EU-SILC 2008 Operation

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1. Common longitudinal EU indicators based on the longitudinal component of EU-SILC

Persistent-at-risk-of-poverty rate, by gender and selected age groups

The persistent-at-risk-of poverty rate by gender and age shows the percentage of the population (in each gender and age groups) living in households where the equivalised disposable income was below the at-risk-of-poverty threshold for the current year and at least 2 out of the preceding 3 years. The population consists of all the persons in the age-gender categories, which have been living for four years in private households and which have been in the panel for all the four relevant years.

Table 1 Persistent-at-risk-of poverty rate, by gender and selected age groups (by 50 % median)

Age	Gender	Rounded value
Total	total	2.6
	men	2.4
	women	2.7
0_17 years	total	4.3
18_64 years	total	2.5
	men	2.5
	women	2.5
65+ years	total	1.3
	men	0.9
	women	1.6

Longitudinal sample 2005-2008

Table 2 Persistent-at-risk-of poverty rate, by gender and selected age groups (by 60 % median)

Age	Gender	Rounded value
Total	total	6.0
	men	5.1
	women	6.8
0_17 years	total	9.1
18_64 years	total	5.3
	men	4.9
	women	5.7
65+ years	total	5.8
	men	2.5
	women	8.2

Longitudinal sample 2005-2008

2. Accuracy

2.1 Sampling design

2.1.1 Type of sampling

The survey was carried out on the whole territory of the Czech Republic. The sample size of newly selected dwelling (first wave in 2008) was 4 249 dwellings. Dwellings were selected using stratified two-stage sampling design. At the first sampling stage small geographical areas (CEUs - census enumeration units) were first sampled as primary sampling units with probability proportional to their size. In the second stage, 10 dwellings were sampled in each sampled CEU.

2.1.2 Sampling units

Census Enumeration Districts (CEUs) constitute the first-stage sampling units. CEUs are small geographical areas covering the whole territory of the country. They are used as enumeration districts during the census, but their use is more general. Continuously updated geographical register is maintained by the CZSO, where these units form the basic geographical layer, on which subsequent aggregations are based. This register is the base for an integrated hierarchical geographical information system and is the base for databases of regional indicators and statistical data.

For each CEU, a list of all buildings is maintained in the register. This list is updated from administrative data of the construction authorities (new buildings', flats' or commercial premises' acceptation protocols, demolitions' protocols). For each building, the number of dwelling units is recorded.

CEUs vary considerably in size measured in number of dwelling units in them. Before drawing of the first stage sample, the sampling frame of CEUs had to be adjusted in two ways:

- As noted above, CEUs have wider use than sampling of dwellings and there are CEUs not containing any buildings dwellings (like industrial areas, railway stations and the like). These CEUs, where the number of dwellings is zero, are dropped from the sampling frame.
- In order to enable incorporation of small census enumeration units into the sampling process (to reach the required full geographical coverage of the national territory), small CEUs (with less then 20 inhabited dwellings) were merged with adjacent CEUs and this larger merged CEU entered the first stage of sampling. Therefore, in some cases, the 10 dwellings sampled in the second stage belong to two, in exceptional cases even more, real administrative CEUs. The survey design variable DB060 (PSU) is later coded according to this adjusted structure of the sampling frame, to keep the dwellings together as they were actually sampled.

In the second stage, 10 dwellings were sampled in each sampled CEU. CZSO's regional fieldwork units (each covering one of the 14 NUTS3 administrative regions) received the list of selected dwellings (address + identification number of the flat in buildings with more than one flat). Before the actual fieldwork, the regional fieldwork units' staff carried out identification of the selected dwellings and filled in the contact names on the list of selected dwellings for interviewers.

The ultimate sampling unit was the dwelling, i.e. all persons with usual residence in that dwelling (their only place of residence or their main place of residence, according to the EU-SILC definition) were included in the survey. This includes also foreign nationals and subtenants living in the selected dwelling.

The household definition is based on the sharing of expenditures concept, in line with the definition of Paragraph 115 of the national Civil Code – based on the declaration of the persons in sampled dwelling unit that they permanently live together and finance together expenditures to cover their needs.

2.1.3 Stratification criteria

The sampling of CEUs is stratified by region (NUTS4) and municipality size with following four categories:

- below 2 000 inhabitants
- 2 000 – 9 999 inhabitants
- 10 000 – 49 999 inhabitants
- 50 000 and more inhabitants

2.1.4 Sample size and allocation criteria

The total sample size was 14 134 dwellings (14 289 households) from which 4 249 addresses were newly selected and 9 646 dwellings (9 764 households) were revisited from previous waves. The new sample was allocated to the strata using proportional algorithm (proportionally to the number of dwellings in the sampling frame).

2.1.5 Sample selection schemes

In the first stage, CEUs were sampled with probability proportional to size (number of dwellings). Simple random sampling without replacement is used for sampling of constant number of 10 dwellings in each sampled CEU.

2.1.6 Sample distribution over time

Due to the limited duration of the fieldwork period, the survey was organized as a one-shot survey. The fieldwork started on the 23rd of February and ended on the 27th of April. Sample was not distributed into separate waves over the duration of the fieldwork.

2.1.7 Renewal of the sample: Rotational groups

The survey will in the long term use the integrated four-year rotational panel design. Since the 2005 operation was the first year of the survey, there was only one sample replication and no rotation was applied. The 2006 sample consists of two sample replications (household sampled in 2005 (second interviews) and households sampled in 2006 (first interviews)). The 2007 sample consists of three sample replications (household sampled in 2005 (third interviews), households sampled in 2006 (second interviews) and households sampled in 2007 (first interviews)). The 2008 sample consists of four sample replications (household sampled in 2005 (fourth interviews), household sampled in 2006 (third interviews), household sampled in 2007 (second interviews) and household newly sampled in 2008 (first interviews). The rotational scheme with four replications will be functional starting in 2009, when the households from the 2005 operation will be dropped from the sample.

	new in 2005			
2005	wave 1	new in 2006		
2006	wave 2	wave 1	new in 2007	
2007	wave 3	wave 2	wave 1	new in 2008
2008	wave 4	wave 3	wave 2	wave 1
Longitudinal sample:	2005 - 2008	2006 - 2008	2007 - 2008	

The sample rotation will be at the level of CEUs as primary sampling units (whole CEUs will be added to/dropped from the sample).

2.1.8 Weightings

2.1.8.1 Design factor

The sample was designed as a self-weighting sample. Design factor for all sampled dwellings is equal to 1.

2.1.8.2 Non-response adjustments

The original sample was designed as a self-weighting probability sample. However, non-ignorable level of non-response biased the structure of the sample of achieved interviews. For example, compared to the available demographic statistics and external data, the achieved average household size was significantly smaller. There was under-representation of the self-employed, of the unemployed as well as of persons living in larger cities. On the other hand, there was overrepresentation of persons in the retirement age and of persons living in family houses.

Due to the limited information on non-respondents of the first wave restricted only to the geographical information obtainable from the sampling frame, the possibilities for modelling using propensity to response models were quite limited. There was an option by second wave households to utilize information, which was obtained from previous SILC wave, and to adjust their previous year weights for attrition. In that case it would be difference between first and next wave weighting procedures. Experimental computations show that this method would entail excessive weights variability increase. Therefore, united calibration for all the waves was used as the method for correcting non-response.

The achieved sample was re-weighted using the integrated calibration technique (producing the same weights on household and personal level). This technique ensures that the weighted sample structure corresponds to a set of known external population characteristics. The calculations were implemented using the CALMAR software in SAS.

2.1.8.3 Adjustments to external data

The calibration was done for weight that was in cross-sectional file obtained. In longitudinal data files was calibration done for DB090 in case of 2008 data.

