdown and total

Rotational group	First wave	Households	%
1	2011	1516	25,7
2	2008	1687	28,7
3	2009	1879	22,5
4	2010	1472	23,1
Total		6554	100

**Table 18.** Number of persons of 16 years or older who are members of the households for which the interview is accepted for the database, and who completed a personal interview. Rotational group breakdown and total

Rotational group	First wave	Households' members	%
1	2011	3542	23,1
2	2008	3908	25,5
3	2009	4376	28,6
4	2010	3499	22,8
Total		15325	100

#### 2.3.3.2. Unit non-response

##### New replication (4<sup>rd</sup> rotational group)

▪ Household non-response rates  $NRh = [1 - (Ra * Rh)] * 100$ ,

Ra = 0.994

Rh = 0.793

NRh = 21.2

▪ Individual non-response rates  $NRp = (1 - Rp) * 100$ ,

Rp = 0.998

NRp = 0.14

▪ Overall individual non-response rates  $*NRp = [1 - (Ra * Rh * Rp)] * 100$ ,

\*NRp = 21.32

## Total sample

▪ *Household non-response rates*  $NRh = [1 - (Ra * Rh)] * 100$ ,

$$Ra = \frac{\text{Number of addresses successfully contacted}}{\text{Number of valid addresses selected.}} = \frac{[DB120 = 11] 7069}{[DB120 = all] - [DB120 = 23] 7344 - 262} = 0.998$$

$$Ra = 0.998$$

Ra – the address contact rate

$$Rh = \frac{\text{Number of household interviews completed and accepted for the database}}{\text{Number of eligible households at contacted addresses.}} = \frac{[DB135=1] 6554}{[DB130=all] 7069} = 0.927$$

$$Rh = 0.927$$

Rh – the proportion of complete household interviews accepted for the database

$$NRh = (1 - 0.998 * 0.927) * 100 = 7.46\%$$

▪ *Individual non-response rates*  $NRp = (1 - Rp) * 100$ ,

$$Rp = \frac{\text{Number of personal interview completed}}{\text{Number of eligible individuals}} = \frac{15325}{15354} = 0.998$$

Rp – the proportion of complete personal interviews within the households accepted for the database

$$NRp = (1 - 0.998) * 100 = 0.25\%$$

▪ *Overall individual non-response rates*  $*NRp = [1 - (Ra * Rh * Rp)] * 100$ ,

$$*NRp = [1 - (0.998 * 0.927 * 0.998)] * 100 = 7.63\%;$$

### - Information on non-response

		total	Rotation 1	Rotation 2	Rotation 3	Rotation 4
All households	Ra	0,998	0,994	1,000	0,999	1,000
	Rh	0,927	0,793	0,982	0,977	0,972
	Rp	0,998	0,999	0,997	0,998	0,999
	NRp	0,19	0,14	0,26	0,21	0,14
	*NRp	7,63	21,32	2,06	2,59	2,98

Ra – the address contact rate

Rh – the proportion of complete household interviews accepted for the database

Rp – the proportion of complete personal interviews within the households accepted for the database

NRp - Individual non-response rates

\*NRp - Overall individual non-response rates

**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 19. Distribution of households by ‘record of contact at address’ (DB120)*

	Number of households	%
Total (DB120 =11 to 23)	7344	100
Address contacted (DB120 =11)	7069	96,3
Address non-contacted (DB120 =21 to 23)	275	3,7
Total address non-contacted (DB120 =21 to 23)	275	100
Address cannot be located (DB120 =21)	6	2,2
Address unable to access (DB120 =22)	7	2,5
Address does not exist (DB120 =23)	262	95,3

*Table 20. Distribution of households by ‘record of contact at address’ (DB120) for each rotational group*

	Rotation 1	Rotation 2	Rotation 3	Rotation 4
Total (DB120 =11 to 23)	2055	1765	1975	1549
Address contacted (DB120 =11)	1912	1718	1924	1515
Address non-contacted (DB120 =21 to 23)	143	47	51	34
Address cannot be located (DB120 =21)	6	0	0	0
Address unable to access (DB120 =22)	6	0	1	0
Address does not exist (DB120 =23)	131	47	50	34

