Statistics Finland

FINAL QUALITY REPORT

relating to the EU-SILC 2010 operation

Statistics Finland

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1 Common longitudinal European Union indicators

Table 1.1 At-persistent-risk-of-poverty rates by sex and age in 2010

		Survey years			
Equivalised total disposable household income (HY020 including PY080G), median and mean estimates from the EU-SILC cross-sectional surveys	currency	2007	2008	2009	2010
Median	EUR	18 702.69	19 793.81	20 962.00	21 348.50
Mean	EUR	20 787.04	22 008.19	23 119.11	23 527.50
ARPT (At-risk-of-poverty threshold), 60 % of the median	EUR	11 221.62	11 876.29	12 577.20	12 809.10
At-persistent-risk-of-poverty rate([1] by gender and selected age groups, HY020 includes PY080G), %					
age	sex				
TOTAL	T				7.7
TOTAL	M				7.4
TOTAL	F				8.1
Y0_17	T				9.1
Y0_17	M				9.4
Y0_17	F				8.8
Y18_24	T				13.9
Y18_24	M				7.5
Y18_24	F				20.5
Y18_64	T				6.8
Y18_64	M				6.6
Y18_64	F				7.0
Y18_MAX	T				7.4
Y18_MAX	M				6.9
Y18_MAX	F				7.9
Y25_49	T				7.8
Y25_49	M				8.0
Y25_49	F				7.6
Y50_64	T				2.8
Y50_64	M				4.2
Y50_64	F				1.4
Y65_MAX	T				9.8
Y65_MAX	M				8.4
Y65_MAX	F				10.7

[1] RB064 was used as the weight for computing.

2 Accuracy

2.1 Sampling design

The sampling design of the Finnish EU-SILC survey, the survey year 2010, (also parallel with the design of the Finnish Income Distribution Survey [IDS]) is a **two-phase stratified sampling design**. In the first phase, a master sample of persons (50,000) was selected with systematic sampling from the population register data. The population register data included 4,321,007 non-institutional persons aged 16 years or over a couple of weeks before the end of the year 2009. It is ordered by domicile code, which identifies the location of pesons's dwelling. The first digits of the code include regional information (municipality code). After various checks household-dwelling units were constructed by adding persons sharing the same domicile code with the selected persons (target persons) to the master sample. The final number of selected persons was 49,163. The loss of 837 persons was due to the difference between the population register sampling frame on which the master sample was based and the final population register data in the end of the year 2009 which is the reference tima point to the target population. The final information (including tax information to be connected to the master sample in order to create the strata, for example) is available after the master sample has been selected. At this point those who have died, moved permanently abroad or placed into an institution after the time point of the sampling frame and before the end of the year were excluded from the master sample. With this processing we corrected the frame imperfection (not describing the reference time point) in the sample. The master sample of household-dwelling units is used for sampling purposes of different surveys, and one of them is the Finnish EU-SILC survey and IDS.

In the second phase, the Finnish EU-SILC sample of household-dwelling units including the target persons was selected from the stratified master sample with simple random sampling without replacement within every staratum and using non-proportional allocation. For that the master sample was stratified by socio-economic criteria, emphasising high-earners, farmers and entrepreneurs in the allocation. The sample size of the first wave was 5,000. The second, third and fourth waves of the EU-SILC (8,525) was included in the set of responded households (including selected persons) from the earlier wave to be interviewed. The final definition of the structure of the household was done during the interview. The stratum is identified for these EU-SILC waves separately in the variable DB050. In order to cover population aged 16, the second and later waves of the sample were completed by the addtional sample of persons aged 16 selected from the stratified master sample. In 2010 when implementing additional sample to the survey first time, the third and fourth waves were exceptionally completed also by the sample of persons aged 17 and the fourth wave by persons aged 18.

The samples of the Finnish EU-SILC 2010 longitudinal component of size 2,500 were selected randomly within strata from the first waves of the earlier SILC/IDS surveys.

Referring to the description of the sampling design above it can be observed that
* **the Finnish cross-sectional data 2010 are based on a nationally representative probability sample of the population residing in private households** (non-institutionalised persons, two-phase sampling),
* **all private households and all persons aged 16 and over within the household are eligible for the operation** (selection of persons, creation of household-dwelling units around persons and definition of households, i.e. housekeeping units, during the interviews),
* **representative probability samples are achieved both for households, which are the basic units of sampling, data collection and data analysis, and for individual persons in the target population** (selection of persons aged 16 and over from the register, creation of household-dwelling units around persons and definition of households, i.e. housekeeping units, during the interviews), and
* **the sampling frame and methods of sample selection ensure that every individual and household in the target population is assigned a known and non-zero probability of selection** (for every non-institutionalised person the probability of selection is identified and greater than zero).

2.1.1 Type of sampling

A two-phase stratified sampling design.

2.1.2 Sampling units

The sampling unit is a person. In the first phase persons are selected (target persons), in the second phase the target persons together with their household-dwelling units are selected.

2.1.3 Stratification criteria

The strata are created by using a socio-economic categorisation based on the register information available for all persons of the household-dwelling unit at the time of sample selection. Household-dwelling units are created around the selected persons. The stratification takes the highest earning person as the categorising person, but in the class of entrepreneurs the selected person need not to be the highest earning one to define the household strata. The income class division is used to allocate the sample more to high-earners. The stratification variable DB050 of the cross-sectional survey contains values 1-13 for the first wave (Table 2.1), and 14-52 for the second, the third and the fourth wave indicating the initial stratum.

Table 2.1 Stratification criteria for the new Finnish EU-SILC sample

		Wave 1 (SY2010)
Socio-economic categorisation of the household-dwelling unit	Income Class	DB050
Wage earners	Lowest	1
	2nd lowest	2
	3rd lowest	3
	Highest	4
Entrepreneurs	Lower	5
	Higher	6
Farmers	Lower	7
	Higher	8
Pensioners	Lower	9
	Higher	10
Others	Lower	11
	Higher	12
No tax information	-	13

2.1.4 Sample size and allocation criteria

New rotational group of size 2,500 for **the longitudinal component of EU-SILC 2010** was created from the selected first wave sample in the survey year 2009. In the longitudinal component of EU-SILC 2011, the size of first wave sample will be equivalent to cross-sectional survey, 5,000. In the In *Regulation 1177/2003 (Annex II)* there are minimum effective sample sizes for each country participating EU-SILC. This concept describes the sample size required under the sample design *simple random sampling*. *Regulation 1177/2003* Article 9 (paragraph 2) states that *"sample size for the longitudinal component refers, for any pair of consecutive years, to the number of households successfully interviewed in the first year in which all or at least a majority of the household members aged 16 or over are successfully interviewed in both years"*.

Minimum effective sample size for Finland; longitudinal sample, persons aged 16 or over: **5,000.**
Finland uses registers for income and other data; thus a sample of persons (instead of a sample of households) is selected. *Regulation 1177/2003* Article 9 (paragraph 3) states that *"the minimum effective sample size in terms of the number of persons aged 16 or over to be interviewed in detail shall be taken as*

75 % of the figures shown in columns 3 and 4 of the table in Annex II, for the cross-sectional and longitudinal components respectively".

Minimum effective sample size *(sample of persons)*; longitudinal sample, persons aged 16 or over:
0.75 * 5,000 = 3,750. This concept is later denoted by n_{eff}.

Technical document on intermediate and final quality reports (EU-SILC 132/04, abbreviation TD) provides the following concepts of sample size to be defined (TD Section 2.1.4): The achieved sample size *"depends on the efficiency of the sample design used (i.e. on the 'design effect')"*. The design effect term ($deft^2$) is *"the ratio of variance of a certain statistics) under the actual design, to that variance under a simple random sample of the same size"*. The reference statistic to be used in the design effect calculations is *at-risk-of-poverty-rate at national level (after social transfers)* (from TD Section 2.1). This design effect term for Finland based on the calculations from the Finnish Income Distribution Survey 2001, i.e. here $deft^2$ = **1.25**.

Minimum achieved sample size: $n_{ach} = deft^2 * n_{eff}$ = **1.25 * 3,750 ≈ 4,688.**
Thus the waves from 2 to 4 together should provide at least the achieved sample of size 4,688.
Taking the non-response into account, the sample to be selected must be larger in order to get the minimum achieved sample size. In general, the response rate for the first wave of EU-SILC (R_1) is assumed to be 0.76, and for the second (R_2), third (R_3) and fourth (R_4) wave we expect the rate to be 0.92.

The actual gross sample size selected for each new wave has been 2,500. With an expected response rate of 0.76 on the first wave, and 8 per cent attrition on the subsequent waves, the achieved sample would behave in the following way: 1,900 on the second wave, 1,748 on the third, and 1,608 on the fourth wave (table 2.2.). In each current year **the achieved sample is expected to amount to 5,256 units**, who have been interviewed at least twice. This sample size exceeds the minimum achieved sample size.

Table 2.2 presents the links between the cross-sectional (areas with bold lines) and longitudinal survey panels (areas shaded). The assumptions are 76 per cent response rate for the first wave and 92 per cent response rate for other waves. Thus the sample sizes in the table 2.2 are anticipated. Table 2.3 includes the realised situation of the year 2010 EU-SILC survey. The new sample in every stratum distributes equally for three rotational groups. (See also table 2.15).

Table 2.2 Structure and expected sample size of the longitudinal sample

	2007 1. year	**2008 2. year**	**2009 3. year**	**2010 4. year**
Gross sample	2 500	1 900	1 748	1 608
		5 000	3 800	
		2 500	1 900	1 748
			5 000	3 800
			2 500	1 900
				5 000
				2 500
Total gross cross-sectional sample	13 200	13 200	13 200	13 200
Achieved cross-sectional sample	10 944	10 944	10 944	10 944
SILC waves 3 & 4: gross sample				3 356
Achieved 3. & 4. sample				3 087
Longitudinal gross sample (2, 3 &4)		5 700	9 196	9 056
Longitudinal SILC gross sample				5 365
Achieved SILC sample (longitudinal)				4 935
Minimum achieved sample size requirement				4 688

Table 2.3 Information concerning the longitudinal sample in 2010

Wave of the panel	Sample		Sample excluding over-coverage		Accepted respondents	
	n	%	n	%	n	%
All	4 856	100.00	4 812	100.00	4 354	100.00
4. wave, DB075=2	1 510	31.10	1 495	31.07	1 394	32.02
3. wave, DB075=3	1 589	32.72	1 576	32.75	1 432	32.89
2. wave, DB075=4	1 757	36.18	1 741	36.18	1 528	35.09

2.1.5 Sample selection schemes

The sample of the new rotation group is selected with a two-phase stratified sampling design. In the first phase, the master sample of persons is selected with **systematic sampling** from the population register data ordered by the domicile code. In the second phase, the SILC-IDS sample of the first wave with household-dwelling units constructed around the target persons is selected from the **stratified** master sample **with simple random sampling without replacement within every stratum and using non-proportional allocation**. The SILC-IDS sample of the second wave including the initial target person were selected to the first wave equivalently in the previous survey year. **The first waves of the longitudinal components** of size 2,500 were selected randomly within strata from the first wave of the earlier cross-sectional surveys (of size 7,500) proportionally to the size of the sample within strata.

2.1.6 Sample distribution over time

The income reference period is constant for all households and persons: the calendar year preceding the survey year. The reference population is defined as the population registered as resident in Finland on 31 December the year preceding the data collection year (survey year). Household composition is also dated on the same day.

The field work is usually started as early as possible in January. The interviewers start with the old panels. Households that are interviewed for the first time are contacted in February.

Table 2.4 Distribution of interviews over time, 2010 operation

	January	February	March	April	May	Total
2. wave, DB075=4	726	770	32	0		1 528
3. wave, DB075=3	124	748	556	4		1 432
4. wave, DB075=2	107	649	632	6		1 394
The longitudinal component	957	2 167	1 220	10		4 354
The cross-sectional component*	2 384	4 297	2 918	1 307	83	10 989
*Of which: 1. wave of DB075=1	0	535	1 574	1 256	80	3 445
*Of which: the supplementary sample for DB075 2,3,4	0	11	49	41	3	104

2.1.7 Renewal of the sample: rotational groups

The Finnish cross-sectional EU-SILC data of the survey year contain four rotational groups: one is a new rotational group (1st wave) and older groups (2nd, 3rd, 4th wave) are responded households including the initial target person from the previous survey years. Finland has now adopted the four-year rotational group design instead of the earlier design with two-year groups, which means that Finnish cross-sectional and longitudinal designs are more integrative from the survey year 2010 onwards.

Since the new design does not affect longitudinal component until the 2011 longitudinal survey, the 2010 longitudinal component is still a subsample of the cross-sectional sample. 1/3 persons selected randomly within strata from the new group of the cross-sectional survey were included both to the four-year cross-sectional and longitudinal surveys, 2/3 to the four-year cross-sectional survey only. For example in the 2009 survey, the gross sample drawn for the first wave for the cross-section was 7,500, of which 2,500 households were sub-sampled to continue for the next four years.

Since 2010 operation, the design of SILC cross-section is comprised as follows: the gross sample drawn for the first wave for the cross-section was 5,000[1], of which all households will be contacted in the next four years. The 2010 sample thus is comprised of the new 1. wave sample (5,000 households, of which 3,445 were interviewed), of the 2. wave sample (original gross sample 7,500, of which 4,857 were interviewed in 2010), of the 3. wave sample (originally 2,500 households, of which 1,468 were interviewed) and the 4. wave (1,445 households were interviewed in 2010). The sizes of different waves thus vary greatly.

In addition, the new design calls for a supplementary sample of persons aged 16-18 to restore representativeness loss due to aging of the sample. 104 new households were added to the rotational groups 2,3 and 4.

2.1.8 Weightings

2.1.8.1 Design factor

Deft= $\sqrt{1.25}$, see chapter 2.1.4.

[1] The sample size was reduced from 7,500 households to 5,000 households.

2.1.8.2 Non-response adjustments

Master sample

Separately calculated from the master samples SY 2010 (of size **50,000**) and 2009, 2008 and 2007 (each of size **50,000**) we got the population figures for the person selection, e.g., where $\pi_{a,person\,k}$ is **the inclusion probability of the selected person *k*** in the master sample. **The inclusion probabilities of the household-dwelling units** created around the selected persons in the master sample were $\pi_{ak} = \pi_{a,person\,k} n_{16+,dwelling\ of\ k}$. Note that in this year and subsequent years concerning the EU-SILC in Finland the principles of weighting at this stage are parallel to the principles which are recommended by Eurostat, i.e. the first phase weight includes the master sample information in full.

Income Distribution Survey sample and the new SILC wave sample

The inclusion probabilities (the effect of selecting the master sample and the IDS sample) were calculated in the second phase of two-phase sampling based on the stratification (13 strata) of the master sample and the non-proportional allocation. Note that the over-coverage is now included. The inclusion probabilities were calculated $\pi_k^* = \pi_{ak}\pi_{k|s_a}$, where

$$\pi_{ak} = \pi_{a,person\,k} n_{16+,HH\ of\ k} = \frac{n_{s_a} n_{16+,HH\ of\ k}}{N}$$

and $\pi_{k|s_a} = n_h / N_{h,s_a}$ is the conditional inclusion probability at the second phase taking into account the stratification of the master sample. **The sample for the new SILC wave** is selected randomly within strata proportionally to the size of the sample within strata. Thus the conditional inclusion probability $\pi_{k|s_a}$ is corrected with the term $n_{SILC,h} / n_h$.

