

NATIONAL STATISTICAL INSTITUTE

FINAL QUALITY REPORT
EU-SILC 2007_2008_2009_2010

BULGARIA

SOFIA, November 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 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 Final Quality Report of EU-SILC 2010 in Bulgaria and follows the structure outlined in the Commission Regulation No. 28/2004.

1. COMMON LONGITUDINAL EUROPEAN UNION INDICATORS BASED ON THE LONGITUDINAL COMPONENT OF EU-SILC

The longitudinal dataset 2007-2010 of the EU-SILC operation comprises a panel of four years. The main objective of the four years panel rotation is to deliver an adequate data basis for the calculation of the at-persistent-risk-of-poverty indicator. Persistent at risk of poverty occurs when a panel person is at risk of poverty in the last wave (2010) and in at least two of the preceding three years.

The indicators below have been calculated using Eurostat SAS program.

Table 1. Persistent At-risk-of-poverty rate

		LIP_MD60	LIP_MD50
TOTAL	TOTAL	16.4	11
	Y18_24	21.8	16.1
	Y18_64	15.5	10.2
	Y25_49	18.4	12
	Y50_64	12.4	8.9
	Y_GE18	11.9	8.7
	Y_GE65	10.7	7.9
	Y_LT18	25.6	14.4
MALE	TOTAL	13.6	9.3
	Y18_24	17.6	11.3
	Y18_64	11.8	8.5
	Y25_49	10.9	8
	Y50_64	10.6	8.1
	Y_GE18	12.6	8.4
	Y_GE65	16	8.1
FEMALE	TOTAL	18.9	12.6
	Y18_24	19.2	12.6
	Y18_64	13	9.3
	Y25_49	12.8	9.5
	Y50_64	10.9	7.7
	Y_GE18	18	11.7
	Y_GE65	32.3	18.7

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. In each subsequent year of survey one rotational group was excluded and new one was added.

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. The longitudinal data consisted of the 3 rotational groups: first group of year 2007, 2008, 2009 and 2010; second group - of year 2008, 2009 and 2010, and third group – 2009 and 2010.

2.1.2. Sampling units

Two stages 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 was 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

Survey EU-SILC2007 for the reference year 2006 was carried out from May to August 2007.

Survey EU-SILC2008 for the reference year 2007 was carried out from April to July 2008.

Survey EU-SILC2009 for the reference year 2008 was carried out from April to July 2009.

Survey EU-SILC2010 for the reference year 2009 was carried out from May to July 2010.

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 is 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 is added as rotational group R8.

The sample size for longitudinal component for Bulgaria was 15482 households, or 33805 persons aged 16 and over.

Table 2 Number of selected households in longitudinal component of EU SILC survey

		Rotational group			Total
		1	2	3	
Year of the survey	2007	1530	0	0	1530
	2008	1075	2935	0	4010
	2009	854	1691	2915	5460
	2010	831	1631	2020	4482
Total		4290	6257	4935	15482

DB135=1		Rotational group			Total
		1	2	3	
Year of the survey	2007	1039	0	0	1039
	2008	841	1682	0	2523
	2009	826	1625	2015	4466
	2010	803	1564	1931	4298
Total		3509	4871	3946	12326

2.1.8. Weightings

The longitudinal data sets EU-SILC BG 2007-2010 contain information on individuals of the following subsamples:

R5– sample of the person in the households started in 2007, participate for four consecutive years (replaced first rotational group);

R6– sample of the person in the households started in 2008, participate for three consecutive years (replaced 2nd rotational group);

R7– sample of the person in the households started in 2009, participate for two consecutive years (replaced 3rd rotational group);

Base weights of each year are calculated independently for each subsample.

1st wave of EU-SILC longitudinal component

2.1.8.1. Design factor

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

2.1.8.2. Non-response adjustments

Correction for non-response at first year of subsamples 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.

2.1.8.3. Adjustment to external data (level, variables used and sources)

Weights calculated at the previous step are adjusted to external sources. Calibration is done on individual-level data, imposing equality of g-weights for individuals in the same household. Truncated linear function is used in order to limit g-weights close enough to 1.

The following external information was used:

- Region (NUTS 2)
- Residence – urban/rural
- Age groups and gender

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 we get the final *household cross-sectional weight DB090* is get.

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.

Children cross-sectional weight (RL070). The weights are calculated as the number of children in each one-year group (0-12 years) in the population divided by the number of children in one-year groups in the households interviewed.

2.1.8.4. Final longitudinal weight

In the first wave the longitudinal base weights are identical to the design weights after non-response adjustment and calibration.

2nd and subsequent waves of EU-SILC longitudinal component

2.1.8.5. Non-response adjustments

Each new subsample is a usual random sample from population and does not depend on other subsamples. The 2008, 2009 and 2010 base weights for the new subsamples are calculated according to the above described steps.

The weights for the rest subsamples are obtained with the following procedure.

Correction for attrition

Prior to any corrections his needed to exclude from consideration persons that became out-of-scope in 2008, 2009 and 2010 as they are not considered as non-response. Out-of-scope is person that was dead, became institutionalized or had left the country for longer period.

Within the frame of respondents and non-respondents logistic regression model was applied to calculate the response probability of each person. The following variables were used in the model:

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

This procedure was applied **between** years:

Subsample *R5* (four years of participation) - 2007 – 2008, 2008 – 2009 and 2009 - 2010

Subsample *R6* (three years of participation) - 2008 - 2009 and 2009 - 2010;

Subsample *R7* (two years of participation) - 2009 - 2010;

Base weights for persons entering panel households for the first time were calculated as follows:

- for children born to sample women - the base weight is equal to the mother's base weight;
- for persons moving into sample household from outside the survey population – the base weight is the average of base weights of existing household members;
- for persons moving into sample households from other non-sample households in the population (co-residents) the base weight is a basic panel weight equal to zero;

Average of these weights over all household members (including co-residents) is assigned to each member. The new co-residents continue to be assigned a zero base weight.

2.1.8.6. Adjustments to external data (level, variables used and sources)

The last stage of calculations consisted in combining the four independent subsamples applying the above described calibration technique.

As a result, household cross-sectional weight DB090 and personal cross-sectional weight RB050 are obtained for individuals from one subsample surveyed for the first time, one subsample surveyed for the second time, one subsample for the third time and from one subsample surveyed for the fourth time.

2.1.8.7. Final longitudinal weight

Weights were recalculated according to the duration of longitudinal data files (taking into account that each rotational group represents the population of Bulgaria):

For the second and subsequent waves of the longitudinal component the base weights (RB060) are computed using the cross-sectional base weights (RB050) adjusted for panel attrition. A rescaling of weights is carried out so to reflect the total target population.

The weights RB062, RB063 and RB064 are computed, respectively for the 2-year, the 3-year and the 4-year longitudinal sets.

The longitudinal weight RB062 is computed by dividing RB060 by 3, the longitudinal weight RB063 is computed by dividing RB060 by 2 and the longitudinal weight RB064 = RB060.

2.1.8.8. Final household cross-sectional weight

The final cross-sectional weights DB090 = RB050 were calculated as a product of the initial weights after non-response adjustment and calibration.

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 SAS programs for the SILC Final Quality Report

Table 3 Mean, total number of observations (before and after imputation) and standard error for income components 2007, longitudinal component 2007 (households & persons, weighted mean)

Income components	Mean	Number of observations		Standard error
		Before imputation	After imputation	
Total household gross income (HY010)	7149.35	414	1036	215
Total disposable household income (HY020)	6055.96	414	1036	174
Total disposable household income before social transfers except old-age and survivor's benefits (HY022)	5792.66	358	1025	175
Total disposable household income before social transfers including old-age and survivor's benefit (HY023)	4526.89	196	993	192
Net income components at household level				
Income from rental of a property or land (HY040N)	299.87	141	141	50
Family related allowances (HY050N)	420.35	209	209	31
Social exclusion not elsewhere classified (HY060N)	286.69	169	169	25
Housing allowance (HY070N)				
Regular inter-household cash transfer received (HY080N)	815.37	102	102	120
Interests, dividends, etc. (HY090N)	651.19	5	5	506
Interest repayments on mortgage (HY100N)	2821.07	21	21	609
Income received by people aged < 16 (HY110N)	1200.00	1	1	389
Taxes on wealth (HY120N)	124.76	860	860	6
Regular inter-household cash transfer paid (HY130N)	643.35	60	60	143
Tax on income and social contributions (HY140N)	1587.83	588	588	69
Gross income components at household level				
Income from rental of a property or land (HY040G)	305.07	141	141	52
Family related allowances (HY050G)	420.35	209	209	31
Social exclusion not elsewhere classified (HY060G)	286.69	169	169	25
Housing allowance (HY070G)				

Regular inter-household cash transfer received (HY080G)	815.37	102	102	120
Interests, dividends, etc. (HY090G)	651.19	5	5	506
Interest repayments on mortgage (HY100G)	2821.07	21	21	609
Income received by people aged < 16 (HY110G)	1200.00	1	1	389
Taxes on wealth (HY120G)	124.76	860	860	6
Regular inter-household cash transfer paid (HY130G)	643.35	60	60	143
Tax on income and social contributions (HY140G)	1587.83	588	588	69

Net income components at personal level

Employee cash or near cash income (PY010N)	3396.34	576	1052	86
Net non-cash employee income (PY020N)	384.51	189	189	34
Contribution to individual private pension plans (PY035N)	177.17	42	42	38
Cash benefits or losses from self-employment (PY050N)	2579.73	290	357	291
Value of goods produced by own-consumption (PY070N)	.	.	.	.
Pension from individual private plans (PY080N)	.	.	.	.
Unemployment benefits (PY090N)	664.02	17	17	144
Old age benefits (PY100N)	1716.52	819	819	34
Survivor's benefits (PY110N)	705.51	18	18	151
Sickness benefits (PY120N)	308.76	19	19	80
Disability benefits (PY130N)	882.23	108	108	66
Education-related allowances (PY140N)	234.06	2	2	120

Gross income components at personal level

Employee cash or near cash income (PY010G)	4183.51	450	1052	116
Net non-cash employee income (PY020G)	384.51	189	189	34
Contribution to individual private pension plans (PY035G)	177.17	42	42	38
Cash benefits or losses from self-employment (PY050G)	2898.19	295	357	334
Value of goods produced by own-consumption (PY070G)	.	.	.	.
Pension from individual private plans (PY080G)	.	.	.	.
Unemployment benefits (PY090G)	664.02	17	17	144
Old age benefits (PY100G)	1716.52	819	819	34
Survivor's benefits (PY110G)	705.51	18	18	151
Sickness benefits (PY120G)	308.76	19	19	80
Disability benefits (PY130G)	882.23	108	108	66
Education-related allowances (PY140G)	234.06	2	2	120

Table 4 Mean, total number of observations (before and after imputation) and standard error for income components 2008, longitudinal component 2008 (households & persons, weighted mean)

