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EU-SILC 2010 OPERATION

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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 2010, the survey was carried-out by the National Statistical Institute with the funds supplied by Eurostat grant nr. 10602.2009.003-2009.123.

This document presents the Intermediate Quality Report of EU-SILC 2010 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 2010, with reference income period the calendar year (2009). The indicators below have been calculated using Eurostat SAS program.

1.1.1. Primary Indicators calculated from SILC_2010

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

Type of household	Euro	PPS
One person household	1810	3642
Household with 2 adults and 2 children younger than 14 years	3801	7648

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

age	sex	unit	2010
TOTAL	T	1000PERS	1564.8
		PC_POP	20.7
	M	1000PERS	694.8
		PC_POP	19.0
	F	1000PERS	870
		PC_POP	22.3
Y0_17	T	1000PERS	340.6
		PC_POP	26.8
Y18_64	T	1000PERS	794
		PC_POP	16
	M	1000PERS	387.3
		PC_POP	15.7
	F	1000PERS	406.7
		PC_POP	16.3
Y65_MAX	T	1000PERS	430.2
		PC_POP	32.2
	M	1000PERS	134.4
		PC_POP	24.9
	F	1000PERS	295.8
		PC_POP	37.2

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

age	sex	2010
Y_GE60	T	28.7
	M	22
	F	33.4
Y_GE75	T	38.4
	M	28
	F	44.7
Y_LT60	T	18.1
	M	18.2
	F	18
Y_LT75	T	19.2
	M	18.4
	F	19.9

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

household type	2010
TOTAL	20.7
Households without dependent children	19.4
One adult younger than 65 years	30.7
One adult 65 years or older	61.6
Single female	58.7
Single male	34.5
Two adults younger than 65 years	12
Two adults, at least one aged 65 years and over	26.9
Three or more adults	7.9
Households with dependent children	21.7
Single parent with dependent children	42.3
Two adults with one dependent child	13.7
Two adults with two dependent children	16.3
Two adults with three or more dependent children	65.2
Three or more adults with dependent children	21.9

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	7.7
	M	Y_GE18	8.4
	F	Y_GE18	6.7
Non employment	T	Y_GE18	32.4
	M	Y_GE18	30.6
	F	Y_GE18	33.6
Unemployment	T	Y_GE18	48.3
	M	Y_GE18	51.9
	F	Y_GE18	44.7
Retired	T	Y_GE18	30
	M	Y_GE18	23.6
	F	Y_GE18	34.2
Inactive population - Other	T	Y_GE18	24.4
	M	Y_GE18	23.7
	F	Y_GE18	24.7

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

age	indic_il	2010
TOTAL	S80_S20	5.9
Y_GE65	S80_S20	4.5
Y_LT65	S80_S20	5.9

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

age	sex	2010
TOTAL	T	29.6
	M	29
	F	30.2
Y18-64	T	29.6
	M	29.9
	F	29
Y_GE65	T	26.6
	M	20.7
	F	29.2
Y_GE75	T	29.5
	M	23.2
	F	31.7
Y_LT18	T	36.5

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

age	sex	2010
TOTAL	T	40.8
	M	38.6
	F	42.8
Y18-64	T	30.9
	M	29.9
	F	31.9
Y_GE65	T	79.1
	M	79.4
	F	78.8
Y_LT18	T	39

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

age	sex	2010
TOTAL	T	27.1
	M	25.4
	F	28.8
Y18-64	T	22.5
	M	22.2
	F	22.8
Y_GE65	T	37.7
	M	30
	F	42.9
Y_LT18	T	34.1

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	2010
TOTAL	T	1000PERS	3718.7
		PC_POP	49.2
	M	1000PERS	1729.3
		PC_POP	47.3
	F	1000PERS	1989.5
		PC_POP	50.9
Y18-64	T	1000PERS	2231.2
		PC_POP	45
	M	1000PERS	1085
		PC_POP	44
	F	1000PERS	1146.1
		PC_POP	46
Y_GE65	T	1000PERS	852.8
		PC_POP	63.9
	M	1000PERS	319.4
		PC_POP	59.1
	F	1000PERS	533.5
		PC_POP	67.1
Y_LT18	T	1000PERS	634.7
		PC_POP	49.8

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

AGE	sex	indic_il	unit	2010
TOTAL	T	NR_DEP_NLOW	1000PERS	2046.5
			PC_POP	27.1
		NR_NDEP_LOW	1000PERS	45.1
			PC_POP	0.6
		R_NDEP_NLOW	1000PERS	194.3
			PC_POP	2.6
Y18-64	T	NR_DEP_NLOW	1000PERS	1343.7
			PC_POP	27.1
		NR_NDEP_LOW	1000PERS	38.3
			PC_POP	0.8
		R_NDEP_NLOW	1000PERS	88.1
			PC_POP	1.8
Y_LT18	T	NR_DEP_NLOW	1000PERS	280
			PC_POP	22
		NR_NDEP_LOW	1000PERS	6.8
			PC_POP	0.5
		R_NDEP_NLOW	1000PERS	29.3
			PC_POP	2.3