*Table 21. Distribution of households by ‘household questionnaire result’ (DB130) and by ‘household interview acceptance’ (DB135)*

	Number of households	%
Total (DB130 =all)	7069	100
Household questionnaire completed (DB130 =11)	6554	92,7
Interview not completed (DB130 =21 to 24)	515	7,3
Total interview not completed (DB130 =21 to 24)	515	100
Refusal to co-operate (DB130 =21)	214	41,6
Entire household temporarily away (DB130 =22)	197	38,3
Household unable to respond (DB130 =23)	44	8,5
Other reasons	60	11,7
Household questionnaire completed (DB135=1+2)	6554	100
Interview accepted for database (DB135=1)	6554	100
Interview rejected (DB135=2)	0	0

**Table 22.** Distribution of households by 'household questionnaire result' (DB130) and by 'household interview acceptance' (DB135) for each rotational group

	Rotation 1	Rotation 2	Rotation 3	Rotation 4
Total (DB130 =all)	1912	1718	1924	1515
Household questionnaire completed (DB130 =11)	1516	1687	1879	1472
Interview not completed (DB130 =21 to 24)	396	31	45	43
Refusal to co-operate (DB130 =21)	166	10	18	20
Entire household temporarily away (DB130 =22)	149	14	18	16
Household unable to respond (DB130 =23)	37	2	2	3
Other reasons	44	5	7	4
Household questionnaire completed (DB135=1+2)	1516	1687	1879	1472
Interview accepted for database (DB135=1)	1516	1687	1879	1472
Interview rejected (DB135=2)				

#### 2.3.3.4. Distribution of substituted units

No substitution was applied in our survey

#### 2.3.3.5. Item non-response

**Table 23.** Information on item non-response on household level - households 2011

Item non-response	households having received an amount		Full information		Partial information		Missing information	
	total	% of all interviewed households	total	%	total	%	total	%
Total household gross income (HY010)	6552	100,0	1765	26,9	4741	72,4	46	0,7
Total disposable household income (HY020)	6552	100,0	1127	17,2	5408	82,5	17	0,3
Total disposable household income before social transfers except old-age and survivor's benefits (HY022)	6522	99,5	1968	30,2	4545	69,7	9	0,1
Total disposable household income before social transfers including old-age and survivor's benefit (HY023)	6103	93,1	3019	49,5	3073	50,4	11	0,2

#### Net income components at household level

Income from rental of a property or land (HY040N)	270	4,1	83	30,7	12	4,4	175	64,8
Family related allowances (HY050N)	1050	16,0	1050	100,0				
Social exclusion not elsewhere classified (HY060N)	383	5,8	383	100,0				
Housing allowance (HY070)	1	0,0	1	100,0				
Regular inter-household cash transfer received (HY080)	790	12,1	785	99,4			5	0,6

Alimonies received (HY081N)	73	1,1	73	100,0					
Interests, dividends, etc. (HY090N)	72	1,1	35	48,6	1	1,4	36	50,0	
Interest repayments on mortgage (HY100N)	65	1,0	65	100,0					
Income received by people aged < 16 (HY110)	34	0,5	34	100,0					
Taxes on wealth (HY120N)	4694	71,6	4694	100,0					
Regular inter-household cash transfer paid (HY130N)	302	4,6	302	100,0					
Tax on income and social contributions (HY140N)	4151	63,3	16	0,4	239	5,8	3896	93,9	100
Value of goods produced by own-consumption (HY170N)	2032	31,0	2032						
<b>Gross income components at household level</b>									
Income from rental of a property or land (HY040G)	270	4,1	83	30,7	12	4,4	175	64,8	
Family related allowances (HY050G)	1050	16,0	1050	100,0					
Social exclusion not elsewhere classified (HY060G)	383	5,8	383	100,0					
Housing allowance (HY070G)	1	0,0	1	100,0					
Regular inter-household cash transfer received (HY080G)	790	12,1	785	99,4			5	0,6	
Alimonies received (HY081N)	73	1,1	73	100,0					
Interests, dividends, etc. (HY090G)	72	1,1	35	48,6	1	1,4	36	50,0	
Interest repayments on mortgage (HY100G)	65	1,0	65	100,0					
Income received by people aged < 16 (HY110G)	34	0,5	34	100,0					
Taxes on wealth (HY120G)	4694	71,6	4694	100,0					
Regular inter-household cash transfer paid (HY130G)	302	4,6	302	100,0					
Tax on income and social contributions (HY140G)	4151	63,3	16	0,4	239	5,8	3896	93,9	100
Value of goods produced by own-consumption (HY170G)	2032	31,0	2032	100					
<b>Net income component at personal level</b>									
Employee cash or near cash income (PY010N)	7517	49,1	4122	54,8	2458	32,7	937	12,5	
Net non-cash employee income (PY020N)	985	6,4	35	3,6			950	96,45	
Contribution to individual private pension plans (PY035N)	76	0,5	76	100,0					
Cash benefits or losses from self-employment (PY050N)	1 036	6,8	501	48,4	203	19,6	332	32,0	
Pension from individual private plans (PY080N)	32	0,2	32	100,0					
Unemployment benefits (PY090N)	927	6,0	149	16,1	83	9,0	695	75,0	
Old age benefits (PY100N)	5629	36,7	5448	96,8			181	3,2	