The base weights for the new wave were constructed as follows. As the basis of calibration **the unit non-response was corrected** by $n_{SILC,sample,h} / n_{SILC,respondents,h}$ *in every stratum h* (interpreted as the inverse of the response probability in every stratum). The sum of these corrected weights calculated separately in the data of accepted 16+ persons in the HHs coincides with N_{16+}.

2.1.8.3 Adjustments to external level

These weights containing a simple correction were used in **calibration (the raking method)** conducted with the macro CALMAR (applicable in SAS) for the accepted households (for the new cross-sectional SILC wave 3,445 and the longitudinal wave 1,394). The calibration could be interpreted as **integrative**, i.e. both the household and the person levels were included in the process. The percentual marginal distributions and the statistics used in calibration are the following:

1) Households: province; type of municipality; HH size; sums of 15 different income variables. The first three distributions of the households were obtained from the master sample, using weights for which a primary calibration (population register: 16+ persons and persons under 16 by region; gender*age class) was conducted. The income information comes from different registers.

2) Persons**:** gender and age classes (0-4, 5-9, … , 80-84, 85+)

Table 2.5 Description of the calibration variables

Variable name	Description
Alue	Region (NUTS 3 level), Capital region separated
Ask8	Size of dwelling unit
Haastkur	Degree of urbanisation
Mibs01-Mibs18	Men 0-4, 5-9, 10-14, … , 80-84, 85-
Nibs01-Nibs18	Women 0-4, 5-9, 10-14, … , 80-84, 85-
Trplopti	Income 1: Cash or near cash employee income
Saipalk	Income 2: Income 1 > 0
Lelake	Income 3: Pensions
Tyotts	Income 4: Unemployment benefits 1
Perustur	Income 5: Unemployment benefits 2
Saityott	Income 6: Income 4 > 0
Elintul3	Income 7: Income from self-employment
Yhtytulo	Income 8: Capital income 1
Maattulo	Income 9: Income from agriculture
Omaitul2	Income 10: Income from property and forestry 1
Muupaao2	Income 11: Other capital income
Metstulo	Income 12: Income from forestry 2
Myvo	Income 13: Capital gains
Saielake	Income 14: Pensions > 0
Askorot	Mortgage interests

In addition, **2,531,500** was used as the **fixed number of households** in the process. The result of this calibration was the weight that produced exactly these margins when used in the summation of these variables in the data set containing accepted observations.

2.1.8.4 Weighting of the longitudinal SILC waves, final longitudinal weights

The master sample and inclusion probabilities of the three longitudinal SILC waves (2., 3. and 4. wave) follow the same principles as presented in the previous section for the new SILC sample of the survey year 2010, but the calculations (i.e. design weights, base weights) were based on the information from the survey year of the first wave (sy2009, sy2008, sy2007). **The base weights of the waves** were also calculated in the same way as described in the previous section, but response data, frequencies and calibration marginals are from the survey year 2010. **The fixed number of households** was **2,531,500**.

The longitudinal weights require adjustments due to the changes appearing in time at the frame, household and person levels. Following the instructions of the Eurostat report *"EU-SILC Weighting Procedures - An Outline"* the weights were constructed for the longitudinal two-year SILC data as follows.

DB080: Household Design Weight. The original design weight from cross-sectional data is not applicable as such, because the weight includes the impact of the other panels. Only one third of the new sample was selected (by SRS) in the longitudinal part. Thus, the household design weights for longitudinal data were obtained by 3 * $(1/\pi_{ak})$, see Intermediate Quality Report, chapter 2.1.8.2. When adding up the weights of each panel we got an approximation of the number of households in Finland (D-file of the longitudinal survey).

DB090: Household Cross-sectional Weight, RB060: Personal Base Weight and **PB050: Personal Base Weight.** Here the principles of weighting are primarily explained for RB060. Weighting for DB090 and PB050 are applied strictly in the same way (note that as a register country Finland has the same weight for all the members of the household in the first year). In the first survey year the base weights of the longitudinal survey's panels are calibrated according to the same principles as for the cross-sectional weights. In the subsequent years the first year's weight serves as the basis for further weighting taking into account population changes. Instead of logit modelling we calibrate the current base weight to the exact population by sex & age groups,

which has existed in the previous year as the technical report of weighting defines. For this, we use Total Income Distribution Statistics. By weights calibrated to marginals of this data source we can produce the exact sex and age group distributions which have “survived” in time. For the SILC 2010 longitudinal data including the previous years as well all the weights were adjusted equivalently.

PB070: Personal Design Weight for Selected Respondent. The weight is calculated by multiplying longitudinal DB070 with the number of persons aged 16 or over in the household.

PB080: Personal Base Weight for Selected Respondent. The base weight for selected respondent from the first year is adjusted with the ratio between the current RB060 and base weight for RB060 from the first year, i.e.

$$\omega_2 = \omega_1^{(SB)} \left\{ \frac{\omega_2^{(RB)}}{\omega_1^{(RB)}} \right\}.$$

Then the weights are calibrated on gender and age (in single years) according to the distribution of the total sample aged 16+ weighted differently, namely by $\omega^{(RB)}$. The resulting weights for the completed individual interview sample are these post-calibration weights:

$$\omega_t \xrightarrow{calibrated} \omega_t^{(RB)}.$$

New persons not included in the first year are dealt with as follows. Children born to sample women receive the weight of the mother. Persons moving into sample households from other non-sample households in the population (co-residents) are given zero base weight.

The structure of the two-year longitudinal data requires weights also for the results of the previous years. These weights (DB080, DB090, RB060, PB050, PB070, PB080) come from that year, adjusted (when necessary) so that the sum of the weights describes the target population at that time.

2.1.9 Substitutions

The Finnish SILC data does not contain substitutions.

2.2 Sampling errors

The sampling errors have been provided for the main estimators of cross-sectional data (table 2.6). The “gender pay gap” comes from another source, not utilising the SILC data. Note that this table contains the calculations in general; when these indicators are classified with some variables (e.g. main activity status and work intensity), some item non-response may appear due to the classification variables.

Table 2.6 Effective sample sizes, item non-responses and standard errors of the main estimators, cross-sectional data 2010

Estimator	Accepted observations in general	Item non-response	Effective sample size	Main estimate	Standard error
Equivalised disposable income	27 009	0	27 009	23 527.55	40.29
At-risk-of-poverty rate after social transfers	27 009	0	27 009	13.1	0.579
Inequality of income distribution S80/S20 income quintile share ratio	27 009	0	27 009	3.6	0.060
Relative median at-risk-of-poverty gap	27 009	0	27 009	13.8	0.798
Dispersion around the risk-of-poverty threshold (MD40)	27 009	0	27 009	2.4	0.248
At-risk-of-poverty rate before social transfers except old-age and survivors' benefits	27 009	0	27 009	27.0	0.589
At-risk-of-poverty rate before transfers including old-age and survivors' benefits	27 009	0	27 009	40.7	0.573
Inequality of income distribution: Gini coefficient	27 009	0	27 009	25.4	0.364

The sampling design of the Finnish EU-SILC and the Finnish Income Distribution Survey is a two-phase design, with simple random sampling without replacement (1st phase) and stratified simple random sampling with unequal allocation emphasising some groups (2nd phase). The standard error calculations are conducted with the bootstrap method (10,000 replications). The idea is to estimate the standard error of the second phase by separately carrying out simple random sampling with replacement in every stratum with the original sample size of the stratum. The calibration has been conducted in every replication, and the weights are an outcome of this process. The variance to be used is simply the variance of the bootstrap estimator. In addition, in order to take the non-negligible sampling fraction into account the variance is multiplied by the finite population correction at the whole sample level, i.e. approximately 0.77. The standard error is the square root of the variance. The standard error of the equivalised disposable income is calculated with the software CLAN.

The variance estimation process includes some aspects of uncertainty. The non-response effect is not taken into account in variance estimation. The with-replacement nature of selection differs from the original selection, and the use of the finite population correction at the general level does not take the non-proportional allocation into account. This may yield obtaining a bit conservative standard error estimates.

According to *"Technical document on intermediate and final quality reports"* the final quality report should include means, numbers of observations and standard errors for income components of cross-sectional survey and each wave of longitudinal component. The calculations are made with the software CLAN, and they take both the sampling design and the calibration into account. Note that the results of the rotational group breakdown are based on a separate calibration of each rotational group (or wave) of the survey year.

Table 2.7 Mean, number of observations and standard errors for components of income, cross-sectional data 2010

Components of income	Variable name	Mean	Number of observations		Standard error
			Before imputation	After imputation	
Total household gross income	HY010	44502.95		10 989	118.172
Total disposable household income	HY020	33891.92		10 989	93.471
Total disposable household income, before social transfers other than old-age and survivors' benefits	HY022	29402.70		10 989	94.894
Total disposable household income, before social transfers including old-age and survivors' benefits	HY023	23672.80		10 989	87.812
Total household gross income (incl. PY080G)	HY010	44951.59		10 989	110.947
Total disposable household income (incl. PY080G)	HY020	34340.56		10 989	83.542
Total disposable household income, before social transfers other than old-age and survivors' benefits (incl. PY080G)	HY022	29851.34		10 989	86.415
Total disposable household income, before social transfers including old-age and survivors' benefits (incl. PY080G)	HY023	24121.45		10 989	80.794
Imputed rent	HY030G	4360.06		10 989	35.372
Income from rental or property or land	HY040G	454.25		10 989	7.336
Family/children-related allowances	HY050G	1087.50		10 989	17.755
Social exclusion payments not elsewhere classified	HY060G	208.79		10 989	9.654
Housing allowances	HY070G	397.68		10 989	9.598
Regular inter-household cash transfers received	HY080G	128.17		10 989	6.874
Interest, dividends, profit from capital investments in unincorporated businesses	HY090G	1484.24		10 989	84.594
Interest paid on mortgages	HY100G	793.12		10 989	3.790
Income received by people aged under 16	HY110G	40.46		10 989	5.406
Regular taxes on wealth	HY120G	125.85		10 989	1.871
Regular inter-household transfers paid	HY130G	230.22		10 989	9.671
Tax on income and social insurance contributions	HY140G	10254.95		10 989	41.061
Repayments/receipts for tax adjustments	HY135G				
Cash or near-cash employee income	PY010G	16368.67		27 009	108.686
Non-cash employee income	PY020G	198.33		27 009	8.585
Non-cash employee income (a company car)	PY021G	120.66		27 009	7.335
Employers' social insurance contributions	PY030G	3969.22		27 009	27.371
Contributions to individual private plans	PY035G	125.80		27 009	4.142
Gross cash profits or losses from self -employment (incl. royalties)	PY050G	1325.01		27 009	38.769
Value of goods produced for own consumption	PY070G	0.00		27 009	0.000
Pensions from individual private plans other than those covered under ESSPROS	PY080G	263.13		27 009	19.618
Unemployment benefits	PY090G	881.47		27 009	17.641
Old-age benefits	PY100G	4010.09		27 009	34.765
Survivors' benefits	PY110G	54.11		27 009	6.213
Sickness benefits	PY120G	128.19		27 009	8.828
Disability benefits	PY130G	829.23		27 009	25.201
Education-related allowances	PY140G	154.54		27 009	6.400
Gross monthly earnings for employees	PY200G	.			.

Table 2.8a Mean, number of observations and standard errors for equalised disposable income in different population groups, cross-sectional data 2010

Equivalised disposable income	Mean	Number of observations		Standard error
		Before imputation	After imputation	
All	23527.55		27 009	43.715
1 household member	18853.41		2 614	292.634
2 household members	25860.36		8 778	226.743
3 household members	25087.21		4 932	363.593
4 household members or more	23097.80		10 685	160.320
Age group <18 years	22686.97		6 367	309.250
Age group 18-24 years	19133.13		2 267	462.221
Age group 25-34 years	23420.90		2 620	370.840
Age group 35-44 years	25301.18		3 292	454.571
Age group 45-54 years	26615.43		4 399	410.150
Age group 55-64 years	26956.66		4 575	314.362
Age group 65- years	19871.90		3 489	221.882
Age group 75- years	18151.60		1 404	420.842
Male	24043.16		13 682	187.696
Female	23032.53		13 327	173.317
Male, age group 18<24 years	20012.44		1 271	736.778
Male age group 25-34 years	23266.54		1 323	633.616
Male, age group 35-44 years	25151.88		1 616	707.111
Male, age group 45-54 years	26786.90		2 170	660.742
Male, age group 55-64 years	27191.54		2 348	587.265
Male, age group 65- years	21656.38		1 677	524.215
Male, age group 75- years	20013.12		636	1 077.683
Female, age group 18<24 years	18196.75		996	682.130
Female, age group 25-34 years	23582.12		1 297	657.061
Female, age group 35-44 years	25454.34		1 676	707.396
Female, age group 45-54 years	26443.68		2 229	633.867
Female, age group 55-64 years	26729.67		2 227	539.810
Female, age group 65- years	18602.68		1 812	256.983
Female, age group 75- years	17100.42		768	354.400

Table 2.8b Mean, number of observations and standard errors for equalised disposable income in different population groups, longitudinal data 2010 (DB075=2,3,4; weight RB060)

Equivalised disposable income	Mean	Number of observations		Standard error
		Before imputation	After imputation	
All	24186.56		10 443	85.803
1 household member	19169.85		914	349.659
2 household members	27006.49		3 441	345.740
3 household members	25505.46		1 824	531.041
4 household members or more	23332.63		4 264	194.363
Age group <18 years	22912.74		2 360	229.323
Age group 18-24 years	19994.13		835	420.985
Age group 25-34 years	24262.79		947	271.738
Age group 35-44 years	26064.07		1 277	295.234
Age group 45-54 years	26680.64		1 719	368.424
Age group 55-64 years	28638.96		1 870	602.397
Age group 65- years	20466.40		1 435	196.717
Age group 75- years	18167.20		566	282.727
Male	24741.62		5 273	170.564
Female	23653.88		5 170	154.021
Male, age group 18<24 years	21242.15		465	648.966
Male age group 25-34 years	24073.74		477	406.528
Male, age group 35-44 years	26039.47		622	419.497
Male, age group 45-54 years	26749.30		836	451.406
Male, age group 55-64 years	28629.76		957	906.540
Male, age group 65- years	22453.25		696	364.550
Male, age group 75- years	19871.26		259	492.046
Female, age group 18<24 years	18710.87		370	566.567
Female, age group 25-34 years	24462.31		470	392.047
Female, age group 35-44 years	26089.38		655	440.578
Female, age group 45-54 years	26611.86		883	443.098
Female, age group 55-64 years	28647.84		913	917.696
Female, age group 65- years	19054.59		739	236.027
Female, age group 75- years	17203.55		307	371.064

Table 2.8c Mean, number of observations and standard errors for equalised disposable income in different population groups, longitudinal data 2010 (DB075=2; weight RB064)

Equivalised disposable income	Mean	Number of observations		Standard error
		Before imputation	After imputation	
All	24809.42		3 501	217.613
1 household member	19074.06		296	886.635
2 household members	29045.88		1 156	921.231
3 household members	24431.52		624	1273.276
4 household members or more	23890.36		1 425	513.830
Age group <18 years	23374.10		757	552.137
Age group 18-24 years	19647.59		349	1102.772
Age group 25-34 years	24266.12		298	731.666
Age group 35-44 years	25381.10		392	672.425
Age group 45-54 years	27147.99		603	1125.615
Age group 55-64 years	31950.41		637	1636.707
Age group 65- years	20499.01		465	553.338
Age group 75- years	17871.39		192	509.323
Male	25544.83		1 782	446.245
Female	24109.77		1 719	411.148
Male, age group 18<24 years	21589.32		189	1553.442
Male age group 25-34 years	24144.32		155	1139.105
Male, age group 35-44 years	25421.63		199	1012.131
Male, age group 45-54 years	26317.50		291	1320.045
Male, age group 55-64 years	32153.37		328	2484.921
Male, age group 65- years	23198.94		224	1253.407
Male, age group 75- years	19748.64		90	1101.161
Female, age group 18<24 years	17649.67		160	1725.502
Female, age group 25-34 years	24391.63		143	976.005
Female, age group 35-44 years	25340.01		193	903.778
Female, age group 45-54 years	27974.82		312	1327.339
Female, age group 55-64 years	31754.98		309	2509.551
Female, age group 65- years	18580.43		241	397.508
Female, age group 75- years	16810.67		102	549.593

Table 2.9 Mean, number of observations and standard errors for components of income, longitudinal data 2010, (DB075=2, 4th wave).