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

age	sex	unit	2010
Y18-59	T	1000PERS	322.6
		PC_POP	7.3
	M	1000PERS	155.5
		PC_POP	7
F	1000PERS	167.1	
	PC_POP	7.6	
Y_LT18	T	1000PERS	130.9
		PC_POP	10.3
Y_LT60	T	1000PERS	453.5
		PC_POP	7.9
	M	1000PERS	223
		PC_POP	7.7
	F	1000PERS	230.5
		PC_POP	8.1

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	45.7
	M	PC_POP	GE4	44.2
	F	PC_POP	GE4	47.2
Y12-17	T	PC_POP	GE4	51.1
	M	PC_POP	GE4	53.0
	F	PC_POP	GE4	49.0
Y18-64	T	PC_POP	GE4	42.2
	M	PC_POP	GE4	41.5
	F	PC_POP	GE4	42.9
Y6-11	T	PC_POP	GE4	47.7
	M	PC_POP	GE4	47.8
	F	PC_POP	GE4	47.5
Y_GE65	T	PC_POP	GE4	58.1
	M	PC_POP	GE4	53.8
	F	PC_POP	GE4	61.1
Y_LT18	T	PC_POP	GE4	46.5
Y_LT6	T	PC_POP	GE4	39.6
	M	PC_POP	GE4	37.2
	F	PC_POP	GE4	42.2

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	4.6
	M	4.6
	F	4.6
Y18-64	T	4.5
	M	4.6
	F	4.5
Y_GE65	T	4.6
	M	4.4
	F	4.6
Y_LT18	T	4.8

1.2. Other indicators

1.2.1. Equivalised disposable income

	National currency	Euro
Mean equivalised disposable income	6839.26	3496.91
Median equivalised disposable income	5898.41	3015.85

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.

2010 was the fifth year for the Bulgarian EU-SILC survey. In 2010 a new rotational group (number 8) with 2155 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

The general population and administrative-territorial division by statistical districts of the settlement, comprises all the households in the country. Population census 2001 data base was used as sampling frame. The sampling frame was updated according to the administrative changes occurred in human settlements statute in Bulgaria – some villages were recognized as towns; transition of municipalities or settlements from one administrative district to another.

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 (2006-2009).

The total sample size in 2010 is 7354 households:

- 5064 “old” (longitudinal 2007, 2008 and 2009),
- 2155 “new” households (drawn in 2010).

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 2010 with reference period of data the previous year (2009).

Table 15. Sample distribution (household questionnaire) over time

Month	Data	Number	%
May	11 – 20	57	0.9
	21 – 31	579	9.4
June	1 – 10	1071	17.4
	11 – 20	858	13.9
	21 – 31	1040	16.9
July	1 – 10	914	14.8
	11 – 20	910	14.7
	21 – 31	742	12.0
	Total	6171	100.00

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 6120 selected households are divided into 4 rotational groups with equal size. In 2007 the first rotational group R1 (with a size 1530) is dropped out and 1530 new households are chosen.- R5. 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.

Table 16. Size of rotational groups (selected sample)