Survivor's benefits (PY110N)	1522	9,9	1443	94,8			79	5,19
Sickness benefits (PY120N)	42	0,3	42	100,0				
Disability benefits (PY130N)	941	6,1	731	77,7			210	22,3
Education-related allowances (PY140N)	74	0,5	74	100,0				
<b>Gross income components at personal level</b>								
Employee cash or near cash income (PY010G)	7517	49,1	5161	68,7	1419	18,9	937	12,5
Net non-cash employee income (PY020G)	985	6,4	35	3,6			950	96,45
Contribution to individual private pension plans (PY035G)	76	0,5	76	100,0				
Cash benefits or losses from self-employment (PY050G)	1 036	6,8	461	44,5	243	23,5	332	32,0
Pension from individual private plans (PY080G)	32	0,2	32	100,0				
Unemployment benefits (PY090G)	927	6,0	149	16,1	83	9,0	695	75,0
Old age benefits (PY100G)	5629	36,7	5449	96,8			181	3,2
Survivor's benefits (PY110G)	1522	9,9	1443	94,8			79	5,19
Sickness benefits (PY120G)	42	0,3	42	100,0				
Disability benefits (PY130G)	941	6,1	731	77,7			210	22,3
Education-related allowances (PY140G)	74	0,5	74	100,0				
Gross monthly earnings for employees (PY200G)	6032	39,4	5807	96,3			225	3,7

### 2.3.3.6. Total item non-response 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

*Table 24. Item non-response at unit level of the common cross-sectional European Union indicators and for equivalised disposable income*

<u>Indicator</u>	<u>Achieved sample size</u>	<u>Total item non-response</u>
At-risk-of-poverty rate after social transfers -total	17180	19
At-risk-of-poverty rate after social transfers -men total	8188	8
At-risk-of-poverty rate after social transfers -women total	8992	11
At-risk-of-poverty rate after social transfers -0-17 years	2221	2
At-risk-of-poverty rate after social transfers -18-64 years	10853	15
At-risk-of-poverty rate after social transfers -men 18-64 years	5388	8
At-risk-of-poverty rate after social transfers -women 18-64 years	5465	7
At-risk-of-poverty rate after social transfers -65+ years	4106	2
At-risk-of-poverty rate after social transfers -men 65+ years	1652	0
At-risk-of-poverty rate after social transfers -women 65+ years	2454	2
At-risk-of-poverty threshold -single	1634	0
At-risk-of-poverty threshold -2 adults, 2 children	1464	92



## 2.4. Mode of data collection

**Table 25.** Distribution of household members (RB245=1) by “Data status” (RB250)

	Total		Rotation 1		Rotation 2		Rotation 3		Rotation 4	
	N	%	N	%	N	%	N	%	N	%
<b>Total</b>	15354	100	3547	100	4030	100	4528	100	3655	100
RB250=11	15325	99,8	3542	99,9	3908	99,7	4376	99,8	3499	99,8
RB250=14	0		0		0		0		0	
RB250=21	0		0		0		0		0	
RB250=23	19	0,1	4	0,1	6	0,2	7	0,2	2	0,1
RB250=31	8	0,1	1	0,0	4	0,1	1	0,0	2	0,1
RB250=32	1	0,0	0	0,0	0	0,0	1	0,0	0	0,0
RB250=33	1	0,0	0	0,0	0	0,0	0	0,0	1	0,0