Income components	Mean	Number of observations		Standard error
		Before imputation	After imputation	
Total household gross income (HY010)	11101.65	440	2521	263
Total disposable household income (HY020)	9658.19	98	2521	235
Total disposable household income before social transfers except old-age and survivor's benefits (HY022)	9120.41	885	2499	234
Total disposable household income before social transfers including old-age and survivor's benefit (HY023)	7529.62	782	2395	245

Net income components at household level

Income from rental of a property or land (HY040N)	560.01	326	333	103
Family related allowances (HY050N)	809.53	418	447	57
Social exclusion not elsewhere classified (HY060N)	348.05	253	262	45
Housing allowance (HY070N)	232.19	2	2	46
Regular inter-household cash transfer received (HY080N)	1472.26	356	356	143
Interests, dividends, etc. (HY090N)	4790.58	9	9	2089
Interest repayments on mortgage (HY100N)	2017.85	186	186	138
Income received by people aged < 16 (HY110N)	589.58	28	28	113
Taxes on wealth (HY120N)	51.38	1953	1953	1
Regular inter-household cash transfer paid (HY130N)	656.03	435	435	60
Tax on income and social contributions (HY140N)	2177.45	26	1380	62

Gross income components at household level

Income from rental of a property or land (HY040G)	564.52	324	333	104
Family related allowances (HY050G)	809.53	418	447	57
Social exclusion not elsewhere classified (HY060G)	348.05	253	262	45
Housing allowance (HY070G)	232.19	2	2	46
Regular inter-household cash transfer received (HY080G)	1472.26	356	356	143
Interests, dividends, etc. (HY090G)	5095.36	9	9	2167
Interest repayments on mortgage (HY100G)	2017.85	186	186	138
Income received by people aged < 16 (HY110G)	589.58	28	28	113
Taxes on wealth (HY120G)	51.38	1953	1953	1
Regular inter-household cash transfer paid (HY130G)	656.03	435	435	60
Tax on income and social contributions (HY140G)	2177.45	26	1380	62

Net income components at personal level

Employee cash or near cash income (PY010N)	4106.82	1939	2957	84
Net non-cash employee income (PY020N)	535.82	408	408	37
Contribution to individual private pension plans (PY035N)	204.14	165	165	22
Cash benefits or losses from self-employment (PY050N)	7023.32	391	485	705
Value of goods produced by own-consumption (PY070N)				
Pension from individual private plans (PY080N)	360.00	2	2	73
Unemployment benefits (PY090N)	1100.75	43	43	224
Old age benefits (PY100N)	2174.12	1901	2036	28
Survivor's benefits (PY110N)	339.96	607	607	13
Sickness benefits (PY120N)	935.76	34	34	492
Disability benefits (PY130N)	1003.59	29	467	46
Education-related allowances (PY140N)	482.85	41	41	217

Gross income components at personal level

Employee cash or near cash income (PY010G)	5413.94	1614	2957	110
Net non-cash employee income (PY020G)	535.82	408	408	37
Contribution to individual private pension plans (PY035G)	204.14	165	165	22
Cash benefits or losses from self-employment (PY050G)	7784.39	378	485	738
Value of goods produced by own-consumption (PY070G)				
Pension from individual private plans (PY080G)	360	2	2	73
Unemployment benefits (PY090G)	1100.75	43	43	224
Old age benefits (PY100G)	2174.12	1901	2036	28

Survivor's benefits (PY110G)	339.96	607	607	13
Sickness benefits (PY120G)	935.76	34	34	492
Disability benefits (PY130G)	1003.59	29	467	46
Education-related allowances (PY140G)	482.85	41	41	217

Table 5 Mean, total number of observations (before and after imputation) and standard error for income components 2009, longitudinal component 2009 (households & persons, weighted mean)

Income components	Mean	Number of observations		Standard error
		Before imputation	After imputation	
Total household gross income (HY010)	13129.23	1326	4457	218
Total disposable household income (HY020)	11595.03	1273	4462	188
Total disposable household income before social transfers except old-age and survivor's benefits (HY022)	10947.22	1514	4437	187
Total disposable household income before social transfers including old-age and survivor's benefit (HY023)	9046.56	2003	4224	195

Net income components at household level

Income from rental of a property or land (HY040N)	1440.08	317	346	383
Family related allowances (HY050N)	900.47	734	735	43
Social exclusion not elsewhere classified (HY060N)	490.16	190	375	35
Housing allowance (HY070N)	266.73	2	2	0
Regular inter-household cash transfer received (HY080N)	1858.21	540	586	119
Interests, dividends, etc. (HY090N)	7024.25	12	12	728
Interest repayments on mortgage (HY100N)	2441.9	283	283	150
Income received by people aged < 16 (HY110N)	671.36	43	43	76
Taxes on wealth (HY120N)	61.93	3350	3370	1
Regular inter-household cash transfer paid (HY130N)	726.35	678	682	56
Tax on income and social contributions (HY140N)	2163.09	916	2600	42

Gross income components at household level

Income from rental of a property or land (HY040G)	1576.95	346	346	427
Family related allowances (HY050G)	900.47	735	735	43
Social exclusion not elsewhere classified (HY060G)	490.16	190	375	35
Housing allowance (HY070G)	266.73	2	2	0
Regular inter-household cash transfer received (HY080G)	1858.21	540	586	119
Interests, dividends, etc. (HY090G)	7605.85	12	12	614
Interest repayments on mortgage (HY100G)	2441.9	283	283	150
Income received by people aged < 16 (HY110G)	671.36	43	43	76
Taxes on wealth (HY120G)	61.93	3350	3370	1
Regular inter-household cash transfer paid (HY130G)	723.79	678	682	56
Tax on income and social contributions (HY140G)	2163.09	916	2600	42

Net income components at personal level

Employee cash or near cash income (PY010N)	5359.24	2286	4763	78
Net non-cash employee income (PY020N)	990.03	406	758	278
Contribution to individual private pension plans (PY035N)	188.62	261	261	18
Cash benefits or losses from self-employment (PY050N)	8236.34	429	592	483
Value of goods produced by own-consumption (PY070N)	.	.	.	.

Pension from individual private plans (PY080N)	360.00	1	1	52
Unemployment benefits (PY090N)	796.87	92	150	77
Old age benefits (PY100N)	2744.38	3351	3367	26
Survivor's benefits (PY110N)	1509.94	120	136	83
Sickness benefits (PY120N)	393.26	633	646	35
Disability benefits (PY130N)	1688.35	672	788	46
Education-related allowances (PY140N)	307.54	56	57	48

Gross income components at personal level

Employee cash or near cash income (PY010G)	7118.41	1623	4763	107
Net non-cash employee income (PY020G)	990.03	406	758	278
Contribution to individual private pension plans (PY035G)	188.62	261	261	18
Cash benefits or losses from self-employment (PY050G)	9349.34	423	592	556
Value of goods produced by own-consumption (PY070G)	.	.	.	.
Pension from individual private plans (PY080G)	360	1	1	52
Unemployment benefits (PY090G)	818.8	90	150	79
Old age benefits (PY100G)	2744.38	3351	3367	26
Survivor's benefits (PY110G)	1509.94	120	136	83
Sickness benefits (PY120G)	407.53	633	646	36
Disability benefits (PY130G)	1688.35	672	788	46
Education-related allowances (PY140G)	307.54	56	57	48

Table 6 Mean, total number of observations (before and after imputation) and standard error for income components 2010, longitudinal component 2010 (households & persons, weighted mean)

Income components	Mean	Number of observations		Standard error
		Before imputation	After imputation	
Total household gross income (HY010)	13433.58	1223	4297	202
Total disposable household income (HY020)	12115.85	1221	4298	180
Total disposable household income before social transfers except old-age and survivor's benefits (HY022)	11160.97	1702	4282	174
Total disposable household income before social transfers including old-age and survivor's benefit (HY023)	8893.9	2595	4095	181

Net income components at household level

Income from rental of a property or land (HY040N)	909.09	680	684	90
Family related allowances (HY050N)	1138.44	697	742	64
Social exclusion not elsewhere classified (HY060N)	205.96	345	345	21
Housing allowance (HY070N)	1195.76	2	2	736
Regular inter-household cash transfer received (HY080N)	1968.51	489	489	122
Interests, dividends, etc. (HY090N)	4989.17	10	10	1737
Interest repayments on mortgage (HY100N)	2657.31	185	185	190
Income received by people aged < 16 (HY110N)	890.17	32	32	133
Taxes on wealth (HY120N)	69.06	3218	3218	1
Regular inter-household cash transfer paid (HY130N)	762.36	620	627	73
Tax on income and social contributions (HY140N)	1693.96	2063	2744	39
Value of goods produced by own-consumption (HY170N)	636.86	1534	1534	33

Gross income components at household level

Income from rental of a property or land (HY040G)	966.29	681	684	99
Family related allowances (HY050G)	1138.44	697	742	64
Social exclusion not elsewhere classified (HY060G)	205.96	345	345	21
Housing allowance (HY070G)	1195.76	2	2	736
Regular inter-household cash transfer received (HY080G)	1968.51	489	489	122
Interests, dividends, etc. (HY090G)	5923.21	10	10	2154
Interest repayments on mortgage (HY100G)	2657.31	185	185	190
Income received by people aged < 16 (HY110G)	890.17	32	32	133
Taxes on wealth (HY120G)	69.06	3218	3218	1
Regular inter-household cash transfer paid (HY130G)	762.36	620	627	73
Tax on income and social contributions (HY140G)	1693.96	2063	2744	39
Value of goods produced by own-consumption (HY170G)	636.86	1534	1534	33

Net income components at personal level

Employee cash or near cash income (PY010N)	5064.25	3569	5141	76
Net non-cash employee income (PY020N)	845.66	648	648	45
Contribution to individual private pension plans (PY035N)	185.2	234	237	17
Cash benefits or losses from self-employment (PY050N)	6397.07	455	613	399
Pension from individual private plans (PY080N)	367.3	29	29	34
Unemployment benefits (PY090N)	951.59	157	463	53
Old age benefits (PY100N)	3175.49	1579	3443	35
Survivor's benefits (PY110N)	1634.61	80	80	130
Sickness benefits (PY120N)	496.76	31	960	49
Disability benefits (PY130N)	2179.44	326	916	55
Education-related allowances (PY140N)	456.49	61	61	59

Gross income components at personal level

Employee cash or near cash income (PY010G)	6229.75	3280	5148	96
Net non-cash employee income (PY020G)	845.66	648	648	45
Contribution to individual private pension plans (PY035G)	185.2	234	237	17
Cash benefits or losses from self-employment (PY050G)	7620.21	425	613	445
Pension from individual private plans (PY080G)	367.3	29	29	34
Unemployment benefits (PY090G)	955.23	157	463	53
Old age benefits (PY100G)	3175.49	1579	3443	35
Survivor's benefits (PY110G)	1634.61	80	80	130
Sickness benefits (PY120G)	496.76	31	960	49
Disability benefits (PY130G)	2179.44	326	916	55
Education-related allowances (PY140G)	456.49	61	61	59

Table 7 Mean, total number of observations (before and after imputation) and standard error for income components 2007 (households & persons, weighted mean, cross sectional sample 2007)