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

*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 R5 (fourth year), R6 (third year) and R7 (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 R8 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 R5, R6 and R7) 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	0.2677	0.0524	1.11	2034
HCR, after social transfers: Age 18-24	0.1873	0.0125	1.13	1262
HCR, after social transfers: Age 25-49	0.1583	0.0086	1.10	4752
HCR, after social transfers: Age 50-64	0.1533	0.0070	1.15	3730
HCR, after social transfers: Age 65+	0.3231	0.0160	1.15	3716
HCR, after social transfers: Male	0.1905	0.0073	1.14	7800
HCR, after social transfers: Female	0.2234	0.0071	1.14	8517
HCR, after social transfers: Male Age 0-17	0.2660	0.0157	1.11	1053
HCR, after social transfers: Male Age 18-24	0.1891	0.0175	1.11	682
HCR, after social transfers: Male Age 25-49	0.1573	0.0082	1.10	2405
HCR, after social transfers: Male Age 50-64	0.1481	0.0081	1.15	1767
HCR, after social transfers: Male Age 65+	0.2492	0.0176	1.15	1492
HCR, after social transfers: Female Age 0-17	0.2696	0.0151	1.11	981
HCR, after social transfers: Female Age 18-24	0.1853	0.0134	1.15	580
HCR, after social transfers: Female Age 25-49	0.1592	0.0102	1.10	2347
HCR, after social transfers: Female Age 50-64	0.1579	0.0080	1.15	1963
HCR, after social transfers: Female Age 65+	0.3733	0.0182	1.15	2224
HCR, after social transfers: Male Age 18+	0.1755	0.0070	1.13	6747
HCR, after social transfers: Female Age 18+	0.2154	0.0072	1.13	7536
HCR, after social transfers: Male Age 18-64	0.1588	0.0068	1.12	4854
HCR, after social transfers: Female Age 18-64	0.1620	0.0070	1.13	4890
HCR, after social transfers: Male Age 65+	0.1803	0.0073	1.13	6308
HCR, after social transfers: Female Age 65+	0.1850	0.0070	1.14	6293
HCR, after social transfers: One person hh under 65 years	0.3081	0.0201	1.22	489
HCR, after social transfers: One person hh 65 years and over	0.6163	0.0272	1.15	999
HCR, after social transfers: One person hh Male	0.3470	0.0210	1.20	458
HCR, after social transfers: One person hh Female	0.5871	0.0267	1.21	1030
HCR, after social transfers: One person hh Total	0.5095	0.0204	1.19	1488
HCR, after social transfers: 2 adults no dependant children, both adults under 65 years	0.1195	0.0090	1.15	1682
HCR, after social transfers: 2 adults no dependant children, at least one adult 65 years or more	0.2692	0.0244	1.16	2110
HCR, after social transfers: Other hh without dependant children	0.0786	0.0127	1.03	3094
HCR, after social transfers: Single parent hh, one or more dependant children	0.4227	0.0329	1.17	318
HCR, after social transfers: 2 adults one dependant child	0.1371	0.0248	1.15	1410

HCR, after social transfers: 2 adults two dependant children	0.1628	0.0156	1.14	1416
HCR, after social transfers: 2 adults three or more dependant children	0.6516	0.0411	1.12	255
HCR, after social transfers: Other hh with dependant children	0.2211	0.0127	1.09	4544
HCR, after social transfers: Hh without dependant children	0.1940	0.0102	1.11	8374
HCR, after social transfers: Hh with dependant children	0.2179	0.0093	1.12	7943
HCR, after social transfers: Accommodation tenure status:Owner or rent free	0.2135	0.0070	1.14	15834
HCR, after social transfers: Accommodation tenure status:Tenant	0.0598	0.0086	1.16	483
HCR, after social transfers: Main activity status: Employed	0.0876	0.0049	1.14	6481
HCR, after social transfers: Main activity status: Unemployed	0.4292	0.0255	1.16	1652
HCR, after social transfers: Main activity status: Retired	0.2921	0.0127	1.15	5019
HCR, after social transfers: Main activity status: Other inactive	0.2431	0.0105	1.12	3165
HCR, after social transfers: Main activity status: Employed, Male	0.0949	0.0054	1.14	3466
HCR, after social transfers: Main activity status: Unemployed, Male	0.4313	0.0273	1.14	821
HCR, after social transfers: Main activity status: Retired, Male	0.2336	0.0146	1.16	2004
HCR, after social transfers: Main activity status: Other inactive, Male	0.2463	0.0127	1.13	1509
HCR, after social transfers: Main activity status: Employed, Female	0.0790	0.0054	1.13	3015
HCR, after social transfers: Main activity status: Unemployed, Female	0.4274	0.0279	1.17	831
HCR, after social transfers: Main activity status: Retired, Female	0.3311	0.0141	1.15	3015
HCR, after social transfers: Main activity status: Other inactive, Female	0.2403	0.0124	1.11	1656
HCR, after social transfers: Work intensity: hh without dependent children, w=0	0.8128	0.0220	1.09	502
HCR, after social transfers: Work intensity: hh without dependent children, 0<w<1	0.2240	0.0111	1.13	5462
HCR, after social transfers: Work intensity: hh without dependent children, w=1	0.0655	0.0158	1.15	1979
HCR, after social transfers: Work intensity: hh with dependent children, w=0	0.4341	0.0211	1.16	3375
HCR, after social transfers: Work intensity: hh with dependent children, 0<w<0.5	0.2517	0.0654	1.12	596
HCR, after social transfers: Work intensity: hh with dependent children, 0.5<=w<1	0.0712	0.0059	1.10	2072
HCR, after social transfers: Work intensity: hh with dependent children, w=1	0.0238	0.0023	1.02	2331
HCR, before social transfers including pensions: Male Age 0-17	0.3443	0.0159	1.13	1053
HCR, before social transfers including pensions: Male Age 18-24	0.2327	0.0155	1.13	682
HCR, before social transfers including pensions: Male Age 25-49	0.2265	0.0093	1.12	2405
HCR, before social transfers including pensions: Male Age 50-64	0.2140	0.0097	1.16	1767
HCR, before social transfers including pensions: Male Age 65+	0.3013	0.0119	1.15	1492
HCR, before social transfers including pensions: Female Age 0-17	0.3520	0.0170	1.11	981