**Table 26.** Distribution of household members (RB245=1) by “Type of interview” (RB260)

	Total		Rotation 1		Rotation 2		Rotation 3		Rotation 4	
	N	%	N	%	N	%	N	%	N	%
<b>Total</b>	15325	100	3542	100	3908	100	4376	100	3499	100
<b>Face to face (1)</b>	12244	79,9	2728	77,0	3148	80,5	3524	80,5	2844	79,9
<b>Proxy interview (5)</b>	3081	20,1	814	23,0	760	19,5	852	19,5	655	20,1

The interviewers decided on proxy interviews only if the substitute respondents were well informed about the situation in the household and there was no other possibility to get the information. Proxy interviews were performed in the following situations:

- no contact with the respondent because of long-term absence (e.g. work in another town or abroad);
- respondent’s disability or illness;
- the respondent was only available late at night and was not willing to participate in such a long interview, while at the same time the proxy could provide detailed information, even based on the documents, such as tax statements.

## 2.5. Interview duration

The average household interview duration was about 26 minutes, while the average individual interview duration was about 21 minutes.

The mean interview duration per household was estimated at 74.6 minutes.

### 3. COMPARABILITY

#### 3.1. Basic concepts and definitions

There were no essential differences between the national concepts and standard EU-SILC concepts.

##### *The reference population*

The reference population covers all citizens living at the country territory. The source of the sample for rotational group 1(R) is the Data base prepared for the Population Census 2011. It includes all private households and their current members residing in the territory, independently of any socio-economic characteristics they may have. Persons living in collective households and in institutions are excluded from the target population.

##### *The private household definition*

The definition of household that Eurostat recommends is used. Household is defined as a person living alone or a group of people who live together in the same dwelling and share expenditures including the joint provision of the essentials of living. Family members living together but not sharing their income and expenditure with other family members make up separate households.

##### *The household membership*

All household members aged 16 years and more at the time of the interview, are selected for a personal interview.

The household composition accounted for:

1. Persons usually resident, related to other members
2. Persons usually resident, not related to other members
3. Resident boarders, lodgers, tenants
4. Visitors
5. Line-in domestic servants, au-pairs
6. Persons usually resident, but temporarily absent from the dwelling (for reasons of holiday travel, work, education or similar)
7. Children of the household being educated away from home
8. Persons absent for long periods, but having household ties : persons working away from home
9. Persons temporarily absent but having household ties: persons in hospital, homes or other institutions

Further conditions for inclusion as household members are as follows:

(a) Categories 3,4, and 5:

Such persons must currently have no private address elsewhere; or their actual or intended duration of stay must be six months or more.

(b) Category 6:

Such persons must currently have no private address elsewhere and their actual or intended duration of absence from the household must be less than six months.

(c) Category 7 and 8:

Irrespective of the actual or intended duration of absence, such persons must currently have no private address elsewhere, must be the partner or child of a household member and must continue to retain close ties with the household and must consider this address to be his/her main residence.

(d) Category 9:

Such person must have clear financial ties to the household and must be actually or prospectively absent from the household for less than six months.

- Usually resident

A person shall be considered as a usually resident member of the household if he/she spends most of his/her daily rest there, evaluated over the past six months. Persons forming new households or joining existing households shall normally be considered as members at their new location; similarly, those leaving to live elsewhere shall no longer be considered as members of the original household. The above mentioned 'past six month' criteria shall be replaced by the intention to stay for a period of six months or more at the new place of residence.

- Intention to stay for a period of six months or more

Account has to be taken of what may be considered as 'permanent' movements in or out of households. Thus a person who has moved into a household for an indefinite period or with their intention to stay for a period of six months or more shall be considered as a household member, even though the person has not yet stayed in the household for six months, and has in fact spent a majority of that time at some other place of residence. Similarly, a person who has moved out of the household to some other place of residence with the intention of staying away for six months or more, shall no longer be considered as a member of the previous household.