The following calibration variables were used:

- number of inhabited dwellings in each NUTS3 region, subdivided into family houses (detached and semi-detached houses) and flats, based on the 2001 Census continuously updated from administrative sources of construction authorities
- population characteristics in each NUTS 3 region:
    - population totals from demographic statistics
    - economic activity characteristics in each NUTS3 region:
        - number of pensioners (excl. orphans benefits), based on the administrative data from social security administration
        - number of unemployed (registered unemployed from administrative source of the Ministry of Labour and Social Affairs, corrected for unregistered unemployment using the Labour Force Survey data)
        - number of self-employed (estimate based on the Labour Force Survey)
        - number of children aged 0-15 (from demographic statistics)
- population characteristics at the national level (based on the demographic statistics):
    - age groups (0-15, 16-24, 25-34, 35-44, 45-54, 55-64, 65+)
    - gender at the national level
    - municipality size at the national level (below 2 000 inhabitants, 2 000 - 9 999, 10 000 - 49 999, 50 000+ inhabitants)

Since the target population of the survey were persons living in private households, the demographic statistics aggregate data were adjusted by subtracting institutionalised population (from social security administrative data) and persons in prisons.

2.1.8.4 Final longitudinal weights

In the first wave, the longitudinal base weights (RB060) are identical to the cross-sectional weights.

2.1.8.5 Non-response adjustments

For first wave is the situation same as in case the cross-sectional files. Due to panel data non-response adjustment was feasible for second survey year and personal base weights (RB062) was adjusted to compensate the lost o the sample due to the attrition.

2.1.8.6 Adjustments to external data

The longitudinal weight RB062 was derived from RB060. Because the sum of RB062 weights should be equal the size of the longitudinal population of individuals in scope for the two last waves, the weights was multiplied by ratio of longitudinal and cross-sectional population. The longitudinal population 2005-2008 differs from 2005, 2006, 2007 population for died and moved abroad people. The sources are same as in 2.1.8.3.

2.1.8.7 Final longitudinal weights

No further adjustments were applied to longitudinal weights apart from the methods described in the previous sections.

2.1.8.8 Final cross-sectional weights

Final household cross-sectional weight was result of Calmar calibration.

	N	Minimum	Maximum	Mean	Std. Dev.
Weights DB090	11 294	100	2 875	361.42	188.296

The number of cross-sectional weights (number of DB090 > 0 is 11 313) differs from the number of successfully interviewed households by 19. There can be more than one household in the dwelling and in these cases occurred that one of the households in the dwelling refused the interview, was unable to respond, moved or the households have merged while at least one of the households in the dwelling was successfully interviewed. Since the calibration is performed at the dwelling level, these households get also non-zero weight. Nevertheless the number of successfully interviewed households is 11 294.

2.1.9 Substitutions

Substitutions were not used.

2.2 Sampling errors

Mean, number of observations and standard errors:
Imputation on household level means imputed income just for some household members.

Table 3 For income components 2008 (cross-sectional)

Income components	Mean	Number of observations		Standard error
		Before imputation	After imputation	
Total household gross income (HY010)	383581	11294	11294	4924
Total disposable household income (HY020)	316380	11294		3451
Total disposable household income before social transfers other than old-age and survivor's benefits (HY022)	286074	11294	11294	3441
Total disposable household income before social transfers including old-age and survivor's benefits (HY023)	229224	11294	11294	3757
Net income components at household level				
Income from rental of a property or land (HY040N)	45876	470	470	14906
Family/Children related allowances (HY050N)	39786	2735	2735	984
Social exclusion not elsewhere classified (HY060N)	31939	227	227	2507
Housing allowances (HY070N)	12977	267	267	857
Regular inter-household cash transfer received (HY080N)	29692	922	922	826
Regular inter-household cash transfer paid (HY130N)	26898	868	868	1498
Gross income components at household level				
Income from rental of a property or land (HY040G)	53972	470	470	17537
Interest, dividends, profit from capital investments in unincorporated business (HY090G)	24468	1655	1655	5070
Net income components at personal level				
Employee cash or near cash income (PY010N)	169743	11022	11022	1215
Contributions to individual private pension plans (PY035N)	5912	9088	9088	130
Value of goods produced for own consumption (PY070N)	7296	4944	4944	195
Pension from individual private plans (PY080N)	29873	120	120	5570
Unemployment benefits (PY090N)	22185	487	487	1262
Old-age benefits (PY100N)	102207	6876	6876	318
Survivor' benefits (PY110N)	26839	2105	2105	524
Sickness benefits (PY120N)	20508	1820	1820	747
Disability benefits (PY130N)	82221	1840	1840	1009
Education-related allowances (PY140N)	9327	188	188	1470
Gross income components at personal level				
Employee cash or near cash income (PY010G)	221339	11022	11022	1777
Cash benefits or losses from self-employment (PY050G)	264372	1680	1680	13606

Cross-sectional sample 2008

2.3 Non-sampling errors

2.3.1 Sampling frame and coverage errors

Sampling frame covers existing buildings with the information on number of dwelling units in each building (see part on sampling units for description of the register of CEUs).

Out of the 4 249 newly sampled dwelling unit records (in the first wave), 384 were found to be ineligible for the survey (9.0 %). Fieldwork staff undertaking pre-fieldwork identification of sampled dwelling units and interviewers must declare clear confirmation of the fact, that the dwelling unit was not located.

2.3.2 Measurement and processing errors

Development of the questionnaires

Data collection had the form of an interview and interviewers filled in the answers into paper questionnaires (PAPI data collection) and newly into electronic questionnaires (CAPI data collection).

The survey was conducted using paper questionnaires designed for OCR technology data capture (scanning). The first SILC questionnaires were developed in 2004. The inputs for designing the questionnaires were the questionnaires from Microcensus surveys (national income survey), the harmonised description of EU-SILC target variables (technical document SILC 065) and the blueprint questionnaire in English used for previous SILC pilots in old Member States. Basic questionnaire structure follows the practice already well established in the Microcensus, with three main forms: dwelling unit questionnaire with household membership rooster, household questionnaire and personal questionnaire. The questionnaires were first tested in pilot survey of 600 randomly sampled households (Spring 2004). The pilot project involved 14 future regional co-ordinators of the survey and small group of experienced interviewers (2-3 per region). After this fieldwork test, questionnaire was updated and partly re-designed, with active involvement of the regional staff and the participating interviewers. Together with the questionnaires, detailed interviewers guidelines were developed with binding instructions to all questions.

The survey was conducted using electronic questionnaires with the assistance of programmatic system BLAISE. It is developed Statistics Netherlands and it is standard for questionnaire survey. Since 2008 will be a gradual transition to CAPI data collection. The electronic questionnaires were first tested in pilot survey of 412 randomly sampled households (November 2007). There were used electronic questionnaire EU-SILC. The content of the survey was demographic and social characteristics, inter-household transfers, consumption from household own production, spending on dwelling, personal income, labour status and employment and health. After this fieldwork test, questionnaire was updated and partly re-designed, with active involvement of the regional staff and the participating interviewers.

The content of the survey was divided into four questionnaires with different units of reference:

Questionnaire A (dwelling unit questionnaire): contained the rooster with the list of all persons with usual residence in the selected dwelling, their basic demographic and social characteristics, information on sharing of expenses to determine household units and relationship of each person to the main user of the dwelling and to the head of household.

Questionnaire B (household questionnaire): filled in for each household, contained information on housing, childcare, financial situation of the household, consumer durables, inter-household transfers paid and received, consumption from household own production (i.e. small scale farming and similar activities), family social benefits, rental income and paid regular taxes on wealth (buildings and land).

Questionnaire BM (module questionnaire): contained the question about EU-SILC Module 2008 – Financial exclusion and over-indebtedness.

Questionnaire C (personal questionnaire): filled in by each household member aged 16+ as of 31 December 2007 (i.e. persons born in 1991 and earlier). This questionnaire contained information on labour status and employment, personal income, participation in private pension plans, health, education and selected biographical information.