HCR, before social transfers including pensions: Female Age 18-24	0.2592	0.0169	1.15	580
HCR, before social transfers including pensions: Female Age 25-49	0.2206	0.0091	1.13	2347
HCR, before social transfers including pensions: Female Age 50-64	0.2296	0.0097	1.17	1963
HCR, before social transfers including pensions: Female Age 65 +	0.4295	0.0116	1.15	2224
HCR, before social transfers excluding pensions: Male Age 0-17	0.3913	0.0167	1.13	1053
HCR, before social transfers excluding pensions: Male Age 18-24	0.2962	0.0178	1.12	682
HCR, before social transfers excluding pensions: Male Age 25-49	0.2885	0.0101	1.11	2405
HCR, before social transfers excluding pensions: Male Age 50-64	0.3121	0.0114	1.16	1767
HCR, before social transfers excluding pensions: Male Age 65+	0.7951	0.0104	1.19	1492
HCR, before social transfers excluding pensions: Female Age 0-17	0.4035	0.0174	1.11	981
HCR, before social transfers excluding pensions: Female Age 18-24	0.3293	0.0193	1.15	580
HCR, before social transfers excluding pensions: Female Age 25-49	0.2754	0.0099	1.12	2347
HCR, before social transfers excluding pensions: Female Age 50-64	0.3810	0.0118	1.17	1963
HCR, before social transfers excluding pensions: Female Age 65+	0.7889	0.0092	1.17	2224
Median equivalised disposable income	5898.41	95.0648	1.16	16317
At-risk-of-poverty threshold, one person hh	2081.72	13.9384	1.19	1488
At-risk-of-poverty threshold, hh 2 adults 2 dependent children	3670.99	87.6460	1.11	1416
S80/S20	5.8464	0.2985	1.18	16317
Relative median at-risk-of-poverty gap: Male Age 0-17	0.3765	0.0321	1.14	1053
Relative median at-risk-of-poverty gap: Male Age 18-24	0.2956	0.0818	1.13	682
Relative median at-risk-of-poverty gap: Male Age 25-49	0.3144	0.0219	1.13	2405
Relative median at-risk-of-poverty gap: Male Age 50-64	0.2880	0.0190	1.18	1767
Relative median at-risk-of-poverty gap: Male Age 65+	0.2073	0.0442	1.15	1492
Relative median at-risk-of-poverty gap: Female Age 0-17	0.3700	0.0336	1.11	981
Relative median at-risk-of-poverty gap: Female Age 18-24	0.2674	0.0174	1.13	580
Relative median at-risk-of-poverty gap: Female Age 25-49	0.3198	0.0241	1.15	2347
Relative median at-risk-of-poverty gap: Female Age 50-64	0.2778	0.0208	1.19	1963
Relative median at-risk-of-poverty gap: Female Age 65+	0.2925	0.0107	1.15	2224
Median income below the at-risk-of-poverty threshold	6839.26	42.4578	1.16	16316
HCR P.L.as 50% median	0.1519	0.0065	1.14	16317
HCR P.L.as 70% median	0.2826	0.0106	1.15	16317
HCR P.L.as 40% median	0.0923	0.0041	1.16	16317
Gini coefficient	0.3319	0.0042	1.23	16316
Mean equivalised disposable income	6839.26	70.1591	1.22	16316

2.3. Non-sampling errors

2.3.1. Sampling frame and coverage errors

The sample for EU-SILC 2010 as for the previous survey years is selected from the sampling frame based on the 2001 Population census data base. 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 – 3.1%; address can not be located (DB120=21) – 0.045.

2.3.2. Measurement and processing errors

2.3.2.1. Measurement errors

The questionnaire for EU-SILC 2010 was developed on the basis of the Commission Regulation (EC) 646/2009, EU-SILC065 (2010 operation) and Guidelines for Description of secondary target variables and corresponding questionnaire: 2010 Module.

EU-SILC survey in 2010 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 15-18 March 2010. 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 2010, 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.

Though some of the households have declared high income values, they confessed that their social insurance contribution is made at a lower amount. The data collected from the survey were compared to the data obtained from the registers. Some of the persons, who according to the register receive minimum income, defined themselves as unemployed or non-active in the survey, because they

assess their current activity as temporary and did not indicate their income.