- Temporarily absent in private accommodation

If the person who is temporarily absent is in private accommodation, then whether he/she is a member of this (or other) household depends on the length of the absence. Exceptionally, certain categories of persons with very close ties to the household may be included as members irrespective of the length of absence, provided they are not considered members of another private household.

In the application of these criteria, the intention is to minimize the risk that individuals who have two private addresses at which they might potentially be enumerated are not double-counted in the sampling frame. Similarly, the intention is to minimize the risk of some persons being excluded from membership of any household, even though in reality they belong to the private household sector.

### ***The income reference period(s) used***

The income reference period is a fixed twelve-month period, namely the previous calendar year. For SILC 2011 the income reference period is the year 2010

### ***The period for taxes on income and social insurance contributions***

The reference period for income tax repayment and compulsory social insurance contributions is the previous calendar year (2010).

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

Taxes on wealth paid during the income reference period (2010) were recorded.

### ***The lag between the income reference period and current variables***

The income reference period is the previous calendar year (year 2010) and the current variables refer to the fieldwork period (May - July 2011). Therefore the lag is at minimum 5 months and at maximum 7 months.

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

EU-SILC was performed on the territory of the whole country between May and July 2011.

### ***Basic information on activity status during the income reference period***

There were no differences between the national concepts and standard EU-SILC concepts. This information can be obtained by combining the answer for question P2 (PL031) with the answer for question P25 (calendar question), (PL211A—PL211K)

## **3.2. Components of income**

### **3.2.1 Income definitions**

There are no differences between national definition and standard EU-SILC definition.

#### ***Within-household non-response inflation factor (HY025)***

In order to calculate variable HY025 the recommendation of the doc065 (EU-SILC 2010 Operation) were applied as follows:

$$HY025 = 1 + i/HY020c$$

Where HY020c is the collected household disposable income and i is a sum of imputed total personal income.

#### ***Imputed rent (HY030G)***

Imputed rents are estimated for dwellings used as main residence by the households. The imputation is applied for those households that did not report paying rent:

- owners-occupiers
- rent-free tenants

The market rent is the rent due for the right to use an unfurnished dwelling on the private market, excluding charges for heating, water, electricity, etc.

The stratification method used is based on actual rents (the same used by National Accounts – the same stratification variables and the same market rents). The method is in line with ESA’95 and requirements of Commission Decision 95/309 and Commission Regulation 1722/2005 on the principle of estimating dwelling services.

Stratification variables:

- location (district center with university, other district center, smaller town, rural area)
- size of the dwelling
- number of rooms (1, 2, 3, 4+)
- amenities – availability of central heating

Actual market rents – main data sources:

- current price statistics
- household budget survey
- real estate agencies

***HY140G - Tax on income and social insurance contributions***

They are taxes on income and social insurance contributions paid for the previous calendar year 2010.

The main problem of the survey EU-SILC is the provision of reliability of the data collected for the gross and net income of the interviewed persons. When the person does not respond to all questions connected with income it is necessary to convert net income into gross and vice versa. All incomes are different by source and form but their taxation and the payment of insurance contributions are subject to concrete rules.

According to the Social Insurance Code the insurance burden is divided between the employer and the insured person in a proportion defined by the Law for the Budget for the SSI for each calendar year. Up to 2010, the state participates in gathering resources of fund “Pensions” ensuring 12 per cent on the sum of the insurance income of all persons insured during the calendar year. The size of pension contribution is decreased by 2 per cent since 1.01.2010 and also the distribution of pension contributions between the employer and insured person are changes as follows:

- For persons born prior to 1 January 1960:

	Employer	Insured person
Fund “Pensions” (16%)	8.9	7.1

- For persons born after 31 December 1959:

	Employer	Insured person
Fund “Pensions” (11%)	6.1	4.9

For persons born after 31.12.1959 additional 5% are transferred to a Universal Pension Fund.

The insurance contributions to the funds “Sickness” and “Unemployment” are not changed as well as the ratio 60:40 – for the employer and the insured person respectively.