Reference periods

- Age: 31 December 2007
- Other demographic variables: marital status, education: at the date of the interview
- Current employment variables (employment status, occupation): at the date of the interview
- Income data: calendar year 2007
- Housing, consumer durables, financial and social situation of household: at the date of the interview, unless the question specifically refers to some other reference period

Interviewers

The survey participate 814 interviewers on the whole. The survey by force of paper questionnaire (PAPI) was performing by 705 interviewers (approximately almost 13 households per interviewer). The survey by the aid of electronic questionnaire (CAPI) was performing by 109 interviewers; most of them were staff of CZSO (approximately almost 35 households per interviewer). The following table shows the successfulness of the interviewers by their basic characteristics (if there are more than one household in the dwelling, at least one interviewed household is considered as successfully surveyed).

Table 4 Response by interviewers' characteristics (%)

Interviewers' characteristics	Total	Wave 1	Wave 2	Wave 3	Wave 4
Age					
Age ≤ 40	80.76	46.03	91.71	93.07	96.50
Age 41-60	79.04	56.39	91.62	95.80	96.94
Age > 60	91.37	53.33	95.20	95.73	97.49
Sex					
Male	89.85	45.97	93.38	94.32	97.93
Female	81.02	53.88	92.82	95.28	96.57
Education					
Primary	91.55		80.46	93.75	96.53
Lower secondary	92.89	67.43	94.29	95.24	97.33
Upper secondary	81.61	51.57	93.70	95.16	96.77
Tertiary education	80.53	55.56	90.96	94.34	97.72
Economic activity					
Employed	76.77	53.66	92.43	94.98	96.93
Student	85.16	23.81	90.10	91.77	95.90
Retired	93.91	58.51	94.38	95.84	97.47
Unemployed	100.00		100.00		100.00
Other	91.29	37.50	71.25	83.21	78.95
Experience with surveys					
SILC 2006 - yes	87.44	56.15	92.92	95.11	96.96
- no	72.32	50.05	93.10	94.48	97.22
SILC 2007 - yes	86.31	53.67	92.82	94.95	96.99
- no	69.82	52.31	93.97	95.40	97.09
Other - yes	81.62	54.57	93.18	94.98	96.78
Different interviewer in 2007			89.40	96.05	98.01
Same interviewer as in 2007			94.55	96.04	99.73
Total	83.13	53.13	92.98	95.00	96.99

Data processing

In case of PAPI data were captured using OCR technology (scanning). After the data collection in the field, the regional fieldwork staffs gather the questionnaire material. While accepting the material from each interviewers, the initial check is performed – the way, how the questionnaires are filled, completeness of the questionnaires, basic consistence checks. Then, control sum of numerical values on each page is calculated and filled by the regional coding staff. Larger tables, with more numerical data, have their own control sums. At the same time, the coding staff coded some variables – occupation (ISCO), sector of employment (NACE) and country codes for country of birth and citizenship variables.

After this preparatory phase, questionnaires are scanned into raw data files. CZSO has three specialised scanning units with technical equipment and expertises in this data capture technology. This technology is also used extensively in business and agricultural surveys. Control sums are automatically checked during scanning. Whenever the sum of captured values does not match the control sum or when some number is not properly recognised, that position of the questionnaire appears as image on the screen of the operator for verification. Images of the scanned questionnaires are also stored with the captured data with unique filenames allowing linking of each data record with the image of the questionnaire, from which the data were captured.

In case of CAPI data are collected into electronic questionnaire to programming system BLAISE in application eDomSet. After the data collection in the field, the regional fieldwork staffs take data file with questionnaire material. While accepting the data file with questionnaire material from each interviewers, the initial check is performed – the way, how the questionnaires are filled, completeness of the questionnaires, basic consistence checks. After this preparatory phase, data from questionnaires are co-ordinate to general database CZSO.

The raw data files are subject to initial centrally performed checks – checking the integrity of identification numbers, consistency with the sample, completeness of the questionnaire sets for all dwellings. Regional staff is responsible for further checking of the data for their respective region, using a special software application containing a set of logical controls, captured data and linked images of the questionnaires. Three kinds of errors are distinguished: critical errors (must be corrected, limited to a small set of key consistency issues), errors to verify (must be commented, involving contacting the interviewer in charge of that household, if additional information is necessary) and informative flags (extraordinary or unusual situations, which should be looked at).

2.3.3 Non-response errors

2.3.3.1 Achieved sample size

4 249 new dwellings entered the survey (1st wave) and 9 885 dwellings were revisited – 9 646 at the last year's address and 239 were tracked to their new home. The fieldwork revealed that among the total of 14 134 dwellings in the sample there were 683 dwellings (4 %) unoccupied, unlocated or ineligible because the households had moved. Since there was no substitution for these ineligible units, the survey was conducted in 13 451 dwellings and 13 591 households. There were 140 additional interviewed households in these dwellings, since in 130 dwellings there are more households in one dwelling unit (household definition is based on sharing of expenses).

The overview of the survey response can be summarised by Table 5.

Table 5 Sample size - households

	Households			Response (%)		
	Total	1st wave	2nd-4th wave	Total	1st wave	2nd-4th wave
Response, total	11 294	2 072	9 222	83,1	53,1	95,2
Non-response, total	2 297	1 830	467	16,9	46,9	4,8
Refusals (unwillingness to give information)	1 638	1 294	344	71,3	70,7	73,7
Household not contacted. temporarily absent	454	361	93	19,8	19,7	19,9
Household unable to respond (health limitation)	155	126	29	6,7	6,9	6,2
Other reasons (linguistic etc.)	50	49	1	2,2	2,7	0,2

Refusals also include situations when the household did not refuse the survey as such, but did not accept to provide the information on income to the extent, which would qualify the household as successfully interviewed. The definition of successfully interviewed household allowed missing income data for only one person and the person must not be the head of the household. Non-contacts, temporarily absent category cover situations, when the interviewer did not establish contact with the selected household, despite the prescribed minimum number of three attempts of personal contact.

Table 6 Regional disparities in response

Region (NUTS3)	Total			1st wave			2nd and 4th wave		
	HHs in survey	Response		HHs in survey	Response		HHs in survey	Response	
		count	%		count	%		count	%
Praha	1368	951	**69.5**	498	155	31.1	870	796	91.5
Stredocesky	1446	1172	**81.1**	434	212	48.8	1012	960	94.9
Jihocesky	862	750	**87.0**	241	150	62.2	621	600	96.6
Plzensky	769	633	**82.3**	201	94	46.8	568	539	94.9
Karlovarsky	451	377	**83.6**	123	64	52.0	328	313	95.4
Ustecky	1108	932	**84.1**	313	188	60.1	795	744	93.6
Liberecky	558	465	**83.3**	169	99	58.6	389	366	94.1
Kralovehradecky	716	582	**81.3**	208	96	46.2	508	486	95.7
Pardubicky	693	589	**85.0**	184	100	54.3	509	489	96.1
Vysocina	692	623	**90.0**	173	119	68.8	519	504	97.1
Jihomoravsky	1377	1151	**83.6**	433	239	55.2	944	912	96.6
Olomoucky	894	751	**84.0**	233	121	51.9	661	630	95.3
Zlinsky	801	706	**88.1**	224	145	64.7	577	561	97.2
Moravskoslezsky	1856	1612	**86.9**	468	290	62.0	1388	1322	95.2
CZ total	13591	11294	**83.1**	3902	2072	53.1	9689	9222	95.2

The lowest achieved response rate was in the City of Prague region (Praha), almost 70 percent. This result has its objective reasons, as in any other large city, the social environment and dwelling structure in this metropolitan region is the least favourable for conducting household surveys. On the other hand, Vysocina region (East Bohemia) is the region with exceptionally high response rate, above 90 percent. For the remaining regions, the differences between response rates are not large (interval from 80 percent to 90 percent). The highest response rates (above 86 percent) were

achieved in Easten part (Moravskoslezsky, Zlinsky regions) and South part (Jihocesky region). The other regions have response rate also about 83 percent.