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).

Number of valid addresses selected. [DB120 = all] - [DB120 = 23] 7177 - 69

$$Ra = 0.997$$

Ra – the address contact rate

$$Rh = \frac{\text{Number of household interviews completed and accepted for the database}}{\text{Number of eligible households at contacted addresses.}} = \frac{[DB135=1] 6171}{[DB130=all] 6928} = 0.891$$

$$Rh = 0.891$$

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

$$NRh=(1-0.997*0.891)*100= 11.21\%$$

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

$$Rp = \frac{\text{Number of personal interview completed}}{\text{Number of eligible individuals}} = \frac{14\ 464}{14\ 500} = 0.998$$

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,*

$$*NRp = [1 - (0.997*0.891*0.998)]*100 = 11.43\%;$$

- *Information on non-response*

		total	Rotation 1	Rotation 2	Rotation 3	Rotation 4
All households	Ra	0.997	1.000	0.999	0.995	0.995
	Rh	0.891	0.987	0.976	0.907	0.756
	Rp	0.998	0.999	0.996	0.997	0.999
	NRp	0.25	0.13	0.40	0.27	0.14
	*NRp	11.43	1.34	2.43	9.93	24.91

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)	7171	100
Address contacted (DB120 =11)	6928	96.6
Address non-contacted (DB120 =21 to 23)	243	3.4
Total address non-contacted (DB120 =21 to 23)	243	100
Address cannot be located (DB120 =21)	3	1.2
Address unable to access (DB120 =22)	19	7.8
Address does not exist (DB120 =23)	221	90.9

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)	914	1848	2255	2154
Address contacted (DB120 =11)	894	1808	2177	2049
Address non-contacted (DB120 =21 to 23)	20	40	78	105
Address cannot be located (DB120 =21)	0	0	1	2
Address unable to access (DB120 =22)	0	0	9	9
Address does not exist (DB120 =23)	20	39	68	94

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

	Number of households	%
Total (DB130 =all)	6928	100
Household questionnaire completed (DB130 =11)	6171	89.1
Interview not completed (DB130 =21 to 24)	757	10.9
Total interview not completed (DB130 =21 to 24)	757	100
Refusal to co-operate (DB130 =21)	317	41.9
Entire household temporarily away (DB130 =22)	293	38.7
Household unable to respond (DB130 =23)	69	9.1
Other reasons	78	10.3
Household questionnaire completed (DB135=1+2)	6171	100
Interview accepted for database (DB135=1)	6171	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)	894	1808	2177	2049
Household questionnaire completed (DB130 =11)	882	1765	1975	1549
Interview not completed (DB130 =21 to 24)	12	43	202	500
Refusal to co-operate (DB130 =21)	8	17	83	209
Entire household temporarily away (DB130 =22)	3	14	97	179
Household unable to respond (DB130 =23)	0	7	9	53
Other reasons	1	5	13	59
Household questionnaire completed (DB135=1+2)	882	1765	1975	1549
Interview accepted for database (DB135=1)	882	1765	1975	1549
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 2010

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)	6169	100.0	1722	27.9	4368	70.8	85	1.4
Total disposable household income (HY020)	6169	100.0	1719	27.9	4443	72.0	7	0.1
Total disposable household income before social transfers except old-age and survivor's benefits (HY022)	6143	99.5	2393	39.0	3733	60.8	17	0.3
Total disposable household income before social transfers including old-age and survivor's benefit (HY023)	5879	95.3	3593	61.1	2264	38.5	22	0.4
Net income components at household level								
Income from rental of a property or land (HY040N)	934	15.1	930	99.6	4	0.4		
Family related allowances (HY050N)	1006	16.3	920	91.5	52	5.2	34	3.4
Social exclusion not elsewhere classified (HY060N)	466	7.6	466	100.0				
Housing allowance (HY070)	1	0.0	1	100.0				
Regular inter-household cash transfer received (HY080)	707	11.5	707	100.0				
Alimonies received (HY081N)	64	1.0	64	100.0				
Interests, dividends, etc. (HY090N)	21	0.3	21	100.0				
Interest repayments on mortgage (HY100N)	259	4.2	259	100.0				
Income received by people aged < 16 (HY110)	45	0.7	45	100.0				
Taxes on wealth (HY120N)	4608	74.7	4608	100.0				
Regular inter-household cash transfer paid (HY130N)	861	14.0	852	99.0	4	0.5	5	0.6
Tax on income and social contributions (HY140N)	3978	64.5	2936	73.8	474	11.9	568	14.3