Income components	Mean	Number of observations		Standard error
		Before imputation	After imputation	
Total household gross income (HY010)	7275	1 735	4270	130

Total disposable household income (HY020)	6152	1 731	4270	106
Total disposable household income before social transfers except old-age and survivor's benefits (HY022)	5900	1 529	4270	107
Total disposable household income before social transfers including old-age and survivor's benefit (HY023)	4672	759	4270	111
<i>Net income components at household level</i>				
Income from rental of a property or land (HY040N)	355	562	562	35
Family related allowances (HY050N)	384	836	836	16
Social exclusion not elsewhere classified (HY060N)	325	730	730	17
Housing allowance (HY070N)	299	3	3	154
Regular inter-household cash transfer received (HY080N)	903	379	379	66
Interests, dividends, etc. (HY090N)	416	15	15	170
Interest repayments on mortgage (HY100N)	2542	86	86	214
Income received by people aged < 16 (HY110N)	463	69	69	65
Taxes on wealth (HY120N)	120	3 505	3505	3
Regular inter-household cash transfer paid (HY130N)	668	227	227	80
Tax on income and social contributions (HY140N)	1633	2 436	2436	40
<i>Gross income components at household level</i>				
Income from rental of a property or land (HY040G)	361	562	562	36
Family related allowances (HY050G)	384	836	836	16
Social exclusion not elsewhere classified (HY060G)	325	730	730	17
Housing allowance (HY070G)	299	3	3	154
Regular inter-household cash transfer received (HY080G)	903	379	379	66
Interests, dividends, etc. (HY090G)	432	15	15	175
Interest repayments on mortgage (HY100G)	2542	86	86	214
Income received by people aged < 16 (HY110G)	463	69	69	65
Taxes on wealth (HY120G)	120	3 505	3505	3
Regular inter-household cash transfer paid (HY130G)	668	227	227	80
Tax on income and social contributions (HY140G)	1633	2 436	2436	40
<i>Net income components at personal level</i>				
Employee cash or near cash income (PY010N)	3428	2469	4366	49
Net non-cash employee income (PY020N)	409	634	634	25
Cash benefits or losses from self-employment (PY050N)	2789	1157	1402	200
Value of goods produced by own-consumption (PY070N)	604	1451	1451	22
Pension from individual private plans (PY080N)	632	2	2	520
Unemployment benefits (PY090N)	795	77	77	87
Old age benefits (PY100N)	1709	3273	3386	17
Survivor's benefits (PY110N)	858	64	64	89
Sickness benefits (PY120N)	366	110	110	94
Disability benefits (PY130N)	919	464	464	33
Education-related allowances (PY140N)	330	19	19	225
<i>Gross income components at personal level</i>				
Employee cash or near cash income (PY010G)	4229	1790	4366	64
Net non-cash employee income (PY020G)	409	634	634	25
Cash benefits or losses from self-employment (PY050G)	3183	1122	1402	236
Value of goods produced by own-consumption (PY070G)	604	1451	1451	22
Pension from individual private plans (PY080G)	632	2	2	520
Unemployment benefits (PY090G)	795	77	77	87
Old age benefits (PY100G)	1709	3273	3386	17

Survivor's benefits (PY110G)	858	64	64	89
Sickness benefits (PY120G)	366	110	110	94
Disability benefits (PY130G)	919	464	464	33
Education-related allowances (PY140G)	330	19	19	225
Gross monthly earnings for employees (PY200G)	386	2914	3984	5

Table 8 Mean, total number of observations (before and after imputation) and standard error for income components 2008 (households & persons, weighted mean, cross sectional sample 2008)

Income components	Mean	Number of observations		Standard error
		Before imputation	After imputation	
Total household gross income (HY010)	11342	743	4344	226
Total disposable household income (HY020)	9790	158	4344	201
Total disposable household income before social transfers except old-age and survivor's benefits (HY022)	9251	1 515	4344	201
Total disposable household income before social transfers including old-age and survivor's benefit (HY023)	7740	1365	4344	208
Net income components at household level				
Income from rental of a property or land (HY040N)	507	569	582	51
Family related allowances (HY050N)	765	789	840	43
Social exclusion not elsewhere classified (HY060N)	314	461	479	28
Housing allowance (HY070N)	234	2	2	46
Regular inter-household cash transfer received (HY080N)	1340	636	636	118
Interests, dividends, etc. (HY090N)	6120	17	17	2000
Interest repayments on mortgage (HY100N)	2020	332	332	127
Income received by people aged < 16 (HY110N)	575	43	43	108
Taxes on wealth (HY120N)	53	3 397	3397	1
Regular inter-household cash transfer paid (HY130N)	637	772	772	53
Tax on income and social contributions (HY140N)	2285	31	2385	60
Gross income components at household level				
Income from rental of a property or land (HY040G)	519	571	583	52
Family related allowances (HY050G)	765	789	840	43
Social exclusion not elsewhere classified (HY060G)	314	461	479	28
Housing allowance (HY070G)	234	2	2	26
Regular inter-household cash transfer received (HY080G)	1340	636	636	118
Interests, dividends, etc. (HY090G)	6570	17	17	1937
Interest repayments on mortgage (HY100G)	2020	332	332	127
Income received by people aged < 16 (HY110G)	575	43	43	108
Taxes on wealth (HY120G)	53	3 397	3397	1
Regular inter-household cash transfer paid (HY130G)	637	772	772	53
Tax on income and social contributions (HY140G)	2285	31	2385	60
Net income components at personal level				
Employee cash or near cash income (PY010N)	4070	2594	5234	66
Net non-cash employee income (PY020N)	517	707	707	30
Contribution to individual private pension plans (PY035N)	210	286	286	21
Cash benefits or losses from self-employment (PY050N)	7213	698	791	592
Value of goods produced by own-consumption (PY070N)	640	1753	1753	41
Pension from individual private plans (PY080N)	360	2	2	57
Unemployment benefits (PY090N)	982	89	89	199

Old age benefits (PY100N)	2161	3344	3476	24
Survivor's benefits (PY110N)	372	1055	1055	14
Sickness benefits (PY120N)	683	57	57	174
Disability benefits (PY130N)	1102	71	1021	38
Education-related allowances (PY140N)	317	79	79	59
Gross income components at personal level				
Employee cash or near cash income (PY010G)	5409	2821	5234	94
Net non-cash employee income (PY020G)	517	707	707	30
Contribution to individual private pension plans (PY035G)	210	286	286	21
Cash benefits or losses from self-employment (PY050G)	8051	674	792	635
Value of goods produced by own-consumption (PY070G)	640	1753	1753	41
Pension from individual private plans (PY080G)	360	2	2	57
Unemployment benefits (PY090G)	982	89	89	199
Old age benefits (PY100G)	2161	3344	3476	24
Survivor's benefits (PY110G)	372	1055	1055	14
Sickness benefits (PY120G)	683	57	57	174
Disability benefits (PY130G)	1102	71	1021	38
Education-related allowances (PY140G)	317	79	79	59
Gross monthly earnings for employees (PY200G)	522	3070	3888	8

Table 9 Mean, total number of observations (before and after imputation) and standard error for income components 2009 (households & persons, weighted mean, cross sectional sample 2009)

Income components	Mean	Number of observations		Standard error
		Before imputation	After imputation	
Total household gross income (HY010)	13423	1 663	5608	180
Total disposable household income (HY020)	11829	1 596	5608	155
Total disposable household income before social transfers except old-age and survivor's benefits (HY022)	11206	1 715	5608	155
Total disposable household income before social transfers including old-age and survivor's benefit (HY023)	9367	2485	5608	163
Net income components at household level				
Income from rental of a property or land (HY040N)	1024	757	790	172
Family related allowances (HY050N)	910	929	932	42
Social exclusion not elsewhere classified (HY060N)	468	223	439	25
Housing allowance (HY070N)	267	2	2	164
Regular inter-household cash transfer received (HY080N)	1826	660	715	113
Interests, dividends, etc. (HY090N)	7042	14	14	1322
Interest repayments on mortgage (HY100N)	2476	364	364	129
Income received by people aged < 16 (HY110N)	711	54	54	104
Taxes on wealth (HY120N)	65	4 223	4251	1
Regular inter-household cash transfer paid (HY130N)	707	861	865	45
Tax on income and social contributions (HY140N)	2194	1 139	3310	38
Gross income components at household level				
Income from rental of a property or land (HY040G)	1103	788	790	193
Family related allowances (HY050G)	910	931	932	42
Social exclusion not elsewhere classified (HY060G)	468	223	439	25
Housing allowance (HY070G)	267	2	2	164
Regular inter-household cash transfer received (HY080G)	1826	660	715	113

Interests, dividends, etc. (HY090G)	7790	14	14	1332
Interest repayments on mortgage (HY100G)	2476	364	364	129
Income received by people aged < 16 (HY110G)	711	54	54	104
Taxes on wealth (HY120G)	65	4 223	4251	1
Regular inter-household cash transfer paid (HY130G)	705	861	865	45
Tax on income and social contributions (HY140G)	2194	1 139	3310	38
Net income components at personal level				
Employee cash or near cash income (PY010N)	5442	2899	6088	67
Net non-cash employee income (PY020N)	582	947	947	22
Contribution to individual private pension plans (PY035N)	198	323	323	18
Cash benefits or losses from self-employment (PY050N)	8411	544	753	395
Value of goods produced by own-consumption (PY070N)	636	0	1953	27
Pension from individual private plans (PY080N)	1375	0	2	1055
Unemployment benefits (PY090N)	806	111	196	1407
Old age benefits (PY100N)	2752	4220	4238	22
Survivor's benefits (PY110N)	1473	146	165	69
Sickness benefits (PY120N)	403	839	859	29
Disability benefits (PY130N)	1676	844	1012	39
Education-related allowances (PY140N)	355	75	77	48
Gross income components at personal level				
Employee cash or near cash income (PY010G)	7204	2046	6088	87.9
Net non-cash employee income (PY020G)	582	947	947	22.1
Contribution to individual private pension plans (PY035G)	198	323	323	17.9
Cash benefits or losses from self-employment (PY050G)	9540	536	753	453.6
Value of goods produced by own-consumption (PY070G)	636	0	1953	27.5
Pension from individual private plans (PY080G)	1375	0	2	1054.8
Unemployment benefits (PY090G)	827	109	196	74.8
Old age benefits (PY100G)	2752	4220	4238	22.2
Survivor's benefits (PY110G)	1473	146	165	68.6
Sickness benefits (PY120G)	417	839	859	30.3
Disability benefits (PY130G)	1676	844	1012	39.3
Education-related allowances (PY140G)	355	75	77	48.3
Gross monthly earnings for employees (PY200G)	569	4549	5261	6.3

Table 10 Mean, total number of observations (before and after imputation) and standard error for income components 2010 (households & persons, weighted mean, cross sectional sample 2010)

Income components	Mean	Number of observations		Standard error
		Before imputation	After imputation	
Total household gross income (HY010)	14142.59	1722	6171	197
Total disposable household income (HY020)	12704.67	1719	6171	175
Total disposable household income before social transfers except old-age and survivor's benefits (HY022)	11722.95	2393	6171	171
Total disposable household income before social transfers including old-age and survivor's benefit (HY023)	9488.81	3593	6171	174