Participation in the national EU-SILC survey is voluntary, there is no duty imposed on households to provide the required information, like it is for example in the population census. The household must be informed about the content of the survey and that its participation is voluntary and left to its decision. The main reasons for refusal reported from the field are privacy reasons (objections against giving personal information and fear of misuse of the personal data), unwillingness to report income, fear of contact with interviewers as strangers. There is a considerable group of persons, who, as a matter of principle, strictly refuse to give any information about them and their households.

SILC data files non-response characteristics, with the SILC harmonised response rates.

Table 7 Accepted interviews by waves

	Total	1st wave	2nd wave	3rd wave	4th wave
Accepted household interviews	11 294	2 072	2 449	3 190	3 580
Accepted personal interviews	22 754	4 203	4 935	6 391	7 225
Number of persons aged 16 years and older	22 754	4 203	4 935	6 391	7 225
Sample persons	11 478		3 228	3 924	4 326
Co-resident	268		30	59	179

Cross-sectional sample 2008, Longitudinal 2008

2.3.3.2 Unit non-response

New replication

- ***Household non-response rates (NRh)***

NRh = (1-(Ra * Rh)) * 100

Where

$$\text{Ra} = \frac{\text{Number of addresses successfully contacted}}{\text{Number of valid addresses selected}}$$

$$= \frac{\sum[DB120 = 11]}{\sum[DB120 = all] - \sum[DB120 = 23]} = \frac{3902}{4286 - 0} = 0.9104$$

$$\text{Rh} = \frac{\text{Number of household interviews completed and accepted for the database}}{\text{Number of eligible households at contacted addresses}}$$

$$= \frac{\sum[DB135 = 1]}{\sum[DB130 = all]} = \frac{2072}{3902} = 0.5310$$

NRh=(1-0.9104*0.5310)*100 = 51.6565

The household non-response rate is about 51.66 %.

- ***Individual non-response rates (NRp)***

NRp = (1-(Rp))*100

Where

$$\text{Rp} = \frac{\text{Number of personal interview completed}}{\text{Number of eligible individuals}} = \frac{4203}{4203} = 1.00$$

NRp = (1-1)*100 = 0.00 %

So, the individual non-response rate is 0.00 %.

- ***Overall individual non-response rates (*NRp)***

*NRp=(1-(Ra*Rh*Rp))*100

*NRp= (1-(0.9104*0. 5310*1))*100 = 51.6565

The overall individual non-response rate is about 51.66 %.

Response rate for households (Longitudinal sample 2007, 2008)

Second wave

Table 8 2nd wave: Response rate for households

SAMPLE OUTCOME

	in wave 2	DB130=11		DB120=22	DB130=22	DB130=23	DB130=24	DB130=21	DB120=21	NC	DB110=10	DB120=23	Total
in wave 1		DB135=1	DB135=2										
DB130=11	DB135=1	2 401			41	10		119		24	3	3	2 601
	DB135=2												0

NEW HOUSEHOLD IN WAVE 2

DB110=8												0
DB110=9												0
Total	2 401	0	0	41	10	0	119	0	24	3	3	2 601

Response rate for households

Wave response rate	0.924
Refusal rate	0.046
No-contacted and others	0.026
Longitudinal follow up rate	0.944
Follow-up ratio	0.944
Achieved sample size ratio	0.923

Third wave

Table 9 3rd wave: Response rate for households

SAMPLE OUTCOME

	in wave 3	DB130=11		DB120=22	DB130=22	DB130=23	DB130=24	DB130=21	DB120=21	NC	DB110=10	DB120=23	Total
in wave 2		DB135=1	DB135=2										
DB130=11	DB135=1	3 020			17	8		96		31	3	3	3178
	DB135=2												0
DB120=22													0
DB130=22		16			11			14		3			44
DB130=23													0
DB130=24													0

NEW HOUSEHOLD IN WAVE 3

DB110=8	5											5
DB110=9												0
Total	3 041	0	0	28	8	0	110	0	34	3	3	3 227

Response rate for households

Wave response rate	0.943
Refusal rate	0.030
No-contacted and others	0.016
Longitudinal follow up rate	0.959
Follow-up ratio	0.961
Achieved sample size ratio	0.955

Fourth wave

Table 10 4th wave: Response rate for households

SAMPLE OUTCOME

in wave 3	in wave 4	DB130=11 DB135=1	DB130=11 DB135=2	DB120=22	DB130=22	DB130=23	DB130=24	DB130=21	DB120=21	NC	DB110=10	DB120=23	Total
DB130=11	DB135=1	3 491			12	7		64		30	3	3	3 610
	DB135=2												0
DB120=22													0
DB130=22		9			6	1		6					22
DB130=23													0
DB130=24													0

NEW HOUSEHOLD IN WAVE 4

DB110=8	1											1
DB110=9												0
Total	3 501	0	0	18	8	0	70	0	30	3	3	3 633

Response rate for households

Wave response rate	0.964
Refusal rate	0.018
No-contacted and others	0.012
Longitudinal follow up rate	0.973
Follow-up ratio	0.973
Achieved sample size ratio	0.970

Response rate for persons (Longitudinal sample 2007, 2008)

Second wave

Table 11 2nd wave: Response rate for persons
SAMPLE PERSONS FROM THE SAMPLE FORWARDED FROM LAST WAVE (2005)

	RB250=11-13	Not completed because of									Total
		RB250=21	RB250=22	RB250=23	RB250=31	RB250=32	RB250=33	HHnc	Pn	Pl	
RB110=1-2	4 745										4 745
RB110=6									38		38
RB120=2									6		6
RB120=3									11		11
RB120=4										6	6
DB135=2 or –1, or DB110=7, or DB120=21-23 or –1, or DB130=21-24 or -1								350			350
DB110=3-6								28			28

NEW SAMPLE PERSONS

Reached age 16	68										68

NON-SAMPLE PERSONS 16+

No in wave 1	35										35
Total	4 848	0	0	0	0	0	0	378	55	6	5 287

Response rate for persons

Wave response rate	0.99875
Longitudinal follow-up rate	0.99876

Third wave

Table 12 3rd wave: Response rate for persons

SAMPLE PERSONS FROM THE SAMPLE FORWARDED FROM LAST WAVE (2005)

	RB250=11-13	Not completed because of								Total
		RB250=21	RB250=22	RB250=23	RB250=31	RB250=32	RB250=33	HHnc	Pn	Pl	
RB110=1-2	6 024										6 024
RB110=6									42		42
RB120=2									2		2
RB120=3									9		9
RB120=4										11	11
DB135=2 or –1, or DB110=7, or DB120=21-23 or –1, or DB130=21-24 or -1								255			255
DB110=3-6								35			35

NEW SAMPLE PERSONS

Reached age 16	94										94

NON-SAMPLE PERSONS 16+

No in wave 1	84										84
Total	6 202	0	0	0	0	0	0	290	53	11	6 556

Response rate for persons

Wave response rate	0.99820
Longitudinal follow-up rate	0.99823

Achieved sample size ratio for sample persons	1.27114
Achieved sample size ratio for sample persons and co-residents	1.27269

Fourth wave

Table 13 4th wave: Response rate for persons

SAMPLE PERSONS FROM THE SAMPLE FORWARDED FROM LAST WAVE (2005)

	RB250=11-13	Not completed because of								Total
		RB250=21	RB250=22	RB250=23	RB250=31	RB250=32	RB250=33	HHnc	Pn	Pl	
RB110=1-2	6 771										6 771
RB110=6									52		52
RB120=2									5		5
RB120=3									12		12
RB120=4										11	11
DB135=2 or –1, or DB110=7, or DB120=21-23 or –1, or DB130=21-24 or -1								195			195
DB110=3-6								32			32