Value of goods produced by own-consumption (HY170N)	2114	34.3	2113	100			1	0.0
Gross income components at household level								
Income from rental of a property or land (HY040G)	934	15.1	931	99.7	3	0.3		
Family related allowances (HY050G)	1006	16.3	920	91.5	52	5.2	34	3.4
Social exclusion not elsewhere classified (HY060G)	466	7.6	466	100.0				
Housing allowance (HY070G)	1	0.0	1	100.0				
Regular inter-household cash transfer received (HY080G)	707	11.5	707	100.0				
Alimonies received (HY081N)	64	1.0	64	100.0				
Interests, dividends, etc. (HY090G)	21	0.3	21	100.0				
Interest repayments on mortgage (HY100G)	259	4.2	259	100.0				
Income received by people aged < 16 (HY110G)	45	0.7	45	100.0				
Taxes on wealth (HY120G)	4608	74.7	4608	100.0				
Regular inter-household cash transfer paid (HY130G)	861	14.0	852	99.0	4	0.5	5	0.6
Tax on income and social contributions (HY140G)	3978	64.5	2936	73.8	474	11.9	568	14.3
Value of goods produced by own-consumption (HY170G)	2114	34.3	2113	100			1	0.0
Net income component at personal level								
Employee cash or near cash income (PY010N)	7477	51.7	5047	67.5	1346	18.0	1084	14.5
Net non-cash employee income (PY020N)	927	6.4	927	100.0				
Contribution to individual private pension plans (PY035N)	347	2.4	344	99.1			3	0.9
Cash benefits or losses from self-employment (PY050N)	870	6.0	631	72.5	31	3.6	208	23.9
Pension from individual private plans (PY080N)	40	0.3	40	100.0				
Unemployment benefits (PY090N)	653	4.5	233	35.7			420	64.3
Old age benefits (PY100N)	4935	34.1	2346	47.5	2375	48.1	214	4.3
Survivor's benefits (PY110N)	109	0.8	109	100.0				
Sickness benefits (PY120N)	1465	10.1	48	3.3	14	1.0	1403	95.8
Disability benefits (PY130N)	1333	9.2	469	35.2	340	25.5	524	39.3
Education-related allowances (PY140N)	87	0.6	87	100.0				0.0
Gross income components at personal level								
Employee cash or near cash income (PY010G)	7481	51.7	4603	61.5	1385	18.5	1493	20.0
Net non-cash employee income (PY020G)	927	6.4	927	100.0				
Contribution to individual private pension plans (PY035G)	347	2.4	344	99.1			3	0.9
Cash benefits or losses from self-employment (PY050G)	870	6.0	595	68.4	37	4.3	238	27.4
Pension from individual private plans (PY080G)	40	0.3	40	100.0				
Unemployment benefits (PY090G)	653	4.5	233	35.7			420	64.3
Old age benefits (PY100G)	4935	34.1	2346	47.5	2375	48.1	214	4.3
Survivor's benefits (PY110G)	109	0.8	109	100.0				
Sickness benefits (PY120G)	1465	10.1	48	3.3	14	1.0	1403	95.8
Disability benefits (PY130G)	1333	9.2	469	35.2	340	25.5	524	39.3
Education-related allowances (PY140G)	87	0.6	87	100.0				0.0
Gross monthly earnings for employees (PY200G)	5625	38.9	5212	92.7			413	7.3

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

Indicator	Achieved sample size	Total item non-response
At-risk-of-poverty rate after social transfers -total	16317	39
At-risk-of-poverty rate after social transfers -men total	7800	18
At-risk-of-poverty rate after social transfers -women total	8517	21
At-risk-of-poverty rate after social transfers -0-17 years	2246	5
At-risk-of-poverty rate after social transfers -18-64 years	10355	31
At-risk-of-poverty rate after social transfers -men 18-64 years	5145	17
At-risk-of-poverty rate after social transfers -women 18-64 years	5210	14
At-risk-of-poverty rate after social transfers -65+ years	3716	3
At-risk-of-poverty rate after social transfers -men 65+ years	1492	1
At-risk-of-poverty rate after social transfers -women 65+ years	2224	2
At-risk-of-poverty threshold -single	1488	5
At-risk-of-poverty threshold -2 adults, 2 children	1416	56

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	%
Total	14500	100	2287	100	4030	100	4528	100	3655	100
RB250=11	14461	99.7	2282	99.8	4013	99.6	4516	99.7	3650	99.9
RB250=14	3	0.0	2	0.1	1	0.0	0		0	
RB250=21	0		0		0		0		0	
RB250=23	19	0.1	3	0.1	9	0.2	6	0.1	1	0.0
RB250=31	12	0.1	0		4	0.1	5	0.1	3	0.1
RB250=32	4	0.0	0		3	0.1	1	0.0	0	
RB250=33	1	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	%
Total	14461	100.0	2282	100.0	4013	100.0	4516	100.0	3650	100.0
Face to face (1)	11524	79.7	1797	78.7	3237	80.7	3554	78.7	2936	80.4

Proxy interview (5)	2937	20.3	485	21.3	776	19.3	962	21.3	714	19.6
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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 28 minutes, while the average individual interview duration was about 22 minutes.