Net income components at household level

Income from rental of a property or land (HY040N)	953.73	930	934	76
Family related allowances (HY050N)	1261.49	920	1006	62
Social exclusion not elsewhere classified (HY060N)	195.07	466	466	18
Housing allowance (HY070N)	540	1	1	26
Regular inter-household cash transfer received (HY080N)	2106.59	707	707	170
Interests, dividends, etc. (HY090N)	3633.86	21	21	909
Interest repayments on mortgage (HY100N)	2639.14	259	259	139
Income received by people aged < 16 (HY110N)	838.15	45	45	136
Taxes on wealth (HY120N)	73.1	4608	4608	1
Regular inter-household cash transfer paid (HY130N)	707.75	852	861	45
Tax on income and social contributions (HY140N)	1842.11	2936	3978	53
Value of goods produced by own-consumption (HY170N)	591.44	2 113	2114	25

Gross income components at household level

Income from rental of a property or land (HY040G)	1023.13	931	934	85
Family related allowances (HY050G)	1261.49	920	1006	62
Social exclusion not elsewhere classified (HY060G)	195.07	466	466	18
Housing allowance (HY070G)	540	1	1	26
Regular inter-household cash transfer received (HY080G)	2106.59	707	707	170
Interests, dividends, etc. (HY090G)	4598.05	21	21	1216
Interest repayments on mortgage (HY100G)	2639.14	259	259	139
Income received by people aged < 16 (HY110G)	838.15	45	45	136
Taxes on wealth (HY120G)	73.1	4608	4608	1
Regular inter-household cash transfer paid (HY130G)	707.75	852	861	45
Tax on income and social contributions (HY140G)	1842.11	2936	3978	53
Value of goods produced by own-consumption (HY170G)	591.44	2113	2114	25

Net income components at personal level

Employee cash or near cash income (PY010N)	5368.71	5047	7477	87
	958.62	927	927	42
Net non-cash employee income (PY020N)				
Contribution to individual private pension plans (PY035N)	212.35	344	347	16
Cash benefits or losses from self-employment (PY050N)	7098.5	631	870	351
Pension from individual private plans (PY080N)	354.31	40	40	38
Unemployment benefits (PY090N)	958.89	233	653	45
Old age benefits (PY100N)	3211.77	2346	4935	27
Survivor's benefits (PY110N)	1677.47	109	109	106
Sickness benefits (PY120N)	468.26	48	1465	29
Disability benefits (PY130N)	2173.35	469	1333	44
Education-related allowances (PY140N)	440.65	87	87	45

Gross income components at personal level

Employee cash or near cash income (PY010G)	6602.82	4603	7481	99
Net non-cash employee income (PY020G)	958.62	927	927	42
Contribution to individual private pension plans (PY035G)	212.35	344	347	16
Cash benefits or losses from self-employment (PY050G)	8749.74	595	870	478
Pension from individual private plans (PY080G)	354.31	40	40	38

Unemployment benefits (PY090G)	963.72	233	653	45
Old age benefits (PY100G)	3211.77	2346	4935	27
Survivor's benefits (PY110G)	1677.47	109	109	106
Sickness benefits (PY120G)	468.26	48	1465	29
Disability benefits (PY130G)	2173.35	469	1333	44
Education-related allowances (PY140G)	440.65	87	87	71
Gross monthly earnings for employees (PY200G)	593.22	5212	5625	6

Table 11 Mean, number of observations and standard error for the equivalised disposable income breakdown by sex, age groups and household size, longitudinal component 2007

Equivalised disposable income	Mean	Number of observations		Standard error
		Before imputation	After imputation	
Subclasses by household size				
1 household member	1626	140	211	283
2 household members	1478	132	295	130
3 household members	1740	63	193	149
4 and more	1355	79	315	124
all household members	1523	414	1014	83
Population by age group				
< 25	1145	256	833	83
25 - 34	1897	98	339	167
35 - 44	1463	126	367	126
45 - 54	1928	116	380	225
55 - 64	1491	143	378	131
65 +	990	265	567	66
Population by sex				
Male	1485	473	1469	83
Female	1373	531	1524	76
all persons	1427	1004	2993	76

Table 12 Mean, number of observations and standard error for the equivalised disposable income breakdown by sex, age groups and household size, longitudinal component 2008

Equivalised disposable income	Mean	Number of observations		Standard error
		Before imputation	After imputation	
Subclasses by household size				
1 household member	1034	40	563	60
2 household members	1572	15	793	115
3 household members	2132	15	491	136
4 and more	1581	28	673	61
all household members	1603	98	2520	50
Population by age group				
< 25	1633	108	1729	70
25 - 34	2119	31	726	194
35 - 44	1749	31	791	93

45 - 54	1873	28	898	89
55 - 64	1801	25	1007	106
65 +	1124	44	1470	27
Population by sex				
Male	1724	120	3326	57
Female	1645	147	3624	62
all persons	1683	267	6950	58

Table 13 Mean, number of observations and standard error for the equivalised disposable income breakdown by sex, age groups and household size, longitudinal component 2009

Equivalised disposable income	Mean	Number of observations		Standard error
		Before imputation	After imputation	
Subclasses by household size				
1 household member	1483	483	1035	56
2 household members	2175	431	1429	73
3 household members	2764	179	813	84
4 and more	2352	180	1164	61
all household members	2236	1273	4441	39
Population by age group				
< 25	2328	575	2819	68
25 - 34	2799	235	1150	91
35 - 44	2370	284	1394	68
45 - 54	2679	333	1550	79
55 - 64	2567	403	1781	81
65 +	1605	893	2667	32
Population by sex				
Male	2398	1231	5713	48
Female	2299	1492	6260	48
all persons	2347	2723	11973	45

Table 14 Mean, number of observations and standard error for the equivalised disposable income breakdown by sex, age groups and household size, longitudinal component 2010

Equivalised disposable income	Mean	Number of observations		Standard error
		Before imputation	After imputation	
Subclasses by household size				
1 household member	1621	413	975	57
2 household members	2440	341	1374	78
3 household members	2727	223	795	75
4 and more	2395	244	1148	56
all household members	2330	1221	4292	37
Population by age group				
< 25	2278	771	2683	58
25 - 34	2701	363	1160	79

35 - 44	2339	366	1343	60
45 - 54	2614	409	1483	69
55 - 64	2662	410	1748	76
65 +	1840	652	2713	34

Population by sex

Male	2403	1416	5597	43
Female	2330	1555	6113	44
all persons	2365	2971	11710	41

Table 15 Mean, number of observations and standard error for the equivalised disposable income breakdown by sex, age groups and household size, 2007, (cross sectional sample 2007)

Equivalised disposable income	Mean	Number of observations		Standard error
		Before imputation	After imputation	
Subclasses by household size				
1 household member	2499	592	823	114
2 household members	3238	559	1161	79
3 household members	3968	264	800	124
4 and more	3346	316	1297	104
all household members	3273	1731	4109	54
Population by age group				
< 25	3144	950	3148	97
25 - 34	3689	425	1458	101
35 - 44	3604	420	1529	141
45 - 54	3801	479	1715	99
55 - 64	3419	610	1629	85
65 +	2741	1176	2347	46
Population by sex				
Male	3407	1862	5675	66
Female	3282	2198	6151	69
all persons	3342	4060	11826	64

Table 16 Mean, number of observations and standard error for the equivalised disposable income breakdown by sex, age groups and household size, 2008, (cross sectional sample 2008)

Equivalised disposable income	Mean	Number of observations		Standard error
		Before imputation	After imputation	
Subclasses by household size				
1 household member	3239	63	932	104
2 household members	4880	35	1349	148
3 household members	6384	18	836	245
4 and more	5318	42	1224	162
all household members	5060	158	4341	90
Population by age group				
< 25	5131	141	3091	156
25 - 34	6113	44	1407	217
35 - 44	5599	39	1532	188
45 - 54	6253	59	1728	242
55 - 64	5401	57	1842	142

65 +	3676	66	2585	64
Population by sex				
Male	5438	195	5841	124
Female	5140	211	6344	110
all persons	5284	406	12185	111

Table 17 Mean, number of observations and standard error for the equivalised disposable income breakdown by sex, age groups and household size, 2009, (cross sectional sample 2009)

Equivalised disposable income	Mean	Number of observations		Standard error
		Before imputation	After imputation	
Subclasses by household size				
1 household member	4091	605	1313	126
2 household members	6024	555	1784	133
3 household members	7813	213	1025	190
4 and more	6418	223	1461	122
all household members	6168	1596	5583	74
Population by age group				
< 25	6308	688	3498	127
25 - 34	7462	299	1659	163
35 - 44	6555	354	1915	142
45 - 54	7450	408	2174	162
55 - 64	6770	520	2429	150
65 +	4455	1112	3298	71
Population by sex				
Male	6552	1528	7154	89
Female	6281	1853	7819	88
all persons	6412	3381	14973	83

Table 18 Mean, number of observations and standard error for the equivalised disposable income breakdown by sex, age groups and household size, 2010, (cross sectional sample 2010)

Equivalised disposable income	Mean	Number of observations		Standard error
		Before imputation	After imputation	
Subclasses by household size				
1 household member	4642	657	1492	128
2 household members	6876	483	1982	151
3 household members	8028	269	1119	193
4 and more	6819	310	1569	144
all household members	6657	1719	6162	79
Population by age group				
< 25	6477	29	3664	143
25 - 34	7793	118	1577	208
35 - 44	6751	246	1892	129
45 - 54	7807	296	2159	196
55 - 64	7684	353	2492	174
65 +	5293	677	3716	74

Population by sex

Male	6946	1045	7801	110
Female	6745	674	8521	98
all persons	6842	1719	16322	98

2.3. Non-sampling errors

2.3.1. Sampling frame and coverage errors

EU-SILC in Bulgaria is carried out applying the two-stage stratified sampling with PSU (census enumerated units) and the final unit - household. The samples for EU-SILC 2007, 2008, 2009 and 2010 are 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 only 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.

The longitudinal component consists of the sub-samples 1, 2 and 3.

2.3.2. Measurement and processing errors

2.3.2.1. Measurement errors

As with any other statistical survey, EU-SILC may be burdened with non-sampling errors which occur at various stages of the survey and which cannot be eliminated completely. This mainly applies to interviewers' errors at the stage of collecting the information, errors due to the respondents' misunderstanding of questions and inaccurate or sometimes even false answers as well as the errors taking place at the stage of data recording.

The questionnaire for EU-SILC 2010 was developed on the basis of the Commission Regulation (EC) 646/2009, EU-SILCdoc065 (2010 operation) and Guidelines for Description of secondary target variables and corresponding questionnaire: 2010 Module.

In order to finalize the questionnaires, any observations made on the questionnaires of the previous years were taken into account. It should also be pointed out that, in our opinion, the quality of data concerning net income categories is much higher than that concerning gross income. The reason for this is that the information on taxes and social and health insurance contributions were affected by the non-response to the highest degree.

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.