NEW SAMPLE PERSONS

Reached age 16	106										106

NON-SAMPLE PERSONS 16+

No in wave 1	275										275
Total	7 152	0	0	0	0	0	0	227	69	11	7 459

Response rate for persons

Wave response rate	0.99840
Longitudinal follow-up rate	0.99846

Achieved sample size ratio for sample persons	1.12406
Achieved sample size ratio for sample persons and co-residents	1.12411

2.3.3.3 Distribution of households by 'household status', by 'record of contact at address', by 'household questionnaire result' and by 'household interview acceptance'

Table 14 Distribution of households by DB110, DB120, DB130 and DB135

HOUSEHOLD STATUS

	DB110											Total
	1	2	3	4	5	6	7	8	9	10	11	
2005									7 068			7 068
%									100.00			100.00
2006	4 205	69	5	7	35		26	57	5 801	4		10 209
%	41.19	0.68	0.05	0.07	0.34		0.25	0.56	56.83	0.04		100.00
2007	7 289	129	9	16	63	4	36	75	4 273	7		11 901
%	61.25	1.08	0.08	0.13	0.53	0.03	0.30	0.63	35.90	0.06		100.00
2008	9 426	147	11	7	70	4		6		9	63	9 743
%	96.75	1.51	0.11	0.07	0.72	0.04		0.06		0.09	0.65	100.00

RECORD OF CONTACT AT ADRESS

	DB120				Total
	11	21	22	23	
2005	6 715	5		348	7 068
%	95.01	0.07		4.92	100.00
2006	5 670	257		4	5 931
%	95.60	4.33		0.07	100.00
2007	4 290	187		7	4 484
%	95.67	4.17		0.16	100.00
2008	153			9	162
%	94.44			5.56	100.00

HOUSEHOLD QUESTIONNAIRE RESULT

	DB130					Total
	11	21	22	23	24	
2005	4 351	1 784	464	96	20	6 715
%	64.80	26.57	6.91	1.43	0.30	100.00
2006	7 483	1 792	480	95	25	9 876
%	75.78	18.15	4.86	0.96	0.25	100.00
2007	9 662	1 500	359	47	11	11.579
%	83.44	12.95	3.10	0.41	0.09	100.00
2008	9 142	319	91	27		9 579
%	95.44	3.33	0.95	0.28		100.00

HOUSEHOLD INTERVIE ACCEPTANCE

	DB135=1	DB135=2	Total
2005	4 351		4 351
%	100.00		100.00
2006	7 483		7 483
%	100.00		100.00
2007	9 662		9 662
%	100.00		100.00
2008	9 142		9 142
%	100.00		100.00

Longitudinal sample 2005, 2006, 2007

2.3.3.4 Distribution of persons for membership status (RB110)

Table 15 2nd wave: Distribution of persons for membership status (RB110)

	Current household members				No current household members			Total
	RB110=1	RB110=2	RB110=3	RB110=4	RB120=2 to 4	RB110=6	RB110=7	
2008	5 696	7	44	51	71	40		5 909
%	96.40	0.12	0.74	0.86	1.20	0.68		100.00

Longitudinal sample - second wave 2008

Table 16 2nd wave: Distribution of persons moving out by variable RB120

RB110=5	RB120				Total
	1	2	3	4	
2007	48	6	11	6	71
%	67.61	8.45	15.49	8.45	100.00

Longitudinal sample - second wave 2008

Table 17 3rd wave: Distribution of persons for membership status (RB110)

	Current household members				No current household members			Total
	RB110=1	RB110=2	RB110=3	RB110=4	RB120=2 to 4	RB110=6	RB110=7	
2007	7 783	53	68	59	81	49		8 093
%	96.17	0.65	0.84	0.73	1.00	0.61		100.00
2008	7 406	47	46	53	70	43		7 665
%	96.62	0.61	0.60	0.69	0.91	0.56		100.00

Longitudinal sample – third wave 2008

Table 18 3rd wave: Distribution of persons moving out by variable RB120

RB110=5	RB120				Total
	1	2	3	4	
2007	56	6	7	12	81
%	69.14	7.41	8.64	14.81	100.00
2008	47	2	9	12	70
%	67.14	2.86	12.86	17.14	100.00

Longitudinal sample – third wave 2008

Table 19 4th wave: Distribution of persons for membership status (RB110)

	Current household members				No current household members			Total
	RB110=1	RB110=2	RB110=3	RB110=4	RB120=2 to 4	RB110=6	RB110=7	
2006	8 352	52	86	63	90	43		8 686
%	96.15	0.60	0.99	0.73	1.04	0.50		100.00
2007	8 484	125	86	68	93	49	2	8 907
%	95.25	1.40	0.97	0.76	1.04	0.55	0.02	100.00
2008	8 274	37	47	72	94	52		8 576
%	96.48	0.43	0.55	0.84	1.10	0.61		100.00

Longitudinal sample – fourth wave 2008

Table 20 4th wave: Distribution of persons moving out by variable RB120

RB110=5	RB120				Total
	1	2	3	4	
2006	54	7	14	15	90
%	60.00	7.78	15.56	16.67	100.00
2007	66	4	7	16	93
%	70.97	4.30	7.53	17.20	100.00
2008	58	5	14	17	94
%	61.70	5.32	14.89	18.09	100.00

Longitudinal sample – fourth wave 2008

2.3.3.5 Item non-response

In following table an overview of the item non-response for all income variables is presented. The percentage households having received an amount, the percentage of households with missing values and the percentage of households with partial information is calculated.

These percentages are calculated as follows:

% of households having received an amount: number of households (or persons) who have received something (yes to a filter) / total

% of households with missing values: number of households (or persons) who said that they have received something but did not give any amount (no partial information) / number of households (or persons) who have received something (yes to a filter)

% of households with partial information: number of households (or persons) who said that they have received something but gave partial information (amounts were not given for all components) / number of households (or persons) who have received something (yes to a filter)

Table 21 Overview of the non-response for the income variable 2005 (first wave), 2006 (second wave) and 2007 (third wave)

Item non-response *(overview for different income components)*	% of households having received an amount			% of households with missing values (before imputation)			% of households with partial information (before imputation)		
	2005	**2006**	**2007**	**2005**	**2006**	**2007**	**2005**	**2006**	**2007**
Total gross household income (HY010)	100.0	100.0	100.0	0.0	0.0	0.0	0.4	0.2	0.1
Total disposable household income (HY020)	100.0	100.0	100.0	0.0	0.0	0.0	0.4	0.2	0.1
Total disposable household income before social transfers except old-age and survivor's benefits (HY022)	98.1	98.5	98.7	0.0	0.0	0.0	0.4	0.2	0.1
Total disposable household income including social transfers except old-age and survivor's benefits (HY023)	83.7	87.4	88.1	0.0	0.0	0.0	0.4	0.3	0.1
Net income components at household level									
Income from rental of a property or land (HY040N)	4.1	4.1	4.0	0.0	0.7	0.0	0.0	0.0	0.0
Family related allowances (HY050N)	27.0	27.6	26.8	0.0	0.0	0.0	0.0	0.0	0.0
Social exclusion not elsewhere classified (HY060N)	3.9	4.2	3.5	0.0	0.0	0.0	0.0	0.0	0.0
Housing allowance (HY070N)	5.8	5.7	4.0	0.0	0.0	0.0	0.0	0.0	0.0
Regular inter-household cash transfer received (HY080N)	7.3	7.7	7.5	0.0	0.0	0.0	0.0	0.0	0.0
Income received by people aged < 16 (HY110N)	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Regular taxes on wealth (HY120N)	44.8	59.1	61.1	0.0	0.0	0.0	0.0	0.0	0.0
Regular inter-household cash transfer paid (HY130N)	5.1	5.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0
Tax on income and social contributions (HY140N)	68.2	67.3	66.8	0.0	0.0	0.0	0.0	0.0	0.0
Gross income components at household level									
Income from rental of a property or land (HY040G)	4.1	4.1	4.0	0.0	0.7	0.0	0.0	0.0	0.0
Family related allowances (HY050G)	27.0	27.6	26.8	0.0	0.0	0.0	0.0	0.0	0.0
Social exclusion not elsewhere classified (HY060G)	3.9	4.2	3.5	0.0	0.0	0.0	0.0	0.0	0.0
Housing allowance (HY070G)	5.8	5.7	4.0	0.0	0.0	0.0	0.0	0.0	0.0
Regular inter-household cash transfer received (HY080G)	7.3	7.7	7.5	0.0	0.0	0.0	0.0	0.0	0.0
Interests, dividends, etc. (HY090G)	16.8	15.6	14.0	0.0	0.0	0.0	0.0	0.0	0.0
Interest repayments on mortgage (HY100G)	7.7	8.3	8.4	0.0	0.0	0.0	0.0	0.0	0.0
Regular taxes on wealth (HY120G)	44.8	59.2	61.1	0.0	0.0	0.0	0.0	0.0	0.0
Regular inter-household cash transfer paid (HY130G)	5.1	5.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0
Tax on income and social contributions (HY140G)	68.2	67.3	66.8	0.0	0.0	0.0	0.0	0.0	0.0