The mean interview duration per household was estimated at 79.4 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 is all citizens officially living at Bulgarian territory (population de facto). The source of the sample is the Census Population 2001. This Census 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 2010 the income reference period is the year 2009

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 (2009).

The reference period for taxes on wealth

Taxes on wealth paid during the income reference period (2009) were recorded.

The lag between the income reference period and current variables

The income reference period is the previous calendar year (year 2009) and the current variables refer to the fieldwork period (May - July 2010). 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 2010.

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 centre with university, other district centre, 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 2009.

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. For 2009 this proportion is 60:40 (employer/insured, %). The insurance contributions for the respective funds are percentages from the insurance income as follows:

EMPLOYED PERSONS	Employer	Insured person
Fund "Pensions" (18%)	10.0	8.0
Fund "General disease and maternity" (3.5%)	2.1	1.4
Fund "Unemployment" (1%)	0.6	0.4
Health insurance (8%)	4.8	3.2
Fund "Work Injury and Occupational Disease"	0.7	
Fund "Earnings guarantee"	0.1	
total	18.3	13.0
SELF INSURED PERSONS		person
• Insured for pension	X	18.00
• Insured for all risks	X	21.50
• 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 of 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 2009 this monthly income is 260 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 50% of the minimal insurance income (130 BGN) – the minimal amount of insurance income for registered farmers and tobacco producers who do only this activity is 25% of the minimal insurance income (65 BGN).

2. The maximal monthly amount of the insurance income for 2009 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 2010 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 (2010 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	7 563 710	7 563 710	Population as of 31.12.2010
• male	3 659 311	3 659 311	
• female	3 904 399	3 904 399	
Mean number of pensioners	1 717 653	2 192 524	NSSI
Households sharing of expenditures	2 614 503	3 080 549	LFS 2010
Employed	3 276.8	3 052.8	LFS 2010
Working full time	3 143.1	2 980.9	LFS 2010
Working part-time	133.7	72.0	LFS 2010
Unemployed	679.7	348.0	LFS 2010
Economically inactive	2 508.2	3 136.7	LFS 2010

4.2. Comparison of some target variables from EU SILC 2010 survey with LFS2010

Table 28. Highest ISCED level attained

PE040 Highest ISCED level attained	SILC 2010		LFS 2010	
	%	total	%	total
<i>Weighted PB040</i>				
1 – primary education	6.9	443.1	6.6	434.4
2 – lower secondary education	23.8	1 538.1	26.4	1 728.4
3 – upper secondary education	49.1	3 177.2	48.3	3 157.6
4 - post-secondary non tertiary education	0.6	39.8	0.5	31.0
5 – first stage of tertiary education	18.2	1 174.2	18.0	1 174.6
6 – second stage of tertiary education	0.3	18.5	0.2	11.6
missing value	1.1	73.8		

Table 29. Self-defined current economic status

PL030 Self-defined current economic status	SILC 2010		LFS 2010	
	%	total	%	total
<i>Weighted PB040</i>				
employed (PL031 = 1,2,3,4)	50.7	3 276.8	46.4	3 032.9
unemployed (PL031=5)	10.5	679.7	9.6	627.5
economically inactive (PL031=6,7,8,9,11)	38.8	2 508.2	44.0	2 877.1

Table 30. Status in employment

PL040 Status in employment (PL031=1,2,3,4)	SILC 2010		LFS 2010	
	%	total	%	total
<i>Weighted PB040</i>				
Employed (PL031 = 1,2,3,4)	100	3 276.3	100	3 052.8
employees	87.6	2 871.1	87.5	2 662.8
self-employed without employees	7.9	258.0	8.0	242.7
self-employed with employees	4.0	129.9	3.5	115.1
family worker	0.5	17.3	1.0	32.2
missing value		0.5		

4.3. Comparison of EU-SILC 2010 and HBS 2010 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 2010	EU-SILC 2010
One person household	24.8	24.2
Two persons household	34.1	32.2
Three persons household	20.1	18.1
Four or more person household	21.0	25.5

Table 32. Structure of population by age %

Structure of population by age, %	HBS 2010	EU-SILC 2010
0-15	10.9	11.3
16-24	9.3	11.1
25-49	28.0	30.5
50-64	23.1	24.3
65+	28.7	22.7