Changes occurring in persons' activity status longitudinally resulted in a number of inconsistencies. For example, persons having been working in year N-1 but retired in year N, persons being students in year N-1 and employed in year N, income in year N-1 from persons who died in year N, etc. may result in inconsistencies representing though reality. In any case the pre-mentioned examples resulted both in under and over reporting of income.

Income from interests, dividends in unincorporated businesses is in general not provided from the households. There is a sense that self-employment income has still been under-estimated.

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 19 Sample size and accepted interviews

	2006	2007	2008	2009
Accepted household interviews (DB135=1)	1039	2523	4466	4298
Personal Interview accepted (RB250=11)				
Number of persons 16 years and older	2535	5846	10379	10123
Sample Persons	2535	5766	10166	9765
Co-residents	0	80	213	358

2.3.3.2. Unit non-response

- **wave 1 = 2007 (subsamples 1):**

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

$$R_a = 0.946$$

$$R_h = 0.719$$

$$\mathbf{NR_h = 31.91\%}$$

$$- \text{ Individual non-response rates } NR_p = (1 - R_p) * 100,$$

$$R_p = 0.970$$

$$\mathbf{NR_p = 2.95\%}$$

$$- \text{ Overall individual non-response rates } *NR_p = [1 - (R_a * R_h * R_p)] * 100,$$

$$\mathbf{*NR_p = 33.92\%;}$$

Table 20 Household response rates: Comparison of results codes between wave 2 and wave 1

Sample outcome in wave 2 = 2008 (R1)

		DB130 = 11										Total	
		DB135 = 1	DB135 = 2	DB120 = 22	DB130 = 22	DB130 = 23	DB130 = 24	DB130 = 21	DB120 = 21	NC	DB110 = 10		DB120 = 23
Sample outcome in wave 1													
DB130 = 11	DB135 = 1	841	1	0	44	21	8	70	19	71	0	0	1075
	DB135 = 2	0	0										0
DB120 = 21													
DB120 = 22													
DB120 = 23													
DB130 = 21													
DB130 = 22													
DB130 = 23													
DB130 = 24													
total		841	1	0	44	21	8	70	19	71	0	0	1075
New household in wave 2													
DB110 = 8		13			2		1	1	19				36
DB110 = 9		0											0
		854	1	0	46	21	9	71	38	71	0	0	1111

- Wave response rate = 0.769
- Refusal rate = 0.064
- No-contacted and others = 0.085
- Longitudinal follow-up rate = 0.851
- Follow-up rate = 0.866
- Achieved sample size ratio = 0.794

Table 21 Household response rates: Comparison of results codes between wave 3 and wave 2

Sample outcome in wave 3 = 2009 (R1 and R2)													
DB130 = 11												Total	
DB135 = 1	DB135 = 2	DB120 = 22	DB130 = 22	DB130 = 23	DB130 = 24	DB130 = 21	DB120 = 21	NC	DB110 = 10	DB120 = 23			
Sample outcome in wave 2													
DB130 = 11	DB135 = 1	2451	1	0	19	6	9	28	0	31	0	0	2545
	DB135 = 2		0										0
DB120 = 21													
DB120 = 22													
DB120 = 23													
DB130 = 21													
DB130 = 22													
DB130 = 23													
DB130 = 24													
total		2451	1	0	19	6	9	28	0	31	0	0	2545
New household in wave 3													
DB110 = 8		22											22
DB110 = 9		0	0	0	0	0	0	0		0	0		0
		2473	1	0	19	6	9	28	0	37	0	0	2567

- Wave response rate = 0.963
- Refusal rate = 0.011
- No-contacted and others = 0.011
- Longitudinal follow-up rate = 0.977
- Follow-up rate = 0.985
- Achieved sample size ratio = 0.972

Table 22 Household response rates: Comparison of results codes between wave 4 and wave 3

Sample outcome in wave 4 = 2010 (R1 and R2 and R3)													
		DB130 = 11										Total	
		DB135 = 1	DB135 = 2	DB120 = 22	DB130 = 22	DB130 = 23	DB130 = 24	DB130 = 21	DB120 = 21	NC	DB110 = 10		DB120 = 23
Sample outcome in wave 2													
DB130 = 11	DB135 = 1	4298	0		37	6	12	46		81	1	1	4482
	DB135 = 2	0	0										0
DB120 = 21													
DB120 = 22													
DB120 = 23													
DB130 = 21													
DB130 = 22													
DB130 = 23													
DB130 = 24													
total		4298	0	0	37	6	12	46	0	81	1	1	4482
New household in wave 3													
DB110 = 8		35	14		0	0	0	0	1	0			
DB110 = 9		0	0	0	0	0	0	0	0	0		0	0
		4312	0	0	37	6	12	47	0	81	1	1	4497

- Wave response rate = 0.959
- Refusal rate = 0.010
- No-contacted and others = 0.011
- Longitudinal follow-up rate = 0.971
- Follow-up rate = 0.974
- Achieved sample size ratio = 0.962

Table 23 Personal interview response rate

Personal interview outcome in wave 2=2008 (R1)											
	RB250=11,12,13	Not completed because of									Total
		RB250=21	RB250=22	RB250=23	RB250=31	RB250=32	RB250=33	HHnc	Pn	Pl	
sample persons (RB100=1 and RB245=1,2,3) from the sample forwarded from last wave 2007(t-1)											
RB110=1,2	2042	0	0	7	7	2	1				2059
RB110=6											34
RB110=4 or -1											19
RB120=2											1
RB120=3											44
RB120=4											0
DB135=2 or -1, or DB110=7, or DB120=21-23 or -1, or DB130=21-24 or -1											
DB110= 3-6											
New sample persons											0
Reached age 16	29			1	1						31
Sample additions											0
Non-sample (co-resident) persons 16+											0
from wave 2=2008	80			0	1	0					81
from wave 1=2007	0										0
Sample persons from sample not forwarded from last wave t-1=2007 (excluded died or not eligible according to the tracing rules)											
											38
1+3+6+7+9+10	2071	0	0	8	8	2	1	0	0	0	2109
1+3+6+7+9+10+13	2071	0	0	8	8	2	1	0	0	0	2147
1+3+6+7+9+10+11	2151	0	0	8	9	2	1	0	0	0	2190

• **Response rate for persons**

Wave response rate of sample persons = 0.982

Wave response rate of co-residents = 0.988

Longitudinal follow-up rate =0.965

R (RB250=21) = 0.000

R (RB250=23) = 0.004

R (RB250=31) = 0.004

R (RB250=32) = 0.001

R (RB250=33) = 0.000

achieved sample size ratio for sample persons = 0.806

achieved sample size ratio for sample persons and co-residents = 0.837

achieved sample size ratio for co-residents selected the first wave = 0.000

response rate for non-sample persons = 0.935

Table 24 Personal interview response rate

Personal interview outcome in wave 3=2009 (R1 and R2)											
	RB250=11,12,13	Not completed because of									Total
		RB250=21	RB250=22	RB250=23	RB250=31	RB250=32	RB250=33	HHnc	Pn	Pl	
sample persons (RB100=1 and RB245=1,2,3) from the sample forwarded from last wave (t-1)											
RB110=1,2	5606	0	0	7	10	0	2				5625
RB110=6											63
RB110=4 or -1											26
RB120=2											1
RB120=3											23
RB120=4											5
DB135=2 or -1, or DB110=7, or DB120=21-23 or -1, or DB130=21-24 or -1											44
DB110= 3-6											5
New sample persons											0
Reached age 16	87										87
Sample additions											0
Non-sample persons 16+											0
from wave 3=2009	213			0	0	0					213
from wave 2=2008											
Sample persons from sample not forwarded from last wave t-1=2007 (excluded died or not eligible according to the tracing rules)											
											75
1+3+6+7+9+10	5693	0	0	7	10	0	2	0	0	0	5787
1+3+6+7+9+10+13	5693	0	0	7	10	0	2	0	0	0	5862
1+3+6+7+9+10+11	5906	0	0	7	10	0	2	0	0	0	6000

- Response rate for persons**

Wave response rate of sample persons = 0.984

Wave response rate of co-residents = 1.000

Longitudinal follow-up rate = 0.971

R (RB250=21) = 0.000

R (RB250=23) = 0.001

R (RB250=31) = 0.002

R (RB250=32) = 0.000

R (RB250=33) = 0.000

achieved sample size ratio for sample persons = 0.972

achieved sample size ratio for sample persons and co-residents = 0.995

achieved sample size ratio for co-residents selected the first wave = 2.66

response rate for non-sample persons = 1.000

Table 25. Personal interview response rate

Personal interview outcome in wave 4=2010 (R1 and R2 and R3)											
	RB250=11,14	Not completed because of									Total
		RB250=21	RB250=22	RB250=23	RB250=31	RB250=32	RB250=33	HHnc	Pn	Pl	
sample persons (RB100=1 and RB245=1,2,3) from the sample forwarded from last wave (t-1)											
RB110=1,2	9988	0	0	14	7	4	0				10013
RB110=6											134
RB110=4 or -1											42
RB120=2											6
RB120=3											38
RB120=4											28
DB135=2 or -1, or DB110=7, or DB120=21-23 or -1, or DB130=21-24 or -1											67
DB110= 3-6											12
New sample persons											0
Reached age 16	133										133
Sample additions											0
Non-sample persons 16+											0
from wave 3=2009	358			1							359
from wave 2=2008											0
Sample persons from sample not forwarded from last wave t-1 (excluded died or not eligible according to the tracing rules)											
											113
1+3+6+7+9+10	10121	0	0	14	7	4	0	0	0	0	10283
1+3+6+7+9+10+13	10121	0	0	14	7	4	0	0	0	0	10396
1+3+6+7+9+10+11	10479	0	0	15	7	4	0	0	0	0	10642

- Response rate for persons**

Wave response rate of sample persons = 0.984

Wave response rate of co-residents = 0.997

Longitudinal follow-up rate =0.974

R (RB250=21) = 0.000

R (RB250=23) = 0.001

R (RB250=31) = 0.001

R (RB250=32) = 0.000

R (RB250=33) = 0.000

achieved sample size ratio for sample persons = 0.961

achieved sample size ratio for sample persons and co-residents = 0.974

achieved sample size ratio for co-residents selected the first wave = 0.595

response rate for non-sample persons = 1.000

2.3.3.3. Distribution of households by ‘household status’ (DB110), by ‘record of contact at address’ (DB120), by ‘household questionnaire result’ (DB130) and by ‘household interview acceptance’ (DB135)