Components of income	Variable name	Mean	Number of observations		Standard error
			Before imputation	After imputation	
Total household gross income	HY010	47958.82		1 394	851.182
Total disposable household income	HY020	36155.38		1 394	594.839
Total disposable household income, before social transfers other than old-age and survivors' benefits	HY022	31918.34		1 394	609.203
Total disposable household income, before social transfers including old-age and survivors' benefits	HY023	25856.10		1 394	604.847
Total household gross income (incl. PY080G)	HY010	48412.65		1 394	861.409
Total disposable household income (incl. PY080G)	HY020	36609.22		1 394	603.551
Total disposable household income, before social transfers other than old-age and survivors' benefits (incl. PY080G)	HY022	32372.18		1 394	618.286
Total disposable household income, before social transfers including old-age and survivors' benefits (incl. PY080G)	HY023	26309.94		1 394	614.252
Imputed rent	HY030G	4696.01		1 394	112.931
Income from rental or property or land	HY040G	485.12		1 394	52.610
Family/children-related allowances	HY050G	1264.56		1 394	100.423
Social exclusion payments not elsewhere classified	HY060G	207.28		1 394	32.809
Housing allowances	HY070G	359.71		1 394	36.390
Regular inter-household cash transfers received	HY080G	111.93		1 394	19.988
Interest, dividends, profit from capital investments in unincorporated businesses	HY090G	2341.23		1 394	464.022
Interest paid on mortgages	HY100G	838.43		1 394	41.583
Income received by people aged under 16	HY110G	46.77		1 394	19.297
Regular taxes on wealth	HY120G	144.73		1 394	6.699
Regular inter-household transfers paid	HY130G	246.66		1 394	25.168
Tax on income and social insurance contributions	HY140G	11412.05		1 394	277.023
Repayments/receipts for tax adjustments	HY135G				
Cash or near-cash employee income	PY010G	16944.75		2 736	383.560
Non-cash employee income	PY020G	220.53		2 736	29.373
Non-cash employee income (company car)	PY021G	132.55		2 736	16.614
Employers' social insurance contributions	PY030G	4139.84		2 736	96.557
Contributions to individual private plans	PY035G	147.79		2 736	13.380
Gross cash profits or losses from self -employment (incl. royalties)	PY050G	1546.91		2 736	133.628
Value of goods produced for own consumption	PY070G	265.78		2 736	38.836
Pensions from individual private plans other than those covered under ESSPROS	PY080G	909.35		2 736	86.340
Unemployment benefits	PY090G	4267.27		2 736	125.078
Old-age benefits	PY100G	62.85		2 736	18.564
Survivors' benefits	PY110G	106.84		2 736	18.541
Sickness benefits	PY120G	590.09		2 736	70.032
Disability benefits	PY130G	126.81		2 736	16.798
Education-related allowances	PY140G	16944.75		2 736	383.560
Gross monthly earnings for employees	PY200G	.			.

Table 2.10 Mean, number of observations and standard errors for components of income, longitudinal data 2010 (DB075=3, 3rd wave)

Components of income	Variable name	Mean	Number of observations		Standard error
			Before imputation	After imputation	
Total household gross income	HY010	47719.10		1 432	459.403
Total disposable household income	HY020	35885.30		1 432	338.892
Total disposable household income, before social transfers other than old-age and survivors' benefits	HY022	31209.46		1 432	359.136
Total disposable household income, before social transfers including old-age and survivors' benefits	HY023	25310.75		1 432	343.863
Total household gross income (incl. PY080G)	HY010	48128.60		1 432	458.967
Total disposable household income (incl. PY080G)	HY020	36294.80		1 432	334.014
Total disposable household income, before social transfers other than old-age and survivors' benefits (incl. PY080G)	HY022	31618.96		1 432	354.399
Total disposable household income, before social transfers including old-age and survivors' benefits (incl. PY080G)	HY023	25720.26		1 432	344.842
Imputed rent	HY030G	4739.58		1 432	104.263
Income from rental or property or land	HY040G	275.31		1 432	25.236
Family/children-related allowances	HY050G	1071.60		1 432	72.255
Social exclusion payments not elsewhere classified	HY060G	170.01		1 432	25.780
Housing allowances	HY070G	324.76		1 432	25.856
Regular inter-household cash transfers received	HY080G	105.31		1 432	15.958
Interest, dividends, profit from capital investments in unincorporated businesses	HY090G	1001.10		1 432	195.025
Interest paid on mortgages	HY100G	949.32		1 432	25.001
Income received by people aged under 16	HY110G	40.06		1 432	11.772
Regular taxes on wealth	HY120G	127.59		1 432	5.212
Regular inter-household transfers paid	HY130G	236.31		1 432	24.723
Tax on income and social insurance contributions	HY140G	11469.90		1 432	160.744
Repayments/receipts for tax adjustments	HY135G				
Cash or near-cash employee income	PY010G	18083.28		2 814	426.665
Non-cash employee income	PY020G	247.55		2 814	34.434
Non-cash employee income (company car)	PY021G	173.66		2 814	31.005
Employers' social insurance contributions	PY030G	4362.67		2 814	110.885
Contributions to individual private plans	PY035G	123.29		2 814	10.891
Gross cash profits or losses from self -employment (incl. royalties)	PY050G	1197.87		2 814	83.729
Value of goods produced for own consumption	PY070G	239.81		2 814	42.854
Pensions from individual private plans other than those covered under ESSPROS	PY080G	926.80		2 814	84.029
Unemployment benefits	PY090G	4185.71		2 814	132.195
Old-age benefits	PY100G	38.35		2 814	13.674
Survivors' benefits	PY110G	142.90		2 814	30.404
Sickness benefits	PY120G	957.54		2 814	106.188
Disability benefits	PY130G	141.83		2 814	15.872
Education-related allowances	PY140G	18083.28		2 814	426.665
Gross monthly earnings for employees	PY200G	.			.

Table 2.11 Mean, number of observations and standard errors for components of income, longitudinal data 2010 (DB075=4, 2nd wave)

Components of income	Variable name	Mean	Number of observations		Standard error
			Before imputation	After imputation	
Total household gross income	HY010	45281.90		1 528	422.555
Total disposable household income	HY020	34385.35		1 528	304.115
Total disposable household income, before social transfers other than old-age and survivors' benefits	HY022	29940.47		1 528	319.134
Total disposable household income, before social transfers including old-age and survivors' benefits	HY023	24006.45		1 528	301.176
Total household gross income (incl. PY080G)	HY010	45734.34		1 528	430.142
Total disposable household income (incl. PY080G)	HY020	34837.80		1 528	308.289
Total disposable household income, before social transfers other than old-age and survivors' benefits (incl. PY080G)	HY022	30392.91		1 528	324.188
Total disposable household income, before social transfers including old-age and survivors' benefits (incl. PY080G)	HY023	24458.89		1 528	309.044
Imputed rent	HY030G	4559.40		1 528	98.231
Income from rental or property or land	HY040G	492.13		1 528	37.498
Family/children-related allowances	HY050G	1070.17		1 528	65.411
Social exclusion payments not elsewhere classified	HY060G	169.66		1 528	26.021
Housing allowances	HY070G	343.96		1 528	27.186
Regular inter-household cash transfers received	HY080G	127.75		1 528	19.802
Interest, dividends, profit from capital investments in unincorporated businesses	HY090G	1098.63		1 528	135.296
Interest paid on mortgages	HY100G	752.83		1 528	20.396
Income received by people aged under 16	HY110G	52.64		1 528	19.569
Regular taxes on wealth	HY120G	141.57		1 528	5.738
Regular inter-household transfers paid	HY130G	194.83		1 528	19.602
Tax on income and social insurance contributions	HY140G	10560.15		1 528	143.644
Repayments/receipts for tax adjustments	HY135G				
Cash or near-cash employee income	PY010G	16387.58		3 028	337.159
Non-cash employee income	PY020G	181.08		3 028	20.607
Non-cash employee income (company car)	PY021G	115.87		3 028	19.579
Employers' social insurance contributions	PY030G	3999.03		3 028	86.797
Contributions to individual private plans	PY035G	125.15		3 028	9.606
Gross cash profits or losses from self -employment (incl. royalties)	PY050G	1417.16		3 028	111.676
Value of goods produced for own consumption	PY070G	231.90		3 028	34.272
Pensions from individual private plans other than those covered under ESSPROS	PY080G	874.29		3 028	65.962
Unemployment benefits	PY090G	4143.94		3 028	99.079
Old-age benefits	PY100G	40.24		3 028	9.775
Survivors' benefits	PY110G	78.69		3 028	20.580
Sickness benefits	PY120G	886.80		3 028	80.088
Disability benefits	PY130G	147.61		3 028	14.907
Education-related allowances	PY140G	16387.58		3 028	337.159
Gross monthly earnings for employees	PY200G	.			.

2.3 Non-sampling errors

2.3.1 Sampling frame and coverage errors

The target population is the set of elements about which information and parameter estimates are required. The Commission Regulation on sampling and tracing rules states that “The target population of EU-SILC shall be all private households and their current members residing in the territory of the Member State at the time of data collection. Persons living in collective households and in institutions are generally excluded from the target population.” There is no register on housekeeping units in Finland, so the selection is based on the population register and the creation of the households begins with the household-dwelling unit information available in the register.

2.3.1.1 Description of the sampling frame

The sample is drawn from the Population Information System (PIS) maintained by Population Register Centre of Finland. The register is a continuously updated population register based on domicile. It is updated daily with information on population changes: births, deaths, migration, immigration and emigration, marriages, divorces, adoptions and changes of names. PIS is a compilation of local registers kept up by population register districts.

PIS includes information on Finnish citizens and aliens permanently or temporarily (=more than 3 and less than 12 months) resident in Finland. It includes persons living in households, institutions, temporarily abroad and the homeless. Temporarily resident persons, or persons living in institutions, collective households or residential homes do not belong in the target population, but they are included in the PIS household population and have to be excluded from the master sample (see below).

Every person residing permanently in Finland has a unique identification code and each dwelling has a domicile code. Each person is registered in the municipality where he/she has a permanent place of residence. The domicile code is the link between a person and his/her permanent dwelling. A person may also have a registered temporary address. Persons without an address are registered in municipal registers as homeless persons. The linkage between identification and domicile codes enables the pre-entry into the IDS-SILC questionnaire of all persons permanently registered in the household-dwelling units before the interviewer contacts the household.

The copy of the population register some weeks before the end of the study year was **the sampling frame** for the selection of the new IDS/SILC sample. After the separation of the persons placed in institutions and the homeless (a specific code identifies both cases), this frame included 4,321,007 persons aged 16 years or over. The order of the frame was based on the domicile code, i.e. a very exact identification of all the possible places where persons can live. The first digits of the code refer to the regional information (municipality code). That frame is used for **the construction of the household-dwelling units for the master sample** as well. After various checks and combinations (e.g. excluding collective households, e.g. members of the same hall of residence as the target person) we get the household-dwelling units with all their relevant members for the selected master sample. Before the fieldwork begins, information of the earlier panels of the survey and the changes after the selection of the sample are updated from the register.

2.3.1.2 Information about the frame: reference period, updating actions, quality review actions

In general, the Population Information System (PIS) of the Population Register Centre can be considered exhaustive and up-to-date as regards persons. Updating activities occur constantly. The Population Register Centre updates 5th - 8th day of every month the official population figures in all municipalities in Finland.

The system is maintained by notifications of changes made by authorities. Maternity hospitals immediately report new-born children to local register offices. Deaths have to be reported at once either to a physician or to the police. They have to report the death to PIS. The inhabitants are themselves responsible only of notification of changes of residence. Those who move or immigrate are expected to report to the local register office of the new place of residence on the change of address within one week of the move, specifying all the members of the family or household involved in the move.

Those emigrating should supply a notice of change of address in the country of entry. According to an agreement between the Nordic countries - which are the main destinations of migrants – the population register authorities of the country of entry inform the population register authorities of the country of exit. In the years when municipal elections are arranged (every 4th year), the population is corrected by around 1,000 persons, when emigrants whose emigration have been left unnoticed return notifications of voting.

A quality survey on PIS is conducted yearly by means of a telephone interview of a sample of approx. 10,000 persons. From the EU-SILC point of view, reliability of its address information is of special relevance[2], since the address is the starting point of creating contact with the target person and his/her household. For those who responded to this (telephone) survey, addresses were correct for 99 percent. For non-respondents, the addresses were verified using other sources (postal registers, telephone catalogues, visits to the address) Assuming that all the addresses unverified from the non-respondents were incorrect, the final estimated proportion of the correct addresses was 98.4 per cent.

The Population Information System has no under-coverage in any population groups. Asylum seekers and refugees are not included in the resident population until their permit of residence has been processed. The small over-coverage present in the SILC sample is a consequence of the necessity to draw the sample in good time before the actual date of defining the sample households (31 Dec.) and may also be related to register updates - delays in the notifications of emigration, moving to reside permanently in institutions or deaths.

The presence of the members of the households are checked in the interview. Persons who recently changed place of residence and/or household, new-borns, recently moved to institutions or died are the usual sources of non-correct register-based pre-entries in the IDS-SILC questionnaire.

2.3.2 Measurement and processing errors

Finland's SILC data is a combination of interviews and register information. In this chapter, the focus is mainly on description of collection and processing of the interviewed data. A short description of the register data processing is provided in chapter 2.3.2.3. The interviews were carried out mostly by CATI (table 2.12).

Table 2.12 Type of interview in the longitudinal EU-SILC, 2010 operation

	Households			*%*		
	CATI	CAPI	Total	CATI	CAPI	Total
1. wave, DB075=1*	3 259	186	3 445	94.6	5.4	100.0
2. wave, DB075=4	1 505	23	1 528	98.5	1.8	100.0
3. wave, DB075=3	1 414	18	1 432	98.6	1.5	100.0
4. wave, DB075=2	1 374	20	1 394	98.7	1.3	100.0
The longitudinal component	4 293	61	4 354	98.6	1.4	100.0
The cross-sectional component	10 679	310	10 989	97.2	2.8	100.0

*including the supplementary sample for rotational groups DB075 2,3,4

2.3.2.1 Questionnaire build-up, the testing procedures, interviewer training

Processing fieldwork tools

The fieldwork tools are under constant development. See details in the intermediate quality reports.

Feedback of the field work taken into consideration in the questionnaire build-up process

Since 2005, **the interviewers' feedback survey** is routinely collected from all interviewers at the end of the project through a standard questionnaire. According to the opinion of 8 per cent of the interviewers in 2010, the *questionnaire techniques* was somewhat or very bad. The assessment has improved from 20 per cent in 2005, but deteriorated from the previous year's 4 percent. Percentage of interviewers who felt that the *questionnaire substance* was somewhat or very bad fell from 26 per cent in 2005 to 8 per cent in 2010.