	Employer	Insured person
Fund "General disease and maternity" (3.5%)	2.1	1.4
Fund "Unemployment" (1%)	0.6	0.4

The insurance contribution to the fund „**Accident at work and occupational disease**” is differentiated into five tariffs from 0,4 to 1,1 per cent according to the level of risk by main economic activities and is fully paid by the employer.

For the fund „Guaranteed claims of the employees” – 0.1%, the contribution is fully paid by the employer and is annually defined by the Law on the State Social Insurance Budget.

For the Teachers Pension Fund – 4.3%, fully paid by the employer.

<b>SELF INSURED PERSONS</b>		person
• Insured for pension	X	16.00
• Insured for all risks	X	19.50
• Health insurance	X	8.00

The insurance payments for the civil servants; the judges, prosecutors, investigators, state bailiffs, judges for the entries and court employees, as well as the members of the Supreme Judicial Council and the inspectors of the Inspectorate at the Supreme Judicial Council; the military servicemen under the Law on Defence and Armed Forces of the Republic of Bulgaria; the civil servants under the Law for the Ministry of Interior and the Law on Execution of Penalties and Detention and the civil servants referred to in the Law on State National Security Agency shall be for the account of the state budget, respectively the budget of the judicial authority

Insurance income includes all reimbursements and other incomes from labour activity. The law for the budget of SSI defines:

1. Minimal monthly insurance income during the calendar year.

- minimal amount of the insurance income by economic activities and groups of professions according to which are to be insured the workers, employees, those working on contracts for management and control of trade firms. The definition of the group of profession is done according to the National Classification of Professions. The working places are defined in 9 classes of professions and the post defines the type and contents of the labour activity of the person.
- the minimal amount of the insurance income for self insured persons. For 2010 this monthly income is 420 BGN. They pay contributions on an amount of income chosen in advance in-between the minimum and maximum amount of income defined with the Law for the Budget of SSI.
- The minimal amount of income for registered farmers and tobacco producers is 240 BGN.

2. The maximal monthly amount of the insurance income for 2010 is 2000 BGN.

The main law, that defines income taxes, is the Law for Taxation of the Natural Persons' Income (LTNPI). The fiscal year in the country is the calendar year. The tax unit is the person. Till April 30 2011 persons are obliged to fill in tax return forms or as they are called in Bulgaria - tax declarations (TD) and 30 days later should pay the balance of the income tax due or in case they have paid more tax in advance – get paid back for the negative balance.

The tax on the annual tax base is being assessed by multiplying the annual tax base by the 10% tax rate. The income from economic activity as a sole proprietor shall be taxed separately, with a tax on the annual tax base at the tax rate of 15%.

**Incomes for which no income tax is due**

- Income from a small family business for which a fixed (patent) tax is paid at the beginning of the fiscal year.
- Income from interest on savings.
- Income from pensions.
- Income from social benefits – family, unemployment and other benefits.
- Incomes from fellowships and scholarships.

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

Total gross income and disposable household income were calculated according to Document 065 (2011 operation). All personal/household income variables were collected by interview.

In some cases, where the information on income component is unavailable a register to obtain missing value information is used. The National Social Security Institute keeps a register of all persons for whom employers pay social insurance contributions and of all self-insured persons. This register contains some data on personal income but it is generated by a labour activity of the persons and moreover, this is only the income on which the person was insured.

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

The interviewers and the respondents have the option of reporting income gross and/or net at component level. The form in which the net amounts are recorded in database are net of tax on income at source and of social contributions.

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

The gross income was obtained by summing up net value, income tax payments and compulsory social insurance contributions. If the information on tax and insurance contributions was missing, the amounts were imputed in accordance with the labour and social insurance legislations.

If either the net or the gross value was missing for PY010, PY050 or PY100, the missing value was calculated on the basis of a net-gross conversion and vice versa.