	% of persons 16+ having received an amount			% of persons with missing values (before imputation)			% of persons with partial information (before imputation)		
	2005	**2006**	**2007**	**2005**	**2006**	**2007**	**2005**	**2006**	**2007**
Net income components at personal level									
Employee cash or near cash income (PY010N)	47.9	47.5	47.9	0.1	0.2	0.1	0.0	0.0	0.0
Contributions to individual private pension plans (PY035N)	32.2	34.7	36.7	0.0	0.1	0.0	0.0	0.0	0.0
Value of goods produced by own-consumption (PY070N)	18.3	19.0	19.3	0.0	4.1	3.2	0.0	0.0	0.0
Pension from individual private plans (PY080N)	0.6	0.6	0.5	0.0	0.0	0.0	0.0	0.0	0.0
Unemployment benefits (PY090N)	4.0	3.4	2.9	0.0	0.2	0.2	0.0	0.0	0.0
Old age benefits (PY100N)	29.2	29.4	30.0	0.0	0.0	0.0	0.0	0.0	0.0
Survivor' benefits (PY110N)	8.5	8.5	8.2	0.0	0.0	0.0	0.0	0.0	0.0
Sickness benefits (PY120N)	6.3	7.4	8.3	0.0	0.0	0.1	0.0	0.0	0.0
Disability benefits (PY130N)	7.0	7.6	8.0	0.0	0.1	0.0	0.0	0.0	0.0
Education-related allowances (PY140N)	1.4	0.6	0.8	0.0	0.0	0.0	0.0	0.0	0.0
Gross income components at personal level									
Employee cash or near cash income (PY010G)	47.9	47.5	47.9	0.1	0.2	0.1	0.0	0.0	0.0
Non cash employee income (PY020G)	1.7	1.5	27.3	0.0	1.3	0.0	0.0	0.0	0.0
Contributions to individual private pension plans (PY035G)	32.2	34.7	36.7	0.0	0.1	0.0	0.0	0.0	0.0
Cash benefits or losses from self-employment (PY050G)	7.4	7.7	7.4	0.1	5.2	2.5	0.0	0.0	0.0
Value of goods produced by own-consumption (PY070G)	18.3	19.0	19.3	0.0	4.1	3.2	0.0	0.0	0.0
Pension from individual private plans (PY080G)	0.6	0.6	0.5	0.0	0.0	0.0	0.0	0.0	0.0
Unemployment benefits (PY090G)	4.0	3.4	2.9	0.0	0.2	0.2	0.0	0.0	0.0
Old age benefits (PY100G)	29.2	29.4	30.0	0.0	0.0	0.0	0.0	0.0	0.0
Survivor' benefits (PY110G)	8.5	8.5	8.2	0.0	0.0	0.0	0.0	0.0	0.0
Sickness benefits (PY120G)	6.3	7.4	8.3	0.0	0.0	0.1	0.0	0.0	0.0
Disability benefits (PY130G)	7.0	7.6	8.0	0.0	0.1	0.0	0.0	0.0	0.0
Education-related allowances (PY140G)	1.4	0.6	0.8	0.0	0.0	0.0	0.0	0.0	0.0

Longitudinal 2005-2007

Table 22 Overview of the non-response for the income variables 2008 (fourth wave)

Item non-response (overview for different income components)[1]	% of households having received an amount	% of households with missing values (before imputation)	% of households with partial information (before imputation)
Total gross household income (HY010)	100.00	0.00	0.12
Total disposable household income (HY020)	100.00	0.00	0.12
Total disposable household income before social transfers except old-age and survivor's benefits (HY022)	99.07	0.00	0.12
Total disposable household income including social transfers except old-age and survivor's benefits (HY023)	88.37	0.00	0.14
Net income components at household level			
Income from rental of a property or land (HY040N)	3.83	0.01	0.00
Family related allowances (HY050N)	24.55	0.00	0.00
Social exclusion not elsewhere classified (HY060N)	1.96	0.00	0.00
Housing allowance (HY070N)	2.35	0.00	0.00
Regular inter-household cash transfer received (HY080N)	8.13	0.00	0.00
Income received by people aged < 16 (HY110N)	0.00	0.00	0.00
Regular taxes on wealth (HY120N)	62.32	0.00	0.00
Regular inter-household cash transfer paid (HY130N)	7.56	0.00	0.00
Tax on income and social contributions (HY140N)	66.50	0.00	0.00
Gross income components at household level			
Income from rental of a property or land (HY040G)	3,83	0.01	0.00
Family related allowances (HY050G)	24.55	0.00	0.00
Social exclusion not elsewhere classified (HY060G)	1.96	0.00	0.00
Housing allowance (HY070G)	2.35	0.00	0.00
Regular inter-household cash transfer received (HY080G)	8.13	0.00	0.00
Interests, dividends, etc. (HY090G)	15.50	0.00	0.00
Interest repayments on mortgage (HY100G)	8.83	0.00	0.00
Regular taxes on wealth (HY120G)	62.32	0.00	0.00
Regular inter-household cash transfer paid (HY130G)	7.56	0.00	0.00
Tax on income and social contributions (HY140G)	66.50	0.00	0.00

[1] For the more detailed definitions of the SILC income variables, please refer to the SILC UDB Documentation

	% of persons 16+ having received an amount	% of persons with missing values (before imputation)	% of persons with partial information (before imputation)
Net income components at personal level			
Employee cash or near cash income (PY010N)	48.22	0.07	0.00
Contributions to individual private pension plans (PY035N)	38.98	0.06	0.00
Value of goods produced by own-consumption (PY070N)	20.81	0.00	0.00
Pension from individual private plans (PY080N)	0.54	0.00	0.00
Unemployment benefits (PY090N)	1.98	0.00	0.00
Old age benefits (PY100N)	30.94	0.00	0.00
Survivor' benefits (PY110N)	9.31	0.00	0.00
Sickness benefits (PY120N)	7.31	0.00	0.00
Disability benefits (PY130N)	8.11	0.07	0.00
Education-related allowances (PY140N)	0.83	0.00	0.00
Gross income components at personal level			
Employee cash or near cash income (PY010G)	48.22	0.07	0.00
Non cash employee income (PY020G)	28.29	0.10	0.00
Contributions to individual private pension plans (PY035G)	38.98	0.06	0.00
Cash benefits or losses from self-employment (PY050G)	7.26	3.40	0.00
Value of goods produced by own-consumption (PY070G)	20.81	0.00	0.00
Pension from individual private plans (PY080G)	0.54	0.00	0.00
Unemployment benefits (PY090G)	1.98	0.00	0.00
Old age benefits (PY100G)	30.94	0.00	0.00
Survivor' benefits (PY110G)	9.31	0.00	0.00
Sickness benefits (PY120G)	7.31	0.00	0.00
Disability benefits (PY130G)	8.11	0.07	0.00
Education-related allowances (PY140G)	0.83	0.00	0.00