[2] The EU-SILC collects variables PB130, PB140, PB150, PB190, PB210, PB220A and PB220B directly from the PIS. None of these information, however, have been checked in the PIS quality survey.

Questionnaire build-up and testing process in SILC 2010

Since 2010 operation, along with the design change from two-year rotational design of the cross-sectional component into four-year rotational design, the questionaire management eased. The questionnaire for waves 2-4 are integrated together (earlier, a separate, shorter questionnaire for waves 3-4 was prepared).

The questionnaire for wave 1 is different than the later waves: there are no prefills. The questionnaire for waves 2-4 is prefillled. Some variables do not change and they are not repeated. Some variables change very slowly, and they are prefilled and checked that the information still stand.

During the process of BLAISE programming, the questionnaire is table-tested by the team responsible for the IDS and EU-SILC. Seven persons are involved, including persons responsible for questionnaire programming, field personnel and persons responsible for data editing and analysis. In weekly meetings details of the questions are discussed, the focus being the parts of the questionnaire undergoing some change. In the end, a group of professional interviewers checks the questionnaire against their experience. Finally, the technical functioning of the questionnaire is tested in the interviewer organisation before it is sent to the field.

The testing procedure makes use of the BLAISE-programmed questionnaire. The real field situation is simulated by a test sample, actual households from the preceding year's data base. Thus the test questionnaire is prefilled with the information about the household composition and dates of birth. As in real field situation, the second and consequent panels have more information from previous interview entered into the questionnaires. The testers fill in the questionnaire, again and again, trying all combinations of imagined situations, and likely errors (to disclose signalling), too. They are asked to pay attention to:
- spelling, language, formulations and conceptual correctness of the questions,
- proper functioning of the routings and
- adequacy of logical checks, signals and interviewing instructions on the screen.

Interviewer training

Statistics Finland's interviewer organisation employs about 160 field interviewers on a permanent work contract. They work mostly part-time. They are given basic training on interviewing and questionnaire standards and codes of practices when they start working. They collect most of Statistics Finland's survey data, for the Labour Force Survey, Household Budget Survey, Time Use Survey and Adult Literacy Survey, for example. In other words, they are experienced.

Interviewer training, 2005 - 2008

	2005	2006	2007	2008	2009	2010
Training organised by the central unit:						
Newly recruited interviewers, days/interv.	2	2	2	2	2	2
All interviewers, days/interv.	0.4	-	1	1	-	-
Training at home:						
All, hours/interviewer, Finnish / Swedish	3.5 / 4.5	3.5 / 4.5	3.5 / 4.5	3.5 / 4.5	3.5 / 4.5	3.5 / 4.5

The changes on the questionnaire are introduced each year to the interviewers in a separate written report and, of course, in the instructions book. The instructions book is rewritten every year and it is also under constant development. The interviewers are paid to get acquainted with the material and practice with it.

Newly recruited interviewers are trained separately. They usually have two day's training about the SILC. The training programme includes a lecture on the planning of the survey, including a description of Eurostat's process, legislation and future uses of the data, and Eurostat guidelines on data protection. Concern over international comparability is underlined. Instructions on the fundamental rules of central data collection are given and discussed, such as the definition of target population, household definition and its implementation in practice, different concepts and classifications of activity, especially labour market activities, child care

questions, housing costs and mortgages. A major part of the training time is used on going through the videoed BLAISE questionnaire with the aid of three lecturers. The panel design and the future modules are described. Data transferring, data protection and other practicalities are also tutored.

During the whole fieldwork period, interviewers' information desk is open for them. They can ask for support from the IDS-SILC team. The interviewers, who are distributed all over the country, also have organised district meetings with each other to discuss professional matters.

2.3.2.2 Possible sources of measurement errors

The potentials for error prevention are used extensively in BLAISE programming.
- Most relevant question-specific instructions are on the screen with the questions.
- Routings to avoid repetitive or irrelevant questions.
- Prefillings from the Population Register are used to help household construction.
- Prefillings from previous wave (household composition, jobs, work history, occupation, NACE, dwelling information)
- Coherence is maintained by introducing logical checks to interconnected questions.
- Questions presuming numerical answers are given upper and lower limits where possible.
- Signals are pre-programmed to possible incoherent answers, to violations of numerical limits, extreme values or to missing answers.
- The questionnaire is programmed to accommodate the mode of addressing the respondent depending on whether the selected person him/herself or another member of the household is responding (interviewing the selected respondent about himself: Did you… ; interviewing through a proxy respondent: Did N.N. …). This helps the interviewer and respondent to keep control of the member-specific data collection.

Of the many possible sources of measurement errors, the focus in this section is on **errors due to integration problems, questionnaire techniques and fieldwork problems**. The problems are presented as possible sources of error. The exact nature and size of error, if any, can only rarely be detected. The quality of register data is described in the chapters on comparability and coherence.

The use of proxy respondents

The use of proxy respondents is a problematic choice. In the EU-SILC, it is important to interview persons about their subjective evaluations (especially about health). Person-specific facts are also collected in the IDS, but these facts are of objective nature and can easily be reported by a household representative. Problems arising from the use of proxy respondents concentrate on the subjective questions: the control in terms of which household member answers the questions involving subjective assessments, depends on the interviewer. Use of proxy is denied only in the self-reported health questions (PH010-PH030). On the other hand, the selected respondent may be utterly unaware of the household economy and other members' activities. This is the case especially with the youngest respondents.

In Finland, the EU-SILC is designed on the selected respondent -model. Typically, only one person is interviewed. He/she gives all the information: household questionnaire and the personal questionnaires of the selected person and the other members of the household. The proxy respondent is chosen by the interviewer. The interviewers have been instructed to negotiate with the selected respondent and prefer interviewing him if he is able to give information about the household economy, housing and the other household members' activity. Otherwise, a proxy respondent is interviewed. According to an estimate of the interviewers, about 85 per cent of their informants are those who have the best knowledge of the household's affairs.

In case the selected person is aged less than 18 years, the contact letter is also sent to his/her parents or guardians. Around 90 per cent of selected persons under the age of 18 have been represented by a proxy.

The proxy use is slowly decreasing, in the cross-sectional component from 24 per cent of the selected respondents in 2005 to 16 per cent in 2010. (Table 2.13). Interviewing more than one household member – both the selected person and a household respondent – is supported. Other members are allowed to be consulted during the interview if they are available.

Table 2.13 Percentage of proxy interviews in the longitudinal component and the cross-section by respondent status 2010, %

	Proxy respondent for:	
	Selected respondent	Co-resident (aged 16 +)
1. wave, DB075=1	17.9	83.9
2. wave, DB075=4	14.0	88.2
3. wave, DB075=3	14.9	88.8
4. wave, DB075=2	14.5	90.1
The longitudinal component	14.4	89.1
The cross-sectional component*	16.3	86.7

including the supplementary sample for rotational groups DB075 2,3,4

Proxies are mostly persons responsible for the accommodation. A proxy respondent has most often represented the youngest selected persons under the age of 18. Most of the proxy respondents are parents or spouses of the selected respondent. Se the intermediate report for further analysis of the household position and age of the respondents who were replaced by a proxy.

Fieldwork problems

Mode of data collection (CATI): according to interviewers' estimate, about half of the interviews are conducted through mobile phones and about 6 per cent of them outside home. The interviewers are allowed to change the mode into CAPI, in case the respondent has no phone or has an exceptionally large household. See chapter 2.4.

According to the *Interviewers' Feedback Survey 2009*, 33 per cent of the interviewers felt that the duration of the interview was too long and half of those who felt so, also thought that it had an effect on the refusal rate and weakened the quality of responses.

Telephone interviews in general are afflicted by a sense of rush. In large households, the interview is too long for telephone. Although an average interview takes approximately half an hour on the first and second wave, and 15 minutes on the subsequent waves, it is a long time on a phone. According to feed-back from the interviewers, the questionnaires are hard to manage cognitively. Many questions require reminiscence and retrospection. This may have an effect on attrition, but to what extent, is unknown. We have noticed a sudden increase of refusals from the next wave at the close of the first interview. The respondents ask the interviewer not to call again.

Refusals. The share of sampled households who refuse co-operation with the interviewer slowly rises each year. See chapter 2.3.3.3.

Integration of the questionnaires of the national IDS and EU-SILC

The questionnaire for the first EU-SILC operation was built up using the national Income Distribution Survey 2002 BLAISE questionnaire that has been in use in its present form (with only slight modifications from year to year) since 1994. A major part of the questionnaire contents was shared with the national IDS and EU-SILC, but there were differences, too.

Different reference periods in EU-SILC compared with the corresponding reference periods in national Income Distribution Survey formed the major problem in the integration of the data collection. In the IDS, all income, labour, child care, and dwelling and dwelling costs information refer to the income reference period. That is why the definition of 'current' in SILC differs somewhat from the regulation definitions (See section 3.1 for a list of deviations).

Labour information in IDS and EU-SILC

Labour information is the most problematic area of integration. The basic concepts of main and second job differ in the IDS and EU-SILC. The reference periods for the activities and job-taking in the IDS and EU-SILC are not easily reconciled. The solution was to reduce the number of reference periods. That was achieved in defining "current" to be included in the IRP.

Changes in the questionnaire

Before 2009 operation, the CATI questionnaire is almost identical on the first and second interviews for the cross-sectional and longitudinal components. On the third and fourth interviews, the questionnaire only consists of the questions needed to construct the SILC target variables for the longitudinal component. Starting from 2009 operation, the questionnaire is identical in all rotational groups, except the questions asked only in the first interview. The questionnaire is under constant development. The changes are, however, seldom substantial. Most changes are made to improve technical and communicative fluency and accuracy of interviewing. See intermediate quality reports for detailed information on changes made on the questionnaire.

Measurement failures due to questionnaire techniques: variable-specific problems

HB100, PB120 - Household and personal interview duration - In Finland's selected respondent model, the duration of the interview is measured as the duration for both household- and personal interview in variable HB100. Variable PB120 is empty.

HS130 Lowest monthly income to make ends meet. The difficulty of this question for the respondent is well illustrated by the high item non-response. In the longitudinal data, the number of missing answers varies between 15 and 17 per cent of the cases.

PE030 Year when the highest level of education was attained - a large number of missing values due to register imperfection.

PL040 Status in employment, PL050 Occupation, PL140 Type of contract, PL 150 Managerial position: a considerable item non-response still prevails for persons who were currently inactive.

PL060, PL100 Number of hours usually worked per week in main job / …second, third… jobs : the item non-response was quite high. An imputation procedure was adopted in 2008 (hot deck) using gender, age, occupation and information of whether the job was a part-time or full-time job of the observed population as a base for imputations.

PH010 - PH030 Health questions: item response rate is somewhat lower than the overall response rate since the health questions are not allowed to be answered by a proxy respondent. In addition, in 2006 and 2007 the item nonresponse was even higher due to a flaw in interviewer training.

Please see appendix on Health questions attached to the Intermediate Quality Report 2010 (**http://circa.europa.eu/Members/irc/dsis/eusilc/library?l=/quality_assessment/quality_reports/fi/2010_intermediate/_EN_1.0_&a=d**).

2.3.2.3 Processing errors

Fieldwork management and data reception. The interviewers collect the data and transmit them to the central unit. At Statistics Finland, there is a separate organisation, the Interviewers' Central Unit, to control, monitor and supervise the field work. The central unit transmits the fieldwork tools to the field and organises interviewer training at the beginning of the project, follows the fieldwork progress, and receives the output from the field, checks that all the sampled units are adequately processed and transmits the data to the IDS-SILC team. It also collects feed-back from the interviewers with a standardised questionnaire. All data contents processing takes place in the IDS-SILC team, either using the BLAISE system or SAS. Mainly the IDS and SILC data processing is integrated.

Checking and editing of the interview data. The BLAISE programming system already described above (chapter 2.3.2.1) is a major data entry controller. However, there is still much processing to be done in the central unit. Missing identification codes are found out with the help of the Population Information System and added to the database. The checking process starts with the interviewers' remarks saved on the questionnaires. They comment whenever they feel that the coded answer does not reflect the individual real world. All comments are read and the need to edit the data is evaluated, and when necessary, entries are edited before transferring the data to the database. This work starts during the fieldwork period, usually in mid-February. All comments were processed before the end of June.

After the fieldwork period, the IDS-SILC team looks through *incomplete interviews* and makes a decision on the acceptance. Some of the received incomplete interviews are rejected. Since the register income data are nearly perfect, the acceptance decision is based on the sufficiency of the labour activities and housing information. In the later process, the discarded cases are treated as non-response, since a they are typically cases, where the interviewer finds that the respondent is unable to answer or the respondent refuses during the interview.

Next, checking against the register data is started as soon as the relevant register information is available. Occupation and NACE are processed through automatic coding. Some of the cases will remain open, and they are processed manually.

Activity months, occupation, NACE, housing costs and child care are checked against other information with special intensity. The checks include error lists generated by comparisons of interview and register data. Statistics Finland has access to administrative data on an individual level, which makes this data process especially useful. Great differences between different sources of information, if detected, are processed one by one. All variables, except variables where opinions are expressed, are checked: missing answers, denials and don't knows are checked against other information. Clear mistakes are corrected. Missing values are completed whenever possible (e.g. missing dwelling rents are corrected with average rents per m^2 in the area, other missing housing cost information is completed with supporting information collected on the questionnaire). Illogical answers are straightened if possible. Outliers (considerably small or high values in numerical variables, e.g. inter-household transfers, housing costs) are detected and checked against other information.

Processing inconsistency in the integrated project. **The 12 IDS variables on months of activity are heavily edited to comply with register data, especially with income data.** That can be done, since in the IDS there are not too many connections between months of activity and other interviewed variables. As a result, some of the respondents' own answers are rejected and replaced with answers in coherence with their earnings. **Corresponding editing is not executed on the SILC variables** concerning categories of activity or inactivity, since that would destroy the coherence of the large set of other interviewed variables interconnected with activities. In other words, as a result of different editing, activity information in the IDS and SILC differs from each other. Months of activity (PL070, PL072, PL080, PL085, PL087, PL090) in the EU-SILC are, thus, subjective responses given by respondents, as defined in the EU-SILC document 065/04.

Database construction. Simultaneously with the checking process, a database is opened and variable formation begins. Interview-based and register-based variables construction is started. Interview-based variables are transferred from the questionnaires to the database. Variables that need constructing – ie. combined interview- and register information and complex questionnaire items – are added one by one into the database after all the checks have been made.The SILC data files for EUROSTAT are compiled from the data base by SAS after the IDS data are completed. The cross-sectional and the longitudinal target variables for year t are mostly programmed together and stored in the database. The longitudinal files of year t are compiled into SAS-files after the cross-sectional component of the year t+1 is completed.

Processing register data. Register data - that have been subscribed from the register authorities with a special procedure - arrive in electronic form to the Statistics Finland's data processing unit. Eleven separate registers are used. The incoming data are checked technically and contentually. Possible defects are notified to the authority in charge. They then transmit the corrected data. The registers cover all units - population, dwelling units, income receivers, etc. The data are linked to the sample persons and transmitted into the database of the IDS-SILC. The data are compared with available external data, i.e. those of the tax authority, pensions authority and other statistics. In this phase, the data are in their elementary form. Imputations are made using the hot-deck method (interest income) or the modelling/sratification method (imputed rent). Outliers are handled. Final weights are calculated. The SILC target variables are constructed only after all their elements have been checked in the IDS process.