## 4. COHERENCE

### 4.1. Coherence of number of persons with external sources

*Table 27. Coherence of number of persons with external sources*

	SILC 2010	Other source	Source
Population	7 518 649	7 518 649	Population as of 31.12.2011
□ male	3 635 319	3 635 319	
□ female	3 883 330	3 883 330	
Mean number of pensioners	1 866 483	2 191 946	Average number of pensioners in 2010 NSSI
Number of Households	2 584 373	3 093 459	LFS 2011
Employed	3 155,9	2 949,6	LFS 2011
Working full time	3 065,5	2 879,9	LFS 2011
Working part-time	90,4	69,7	LFS 2011
Unemployed	710,4	372,3	LFS 2011
Economically inactive	2 540,3	3 150,5	LFS 2011

### 4.2. Comparison of some target variables from EU SILC 2011 survey with LFS2011

*Table 28. Highest ISCED level attained*

PE040 Highest ISCED level attained	SILC 2011		LFS 2011	
	%	total	%	total
Weighted PB040				
1 – primary education	7,1	445,4	6,3	404,8
2 – lower secondary education	23,5	1 506,4	25,6	1 660,0
3 – upper secondary education	48,8	3 123,8	49,3	3 187,6
4 - post-secondary non tertiary education	0,6	38,7	0,5	34,0
5 – first stage of tertiary education	18,7	1 199,2	18,1	1 174,4
6 – second stage of tertiary education	0,3	18,4	0,2	11,6
missing	1	64,8	6,3	404,8

*Table 29. Self-defined current economic status*

PL031 Self-defined current economic status	SILC 2011		LFS 2011	
	%	total	%	total
Weighted PB040				
employed (PL031 = 1,2,3,4)	49,3	3 155,9	45,3	2 931,0
unemployed (PL031=5)	11,1	710,4	9,9	638,7
economically inactive (PL031=6,7,8,10,11)	39,7	2 540,3	44,8	2 902,8



**Table 30. Status in employment**

<b>PL040 Status in employment (PL031=1,2,3,4)</b>	SILC 2011		LFS 2011		
	<i>Weighted PB040</i>	%	total	%	total
Employed (PL031 = 1,2,3,4)		100	3 155,9	100,0	2 949,6
employees		90,1	2 844,9	87,8	2 589,2
self-employed without employees		6,5	204,4	7,5	221,7
self-employed with employees		3,2	99,9	3,7	108,3
family worker		0,2	6,7	1	30,4

### 4.3. Comparison of EU-SILC 2011 and HBS 2011 results

The objective of this section is to compare HBS (Household Budget Survey) and EU-SILC results. When comparing these two sources we must take into account the discrepancies. The differences are to great extent brought about by the methodological diversity. Here are the main methodological differences:

- Different reference periods for income variables – in HBS the main variables of income is estimated quarterly and yearly and presented in the form of average values. In EU-SILC the reference period is the previous calendar year;
- Different types of income are taken into account i.e. in HBS the information is collected both about the income in cash and in kind, while in EU-SILC – only about the income in cash (with a few exceptions), which may be important for the income from farming and social benefits other than retirement pay and pension;
- Different way of data collection – in HBS the respondents make records in the so called diary. They have to determine the data sources themselves and do not have them listed in the diary. In EU-SILC each respondent is asked detailed questions. In EU-SILC all the income missing data are imputed, while there is no imputation in HBS;
- HBS data are not weighted.

**Table 31. Household by size,%**

Households type	HBS 2011	EU-SILC 2011
One person household	26,0	24,9
Two persons household	33,7	32,0
Three persons household	19,8	17,8
Four and more person household	20,5	25,3

**Table 32. Structure of population by age %**

Structure of population by age, %	HBS 2011	EU-SILC 2011
0-15	11,5	10,7
16-24	8,8	10,9
25-49	29,5	30,3
50-64	25,2	24,2
65+	25,0	23,9

**Table 33. Structure of population by level of education, %**

Structure of population by level of education, %	HBS 2011	EU-SILC 2011
Primary education	9,6	7,0
Lower secondary	23,7	25,2
Upper secondary	46,7	49,3
Tertiary education	20,0	18,4

**Table 34. Activity status,%**

Activity status, %	HBS 2011	EU-SILC 2011
Employed	40,4	43,9
Unemployed	13,3	10,2
Economically inactive	46,3	45,9

**Table 35. Status in employment, %**

Status in employment, %	HBS 2011	EU-SILC 2011
Employer	1,4	3,1
Self-employed	5,9	6,8
Employee	92,5	89,9
Family worker	0,2	0,2