Longitudinal 2005-2008

Table 23 Overview of the non-response for the income variables 2008 (cross-sectional)

Item non-response (overview for different income components)[2]	% of households having received an amount	% of households with missing values (before imputation)	% of households with partial information (before imputation)
Total gross household income (HY010)	99.99	0.00	0.24
Total disposable household income (HY020)	99.99	0.00	0.24
Total disposable household income before social transfers except old-age and survivor's benefits (HY022)	99.03	0.00	0.24
Total disposable household income including social transfers except old-age and survivor's benefits (HY023)	88.76	0.00	0.26
Net income components at household level			
Income from rental of a property or land (HY040N)	4.16	0.01	0.00
Family related allowances (HY050N)	24.22	0.00	0.00
Social exclusion not elsewhere classified (HY060N)	2.01	0.00	0.00
Housing allowance (HY070N)	2.36	0.00	0.00
Regular inter-household cash transfer received (HY080N)	8.16	0.00	0.00
Income received by people aged < 16 (HY110N)	0.00	0.00	0.00
Regular taxes on wealth (HY120N)	63.12	0.57	0.00
Regular inter-household cash transfer paid (HY130N)	7.69	0.00	0.00
Tax on income and social contributions (HY140N)	66.98	0.00	0.00
Gross income components at household level			
Income from rental of a property or land (HY040G)	4.16	0.01	0.00
Family related allowances (HY050G)	24.22	0.00	0.00
Social exclusion not elsewhere classified (HY060G)	2.01	0.00	0.00
Housing allowance (HY070G)	2.36	0.00	0.00
Regular inter-household cash transfer received (HY080G)	8.16	0.00	0.00
Interests, dividends, etc. (HY090G)	14.65	0.00	0.00
Interest repayments on mortgage (HY100G)	8.85	0.00	0.00
Regular taxes on wealth (HY120G)	63.12	0.57	0.00
Regular inter-household cash transfer paid (HY130G)	7.69	0.00	0.00
Tax on income and social contributions (HY140G)	66.98	0.00	0.00

[2] For the more detailed definitions of the SILC income variables, please refer to the SILC UDB Documentation

	% of persons 16+ having received an amount	% of persons with missing values (before imputation)	% of persons with partial information (before imputation)
Net income components at personal level			
Employee cash or near cash income (PY010N)	48.44	0.15	0.00
Contributions to individual private pension plans (PY035N)	39.94	0.13	0.00
Value of goods produced by own-consumption (PY070N)	21.73	0.02	0.00
Pension from individual private plans (PY080N)	0.53	0.00	0.00
Unemployment benefits (PY090N)	2.14	0.21	0.00
Old age benefits (PY100N)	30.47	0.07	0.00
Survivor' benefits (PY110N)	9.25	0.05	0.00
Sickness benefits (PY120N)	8.00	0.11	0.00
Disability benefits (PY130N)	8.09	0.11	0.00
Education-related allowances (PY140N)	0.83	0.00	0.00
Gross income components at personal level			
Employee cash or near cash income (PY010G)	48.44	0.15	0.00
Non cash employee income (PY020G)	28.19	0.09	0.00
Contributions to individual private pension plans (PY035G)	39.94	0.13	0.00
Cash benefits or losses from self-employment (PY050G)	7.38	3.51	0.00
Value of goods produced by own-consumption (PY070G)	21.73	0.02	0.00
Pension from individual private plans (PY080G)	0.53	0.00	0.00
Unemployment benefits (PY090G)	2.14	0.21	0.00
Old age benefits (PY100G)	30.47	0.07	0.00
Survivor' benefits (PY110G)	9.25	0.05	0.00
Sickness benefits (PY120G)	8.00	0.11	0.00
Disability benefits (PY130G)	8.09	0.11	0.00
Education-related allowances (PY140G)	0.83	0.00	0.00

Cross-sectional sample 2008

2.4 Mode of data collection

Distribution of household members by data status (RB250)

Registers are not used at all. Due to strict definition of response, there are any "not completed interviews" at individual level or "not contacted individuals" (all such cases were filled as proxy or were self-administered by respondents).

Distribution of household members by type of interview (RB260)

One of the data collection method was PAPI (Paper Assistance Personal Interview) in second, third and fourth wave. Second the data collection method was CAPI (Computer Assistance Personal Interview) in first wave. Most of the questionnaires were filled during fact-to-face interview with the interviewer. Some personal questionnaires were filled as proxy interviews – information for household member not present at the time of the interview was provided by another household member. In some case, where this was agreed with the household, interviewer left the personal questionnaire for some household member and collected it later (self-administered questionnaire).

Table 24 Distribution of household members by type of interview (RB260)

Method	Total		First wave			
	Count	%	Count	%		
Face to face interview - PAPI	17096	75.13	258*	6.14		
Face to face interview - CAPI	2813	12.36	2813	66.93		
CATI, Telephone interview	not used	-	not used	-		
Self-administered by respondent	24	0.11	not used	-		
Proxy interview	2821	12.40	1132	26.93		
Total	22754	100.00	4203	100.00		
Method	Second wave		Third wave		Fourth wave	
	Count	%	Count	%	Count	%
Face to face interview - PAPI	4485	90.88	5841	91.39	6512	90.13
Face to face interview - CAPI	not used	-	not used	-	not used	-
CATI, Telephone interviews	not used	-	not used	-	not used	-
Self-administered by respondent	7	0.14	5	0.08	12	0.17
Proxy interview	443	8.98	545	8.53	701	9.70
Total	4935	100.00	6391	100.00	7225	100.00

Cross-sectional sample 2008

Table 25 Mode of data collection

	PAPI		CAPI		CATI		Self-administered	
	Count	%	Count	%	Count	%	Count	%
2005	7759	99.17	-	-	-	-	65	0.83
2006	13554	99.46	-	-	-	-	73	0.54
2007	17594	99.68	-	-	-	-	56	0.32
2008	16713	99.86	-	-	-	-	24	0.14

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Table 26 Proxy interviews

	Count	%
2005	804	9.32
2006	1229	8.27
2007	1716	8.86
2008	1672	9.08

Longitudinal 2005-2008

2.5 Imputation procedure

Situation of missing income data for one of the household members was rare (29 cases). For these persons, the income was imputed by the simple hot-deck method (using randomly chosen person with similar characteristics from another household). Access to administrative register information on individual level is not possible. We use our developed model for gross/net conversion, which was developed with regard to the Czech tax laws.

Deductive imputation took place within the frame of logical checks. Regional staff is responsible for checking of the data for their respective region, using a special software application containing a set of logical checks, captured data and linked images of the questionnaires. The comparison of original data with data after these checks showed differences within the range to 0.5% of all item cases.

The Item non-response of non-income-variables is rare, so model approach development is useless. We use hot-deck method for new households and information from last year for households in next waves of survey.

2.6 Imputed rent

The main problem, which makes the rent imputation difficult, is that there is too low share of households paying market rent in the Czech Republic. There are only 5.5% of tenants paying market rent in the EU-SILC sample. 17.6% of households included in the sample pay rent that is regulated by the Czech government, thus the market rent has to be estimated also in these cases.

We tested 3 methods (subjective method, stratification method, Heckman model) for computing rent and finally we decided for subjective method, because it seemed best in the Czech conditions. Respondents were asked to estimate the price for which their dwelling could be sold. Subsequently, the market rent is derived. The advantage of this method lies in its simplicity but this is substantially outweighed by its drawback - the fallibility of responded values due to lack of knowledge of housing market of the respondents. The values can be overestimated as well as underestimated, depending on how the household is informed about the current market prices.