Comparison of aggregates. Routines have been developed to compare the results on variable level with external sources such as the Labour Force Survey, National Accounts, wage statistics and statistics on different social transfers and taxation produced by the National Pensions Institute, National Board of Taxes and National Research and Development Centre for Welfare and Health. Standard comparisons ase routinely made each year. These comparisons also have an effect on error detection.

2.3.3 Non-response errors

Rotational groups

Four-year rotational design has been implemented in the 2010 cross-sectional survey: one is new group (1st wave) and older groups (2nd, 3rd and 4th wave) are responded households including the the initially selected target person from the previous survey years. Since the 2009 survey the sample consists of four-year rotating groups instead of earlier two. Cross-sectional and longitudinal designs are now more integrative. The longitudinal sample is a subsample of the cross-sectional survey. 1/3 persons selected randomly within strata from the new group of the cross-sectional 2007, 2008 and 2009 surveys were included both in the four-year cross-sectional and longitudinal surveys, 2/3 in the four-year cross-sectional survey only.

The rotational group variables DB075 are in the 2010 survey are as follows:

DB075	Wave	
1	1	Cross-sectional: selected persons in SY2010
		Longitudinal: all selected persons from cross-sectional in SY2010
4	2	Cross-sectional: selected persons in SY2009
		Longitudinal: 1/3 selected persons from cross-sectional in SY2009
3	3	Cross-sectional: selected persons in SY2008
		Longitudinal: 1/3 selected persons from cross-sectional in SY2008
2	4	Cross-sectional: selected persons in SY2007
		Longitudinal: 1/3 selected persons from cross-sectional in SY2007

Table 2.14 Panel structure and anticipated sample sizes to survey years

Survey year (SY)	2004	2005	2006	2007	2008	2009	**2010**	2011
Rotational group (DB075)								
1	5 700							
2	2 500	1 900						
4	2 500	1 900	1 748					
3	2 500	1 900	1 748	1 608				
		5 000	3 800					
4		2 500	1 900	1 748	1 608			
6			5 000	3 800				
1			2 500	1 900	1 748	1 608		
5				5 000	3 800			
2				2 500	1 900	1 748	**1 608**	
6					5 000	3 800		
3					2 500	1 900	**1 748**	1 608
5						5 000		
4[1]						5 000	3 800	
4[1]						2 500	**1 900**	1 748
1							5 000	3 800

[1] DB075 was 5 in the sy2008 survey

Shaded area = longitudinal study, both of cross-sectional survey and the first year of longitudinal component has been marked with a lighter shade.

2.3.3.1 Achieved sample size

Table 2.15 Achieved sample size for waves of longitudinal component

Rotational group DB075			Number of households for which an interview is accepted for the database (DB135 = 1) .	Number of persons aged 16 or older who are members of the households for which the interview is accepted for the database (DB135 = 1) and for whom interview was completed (RB250 = 11 to 13).	Number of selected respondents who are members of the households for which the interview is accepted for the database (DB135 = 1) and who completed a personal interview (RB250=11 to 13).
Cross-sectional, total (SY2010)			10 989	21 696	10 989
Longitudinal, total (SY2010):			4 354	8 578	4 354
Longitudinal by waves:					
4. wave, total			1 394	2 736	1 394
4. wave, all waves			1 394	2 471	1 394
3. wave, total			2 942	5 802	2 942
3. wave, all waves			2 826	5 144	2 826
2. wave, total			4 752	9 452	4 752
2. wave, all waves			4 354	8 268	4 354
1. wave, total			5 416	10 976	5 416
Longitudinal by wave, SY and DB075:					
Wave	SY	DB075			
4	2010	2	1 394	2 736	1 394
3	2009	2	1 510	2 988	1 510
3	2010	3	1 432	2 814	1 432
2	2008	2	1 635	3 276	1 635
2	2009	3	1 589	3 148	1 589
2	2010	4	1 528	3 028	1 528
1	2007	2	1 830	3 783	1 830
1	2008	3	1 829	3 707	1 829
1	2009	4	1 757	3 486	1 757

2.3.3.2 Unit non-response

Table 2.16 Non-response rates (%) for the first waves of the EU-SILC longitudinal component

Rotational group	Household non-response rate	Individual non-response rate			Overall individual non-response rate		
		Selected respondent	All individuals 16 or older	Non-selected respondent	Selected respondent	All individuals 16 or older	Non-selected respondent
DB075:							
2 (SY2007)	25.1	0.0	0.0	0.0	25.1	25.1	25.1
3 (SY2008)	25.0	0.0	0.0	0.0	25.0	25.0	25.0
4 (SY2009)	28.5	0.0	0.0	0.0	28.5	28.5	28.5

The response rates are same for households and individuals, because sample persons are selected respondents.

Table 2.17 Response rates (%) for households for the second and the following waves of the EU-SILC longitudinal component

			Response rates (%)				Longitudinal follow-up rate (%)	Achieved sample size rate (%)
			Wave response rates	Refusal rate	No contacted & others	Total		
Longitudinal :								
4. wave, total			92.93	3.40	3.67	100.00	95.63	92.32
3. wave, total			91.59	5.70	2.71	100.00	93.39	91.25
2. wave, total			88.44	7.91	3.65	100.00	91.17	87.74
Wave	SY	DB075						
4	2010	2	92.93	3.40	3.67	100.00	95.63	92.32
3	2009	2	92.64	4.97	2.39	100.00	94.01	92.35
3	2010	3	90.52	6.45	3.03	100.00	92.76	90.12
2	2008	2	89.98	5.45	4.57	100.00	93.50	89.34
2	2009	3	87.55	9.42	3.03	100.00	89.72	86.88
2	2010	4	87.77	8.90	3.33	100.00	90.27	86.97

The follow-up ratio is the same as the follow-up rate due to the non-existent of new households.

Table 2.18 Response rates (%) for persons for the second and the following waves of the EU-SILC longitudinal component

			Wave response rate of sample persons	Wave response rate of co-residents	Longi-tudinal follow-up rate (%)	For all causes[1] non-response rate (%)	Achieved sample size ratio for sample persons (%)	Achieved sample size ratio for sample persons and co-residents (%)	Achieved sample size ratio for co-residents selected in the wave t-1 (%)	Response rate for non-sample persons (%)	Wave response rate of sample persons
Longitudinal al											
4. wave, total					100.00	0.00	na	na	na	100.00	100.00
3. wave, total					100.00	0.00	na	na	na	100.00	100.00
2. wave, total					100.00	0.00	87.74	86.12	76.78	100.00	100.00
Wave	SY	DB075									
4	2010	2	100.00	100.00	100.00	0.00	92.32	91.57	85.45	100.00	100.00
3	2009	2	100.00	100.00	100.00	0.00	92.35	91.21	82.68	100.00	100.00
3	2010	3	100.00	100.00	100.00	0.00	90.12	89.39	82.12	100.00	100.00
2	2008	2	100.00	100.00	100.00	0.00	89.34	86.60	78.34	100.00	100.00
2	2009	3	100.00	100.00	100.00	0.00	86.88	84.92	76.84	100.00	100.00
2	2010	4	100.00	100.00	100.00	0.00	86.97	86.86	81.38	100.00	100.00

[1] Causes presented in table 2.21.

na = not applicaple (not comparable measure between survey years).

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 2.19 Household status (DB110), number of households and percentage (%)

			Total	DB110= 1	DB110= 2	DB110= 3	DB110= 4	DB110= 5	DB110= 6	DB110= 7	DB110= 8	DB110= 9
Wave 4, total			1 510	1 476	19	2	0	13	0	0	0	0
			97.8	97.8	1.3	0.1	0.0	0.9	0.00	0.0	0.00	0.00
Wave 3, total			3 224	3 014	180	4	6	20	0	0	0	0
			100.00	93.5	5.6	0.1	0.2	0.6	0.00	0.00	0.00	0.00
Wave 2, total			5 416	4 972	391	11	12	25	0	5	0	0
			100.00	91.8	7.2	0.2	0.2	0.5	0.00	0.1	0.00	0.00
Wave 1, total			7 500	0	0	0	0	0	0	0	0	0
			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wave	SY	DB075										
4	2010	2	1 510	1 476	19	2	0	13	0	0	0	0
			97.8	97.8	1.3	0.1	0.0	0.9	0.00	0.0	0.00	0.00
3	2010	3	1 589	1 563	13	3	2	8	0	0	0	0
			100.00	98.4	0.8	0.2	0.1	0.5	0.00	0.00	0.00	0.00
2	2010	4	1 757	1 723	18	3	2	9	0	2	0	0
			100.00	98.1	1.0	0.2	0.1	0.5	0.00	0.1	0.00	0.00

Table 2.20 Record of contact at address (DB120), number of households and percentage (%)

			Total	DB120= 11	DB210= 21	DB120= 22	DB110= 23	Missing
Wave 4, total			19	19	0	0	0	0
			100.00	100.00	0.00	0.00	0.00	0.00
Wave 3, total			180	180	0	0	0	0
			100.00	100.00	0.00	0.00	0.00	0.00
Wave 2, total			391	391	0	0	0	0
			100.00	100.00	0.00	0.00	0.00	0.00
Wave	SY	DB075						
4	2010	2	19	19	0	0	0	0
			100.00	100.00	0.00	0.00	0.00	0.00
3	2010	3	13	13	0	0	0	0
			100.00	100.00	0.00	0.00	0.00	0.00
2	2010	4	18	18	0	0	0	0
			100.00	100.00	0.00	0.00	0.00	0.00

Table 2.21 Household questionnaire result (DB130), number of households and percentage (%)

			Total	DB130= 11	DB130= 21	DB130= 22	DB130= 23	DB130= 24	Missing
Wave 4, total			1 495	1 395	51	2	10	37	0
			100	93.3	3.4	0.1	0.7	2.5	0.00
Wave 3, total			3 194	2 945	183	7	12	47	0
			100.00	92.2	5.7	0.2	0.4	1.5	0.00
Wave 2, total			5 363	4 757	425	41	43	97	0
			100.00	88.7	7.9	0.8	0.8	1.8	0.00
Wave 1, total			7 338	5 429	1 100	151	135	523	0
			100.00	74.0	15.0	2.1	1.8	7.1	0.00
Wave	SY	DB075							
4	2010	2	1 495	1 395	51	2	10	37	0
			100	93.3	3.4	0.1	0.7	2.5	0.00
3	2010	3	1 576	1 435	102	4	7	28	0
			100	91.1	6.5	0.3	0.4	1.8	0.00
2	2010	4	1 741	1 530	155	2	16	38	0
			100	87.9	8.9	0.1	0.9	2.2	0.00

Table 2.22 Household interview acceptance (DB135), number of households and percentage (%)

			Total	DB135= 1	DB135= 2	Missing
Wave 4, total			1 395	1394	1	0
			100.00	99.9	0.1	0.00
Wave 3, total			2 945	2942	3	0
			100.00	99.9	0.1	0.00
Wave 2, total			4 757	4752	5	0
			100.00	99.9	0.1	0.00
Wave 1, total			5 429	5416	13	0
			100.00	99.8	0.2	0.00
Wave	SY	DB075				
4	2010	2	1 395	1 394	1	0
			100.00	99.9	0.1	0.00
3	2010	3	1 435	1 432	3	0
			100.00	99.8	0.2	0.00
2	2010	4	1 530	1 528	2	0
			100.00	99.9	0.1	0.00

2.3.3.4 Distribution of persons for membership status (RB110)

Table 2.23 Membership status (RB110), number of persons and percentage (%)

				Current household members				Not current household members[1]			
			Total	RB110= 1	RB110= 2	RB110= 3	RB110= 4	RB120= 2,3,4	RB110=6	RB110=7	Missing
Wave 4, total			3 501	3 355	0	58	26	1	4	0	0
			100.00	97.4	0.00	1.7	0.8	na	na	na	na
Wave 3, total			7 208	6 978	0	142	88	4	10	0	0
			100.00	96.8	0.00	2.0	1.2	na	na	na	na
Wave 2, total			11 798	11 517	0	175	106	11	18	0	0
			100.00	97.6	0.00	1.5	0.9	na	na	na	na
Wave	SY	DB075									
4	2010	2	3 501	3 355	0	58	26	1	4	0	0
			100.00	97.4	0.00	1.7	0.8	na	na	na	na
3	2010	3	3 503	3 545	0	51	43	0	6	0	0
			100.00	96.8	0.00	1.7	1.4	na	na	na	na
2	2010	4	3 757	3 679	0	50	28	3	5	0	0
			100.00	97.9	0.00	1.3	0.7	na	na	na	na

[1] The category "no current household members" is not applicable in Finland because of the person approach. Percentages are only for current households members.

Table 2.24 Distribution of persons moving out by variable RB120, number of persons and percentage (%)

				RB110=5	RB120=1	RB120=2	RB120=3	RB120=4
			Total	Current member	Not a current member			
Wave 4, total			142	0	141	1	0	0
			100.00	0.00	99.3	0.7	0.0	0.0
Wave 3, total			367	0	363	3	1	0
			100.00	0.00	98.9	0.8	0.3	0.00
Wave 2, total			577	0	566	7	4	0
			100.00	0.00	98.1	1.2	0.7	0.00
Wave	SY	DB075						
4	2010	2	142	0	141	1	0	0
			100.00	0.00	99.3	0.7	0.0	0.0
3	2010	3	159	0	159	0	0	0
			100.00	0.00	100.0	0.0	0.0	0.00
2	2010	4	130	0	127	2	1	0
			100.00	0.00	97.7	1.5	0.8	0.00

2.3.3.5 Item non-response

Almost all income is from registers, and item non-responses do not normally exist from register sources. One major item (interest income taxed at source) collected by interviewing causes item non-responses to variable HY090G which have been imputed. For calculating distributions of item non-responses, also such register gross income components with imputation factor values (based on the revised definitions from SY2008 onwards) have been considered. Total income variables HY010 and HY020 are constructed from collected gross income components and they include non-responses due to HY090G only. Other gross income components with the imputation factor values are HY022 and HY023, which are constructed by gross/net conversion of gross income components on the basis of taxation register at the observation unit level (imputing). Also components of PY020N, PY021N, PY030G, PY080N, HY030G, HY100N not included in the total household income, but in the separate income variables of the data have been marked by imputation factors from the survey year 2007 onwards.

Imputation factors are to the persons/households that have received the income. Thus, information about income exclusion (i.e. taxes paid (e.g. non-cash employee income, the difference PY020G-PY021G) from the initial component HY140G by imputing) is not available in the income flags or item non-response rates, but in the PY020N and PY021N income flags.