Table 26 Distribution of households by household status

	total	DB110=1	DB110=2	DB110=3	DB110=4	DB110=5	DB110=6	DB110=7	DB110=8	DB110=9	DB110=10	DB110=11
wave 1=2007												
RG1												
total	1530	0	0	0	0	0	0	0	0	1530	0	0
%	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0
wave 2=2008												
RG1												
total	1075	961	7	2	9	5	0	0	36	0	0	55
%	100.0	89.4	0.7	0.2	0.8	0.5	0.0	0.0	3.3	0.0	0.0	5.1
RG2												
total	2935	0	0	0	0	0	0	0	0	2935	0	0
%	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0
wave 3=2009												
RG1												
total	854	826	3	0	1	7	0	1	13	0	0	3
%	100.0	96.7	0.4	0.0	0.1	0.8	0.0	0.1	1.5	0.0	0.0	0.4
RG2												
total	1691	1655	8	1	2	11	0	0	9	0	0	5
%	100.0	97.9	0.5	0.1	0.1	0.7	0.0	0.0	0.5	0.0	0.0	0.3
RG3												
total	2915	0	0	0	0	0	0	0	0	2915	0	0
%	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0
wave 4=2010												
RG1												
total	831	803	6	3	3	11	0	0	4	0	1	0
%	100.0	96.6	0.7	0.4	0.4	1.3	0.0	0.0	0.5	0.0	0.1	0.0
RG2												
total	1631	1588	6	1	2	17	0	5	6	0	0	6
%	100.0	97.4	0.4	0.1	0.1	1.0	0.0	0.3	0.4	0.0	0.0	0.4
RG3												
total	2020	1974	8	1	5	21	0	1	5	0	0	5
%	100.0	97.7	0.4	0.0	0.2	1.0	0.0	0.0	0.2	0.0	0.0	0.2

Table 27 Distribution of households by contact at address

		total	DB120=11	DB120=21	DB120=22	DB120=23
wave 1=2007						
RG1	total	1530	1444	32	50	4
	%	100.0	94.4	2.1	3.3	0.3
wave 2=2008						
RG1	total	43	24	19	0	0
	%	100.0	55.8	44.2	0.0	0.0
RG2	total	2935	2711	28	183	13
	%	100.0	92.4	1.0	6.2	0.4
wave 3=2009						
RG1	total	16	16	0	0	0
	%	100.0	100.0	0.0	0.0	0.0
RG2	total	17	17	0	0	0
	%	100.0	100.0	0.0	0.0	0.0
RG3	total	2915	2767	23	118	7
	%	100.0	94.9	0.8	4.0	0.2
wave 4=2010						
RG1	total	10	10	0	0	0
	%	100.0	100.0	0.0	0.0	0.0
RG2	total	12	12	0	0	0
	%	100.0	100.0	0.0	0.0	0.0
RG3	total	13	12	0	0	1
	%	100.0	92.3	0.0	0.0	7.7

Table 28 Distribution of households by household questionnaire result

		total	DB130=11	DB130=21	DB130=22	DB130=23	DB130=24
wave 1=2007							
RG1	total	1444	1040	190	103	80	31
	%	100.0	72.0	13.2	7.1	5.5	2.1
wave 2=2008							
RG1	total	985	842	70	44	21	8.0
	%	100.0	85.5	7.1	4.5	2.1	0.8
RG2	total	2711	1683	414	308	154	152
	%	100.0	62.1	15.3	11.4	5.7	5.6
wave 3=2009							
RG1	total	842	826	5	3	2	6.0
	%	100.0	98.1	0.6	0.4	0.2	0.7
RG2	total	1672	1626	23	16	4.0	3
	%	100.0	97.2	1.4	1.0	0.2	0.2
RG3	total	2767	2016	363	255	84	49
	%	100.0	72.9	13.1	9.2	3.0	1.8
wave 4=2010							
RG1	total	813	803.0	6.0	3.0	0.0	1
	%	100.0	98.8	0.7	0.4	0.0	0.1
RG2	total	1600	1564.0	17	10	4	5
	%	100.0	97.8	1.1	0.6	0.3	0.3

RG3	total	1986	1931.0	23	24	2	6
	%	100.0	97.2	1.2	1.2	0.1	0.3

Table 29 Distribution of households by household interview acceptance

		total	DB135=1	DB135=2
wave 1=2007				
RG1	total	1040	1039	1
	%	100.0	99.9	0.1
wave 2=2008				
RG1	total	842	841	1
	%	100.0	99.9	0.1
RG2	total	1683	1682	1
	%	100.0	99.9	0.1
wave 3=2009				
RG1	total	826	826	0
	%	100.0	100.0	0.0
RG2	total	1626	1625	1
	%	100.0	99.9	0.1
RG4	total	2016	2015	1
	%	100.0	99.9	0.1
wave 4=2010				
RG1	total	803	803	0
	%	100.0	100.0	0.0
RG2	total	1564	1564	0
	%	100.0	99.9	0.0
RG4	total	1931	1931	0
	%	100.0	99.9	0.0

2.3.3.4. Distribution of persons for membership status (RB110)

Table 30 Distribution of persons by membership status

		total	Current household member				Not current household members		
			RB110=1	RB110=2	RB110=3	RB110=4	RB110=5	RB110=6	RB110=7
wave 1=2007									
RG1	total	3080	3080	0	0	0	0	0	0
	%	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0
wave 2 =2008									
RG1	total	2698	2405	25	111	19	104	34	0
	%	100.0	89.1	0.9	4.1	0.7	3.9	1.3	0.0
RG2	total	4259	4259	0	0	0	0	0	0
	%	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0
wave 3=2009									
RG1	total	2654	2430	32	98	15	54	25	0
	%	100.0	91.6	1.2	3.7	0.6	2.0	0.9	0.0
RG2	total	4211	4016	23	77	11	45	38	1

	%	100.0	95.3	0.5	1.8	0.3	1.1	0.9	0.0
RG3	total	5172	5172	0	0	0	0	0	0
	%	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0
wave 4=2010									
RG1	total	2587	2465	5	43	17	31	26	0
	%	100.0	95.3	0.2	1.7	0.7	1.2	1.0	0.0
RG2	total	4081	3896	9	74	16	43	43	0
	%	100.0	95.5	0.2	1.8	0.4	1.1	1.1	0.0
RG3	total	5063	4900	6	56	9	27	65	0
	%	100.0	96.8	0.1	1.1	0.2	0.5	1.3	0.0

Table 31 Distribution of persons moving out by variable RB120

	total	RB110 = 5				
		RB120 = 1		RB120 = 2	RB120 = 3	RB120 = 4
		this person is a current household member of a household this wave	this person is not a current household member			

wave 2=2008

RG1	total	104	59	1	44	0
	%	100.0	56.7	1.0	42.3	0.0

wave 3 =2009

RG1	total	54	38	0	16	0
	%	100.0	70.4	0.0	29.6	0.0
RG2	total	45	32	1	7	5
	%	100.0	71.1	2.2	15.6	11.1

wave 4=2010

RG1	total	31	6	0	12	13
	%	100	19.4	0.0	38.7	41.9
RG2	total	43	16	3	15	9
	%	100	37.2	7.0	34.9	20.9
RG4	total	27	7	3	11	6
	%	100	25.9	11.1	40.7	22.2

2.3.3.5. Item non-response

Table 32 Information on item non-response on household level - households 2007, longitudinal component 2007

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)	1036	100	414	40.0	591	57.0	31	3.0
Total disposable household income (HY020)	1036	100	414	40.0	619	59.7	3	0.3
Total disposable household income before social transfers except old-age and survivor's benefits (HY022)	1025	96.9	358	34.9	661	64.5	6	0.6
Total disposable household income before social transfers including old-age and survivor's benefit (HY023)	993	93.9	196	19.7	550	55.4	247	24.9
Net income components at household level								
Income from rental of a property or land (HY040N)	141	13.6	141	100				
Family related allowances (HY050N)	209	20.1	209	100				
Social exclusion not elsewhere classified (HY060N)	169	16.3	169	100				
Housing allowance (HY070N)	0							
Regular inter-household cash transfer received (HY080N)	102	9.8	102	100				
Interests, dividends, etc. (HY090N)	5	0.5	5	100				
Interest repayments on mortgage (HY100N)	21	2	21	100				
Income received by people aged < 16 (HY110N)	1	0.1	1	100				
Taxes on wealth (HY120N)	860	82.8	860	100				
Regular inter-household cash transfer paid (HY130N)	60	5.8	60	100				
Tax on income and social contributions (HY140N)	588	56.6	588	100				
Gross income components at household level								
Income from rental of a property or land (HY040G)	141	13.6	141	100				
Family related allowances (HY050G)	209	20.1	209	100				
Social exclusion not elsewhere classified (HY060G)	169	16.3	169	100				
Housing allowance (HY070G)	0							
Regular inter-household cash transfer received (HY080G)	102	9.8	102	100				
Interests, dividends, etc. (HY090G)	5	0.5	5	100				
Interest repayments on mortgage (HY100G)	21	2	21	100				
Income received by people aged < 16 (HY110G)	1	0.1	1	100				
Taxes on wealth (HY120G)	860	82.8	860	100				
Regular inter-household cash transfer paid (HY130G)	60	5.8	60	100				
Tax on income and social contributions (HY140G)	588	56.6	588	100				

Table 33 Information on item non-response on household level - households 2008, longitudinal component 2008

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)	2521	99.9	440	17.5	2013	79.8	68	2.7
Total disposable household income (HY020)	2521	99.9	98	3.9	2422	96.1	1	0.0
Total disposable household income before social transfers except old-age and survivor's benefits (HY022)	2499	99.0	885	35.4	1611	64.5	3	0.1
Total disposable household income before social transfers including old-age and survivor's benefit (HY023)	2395	94.9	782	32.7	1610	67.2	3	0.1
Net income components at household level								
Income from rental of a property or land (HY040N)	333	13.2	326	97.9	3	0.9	4	1.2
Family related allowances (HY050N)	447	17.7	418	93.5	29	6.5		
Social exclusion not elsewhere classified (HY060N)	262	10.4	253	96.6	9	3.4		
Housing allowance (HY070)	2	0.1	2	100				
Regular inter-household cash transfer received (HY080)	356	14.1	356	100				
Interests, dividends, etc. (HY090N)	9	0.4	9	100				
Interest repayments on mortgage (HY100N)	186	7.4	186	100				
Income received by people aged < 16 (HY110)	28	1.1	28	100				
Taxes on wealth (HY120N)	1953	77.4	1953	100				
Regular inter-household cash transfer paid (HY130N)	435	17.2	435	100				
Tax on income and social contributions (HY140N)	1380	54.7	26	1.9	1346	97.5	8	0.6
Gross income components at household level								
Income from rental of a property or land (HY040G)	333	13.2	324	97.3	1	0.3	8	2.4
Family related allowances (HY050G)	447	17.7	418	93.5	29	6.5		
Social exclusion not elsewhere classified (HY060G)	262	10.4	253	96.6	9	3.4		
Housing allowance (HY070G)	2	0.1	2	100				
Regular inter-household cash transfer received (HY080G)	356	14.1	356	100				
Interests, dividends, etc. (HY090G)	9	0.4	9	100				
Interest repayments on mortgage (HY100G)	186	7.4	186	100				
Income received by people aged < 16 (HY110G)	28	1.1	28	100				
Taxes on wealth (HY120G)	1953	77.4	1953	100				
Regular inter-household cash transfer paid (HY130G)	435	17.2	435	100				
Tax on income and social contributions (HY140G)	1380	54.7	26	1.9	1346	97.5	8	0.6

Table 34 Information on item non-response on household level - households 2009, longitudinal component 2009