We use external information about market rent from the Institute of Regional Information (IRI). IRI provides locally usual market rents and prices in 336 municipalities and their modification depending on several factors—the size of the flat, the location within the municipality and the status of the flat (new, old or reconstructed). Although it completely omits small villages and it does not deal with houses (it considers only rents in flats) it still represents the most reliable, and in fact the only source of external information.

We used the IRI information in order to gain the monthly market rent from the subjective price. Based on comparison of price and monthly market rent of “standard” flat, which is defined by IRI as an older flat of average area (68 m2) in average locality within the municipality, we determined the “rent-price” ratio. This ratio was estimated to 0.37%. So we computed monthly market rent as 0.37% subjective price of flat and this rent was the base for computing imputed rent.

2.7 Company cars

The lowest possible amount applicable for taxation in the tax law is added to the non-monetary income of the employee (CZK 1000/month).

3. Comparability

3.1 Basic concepts and definitions

- The reference period: no differences between the national and standard EU-SILC concept
- The private household definition: no differences (there can be more households in one dwelling eligible for the survey)
- The household membership: no differences
- The income reference period used: last calendar year (2007)
- The period for taxes and social contributions: taxes and social insurance contribution refer to the income received during the income reference period
- The reference period for taxes on wealth: income reference period
- The lag between the income reference period and current variables: three to four months (the survey took place from the end of February to May 2008)
- The total duration of the data collection of the sample: 9 weeks (PAPI), 11 weeks (CAPI)
- Basic information on activity status during the income reference period: no differences

3.2 Components of income

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

The concepts and definitions used in the survey are those set in the EU-SILC documentation (definitions of target variables, as they are set in the EU-SILC regulations and technical document "Description of Target Variables – Doc. SILC 065). There is only one deliberate deviation from the used concepts:

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 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).

3.2.2 The source or procedure used for collection of income variables

All the income variables are obtained by interview. The EU-SILC income target variables were divided to more subcomponents. The subcomponents were defined according to the Czech benefit system. These subcomponents were surveyed.

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

Table 27 Overview of the collection of income data (net/gross values)[3]

Income component	% collected net of taxes and social contributions	% collected gross[4]
PY010G	43.44	56.56
PY010N	43.44	56.56
PY020G	0.0	100.0
PY020N	-	-
PY035G	100.0	0.0
PY035N	100.0	0.0
PY050G	19.05	80.95
PY050N	-	-
PY070G	0.0	100.0
PY070N	100.0	0.0
PY080G	100.0	0.0
PY080N	100.0	0.0
PY090G	0.0	100.0
PY090N	100.0	0.0
PY100G	0.0	100.0
PY100N	100.0	0.0[5]
PY110G	0.0	100.0
PY110N	100.0	0.0
PY120G	0.0	100.0
PY120N	100.0	0.0
PY130G	0.0	100.0
PY130N	100.0	0.0
PY140G	0.0	100.0
PY140N	100.0	0.0

Both alternatives (gross amounts, net amount – net of taxes and social insurance contributions) were available to respondents for income from employment and self-employment income. In addition, information on claimed tax deductions was collected from respondents. Algorithms based on detailed application of the national tax rules were then used to calculate the complementary net/gross amount. Social benefits are generally tax-exempt – therefore there is no difference between gross and net values – they can be collected as one value and assigned to both gross and net.

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

Situation of missing income data for one of the household members was rare (29 cases). For these persons, the income was imputed by the simple hot-deck method (using randomly chosen person with similar characteristics from another household).

[3] For the definitions of the SILC database income variables, please refer to the SILC UDB Documentation.
[4] Gross amount does not include social insurance contributions for the self-employed – where these are treated in our national system as part of the tax-deductible costs and not as part of the gross self-employment income.
[5] In 22 cases variable of net series is not filled because variable of gross series is filled (Flag –5)

Another source of bias, which needs to be taken into account, stems from the interviewing. Data on income obtained during interviews with household members have the tendency to underestimate certain sources of income or data on some components is missing (item non-response).

Underestimation of income is a natural consequence of the fact, that respondents either tends to give lower then actual values or simply did not recall certain irregular or small incomes. It is, more or less, a non-sampling error, affected substantially by the incomes themselves and by their source. The possibilities to eliminate this underestimation of the survey data are limited. In the presented survey, only such adjustments were done, where there was sufficiently reliable external statistical source or which can be based on the legislation.

Data on gross income from employment were compared with corresponding data from wage statistics broken into sectors of activity (NACE). Different from the last year's survey and in accordance with experience from other income surveys, income from work was underestimated (roughly by 5.4 %). Primarily, this underestimation concerned those incomes that were recorded as yearly lump sums. Such incomes were moderately boosted so that the average monthly gross pay by sectors approached the data from wage statistics. There was no need for corrections with income from private enterprise.

In case of social benefits for which there is a legal entitlement (parental leave benefit, child birth benefit, death grant provided to families of the deceased, to some extent also maternity leave benefit), a check on their receiving by the eligible households was applied and amounts provided were corrected according to the amounts fixed by the legislation. Old age benefits (pension from the social security system) were not corrected, since their underestimation is quite low.

Amounts declared by the unemployed as unemployment benefits were overestimated. Unemployed respondents tend to report their income from social benefits as unemployment benefits and do not distinguish them from the minimum income support benefits (claimed on the basis of the legal minimum subsistence amounts). In cases where the duration of unemployment and the reported amounts did not match the rules of the unemployment benefits provision, the reported amounts were re-classified as minimum income support benefits.

It was not possible to correct the underestimation of the sickness benefits (where respondents tend to forget spells of short-term illness over the 12 months income reference period), means-tested social benefits whose claims depend on the previous income (prior to the income reference periods), capital income and non-monetary income generated by own-consumption.

The value of goods produced by own-consumption was an estimate of the household based on the amount of consumed food and other goods, own production and goods from own business during the year 2007 (for example food and animals from own small-scale non-commercial farming activity, value of meals from own restaurant, bread from own bakery and the like).

3.3 Tracing rules

Standard EU-SILC tracing rules are applied.

4. Coherence

4.1 Comparison of income target variables and number of persons with external sources

The numbers of recipients of most of the incomes were used as calibration variables. The total gross income can be divided into four components: income of employees, income of self-employed, social income and other income. Any other sufficiently reliable source of household income is not available. The only part of income that can be reliably compared with the external source (administrative source) is the social income.

Table 28 Social income – comparison with administrative sources (Ministry of Labour and Social Affairs) – in million CZK

	EU-SILC 2007	Administrative source	Ratio*
Total social income	**341 656**	**355 951**	**96.0**
Sickness benefits PY120G	14 040	34 671	40.5
Pensions (all)	277 417	282 876	98.1
Unemployment benefits PY090G	5 379	7 016	76.7
Child benefits	9 481	10 236	92.6
Parental allowances	28 577	28 690	99.6
Housing allowances HY070G	1 566	1 565	100.1

* (EU-SILC/Administrative source)*100

The other income components except to social income can be only compared to national accounts for household sector. Comparison of the aggregated income from this survey with the household sector aggregates of the national accounts (even after their modification taking into account the items, which are not covered by household income surveys) is relatively difficult. Concerning its aggregated value the income obtained by direct questioning in the households will always be lower. The more important fact for evaluation of their credibility is that the trend in development of household income is in line with the trends in the national accounts. From this viewpoint, the presented results of SILC 2007 are in full agreement with data from the previous year and with related statistics from developed nations of the European Union.

Table 29 Income – comparison with national accounts – in million CZK

	EU-SILC 2007	National Accounts	Ratio*
Income of employees	945 794	1 142 863	82.8
Income of self-employed	228 923	272 856	83.9
Total gross income	**1 576 746**	**1 726 267**	**91.3**
Total net income	1 314 597	1 639 857	80.2

*(EU-SILC/National Accounts)*100
**Excluding imputed rent