Table 2.25 Distribution of item non-response of the cross-sectional survey (C) and the longitudinal component according to wave (rotational group: DB075 = 2, 3, 4) in the survey year 2010, all households and persons 16+

	(A) *					(B)					(C)				
Income component	% of households having received an amount (<0, >0)					% of households with missing values (before imputation) of all households					% of households with partial information (before imputation) of all households				
	C	L	Wave 4	Wave 3	Wave 2	C	L	Wave 4	Wave 3	Wave 2	C	L	Wave 4	Wave 3	Wave 2
	All	All	DB075 2	DB075 3	DB075 4	All	All	DB075 2	DB075 3	DB075 4	All	All	DB075 2	DB075 3	DB075 4
HY010(excl. PY080G)	100.0	100.0	100.0	100.0	99.9	9.7	10.2	11.5	9.8	9.4	9.7	10.2	11.5	9.8	9.4
HY020(excl. PY080G)	100.0	100.0	100.0	100.0	99.9	9.2	9.8	11.1	9.5	9.0	9.2	9.8	11.1	9.5	9.0
HY022(excl. PY080G)	98.2	98.5	98.6	98.7	98.3	96.8	97.1	97.8	97.2	96.4	96.8	97.1	97.8	97.2	96.4
HY023(excl. PY080G)	96.9	97.2	97.4	97.6	96.5	89.2	89.1	90.0	90.0	87.6	89.2	89.1	90.0	90.0	87.6
HY030G	82.9	84.0	85.3	83.5	83.4	82.9	84.0	85.3	83.5	83.4	82.9	84.0	85.3	83.5	83.4
HY040G	10.9	10.9	11.9	9.8	10.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HY050G	30.9	29.2	28.3	29.8	29.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HY060G	6.9	6.6	6.0	6.7	7.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HY070G	15.8	15.0	15.0	14.9	15.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HY080G	8.4	8.5	8.8	8.6	8.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HY090G	81.4	82.5	84.3	80.9	82.5	25.9	26.4	28.2	24.7	26.4	25.9	26.4	28.2	24.7	26.4
HY100G	38.6	38.6	38.0	39.9	37.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HY110G	3.0	3.3	2.8	3.3	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HY120G	58.5	59.8	61.3	58.1	60.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HY130G	17.0	18.3	18.0	20.0	16.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HY140G	98.5	98.8	98.8	98.7	98.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HY135G	..					..	..	..	..	..	..	..	..	..	..
HY145G	..					..	..	..	..	..	..	..	..	..	..
HY100N	38.6	38.6	38.0	39.9	37.9	38.6	38.6	38.0	39.9	37.9	38.6	38.6	38.0	39.9	37.9

Income component	% of persons 16+ having received an amount (<0, >0)					% of persons 16+ with missing values (before imputation)of all persons					% of persons 16+ with partial information (before imputation) of all persons				
	C	L	Wave 4	Wave 3	Wave 2	C	L	Wave 4	Wave 3	Wave 2	C	L	Wave 4	Wave 3	Wave 2
	All	All	DB075 1	DB075 2	DB075 3	All	All	DB075 1	DB075 2	DB075 3	All	All	DB075 1	DB075 2	DB075 3
PY010G	63.4	63.4	64.1	64.0	62.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PY020G	15.9	15.4	15.6	16.5	14.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PY021G	2.3	2.4	2.7	2.4	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PY030G	62.9	62.8	63.7	63.3	61.6	62.9	62.8	63.7	63.3	61.6	62.9	62.8	63.7	63.3	61.6
PY035G	13.8	14.2	14.4	14.3	13.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PY050G	18.1	18.5	20.8	16.6	18.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PY070G	..					..	..	..	..	..	..	..	..	..	..
PY080G	5.1	5.5	6.0	5.1	5.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PY090G	14.8	14.5	13.8	15.1	14.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PY100G	20.0	20.9	21.2	20.8	20.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PY110G	1.0	1.0	1.2	0.7	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PY120G	5.6	5.4	5.7	5.2	5.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PY130G	7.8	8.0	6.9	8.2	8.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PY140G	9.8	9.4	9.9	9.3	9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PY200G	..					..	..	..	..	..	..	..	..	..	..
PY020N	15.9	15.4	15.6	16.5	14.2	15.9	15.4	15.6	16.5	14.2	15.9	15.4	15.6	16.5	14.2
PY021N	2.3	2.4	2.7	2.4	2.1	2.3	2.4	2.7	2.4	2.1	2.3	2.4	2.7	2.4	2.1
PY080N	5.1	5.5	6.0	5.1	5.4	5.1	5.5	6.0	5.1	5.4	5.1	5.5	6.0	5.1	5.4

.. information is not available
The computation of the impartial information rates have been done on the basis of the target variable flag values.

2.4 Mode of data collection

Distribution of household members by RB250

Table 2.26 Household members 16+ (RB245 = 1 to 3), number of persons and percentage (%)

			Total	RB250= 11	RB250= 12	RB250= 13	RB250= 21	RB250= 22	RB250= 23	RB250= 31	RB250= 32	RB250= 33
Wave 4, total			2 736 100.00	0 0.00	0 0.00	2 736 100.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00
Wave 3, total			5 802 100.00	0 0.00	0 0.00	5 802 100.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00
Wave 2, total			9 452 100.00	0 0.00	0 0.00	9 452 100.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00
Wave 1, total			10 976 100.00	0 0.00	0 0.00	10 976 100.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00
Wave	SY	DB075										
4	2010	2	2 736 100.00	0 0.00	0 0.00	2 736 100.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00
3	2010	3	2 814 100.00	0 0.00	0 0.00	2 814 100.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00
2	2010	4	3 028 100.00	0 0.00	0 0.00	3 028 100.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00

Table 2.27 Sample persons 16+ (RB245 = 1 to 3 and RB100=1), number of persons and percentage (%)

			Total	RB250= 11	RB250= 12	RB250= 13	RB250= 21	RB250= 22	RB250= 23	RB250= 31	RB250= 32	RB250= 33
Wave 4, total			1 394	0	0	1 394	0	0	0	0	0	0
			100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Wave 3, total			2 942	0	0	2 942	0	0	0	0	0	0
			100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Wave 2, total			4 752	0	0	4 752	0	0	0	0	0	0
			100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Wave 1, total			5 416	0	0	5 416	0	0	0	0	0	0
			100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Wave	SY	DB075										
4	2010	2	1 394	0	0	1 394	0	0	0	0	0	0
			100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
3	2010	3	1 432	0	0	1 432	0	0	0	0	0	0
			100.0	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2010	4	1 528	0	0	1 528	0	0	0	0	0	0
			100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 2.28 Co-residents 16 + (RB245 = 1 to 3 and RB100=2), number of persons and percentage (%)

			Total	RB250= 11	RB250= 12	RB250= 13	RB250= 21	RB250= 22	RB250= 23	RB250= 31	RB250= 32	RB250= 33
Wave 4, total			1 342	0	0	1 342	0	0	0	0	0	0
			100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Wave 3, total			2 860	0	0	2 860	0	0	0	0	0	0
			100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Wave 2, total			4 700	0	0	4 700	0	0	0	0	0	0
			100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Wave 1, total			5 560	0	0	5 560	0	0	0	0	0	0
			100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Wave	SY	DB075										
4	2010	2	1 342	0	0	1 342	0	0	0	0	0	0
			100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
3	2010	3	1 382	0	0	1 382	0	0	0	0	0	0
			100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2010	4	1 500	0	0	1 500	0	0	0	0	0	0
			100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00

Distribution of household members by RB260

Table 2.29 Household members 16+ (RB245 = 1 to 3), number of persons and percentage (%)

			Total	RB260= 1	RB260= 2	RB260= 3	RB260= 4	RB260= 5	Missing
Wave 4, total			2 736	0	27	1 521	0	1 188	0
			100.00	0.0	1.0	55.6	0.0	43.4	0.0
Wave 3, total			5 802	0	49	3 077	0	2 676	0
			100.00	0.0	0.8	53.0	0.0	46.1	0.00
Wave 2, total			9 452	0	76	4 866	0	4 510	0
			100.00	0.0	0.8	51.5	0.0	47.7	0.00
Wave 1, total			10 976	0	270	5 692	0	5 014	0
			100.00	0.0	2.5	51.9	0.0	45.7	0.00
Wave	SY	DB075							
4	2010	2	2 736	0	27	1 521	0	1 188	0
			100.00	0.0	1.0	55.6	0.0	43.4	0.0
3	2010	3	2 814	0	24	1 592	0	1 198	0
			100.00	0.0	0.9	56.6	0.0	42.6	0.0
2	2010	4	3 028	0	30	1 688	0	1 310	0
			100.00	0.0	1.0	55.8	0.0	43.3	0.0

Table 2.30 Sample persons 16+ (RB245 = 1 to 3 and RB100=1), number of persons and percentage (%)

			Total	RB260= 1	RB260= 2	RB260= 3	RB260= 4	RB260= 5	Missing
Wave 4, total			1 394	0	20	1 264	0	110	0
			100.00	0.0	1.4	90.7	0.0	7.9	0.0
Wave 3, total			2 942	0	36	2 544	0	362	0
			100.00	0.0	1.2	86.5	0.0	12.3	0.00
Wave 2, total			4 752	0	59	3 995	0	698	0
			100.00	0.0	1.2	84.1	0.0	14.7	0.00
Wave 1, total			5 416	0	197	4 478	0	741	0
			100.00	0.0	3.6	82.7	0.0	13.7	0.00
Wave	SY	DB075							
4	2010	2	1 394	0	20	1 264	0	110	0
			100.00	0.0	1.4	90.7	0.0	7.9	0.0
3	2010	3	1 432	0	17	1 302	0	113	0
			100.00	0.0	1.2	90.9	0.0	7.9	0.0
2	2010	4	1 528	0	21	1 387	0	120	0
			100.00	0.0	1.4	90.8	0.0	7.9	0.0

Table 2.31 Co-residents 16 + (RB245 = 1 to 3 and RB100=2), number of persons and percentage (%)

			Total	RB260= 1	RB260= 2	RB260= 3	RB260= 4	RB260= 5	Missing
Wave 4, total			1 342	0	7	257	0	1 078	0
			100.00	0.0	0.5	19.2	0.0	80.3	0.0
Wave 3, total			2 860	0	13	533	0	2314	0
			100.00	0.0	0.5	18.6	0.0	80.9	0.0
Wave 2, total			4 700	0	17	871	0	3812	0
			100.00	0.0	0.4	18.5	0.0	81.1	0.0
Wave 1, total			5 560	0	73	1214	0	4273	0
			100.00	0.0	1.3	21.8	0.0	76.9	0.0
Wave	SY	DB075							
4	2010	2	1 342	0	7	257	0	1 078	0
			100.00	0.0	0.5	19.2	0.0	80.3	0.0
3	2010	3	1 382	0	7	290	0	1 085	0
			100.00	0.0	0.5	21.0	0.0	78.5	0.0
2	2010	4	1 500	0	9	301	0	1 190	0
			100.00	0.0	0.6	20.1	0.0	79.3	0.0

2.5 Imputation procedure

Imputation procedures were used for an interviewed item of the income variables HY090G, and for the income variables HY030G, HY100N, HY022, HY023, PY030G, PY020N, PY021N and PY080N.

Interests income taxed at source, which is counted in HY090G interest, dividends, profit from capital investments in unincorporated business is collected by interviewing in the two phase question (1. a precise value; 2. if doesn't know, a range value). Missing monetary values were imputed first by deductive imputation and second by hot-deck method (a stochastic method). Deductive imputation was done within the answered range value classes to the households that were in survey for the second or more year on the basis of the answered monetary amounts (not imputed) of the previous survey year (also EU-SILC cross-sectional survey includes two rotating two year panels). If the answered classes were not same between the survey years or answered monetary amount was missing from the previous survey year, or the amount was missing in the current survey year to new survey households, hot-deck method was used for imputing. Imputing was done automatically by the SAS/EG-supporting program as follows:

1. Defining the sample to the household units received the interests income taxed at source during the reference year (yes), if a precise monetary amount value was given or not.
2. Detecting record outliers of the responded monetary values, and dropping the units out from the donors.
3. Grouping the units by domicile code (indicates the location of the household's dwelling) and range value given in the interview.
4. Checking the criterion for the proportion of responded records of all records in the groups.

5. Filling the item non-responses by selecting randomly from the responded records of the nearest donors in the range value groups. Automatic imputing.
6. Grouping the units by domicile code, the socio-economic status of the household reference person and the number of the household members.
7. Checking the criterion for the proportion of value records of all records.
8. Filling the rest of the item non-responses by selecting randomly from the records (responded values and imputed values in the groups) of the nearest donors. Automatic imputing.

The imputation was done separately, but rather equivalently to the cross-sectional and the longitudinal parts of the EU-SILC survey, the latter consisting of different statistical units. Because of information on socio-economic class is not available to the longitudinal survey, proxy information on sample strata (uses socio-economic classes) was used for grouping units instead. Also information on the income received during the previous year was used to the units which were in the survey for the second or later wave.

For HY022 and HY023, HY100N, PY020N, PY021N and PY080N deductive imputation was the method to convert taxable social transfers in gross amount for net amount. Information from Personal Tax Registers was available at the unit level for this. Also PY030G was processed by deductive imputation method (See table 3.3).

2.6 Imputed rent (HY030G)

The stratification method was used for imputing equivalent gross rent values from the external data source compiled annually by Statistics Finland. The data being coherent with NA includes mean gross rents/m2 to dwellings of different sizes, types and municipalities (strata). The used method was same both to EU-SILC cross-sectional and longitudinal components. Detailed description of the method is given in table 3.2, chapter 3.2.3.

2.7 Company cars

Information on a company car was collected from the Personal Tax Register of National Board of Taxes. See table 3.2, chapter 3.2.3.

3 Comparability

3.1 Basic concepts and definitions

Basic concepts and their definitions are in accordance with the Commission Regulation (EC) No 1980/2003 provided for the community statistics on income and living conditions as regards definitions and updated definitions. To some extent, adaptation of the definitions used in the national statistical system is allowed for the EU-SILC. In Finland, private household and household membership in particular are the ones that have been defined nationally (e.g. IDS) with less detailed information (i.e. time duration for temporarily absence in private accommodation) than stated in the regulations, but within the framework.

The reference population consists of the members of the private households permanently resident (usually resident: the census definition) in Finland on 31 December 2009. For migrants in particular, permanently residence means that they have resided or intend to reside for at least 12 months and they have not permanent residence abroad. Persons living in institutions, in collective households or in residential homes[3] have been excluded.

The private household was constructed to include a person residing alone, or all the persons, related or not, who reside and have their meals together or otherwise use their income together. The definition equals with the obliged EU-SILC definition on shares in household expenses, but uses other words “use income together” in the interview.

If a person was temporarily absent from the household’s main dwelling and from home, no specific time duration was set for the absence provided that the above-mentioned criteria of household formation and membership (shares in household expenses) were fulfilled. Such persons have close family ties to the household and they do not form a household of their own. Therefore, the following persons are also counted in household members:
- Persons conducting military service or conscript service
- Persons residing and working in another locality or abroad if they are involved in the acquisition and use of household income
- Persons residing and studying in another locality if they use income received mostly from their parents
- Persons temporarily in institutions, on holiday or travelling.

The following persons form a household of their own:
- Subtenants
- Domestic staff
- Students living on their own if they live mostly on their own income or on a student loan
- Students residing in dormitories, unless they are married or officially cohabiting.

In the longitudinal survey, the following persons except the sample persons, were not household members any more:
- Persons moved out from sample households permanently or died during the year 2009
- or persons who otherwise were not permanently living in the household containing a sample person on 31 December 2009

The permanently resident population that is not included in private households refers to the difference between the number of total population and the private household persons permanently resident in Finland on 31 December. The number of total population was 5,351,427, from which about 2.0 per cent was not in the private households, but was permanently institutionalised or living in collective households or residential

[3] Residential homes are situated either in residential or institutional care buildings and do not meet the definition of dwelling. They do not include a kitchen or cooking facilities, a water closet or cleaning facilities (shower, bathroom or sauna). Students dormitories which are counted in the private household definition above include these facilities.

homes. The number of estimated private household population was 5,271,533 in the cross-sectional data. The estimated household population number was 5,285,959 (DB075=2), 5,306,749 (DB075=3) and 5,223,031 (DB075=4) in the rotational groups of the longitudinal data.