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

Structure of population by level of education, %	HBS 2010	EU-SILC 2010
Primary education	15.1	12.5
Lower secondary	22.6	26.6
Upper secondary	46.5	44.0
Tertiary education	15.8	16.9

Table 34. Activity status,%

Activity status, %	HBS 2010	EU-SILC 2010
Employed	35.7	40.0
Unemployed	11.9	9.1
Economically inactive	52.4	50.9

Table 35. Status in employment, %

Status in employment, %	HBS 2010	EU-SILC 2010
Employer	1.6	2.6
Self-employed	6.0	5.4
Employee	92.1	91.7
Family worker	0.3	0.3

Table 36. Dwelling type

Dwelling type	HBS 2010	EU-SILC 2010
Detached house	44.6	47.4
Semidetached house	8.7	10.5
Apartment or flat	46.4	41.6
Some other kind of accommodation	0.3	0.5

Table 37. Non monetary household deprivation

Non monetary household deprivation "Cannot afford"	HBS 2010	EU-SILC 2010
Telephone	0.9	3.9
Color TV	0.8	3.0
Computer	14.3	21.8
Washing machine	14.0	15.9
Car	22.5	25.3

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 2009	EU-SILC 2010
At-risk-of poverty threshold - Euro	1415.00	1810
Household with 2 adults and 2 children younger than 14 years	2971.4	3801
At-risk-of poverty rate after social transfers. %	14.7	20.7
Relative median at-risk-of poverty gap after social transfers	21.3	29.6
S80/S20 quintile share ratio	3.9	5.9
At-risk-of-poverty rate before social transfers. %	46.9	40.8
Dispersion around at-risk-of-poverty threshold		
40% of median	5.0	9.2
50% of median	8.5	15.2
70% of median	22.6	28.3
Gini coefficient	26.2	33.2
At-risk-of-poverty rate before social transfers (except pensions).%	18.4	27.2
[SI-S1a] At-risk-of-poverty rate, by household type		
Total	14.7	20.7
Households without dependent children	12.8	19.4
One adult younger than 64 years	33.2	30.7
One adult older than 65 years	34.6	61.6
Single female	35.7	58.7
Single male	27.6	34.5
Two adults younger than 65 years	8.9	12.0
Two adults, at least one aged 65 years and over	5.7	26.9

Three or more adults	9.7	7.9
Households with dependent children	16.9	21.7
Single parent with dependent children	27.5	42.3
Two adults with one dependent child	9.3	13.7
Two adults with two dependent children	15.7	16.3
Two adults with three or more dependent children	42.4	65.2
Three or more adults with dependent children	20.0	21.9

4.5. Comparison of some target variables from EU-SILC 2007, 2008, 2009 and 2010

Table 39. Self-defined current economic status

PL030 (weighted PB040)	EU SILC 07		EU SILC 08		EU SILC 09		EU SILC 10	
	%	total	%	total	%	total	%	total
employed (PL030 = 1,2)	46.8	3 069 463	51.3	3 350 418	52.0	3 381 702	50.7	3 276 791
unemployed (PL030 = 3)	14.8	968 576	9.5	617 814	9.6	623 495	10.5	679 719
economically inactive (PL030=4,5,6,7,8,9)	38.3	2 511 575	39.2	2 564 718	38.4	2 501 406	38.8	2 508 162
missing	0.1	9 741	0	1 454				

Table 40. Status in employment

PL040 (weighted PB040)	EU SILC 07		EU SILC 08		EU SILC 09		EU SILC 10	
	%	total	%	total	%	total	%	total
(PL030=1,2)								
Employed (PL030 =1,2)	100	3 069 463	100	3 350 418	100	3 381 702	100	3 276 291
employees	91.0	2 793 907	86.6	2 902 147	86.9	2 939 546	87.6	2 871 057
self-employed without employees	1.4	43 343	4.5	151 051	4.0	136 202	7.9	257 982
self-employed with employees	5.4	166 765	7.8	260 189	8.3	281 064	4.0	129 940
family worker	0.7	20 522	1.1	35 867	0.7	24 890	0.5	17 312
missing	1.5	44 926	0	1 164				500

Table 41 Personal income

weight pb040	EU SILC 08			EU SILC 09			EU SILC 10		
	total	Mean		total	Mean		total	Mean	
		N	G		N	G		N	G
PY010	3 527 483	4047.09	5389.49	3 303 963	5442.37	7204.56	3 639 408	5365.50	6602.82
PY020G/N	496 833	502.52		523 611	582.02		467 115	868.91	
PY050	486 646	6992.48	7771.75	409 832	8411.39	9539.95	401 585	7098.5	8749.74
PY100G/N	1 762 552	2141.72		1 714 686	2751.88		1 793 001	3211.77	