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)	4457	99.8	1326	29.8	2995	67.2	136	3.1
Total disposable household income (HY020)	4462	99.9	1273	28.5	3027	67.8	162	3.6
Total disposable household income before social transfers except old-age and survivor's benefits (HY022)	4437	99.4	1514	34.1	2808	63.3	115	2.6
Total disposable household income before social transfers including old-age and survivor's benefit (HY023)	4224	94.6	2003	47.4	2059	48.7	162	3.8
Net income components at household level								
Income from rental of a property or land (HY040N)	346	7.7	317	91.6	28	8.1	1	0.3
Family related allowances (HY050N)	735	16.5	734	99.9			1	0.1
Social exclusion not elsewhere classified (HY060N)	375	8.4	190	50.7	184	49.1	1	0.3
Housing allowance (HY070N)	2	0.0	2	100.0				
Regular inter-household cash transfer received (HY080N)	586	13.1	540	92.2	3	0.5	43	7.3
Interests, dividends, etc. (HY090N)	12	0.3	12	100.0				
Interest repayments on mortgage (HY100N)	283	6.3	283	100.0				
Income received by people aged < 16 (HY110)	43	1.0	43	100.0				
Taxes on wealth (HY120N)	3370	75.5	3350	99.4			20	0.6
Regular inter-household cash transfer paid (HY130N)	682	15.3	678	99.4	4	0.6		
Tax on income and social contributions (HY140N)	2600	58.2	916	35.2	1211	46.6	473	18.2
Gross income components at household level								
Income from rental of a property or land (HY040G)	346	7.7	346	100.0				
Family related allowances (HY050G)	735	16.5	735	100.0				
Social exclusion not elsewhere classified (HY060G)	375	8.4	190	50.7	184	49.1	1	0.3
Housing allowance (HY070G)	2	0.0	2	100.0				
Regular inter-household cash transfer received (HY080G)	586	13.1	540	92.2	3	0.5	43	7.3
Interests, dividends, etc. (HY090G)	12	0.3	12	100.0				
Interest repayments on mortgage (HY100G)	283	6.3	283	100.0				
Income received by people aged < 16 (HY110G)	43	1.0	43	100.0				
Taxes on wealth (HY120G)	3370	75.5	3350	99.4			20	0.6
Regular inter-household cash transfer paid (HY130G)	682	15.3	678	99.4	4	0.6		
Tax on income and social contributions (HY140G)	2600	58.2	916	35.2	1211	46.6	473	18.2

Table 35 Information on item non-response on household level - households 2010, longitudinal component 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)	4297	100.0	1223	28.5	3019	70.3	55	1.3
Total disposable household income (HY020)	4298	100.0	1221	28.4	3072	71.5	5	0.1
Total disposable household income before social transfers except old-age and survivor's benefits (HY022)	4282	99.6	1702	39.7	2566	59.9	14	0.3
Total disposable household income before social transfers including old-age and survivor's benefit (HY023)	4095	95.3	2595	63.4	1484	36.2	16	0.4
Net income components at household level								
Income from rental of a property or land (HY040N)	684	15.9	680	99.4	4	0.6		
Family related allowances (HY050N)	742	17.3	697	93.9	26	3.5	19	2.6
Social exclusion not elsewhere classified (HY060N)	345	8.0	345	100.0				
Housing allowance (HY070)	2	0.0	2	100.0				
Regular inter-household cash transfer received (HY080)	489	11.4	489	100.0				
Alimonies received (HY081N)	53	1.2	53	100.0				
Interests, dividends, etc. (HY090N)	10	0.2	10	100.0				
Interest repayments on mortgage (HY100N)	185	4.3	185	100.0				
Income received by people aged < 16 (HY110)	32	0.7	32	100.0				
Taxes on wealth (HY120N)	3218	74.9	3218	100.0				
Regular inter-household cash transfer paid (HY130N)	627	14.6	620	98.9	3	0.5	4	0.6
Alimonies paid (HY131N)	21	0.5	21	100.0				
Tax on income and social contributions (HY140N)	2744	63.8	2063	75.2	325	11.8	356	13.0
Value of goods produced by own-consumption (HY170N)	1534	35.7	1534	100				
Gross income components at household level								
Income from rental of a property or land (HY040G)	684	15.9	681	99.6	3	0.4		
Family related allowances (HY050G)	742	17.3	697	93.9	26	3.5	19	2.6
Social exclusion not elsewhere classified (HY060G)	345	8.0	345	100.0				
Housing allowance (HY070G)	2	0.0	2	100.0				
Regular inter-household cash transfer received (HY080G)	489	11.4	489	100.0				
Alimonies received (HY081N)	53	1.2	53	100.0				
Interests, dividends, etc. (HY090G)	10	0.2	10	100.0				
Interest repayments on mortgage (HY100G)	185	4.3	185	100.0				
Income received by people aged < 16 (HY110G)	32	0.7	32	100.0				
Taxes on wealth (HY120G)	3218	74.9	3218	100.0				
Regular inter-household cash transfer paid (HY130G)	627	14.6	620	98.9	3	0.5	4	0.6
Alimonies paid (HY131G)	21	0.5	21	100.0				
Tax on income and social contributions (HY140G)	2744	63.8	2063	75.2	325	11.8	356	13.0
Value of goods produced by own-consumption (HY170G)	1534	35.7	1534	100				

Table 36 Information on item non-response on individual level - persons 2007, longitudinal component 2007

Item non-response	persons having received an amount		Full information		Partial information		Missing information	
	total	%	total	%	total	%	total	%
Net income component at personal level								
Employee cash or near cash income (PY010N)	1052	41.5	576	54.8	397	37.7	79	7.5
Net non-cash employee income (PY020N)	189	7.5	189	100				
Contribution to individual private pension plans (PY035N)	42	1.7	42	100				
Cash benefits or losses from self-employment (PY050N)	357	14.1	290	81.2	54	15.1	13	3.6
Value of goods produced by own-consumption (PY070N)	0							
Pension from individual private plans (PY080N)	0							
Unemployment benefits (PY090N)	17	0.7	17	100				
Old age benefits (PY100N)	819	32.3	819	100				
Survivor's benefits (PY110N)	18	0.7	18	100				
Sickness benefits (PY120N)	19	0.7	19	100				
Disability benefits (PY130N)	108	4.3	108	100				
Education-related allowances (PY140N)	2	0.1	2	100				
Gross income components at personal level								
Employee cash or near cash income (PY010G)	1052	41.5	450	42.8	524	49.8	78	7.4
Net non-cash employee income (PY020G)	189	7.5	189	100				
Contribution to individual private pension plans (PY035G)	42	1.7	42	100				
Cash benefits or losses from self-employment (PY050G)	357	14.1	295	82.6	32	9.0	30	8.4
Value of goods produced by own-consumption (PY070G)	0							
Pension from individual private plans (PY080G)	0							
Unemployment benefits (PY090G)	17	0.7	17	100				
Old age benefits (PY100G)	819	32.3	819	100				
Survivor's benefits (PY110G)	18	0.7	18	100				
Sickness benefits (PY120G)	19	0.7	19	100				
Disability benefits (PY130G)	108	4.3	108	100				
Education-related allowances (PY140G)	2	0.1	2	100				

Table 37 Information on item non-response on individual level - persons 2008, longitudinal component 2008

Item non-response	persons having received an amount		Full information		Partial information		Missing information	
	total	%	total	%	total	%	total	%
Net income component at personal level								
Employee cash or near cash income (PY010N)	2957	50.6	1939	65.6	419	14.2	599	20.3
Net non-cash employee income (PY020N)	408	7.0	408	100				
Contribution to individual private pension plans (PY035N)	165	2.8	165	100				
Cash benefits or losses from self-employment (PY050N)	485	8.3	391	80.6	41	8.5	53	10.9
Value of goods produced by own-consumption (PY070N)	0							
Pension from individual private plans (PY080N)	2	0.0	2	100.0				
Unemployment benefits (PY090N)	43	0.7	43	100.0				
Old age benefits (PY100N)	2036	34.8	1901	93.4	130	6.4	5	0.2
Survivor's benefits (PY110N)	607	10.4	607	100.0				
Sickness benefits (PY120N)	34	0.6	34	100				
Disability benefits (PY130N)	467	8.0	29	6.2	262	56.1	176	37.7
Education-related allowances (PY140N)	41	0.7	41	100				
Gross income components at personal level								
Employee cash or near cash income (PY010G)	2957	50.6	1614	54.6	412	13.9	931	31.5
Net non-cash employee income (PY020G)	408	7.0	408	100				
Contribution to individual private pension plans (PY035G)	165	2.8	165	100				
Cash benefits or losses from self-employment (PY050G)	485	8.3	378	77.9	53	10.9	54	11.1
Value of goods produced by own-consumption (PY070G)	0							
Pension from individual private plans (PY080G)	2	0.0	2	100.0				
Unemployment benefits (PY090G)	43	0.7	43	100.0				
Old age benefits (PY100G)	2036	34.8	1901	93.4	130	6.4	5	0.2
Survivor's benefits (PY110G)	607	10.4	607	100.0				
Sickness benefits (PY120G)	34	0.6	34	100				
Disability benefits (PY130G)	467	8.0	29	6.2	262	56.1	176	37.7
Education-related allowances (PY140G)	41	0.7	41	100				

Table 38 Information on item non-response on individual level - persons 2009, longitudinal component 2009

Item non-response	persons having received an amount		Full information		Partial information		Missing information	
	total	%	total	%	total	%	total	%
Net income component at personal level								
Employee cash or near cash income (PY010N)	4762	45.9	2286	48.0	1581	33.2	895	18.8
Net non-cash employee income (PY020N)	758	7.3	406	53.6			352	46.4
Contribution to individual private pension plans (PY035N)	261	2.5	261	100				
Cash benefits or losses from self-employment (PY050N)	592	5.7	429	72.5	50	8.4	113	19.1
Value of goods produced by own-consumption (PY070N)	0							
Pension from individual private plans (PY080N)	1	0.0	1	100.0				
Unemployment benefits (PY090N)	150	1.4	92	61.3	9	6.0	49	32.7
Old age benefits (PY100N)	3367	32.4	3351	99.5	1	0.0	15	0.4
Survivor's benefits (PY110N)	136	1.3	120	88.2			16	11.8
Sickness benefits (PY120N)	646	6.2	633	98.0	6	0.9	7	1.1
Disability benefits (PY130N)	788	7.6	672	85.3	1	0.1	115	14.6
Education-related allowances (PY140N)	57	0.5	56	98.2			1	1.8
Gross income components at personal level								
Employee cash or near cash income (PY010G)	4763	45.9	1623	34.1	1719	36.1	1421	29.8
Net non-cash employee income (PY020G)	758	7.3	406	53.6			352	46.4
Contribution to individual private pension plans (PY035G)	261	2.5	261	100.0				
Cash benefits or losses from self-employment (PY050G)	592	5.7	423	71.5	42	7.1	127	21.5
Value of goods produced by own-consumption (PY070G)	0							
Pension from individual private plans (PY080G)	1	0.0	1	100.0				
Unemployment benefits (PY090G)	150	1.4	90	60.0	11	7.3	49	32.7
Old age benefits (PY100G)	3367	32.4	3351	99.5	1	0.0	15	0.4
Survivor's benefits (PY110G)	136	1.3	120	88.2			16	11.8
Sickness benefits (PY120G)	646	6.2	633	98.0	6	0.9	7	1.1
Disability benefits (PY130G)	788	7.6	672	85.3	1	0.1	115	14.6
Education-related allowances (PY140G)	57	0.5	56	98.2			1	1.8