Other definitional solutions done are due to the collection of the information both from registers and by interviews. These are related to **reference times**. First, current as a reference time refers to several calendar time points. Information collected solely by interviews (e.g. non-monetary deprivation indicators, education, health) refers to the interview time point in the survey year (2010). Information collected by interviews, but used for the target variables as combined with the information from registers and other information interviewed on themes close to income is related to the income reference period, which is the fixed 12-month period before the survey year, i.e. the whole calendar year (2009). Then, the current is either the last day (dwelling, characteristics of dwelling for the imputed rent, housing environment) or the last month (economic activity, housing costs) of the income reference year. In particular, information on housing arrears is consistent with information on housing costs from the income reference period, not from the last twelve months preceding the interview time point as provided.

Finland's definitions for the reference periods in 2010

Current, time point of interview for the respondent in the survey year 2010:
- Non-monetary household deprivation indicators
- Housing (amenities in the dwelling)
- Education
- Health

Current, last day (31 Dec.) of the income reference period (2009):
- Basic data
- Physical and social environment
- Housing (dwelling type, tenure status and housing conditions)

Current, last month (December) of the income reference period (2009):
- Child care
- Labour information on current activity status and current main job, including information on last main job for unemployed,
- Detailed labour information
- Housing costs (a part of housing costs)

Last 12 months preceding the time point of interview:
- Health (access to health care)

Income reference period (a fixed 12-month period), i.e. 2009:
- Income
- Labour information on activity status during income reference year
- Housing and non-housing related arrears
- Housing costs (a part of housing costs, e.g. income related items)

The income reference period is the preceding calendar year of the survey year. Income taxed by the Bookkeeping Act received from the completed accounting periods in the income reference period is included. These are business income, income from dividends and interest.

The reference period for taxes on income and social contributions is the years when taxes are paid from the income received during the income reference period. The taxes are paid in the income reference period (t) and the following years (t+1, t+2). The social contributions are mostly paid in the income reference period (t).[4]

[4] Most of the taxes (incl. taxes on net wealth owned) and social contributions are actually done during the income reference year (t) as withholdings by a payer or advance payments by a person, nearly 90 per cent of enforced taxes in general (Statistics of National Board of Taxes 2009). According to occupational status, the consistency of income and tax year is highest among employees and pensioners, whereas it is not as high among self-employed persons and farmers. Some of the tax payments can be done up to March of the year after the income year (t+1). As a result of the enforced taxation by tax authorities, a small part of the enforced taxes are received as tax refunds in the year after the income reference period (t+1), and a part of the enforced taxes are paid as residual taxes in the year after the income reference period (t+1) and further in the beginning of the following year (t+2). If demands of rectification and petition of appeals were proceeded, in a few cases, taxes are paid later (t+3,…,n).

The reference period of taxes on wealth (i.e. real estate tax from 2006 onwards) is the year when taxes are paid from the real estate owned in the beginning of the tax year, i.e. the income reference period (2009)**.** Taxable value refers to the value of the previous year (2008), which from it's building part has been raised up to a replacement value by the building cost index. The tax percent of the tax year (2009) is determined by the municipality where the real estate locates. The payments are done during the income reference year.

The time lag between the income reference period and current variables is in its maximum when current information is from the interview time point. The last interview was conducted on 10 May in the survey year. The time lag is then **4.3 months**. However, most of the current information is from the end of the income reference period and then the time lag does not exist.

Interviews were conducted from 31 December 2009 to 10 May in the survey year 2010. **The duration of interviewed data collection** was **4.3 months to the cross-sectional part of the survey**. Of all household interviews, 25 per cent were collected by 2 February, 50 per cent by 19 February, 75 per cent were collected by 17 March, and 90 per cent by 12 April.

The interview data was collected from 31 December in 2009 to the rotational groups selected for the longitudinal survey. All the longitudinal groups were interviewed by 16 April. This means, that the time lag of the current information in relation to income information and the **duration of interviewed data collection** were shorter **to the longitudinal** than to the cross-sectional **part of the survey, about 3.5 months in its maximum.**

For the register database, the last information was collected on 23 November in the survey year 2010. When data collection from registers is included in the measurement, **the duration of the whole data collection both from interviews and registers was 10.8 months.**[5]

The basic information on activity status during the income reference period was interviewed from the household respondent. The information is primarily based on the respondent's perception about his/her and household members' activities during the income reference period. Received answers were further checked and edited against register information to be correct.

The target variables on a person's activity status during the income reference period and the detailed subgroups interviewed are as follows:

PL073, Number of months at full-time work as employee:
- Employee working full-time (self-defined or at least 30 hours per week, incl. persons in paid maternity, paternity, parental or sick leave)

PL074, Number of months at part-time work as employee:
- Employee working part-time (self-defined or under 30 hours per week, incl. persons in paid maternity, paternity, parental or sick leave)

PL075, Number of months at full-time work as self-employed:
- Self-employed working full-time (self-defined or at least 30 hours per week, incl. family workers)

PL076, Number of months at part-time work as self-employed:
- Self-employed working part-time (self-defined or under 30 hours per week, incl. family workers)

The consistency is highest among employees and pensioners. 88.6 per cent of the total withholdings and advance payments for employees and 92.9 per cent of the total withholdings and advance payments for pensioners were in accordance with the enforced taxes in 2007. The consistency was not as high among self-employed persons, 79.0 per cent of total advance payments done by farmers and about 81.4 per cent done by other self-employed persons were in accordance with the enforced taxes. (Calculations based on pocket statistics of National Board of Taxes 2009).

[5]The Personal Tax Register of National Board of Taxes is the main income source (See 3.2.2.). For it, prefilled tax reports from administrative registers are checked and returned by person to tax authorities in a case of errors or additional information by 15 May. Farmers are obliged to submit tax reports in February and other self-employed persons in April or May.

PL080, Number of months as unemployed:
- Unemployment , layoffs
PL085, Number of months in retirement or early retirement:
- In old-age or early-old age pension, in unemployment pension if not a unemployed (PL080)
PL086, Number of months as disabled or/and unfit to work:
- In unpaid sickness leave, in disability pension
PL087, Number of months in studying:
- Full-time pupil, student, in further training and other unpaid work experience
PL088, Number of months in compulsory military service:
PL089, Number of months fulfilling domestic task and care responsibilities:
PL090, Number of months in other inactivity

3.2 Components of income

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

Total household gross income and disposable household income

The target variables on gross income components, on **total household gross income, HY010,** and on **total disposable household income HY020 and total disposable household income before social transfers other than old-age and survivors' benefits HY022 and including old-age and survivors' benefits HY023** are defined according to the requirements followed from the beginning of EU-SILC (EU-SILC 065 (2010 operation)).

HY010 is the sum of gross income components at the household level. HY020 is HY010 after current transfers paid have been deducted. HY010 is a positive value (incl. 0 values). Negative values of the net income variables HY020, HY022 and HY023 on total disposable household income are due to such current transfers paid which are not related to the total household gross income (HY010+PY080G). These are regular taxes on wealth HY120G, which may exceed the amount of the total household gross income by the EU-SILC definition. The number of the sample households with negative values was five in HY020 (incl. PY080G), 124 in HY022 and 668 in HY023 in the cross-sectional survey. For calculating the overarching indicators, social inclusion indicators and pension indicators, the negative values were set for zero values. The conversion has an effect e.g. on the HY020 mean equivalised income.

After inclusion of imputed rent (HY030G, HY100G) in total income increases HY023 among those households that it would be otherwise negative on the basis of the previous definition. The numbers of negative values in the total income variables are respectively as follows: 44 in HY022 and 87 in HY023.

Tax on income and social insurance contributions HY140G and regular inter-household transfers paid HY130G were subtracted from total household gross income HY010 received during the income reference year. They do not usually cause negative values to the total household income components. Instead, negative values of HY020 results from HY120G (n=4), which is due to real estate tax. In the 2010 cross-sectional data there are exceptionally three households with negative HY020, which results also or primarily from HY140G.

Tax on income and social insurance contributions HY140G refers to the taxes paid from all relevant gross income components counted in HY010 and PY080G. In the producers' microdata transferred to Eurostat, there are separate income variables PY020N, PY021N and PY080N, which refer to the equivalent gross income variables (PY020G, PY021G and PY080G), after tax on income and social insurance contributions have been deducted. (See formulas for computing in table 3.2.)

Income received

The variables on gross income components were obtained by summing the detailed gross items at the person and household unit level. Especially when register income is available as very detailed items, the aggregating of the items for the target variables is closely in accordance with the regulations and descriptions (incl. EU-SILC 065/05.1; EU-SILC (2010 operation)). **Compared with the Regulation definitions on the EU-SILC gross income components, the following differences,** however, appear due to using register information within the Personal Tax Register frame:

- Employer's social insurance contributions PY030G include the legal and mandatory contributions exclusively but not the voluntary ones. In cases, when voluntary contributions have been done by employers to endowment insurance (excl. life insurance) or in some cases to individual pension or risk insurance scheme (if annual amounts are not defined as reasonable and exceed a certain amount) are determined as taxable earned income by tax act and counted as a part of non-cash employee income PY020G.
- In addition to pensions and benefits from individual personal insurance schemes (ESSPROS third pillar), pensions from individual private plans PY080G include also pensions and benefits from collective voluntarily insurances (ESSPROS second pillar) taken by persons on their own or by their employers to supplement the obligatory/compulsory insurance[6]. The Tax register items contain both items. They can't be separated exactly. (See table 3.1.)
- Gross cash profits or losses from self-employment (including royalties) PY050G are in gross amounts after expenses except interest on individual loans for acquisition of income. Interests are counted as deductions for taxable income and result as lower taxes paid HY140G. Values are positive (incl. 0 income). Losses are considered for lower taxes paid from other type of income in the income reference period, or in the spouse's taxes paid. If no taxable income is received at all, the confirmed losses are considered in taxes that will be paid from the income received in the following years. Therefore, confirmed losses both from the income of the income reference period and from previous periods as well can have an effect on taxes paid from the reference period's income HY140G.[7]
- Deductions granted for loan interests expenses diminish the taxable income after expenses for acquisition of income (i.e. gross income), and result as lower taxes paid HY140G. Loan interests and a.m. losses from self-employment as well are treated in credit for investment income deficit in taxation.
- Both received social benefits and social benefits obliged to be returned to payers were included in the certain target variables on social benefits (PY090G, PY110G, PY120G, PY130G, PY140G,HY070G in the cross-sectional survey). The statistical units have then negative values on these variables if social benefits were solely returned back, or the returned amount exceeded the amount received during the income reference period. Social benefits are obliged to be returned if income or living conditions have changed and they are not valid in relation to the allowed criteria any more.
- Income received personally by people aged under 16 (n=675 in the cross-sectional survey) was counted in the target variable HY110G. The variable consists of the following type of income: employee income and self-employment income, pensions from individual private plans, survivors' benefits, disability benefits and a part of family/children-related allowances. Other social benefits within the ESSPROS system are paid for children's carers, and were counted in family benefits HY050G. Income received from interest, dividends, profit from capital investments in unincorporated

[6] It has to be noted in Finland's pension system, that the collective compulsory scheme (ESSPROS first pillar) is comprehensive. Benefit ceilings do not exist and consumption level of employment career is ensured (pension target level is 60-66 per cent of earnings).

[7] In the sample, 22.9 per cent of self-employed persons (PL031 =1,2, & PL040 = 1,2) had 0 income on PY050G (n = 617 / 2 693). Most of them had other income sources, employee income and property income were the marked income sources. 77.8 per cent of the persons with PY050G=0 got employee income on PY010G and/or PY020G and 73.9 per cent on PY080G, HY040G and/or HY090G at personal level. 3,6 per cent of persons had only other type of income and 4.5 per cent of persons had not income at all during the reference year. Persons who were temporarily away from work are counted in the numbers. Losses were in 8.6 per cent for all self-employed persons (n= 231) and 18.5 per cent for self-employed persons without income from PY050G (n=114). 17.7 per cent of all self-employed persons who had losses in the income they were considered as deductions from taxes on capital income or credit for deficit in capital income from taxes on earned income, and for 86.6 per cent the losses were confirmed losses (the rest of the losses or all) which can be considered as deductions from the taxes on income will be received after the income reference year. In addition, a small number of losses were counted in the spouse's taxation.

businesses and from rental or property of land are also income sources for people aged under 16. They were counted in HY040G and HY090G. Income on PY030G received persons under 16 has not been included in HY110G.

Current transfers paid

The target variable on **tax on income and social insurance contributions HY140G** includes taxes paid for the state taxation and for the municipal taxation. For the state taxation, taxes from earned income (incl. social benefits) are paid progressively by the person's income level, taxes from capital income are paid uniformly (28 per cent of capital income in 2009). For municipal taxation, taxes from earned income are paid by the tax rate of the place of domicile that a person hold at the end (31 Dec.) of the year preceding the income reference year. The social contributions include the following items: compulsory sickness contributions, unemployment contributions and pension contributions.

The target variable on **regular taxes on wealth HY120G** includes Real Estate Tax on real property owned in the income reference period. Besides, taxes on real property owned are paid indirectly in utility costs of dwellings by shareholders in housing corporations. The tax was not included in HY120G, but it was counted in housing costs HH070 and consequently, as a part of the housing costs component it diminishes imputed rent HY030G.

Changes in income from the survey year 2009 (from the income reference period 2008)

There are no changes from the survey year 2008.

Table 3.1 Components of income. Finland's definitions and assessed consequences resulting from differences compared with the EU-SILC definition in the 2010 data

Components of income	Variable name	Definition	Consequences to comparability F = Fully comparable L = Largely comparable P = Partly comparable N = Not comparable NC = Not collected
Total household gross income	HY010		F See notes below
Total disposable household income	HY020		F See notes below
Total disposable household income, before social transfers other than old-age and survivors' benefits	HY022		F See notes below
Total disposable household income, before social transfers including old-age and survivors' benefits	HY023		F See notes below
Imputed rent	HY030G	Imputed rent (equivalent market rent) for all households that do not report paying full rent, either because they are owner-occupiers or they live in accommodation rented at a lower price than the market price, or because the accommodation is provided rent-free. Imputed for the dwelling which is used as a main residence of the sample household.	F Note: The market rent refers to the value including utility costs (heating, water etc.) done besides the "space rent" in owner-occupied dwellings of housing corporations, these costs are excluded from the market rent of own houses. After deducting consistent housing costs actually paid by the household, the definition is comparable. Rented dwellings cover the ones rented from another household or from the municipality or public utility corporations. In relation to tenure status HH021 (codes 4,5), HY030G is for the households whose actually paid housing costs were lower than the imputed market rent value of the equivalent dwelling.
Income from rental of property or land	HY040G	Income received, during the income reference period, from renting a property less expenses except interest payments.	F Note: Interest payments on individual loans for acquisition of income are considered as deductions from taxable income in taxation, and thus diminish the amount of taxes paid on the income (HY140G).
Family/children-related allowances	HY050G	Financial support to households for bringing up children and financial assistance to people who support relatives other than children: income maintenance benefit in the event of childbirth, birth grant, parental leave benefit, family or child allowance, other cash benefits.	F
Social exclusion payments not elsewhere classified	HY060G	Social benefits to the socially excluded or to those at risk of social exclusion: income support to people with insufficient resources, and other cash benefits as support for destitute and vulnerable persons to help alleviate poverty or assist in difficult situations.	F Note: A register-based item on income support also includes a minor part of means-tested housing allowance. Parts are not separable from each other.
Housing allowances	HY070G	Rent benefit or benefit to owner-occupiers, means-tested	F
Regular inter-household cash transfers received	HY080G	Regular monetary amounts or monetary amounts over the certain minimum amount (EUR 100) received during the income reference period, from other households or persons: compulsory child support, voluntary support to education, voluntary payments for housing costs and utility bills.	F
Alimonies received	HY081G	Regular monetary amounts or monetary amounts over the certain minimum amount (EUR 100) received during the income reference period, from other households or persons: compulsory child support.	P Note: Compulsory child support only. Voluntary alimonies and voluntary child support received on a regular basis have not been included.