**Table 36. Dwelling type**

Dwelling type	HBS 2011	EU-SILC 2011
Detached house	45,9	49,5
Semidetached house	6,6	9,3
Apartment or flat	47,3	40,7
Some other kind of accommodation	0,2	0,5

**Table 37. Non monetary household deprivation**

Non monetary household deprivation	HBS 2011	EU-SILC 2011
Telephone	1,2	4,0
Color TV	0,4	1,7
Computer	12,8	19,8
Washing machine	10,2	11,3
Car	21,2	22,4

#### 4.4. Comparison of Laeken Indicators based on HBS 2009 and EU-SILC 2010

**Table 38. Main indicators – comparability – HBS and EU-SILC**

Main indicators	HBS 2010	EU-SILC 2011
At-risk-of poverty threshold - Euro	1339	1741
Household with 2 adults and 2 children younger than 14 years	2812	3656
At-risk-of poverty rate after social transfers. %	15,2	22,3
S80/S20 quintile share ratio	5,0	6,5
At-risk-of-poverty rate before social transfers. %	49,8	41,5
Dispersion around at-risk-of-poverty threshold		
40% of median	4,7	10,0
50% of median	8,6	16,2
70% of median	23,0	29,5
Gini coefficient	28,3	35,1
At-risk-of-poverty rate before social transfers (except pensions).%	18,8	27,1
<b>Household type</b>	<b>HBS 2010</b>	<b>EU-SILC 2011</b>
Total	15,2	22,3
Households without dependent children	14,1	20,1
One adult younger than 64 years	24,5	32,8
One adult older than 65 years	26,8	61,0
Single female	29,1	59,1
Single male	15,6	35,2
Two adults younger than 65 years	14,0	12,7
Two adults, at least one aged 65 years and over	6,7	24,4
Three or more adults	13,9	10,2
Households with dependent children	16,7	23,4
Single parent with dependent children	27,2	35,4
Two adults with one dependent child	14,5	13,2
Two adults with two dependent children	11,7	16,8
Two adults with three or more dependent children	30,6	78,2
Three or more adults with dependent children	18,7	25,4

#### 4.5. Comparison of some target variables from EU-SILC 2008, 2009, 2010 and 2011

*Table 39. Self-defined current economic status*

PL031 (weighted PB040)	EU SILC 08		EU SILC 09		EU SILC 10		EU SILC 11	
	%	total	%	total	%	total	%	total
employed (PL031 = 1,2,3,4)	51,3	3 350 418	52	3 381 702	50,7	3 276 791	49,3	3 155,9
unemployed (PL031 = 5)	9,5	617 814	9,6	623 495	10,5	679 719	11,1	710,4
economically inactive (PL031=6,7,8,10,11)	39,2	2 564 718	38,4	2 501 406	38,8	2 508 162	39,7	2 540,3
missing	0	1 454						

*Table 40. Status in employment*

PL040 (weighted PB040) (PL031=1,2)	EU SILC 08		EU SILC 09		EU SILC 10		EU SILC 11	
	%	total	%	total	%	total	%	total
Employed (PL031 =1,2,3,4)	100	3 350 418	100	3 381 702	100	3 276 291	100	3 156
employees	86,6	2 902 147	86,9	2 939 546	87,6	2 871 057	90,1	2 845
self-employed without employees	4,5	151 051	4	136 202	7,9	257 982	6,5	204
self-employed with employees	7,8	260 189	8,3	281 064	4	129 940	3,2	100
family worker	1,1	35 867	0,7	24 890	0,5	17 312	0,2	7
missing	0	1 164				500		

*Table 41. Personal income*

weight pb040	EU SILC 09			EU SILC 10			EU SILC 11		
	total	Mean		total	Mean		total	Mean	
		N	G		N	G		N	G
PY010	3 303 963	5442,37	7204,56	3 639 408	5365,50	6602,82	3 469 542	6034,56	7125,37
PY020G/N	523 611	582,02		467 115	868,91		476 376	1203,837	
PY050	409 832	8411,39	9539,95	401 585	7098,5	8749,74	432 740	5893,895	7114,128
PY100G/N	1 714 686	2751,88		1 793 001	3211,77		1 866 483	3058,656	