Table 39 Information on item non-response on individual level - persons 2010, longitudinal component 2010

Item non-response	persons having received an amount		Full information		Partial information		Missing information	
	total	%	total	%	total	%	total	%
Net income component at personal level								
Employee cash or near cash income (PY010N)	5144	50.8	3569	69.4	831	16.2	744	14.5
Net non-cash employee income (PY020N)	648	6.4	648	100.0				
Contribution to individual private pension plans (PY035N)	237	2.3	234	98.7			3	1.3
Cash benefits or losses from self-employment (PY050N)	613	6.1	455	74.2	19	3.1	139	22.7
Pension from individual private plans (PY080N)	29	0.3	29	100.0				
Unemployment benefits (PY090N)	463	4.6	157	33.9			306	66.1
Old age benefits (PY100N)	3443	34.0	1579	45.9	1711	49.7	153	4.4
Survivor's benefits (PY110N)	80	0.8	80	100.0				
Sickness benefits (PY120N)	960	9.5	31	3.2	6	0.6	923	96.1
Disability benefits (PY130N)	916	9.0	326	35.6	241	26.3	349	38.1
Education-related allowances (PY140N)	61	0.6	61	100.0				
Gross income components at personal level								
Employee cash or near cash income (PY010G)	5148	50.8	3280	63.7	918	17.8	950	18.5
Net non-cash employee income (PY020G)	648	6.4	648	100.0				
Contribution to individual private pension plans (PY035G)	237	2.3	234	98.7			3	1.3
Cash benefits or losses from self-employment (PY050G)	613	6.1	425	69.3	26	4.2	162	26.4
Pension from individual private plans (PY080G)	29	0.3	29	100.0				
Unemployment benefits (PY090G)	463	4.6	157	33.9			306	66.1
Old age benefits (PY100G)	3443	34.0	1579	45.9	1711	49.7	153	4.4
Survivor's benefits (PY110G)	80	0.8	80	100.0				
Sickness benefits (PY120G)	960	9.5	31	3.2	6	0.6	923	96.1
Disability benefits (PY130G)	916	9.0	326	35.6	241	26.3	349	38.1
Education-related allowances (PY140G)	61	0.6	61	100.0				

2.4. Mode of data collection

Table 40. Distribution of household members (RB245=1) by “Data status” (RB250)

Wave 1 = 2007

Household members 16+

	Total	RB250=11	RB250=21	RB250=23	RB250=31	RB250=32	RB250=33
total	2612	2535	0	4	26	23	24
%	100.0	97.1	0.0	0.2	1.0	0.9	0.9

Wave 2 = 2008

Household members 16+

	Total	RB250=11	RB250=21	RB250=23	RB250=31	RB250=32	RB250=33
total	5894	5846	2	21	20	3	2
%	100.0	99.2	0.0	0.4	0.3	0.1	0.0

Sample persons 16+ (RB100=1)

	Total	RB250=11	RB250=21	RB250=23	RB250=31	RB250=32	RB250=33
total	5813	5766	2	21	19	3	2
%	100.0	99.2	0.0	0.4	0.3	0.1	0.0

Co-residents 16+ (RB100=2)

	Total	RB250=11	RB250=21	RB250=23	RB250=31	RB250=32	RB250=33
total	81	80	0	0	1	0	0
%	100.0	98.8	0.0	0.0	1.2	0.0	0.0

Wave 3 = 2009

Household members 16+

	Total	RB250=11	RB250=21	RB250=23	RB250=31	RB250=32	RB250=33
total	10417	10379	0	15	19	1	3
%	100.0	99.6	0.0	0.1	0.2	0.0	0.0

Sample persons 16+ (RB100=1)

	Total	RB250=11	RB250=21	RB250=23	RB250=31	RB250=32	RB250=33
total	10204	10166	0	15	19	1	3
%	100.0	99.6	0.0	0.1	0.2	0.0	0.0

Co-residents 16+ (RB100=2)

	Total	RB250=11	RB250=21	RB250=23	RB250=31	RB250=32	RB250=33
total	213	213	0	0	0	0	0
%	100.0	100.0	0.0	0.0	0.0	0.0	0.0

Wave 4 = 2010

Household members 16+

	Total	RB250=11	RB250=14	RB250=21	RB250=23	RB250=31	RB250=32	RB250=33
total	10152	10123	3	0	15	7	4	0
%	100.0	99.7	0.0	0.0	0.1	0.1	0.0	0.0

Sample persons 16+ (RB100=1)

	Total	RB250=11	RB250=14	RB250=21	RB250=23	RB250=31	RB250=32	RB250=33
total	9793	9765	3	0	14	7	4	0
%	100.0	99.7	0.0	0.0	0.1	0.1	0.0	0.0

Co-residents 16+ (RB100=2)

	Total	RB250=11	RB250=14	RB250=21	RB250=23	RB250=31	RB250=32	RB250=33
total	359	358	0	0	1	0	0	0
%	100.0	99.7	0.0	0.0	0.3	0.0	0.0	0.0

Table 41. Distribution of household members (RB245=1) by “Type of interview” (RB260)

Wave 1 = 2007

Household members 16+ (RB250=11)

	Total	RB260=1	RB260=5	missing
total	2535	1809	726	
%	100.0	71.4	28.6	

Wave 2 = 2008

Household members 16+ (RB250=11)

	Total	RB260=1	RB260=5	missing
total	5846	4719	1127	
%	100.0	80.7	19.3	

Sample persons 16+ (RB100=1 and RB250=11)

	Total	RB260=1	RB260=5	missing
total	5766	4657	1109	
%	100.0	80.8	19.2	

Co-residents 16+ (RB100=2 and RB250=11)

	Total	RB260=1	RB260=5	missing
total	80	62	18	
%	100.0	77.5	22.5	

Wave 3 = 2009

Household members 16+ (RB250=11)

	Total	RB260=1	RB260=5	missing
total	10379	8471	1908	
%	100.0	81.6	18.4	

Sample persons 16+ (RB100=1 and RB250=11)

	Total	RB260=1	RB260=5	missing
total	10166	8328	1838	
%	100.0	81.9	18.1	

Co-residents 16+ (RB100=2 and RB250=11)

	Total	RB260=1	RB260=5	missing
total	213	143	70	
%	100.0	67.1	32.9	

Wave 4 = 2010

Household members 16+ (RB250=11)

	Total	RB260=1	RB260=5	missing
total	10123	8050	2073	
%	100.0	79.5	20.5	

Sample persons 16+ (RB100=1 and RB250=11)

	Total	RB260=1	RB260=5	missing
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total	9765	7792	1973	
%	100.0	79.8	20.2	

Co-residents 16+ (RB100=2 and RB250=11)

	Total	RB260=1	RB260=5	missing
total	358	258	100	
%	100.0	72.1	27.9	

2.5. Imputation procedure

From many methods (deductive, deterministic, stochastic), which were recommended for imputation of income variables, we used the method of regression deterministic imputation.

For imputation of income variables in personal data file the following groups were created:

- Region (NUTS 2)
- Age
- Sex
- Status in employment
- Occupation

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 according to labour and social insurance legislations. In some cases where only net income amounts were available these had to be converted to gross values using all necessary information.

The imputation procedure used for solution of item non-response is the following:

Extreme income values and missing 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.

2.6. Imputed rent

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.

Stratification method based on actual rents is used (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

2.7. Company car

The information on the private use of a company car is collected in the individual questionnaire. Here belongs the respondent's estimated amount he/she has gained by using the company car for private purposes. In case of missing value (the respondent was using the company car but did not estimate the amount gained) imputation is applied with the use of hot-deck and regression imputation with simulated residuals methods.

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

No difference to the common definition in either wave (EU-SILC 2007, 2008, 2009 and 2010).

The household membership

No differences.

The income reference period(s) used

The income reference period is a fixed twelve-month period, namely the previous calendar year. The income reference period for EU-SILC 2007 was 2006, EU-SILC 2008 was 2007, EU-SILC 2009 was 2008 year and for EU-SILC 2010 the income reference period was 2009 year.

The period for taxes on income and social insurance contributions

The reference period for income tax repayment and compulsory social insurance contributions was again the years 2006, 2007, 2008 and 2009.

The reference period for taxes on wealth

Taxes on wealth paid during the income reference period were recorded properly for 2006, 2007, 2008 and 2009 year.

The lag between the income reference period and current variables

The income reference period is the previous calendar year and the current variables refer to the fieldwork period. Therefore the lag is at minimum 4 months and at maximum 8 months in each wave.

The total duration of the data collection of the sample

EU-SILC was performed on the territory of the whole country as follows:

2007 - between May 4 and August 29.

2008 - between April 1 and July 31;

2009 - between April 21 and July 10;

2010 – between May 11 and July 31.

Basic information on activity status during the income reference period

There are no differences between the national concepts and standard EU-SILC concepts. This information can be obtained by combining the answer for question P6 (PL031) with the answer for question P42 (calendar question), (PL211A—PL211K)

3.2. Components of income

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

The differences between the national definitions and standard EU-SILC definitions are as follows:

In the first wave In accordance with EU-SILC 065 (2008 operation) the new income components, mandatory from 2007 operation onwards:

- PY020G - non-cash employee income;
- PY030G – employer’s social insurance contribution;
- PY035G – contributions to individual pension plans;
- PY080G – pension from individual private plans
- HY030G - imputed rent;
- HY100G - interest repayments on mortgage;

have been recorded at component level only and are not included in the household income (variables: HY010, HY020, HY022 and HY023).

Since 2007, the revenue from the use of a company car for private purposes (PY021) is added as a component of the aggregate income

Since 2008 there are no differences between national definition and standard EU-SILC definition.

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 (2008, 2009 and 2010 operation). All personal/household income variables were collected through 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 more over, 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 forms 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 prepayments and compulsory social insurance contributions. If the information on tax and insurance contributions was missing, the amounts were imputed in accordance to 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.

Variable PY070 Value of goods produced by own-consumption, which is defined at the level of individual household members, is collected at the household level and later assigned to the head of the household. This is due to the difficult attribution of this income in kind to individual household members (includes mainly small scale farming activities for own-consumption or own-consumption from family businesses).

3.3. Tracing rules

Standard EU-SILC tracing rules are applied.

4. COHERENCE

Coherence refers to the comparison of target variables with external sources. At present there are no reliable external data for the four-year longitudinal sample.

However, cross-sectional data for EU-SILC 2008, 2009 and 2010 were compared to the Household budget survey and Labor force survey. These comparisons can be found in the Bulgarian intermediate quality reports of the years 2008, 2009 and 2010.