Interest, dividends, profit from capital investments in unincorporated businesses	HY090G	The amount of interest from assets, dividends and profits from capital investment in an unincorporated business in which the person does not work, received during the income reference period, less expenses incurred. Interests on individual loans for acquisition of income are considered as expenses for certain income items, but not for all income items.	F Note: Interest payments on individual loans for acquisition of income are subtracted as deductions from taxable income in taxation, and thus diminish the taxes paid on income. (HY140G).
Interest paid on mortgages	HY100G	Total gross amount, before deducting any tax credit or tax allowance, of mortgage interest on the main residence of the household during the income reference period.	F
Interest paid on mortgages	HY100N	Total net amount, after deducting tax credit or tax allowance, of mortgage interest on the main residence of the household during the income reference period. Tax allowance from mortgage interest expenses is considered as deductions from taxable capital and earned income in taxation, and thus diminishes taxes paid on the income (HY140G).	F
Income received by people aged under 16	HY110G	Gross income received by all household members aged under 16 during the income reference period.	F Note: Items of PY030G have been excluded.
Regular taxes on wealth	HY120G	Real Estate Tax, which is paid on the buildings and land (excl. forests and agricultural land) owned at the beginning of the income reference period.	F Taxes paid on the ownership and use of buildings and or land by shareholders in housing companies are part of housing costs for imputed rent. Net wealth tax has abolished because of the tax reform took force at the beginning of 2006.
Regular inter-household transfers paid	HY130G	Regular monetary amounts or monetary amounts over the certain minimum amount (EUR 100) paid during the income reference period, to other households or persons: compulsory child support, voluntary support to education, voluntary payments for housing costs and utility bills.	F
Alimonies paid (compulsory + voluntarily)	HY131G	Regular monetary amounts or monetary amounts over the certain minimum amount (EUR 100) paid during the income reference period, to other households or persons: compulsory child support.	P Note: Compulsory child support only. Voluntary alimonies and voluntary child support paid on a regular basis have not been included.
Tax on income and social insurance contributions	HY140G	Taxes on income, profits and capital gains: taxes on individual, household or tax-unit income (income from employment, property, entrepreneurship, pensions, etc.) including taxes deducted by employers (i.e. withholdings), other taxes at source and taxes on the income of owners of unincorporated enterprises paid from the income received in the income reference year. Social insurance contributions paid during the income reference period. Taxes paid from pensions received from private insurance plans (PY080G) have been included.	F Note: Interests charged on arrears of taxes due and any fines imposed by tax authorities have not been included. Taxes refer to the taxes paid gross income components counted in HY010 and PY080G.
Repayments/receipts for tax adjustments	HY145G	-	NC
Cash or near-cash employee income	PY010G	Monetary component of the compensation of employees in cash payable by an employer to an employee: value of any social contributions and income taxes payable by an employee or by the employer on behalf of the employee to social insurance schemes or tax authorities.	F Note: Tips and bonuses, and benefits based on profit sharing from stock options (excl. the ones converted into cash) have been included in this component.
Non-cash employee income	PY020G	Non-monetary income components which may be provided free or at a reduced price to an employee as part of the employment package by an employer: company car and associated costs, free or subsidised meals, luncheon vouchers, reimbursement or payment of housing-related expenses, accommodation	F

		provided free or reduced rent, other goods and services provided free or at a reduced price by their employer to their employees. Taxable income of non-monetary components. Income refers to the market value by Tax authorities and/or the value determined annually by Tax authorities. Items included in the variable are as follows: housing (incl. heating) and use of electricity, garage, car, boat, telephone, eating in certain cases, mortgage interest benefit, employer's contributions to voluntary life or pensions insurances in certain cases (exceeding the income amount set by Tax authorities)	
Non-cash employee income	PY020N	Non-monetary income components which may be provided free or at a reduced price to an employee as part of the employment package by an employer. Value of non-monetary employee income after taxes paid.	F
Non-cash employee income (company car)	PY021G	Non-monetary income components which may be provided free or at a reduced price to an employee as part of the employment package by an employer: company car. Taxable income of company car which refers to the value determined annually by Tax authorities.	F
Non-cash employee income (company car)	PY021N	Non-monetary income components which may be provided free or at a reduced price to an employee as part of the employment package by an employer: company car. Value of company car after taxes paid.	F
Employers' social insurance contributions	PY030G	Employers' legal/mandatory contributions, i.e. payments done by employers during the income reference period for the benefits of their employees to insurers covering statutory, conventional or contractual contributions in respect of insurance against social risks: contributions to legal pension schemes, legal health insurance, accident insurance, unemployment insurance and employees' group life assurance schemes. Employers' contributions refer to compulsory contributions.	L Note: Optional contributions made by employers on the basis of contractual or specific sector arrangements have not been included in PY030G. The information is not available from registers and thus is not measurable as reliably as other income. The total amount of optional contributions of all employer's social insurance contributions is about 11 percent according to NA. A very small part of optional contributions has however been counted in PY020G: e.g. contributions to endowment insurance (excl. life insurance) and other such contributions to individual pension and risk insurance schemes which are determined as taxable employee income by tax authors. These items are part of a register item in PY020G and cant' be separated.
Optional employers' social insurance contributions	PY031G	-	
Contributions to individual private pension plans	PY035G	Contributions to private pension plans taken by individual households on their own initiative and from their own benefit, independently of their employers or government and outside social insurance scheme.	F Note: Contributions refer to the contributions done to voluntarily individual pension scheme.
Cash profits or losses from self-employment (including royalties)	PY050G	The income received, during the income reference period, by individuals, for themselves or in respect of their family members, as a result of their current or former involvement in self-employment jobs: operating profit accruing to working owners or partners of an unincorporated enterprise, royalties earned on writing, inventions and so on, not included in the profit/loss of unincorporated enterprises, rentals from business buildings, vehicles, equipment, etc., not included in the profit/loss of unincorporated enterprises, after deduction of related costs. Interests	F Note: Interest payments on individual loans for acquisition of income are subtracted as deductions for taxable income in taxation, and thus diminish the taxes paid on income (HY120G). Positive values (incl. 0 values). Losses are considered as deductions from taxes on capital income or as credit for deficit in capital income

		on loans for acquisition of income are considered as costs for a few income items, but not for all income items.	(i.e. deductions from taxes on earned income, if a person has a insufficient capital income), or in the spouse's taxes paid. If such taxable income that deductions concern has not been received at all, losses will be considered as taxes paid from the income received in the following years.
Value of goods produced for own consumption	PY070G	-	NC Note: Value is not significant at the national level, or to particular groups of households. According to the FI-HBS 2006 results, expenditures of goods produced for own consumption (under COICOP K01 Food and non-alcoholic beverages) was 0,3 per cent from all consumption expenditures in the households in average. In employers and own-account workers in agriculture, the percentage was highest, 1,7 per cent, whereas in other socio-economic groups the percentage was as next highest, 0,4 per cent, in pensioners. When counting the expenditures of goods produced for own consumption from household disposable income, the percentages are lower in general (1,3 per cent in employers and own-account workers in agriculture). The information is not included in IDS.
Pensions received from individual private plans	PY080G	Pensions received from non-compulsory statutory schemes, i.e. voluntary collective and individual insurance schemes. For voluntary collective insurance schemes, contributions have been done also by employers.	L Note: Income component includes a small part of pensions from voluntary collective unregistered schemes done by an employer. Items (i.e. ESSPROS second pillar) cannot be separated from private individual pensions (ESSPROS third pillar). Income received from voluntary individual private plans was about 45 per cent of total amount of voluntary collective and individual schemes in 2009 according to Insurance Supervisory Authority (2010). The pensions received from voluntary collective schemes (ESSPROS second pillar) could not thus be included in social benefits (ESSPROS first pillar) either. They were about 3,4 per cent of the total income amount received from compulsory (ESSPROS first pillar) and supplementary collective schemes (ESSPROS second pillar) in 2009 according to Insurance Supervisory Authority (2009). Collective compulsory scheme (ESSPROS first pillar) is comprehensive in Finland's pension system.
Pensions received from individual private plans	PY080N	Pensions received from non-compulsory statutory schemes, after taxes deducted.	L Note: See above.
Unemployment benefits	PY090G	Benefits that replace income lost by a worker due to the loss of gainful employment, provide subsistence income to persons entering or re-entering the labour market, provide subsistence income to unemployed persons not members in unemployment funds, provide subsistence income to persons in long-term unemployment, and to elderly persons who retire after long-term unemployment before the legal retirement age, contribute to the cost of training or re-training people looking for employment.	F
Old-age benefits	PY100G	Benefits that provide replacement income when an aged person retires from the labour market, or guarantee certain income when a person has reached the prescribed age. Old-age pensions, early old-age pensions, deferred	F

		old-age pensions and part-time pensions are counted in old-age benefits. After the pension reform came into force at the beginning of the 2005, the pension entitlement age criteria have changed. The statutory retirement age for old-age pension under the national scheme is 65 and employment scheme is 63 - 68 (earlier 65). Persons secured under the employment scheme are in certain professions entitled to start old-age pensions earlier. In addition, early old-age pensions are awarded after the age of 60 in earliest in public sector contracts and the age of 60 or 62 in private sector contracts under the employment scheme. Part-time pensions are awarded to persons after the age of 56 in the public sector and after the age of 58 in private sector contracts under the employment scheme. Income on PY110G and PY130G has been reclassified to PY100G according to person's actual retirement to the old-age pension (excl. part-time pensions) or last, by using either the statutory retirement age under the national scheme (65) or under the employment scheme (68).	
Survivors' benefits	PY110G	Benefits that provide temporary or permanent income to people below the retirement age after the death of their spouse, partner or next-of-kin, usually when the latter represented the main breadwinner for the beneficiary. Survivors' pensions to the deceased person's children, to a surviving spouse and under the employment pension scheme to a former spouse are counted in survivors' benefits.	F
Sickness benefits	PY120G	Benefits that replace in whole or in part loss of earnings during temporary inability to work due to sickness or injury.	F
Disability benefits	PY130G	Benefits that provide an income to persons below the standard retirement age whose ability to work and earn is impaired beyond the minimum level laid down by legislation by physical or mental disability. Income for the disabled persons entering or returning to work.	F
Education-related allowances	PY140G	Grants, scholarships and other education assistance received by students.	F
Gross monthly earnings for employees	PY200G	-	NC Note: The gender pay gap is calculated by the Wages and Salaries Statistics unit, Statistics Finland

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

Income information is primarily register information, which was linked to the EU-SILC sample persons from the register database, i.e. the Total Income Database (TIDB) maintained by Statistics Finland. TIDB is compiled from register sources maintained by several administrative authorities[8], who are also in charge of the data quality. The sources cover the whole population of Finland. For TIDB, information is further checked in order to ensure the consistency of the data from several sources.

[8] Administrative registers are the Personal Tax Register of National Board of Taxes, the Pension Register of the FinnishCentre for Pension, the Pension Register, Social Insurance Register, Rehabilitation Register, Study Aid Register, Housing Allowance Register of the Social Insurance Institution; the Registers of the Education Fund, the Farm Register of the Information Service Centre of the Ministry of Agriculture and Forestry, the National Institute for Health and Welfare (THL) the Tax Database of the military injury benefits system of the State Treasury. The main frame for income information is the Personal Tax Register to which other registers give more detailed information, or supplement it by tax-free income information.

Items which were not available from registers were collected by interviews (the income definition for HY010 including PY080G): 1.2 per cent of all gross income and 2.3 per cent of all paid transfers weighted at total households were interviewed.

- Wages and salaries for persons who have no taxable income in Finland (incl. in PY010G)
- Interest income taxed at source (incl. in HY090G)
- Pensions from abroad to persons who have no taxable income in Finland (incl. in PY100G)
- Tax-free care allowances and convalescent's grants, unspecified tax-free pensions (incl. in PY130G)
- Maintenance support for children (incl. in HY050G)
- Strike assistance (incl. in HY060G)
- Regular inter-household transfers received (HY080G)
- Regular inter-household transfers paid (HY130G)

Furthermore, information on household main dwellings and housing costs was interviewed in order to form HY030G imputed rent.

Interviewed items were automatically checked and corrected in relation to acceptable values in the Blaise questionnaire on the basis of information received in the course of the interview and further, after the information collection, the checking was continued in order to detect and correct erroneous values (chapter 2.3.2.3 Processing errors). Item-non responses concerned interest income taxed at source in the component HY090G interest, dividends, profit from capital investments in unincorporated businesses. For it, statistical imputing (hot-deck method) was used to impute the missing values. Otherwise, because of comprehensive register sources on income, imputing was used only to the following variables for which sufficient information was not directly available: deductive imputing for PY030G, statistical imputation (stratification method) for HY030G and gross/net conversion for PY020N, PY021N, PY080N, HY100N, HY022 and HY023.

Except small differences due to the interviewed data collection and processing (chapter 2.5 Imputation procedure), the register sources and thus procedures for producing income target variables were consistent to the statistical units selected for the cross-sectional and longitudinal components. The rotational groups were treated similarly.

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

The target variables on income are in gross amounts except HY020, HY022 and HY023. In addition, net amounts of PY020N, PY021N, PY080N and HY100N have been provided in the data.

Table 3.2 Components of income. Finland's sources or procedures used for collection of income components, the form and the methods used for obtaining the target variables in the 2010 data.

	Variable name	Source or procedure used for collection	The form	The method used for obtaining the target variable
Total household gross income (cross-sectional and longitudinal Hfile)	HY010	The register database, the IDS-SILC interview	Gross value	The sum for all household members of gross personal income components (PY010G, PY021G, PY050G, PY070G, PY090G, PY100G, PY110G, PY120G, PY130G, PY140G) plus gross income components at household level (HY040G, HY050G, HY060G, HY070G, HY080G, HY090G, HY110G)
Total household gross income (incl. PY080G)	HY010	The register database, the IDS-SILC interview	Gross value	The sum for all household members of gross personal income components (PY010G, PY021G, PY050G, PY070G, PY080G, PY090G, PY100G, PY110G, PY120G, PY130G, PY140G) plus gross income components at household level (HY040G, HY050G, HY060G, HY070G, HY080G, HY090G, HY110G)
Total disposable household income (cross-sectional and longitudinal Hfile)	HY020	The register database, the IDS-SILC interview	Net value	The sum for all household members of gross personal income components (PY010G, PY021G, PY050G, PY070G, PY090G, PY100G, PY110G, PY120G, PY130G, PY140G) plus gross income components at household level (HY040G, HY050G, HY060G, HY070G, HY080G, HY090G, HY110G) minus regular taxes on wealth (HY120G), regular inter-household cash transfers paid (HY130G), tax on income and social insurance contributions (HY140G).
Total disposable household income (incl. PY080G)	HY020	The register database, the IDS-SILC interview	Net value	The sum for all household members of gross personal income components (PY010G, PY021G, PY050G, PY070G, PY080G, PY090G, PY100G, PY110G, PY120G, PY130G, PY140G) plus gross income components at household level (HY040G, HY050G, HY060G, HY070G, HY080G, HY090G, HY110G) minus regular taxes on wealth (HY120G), regular inter-household cash transfers paid (HY130G), tax on income and social insurance contributions (HY140G).
Total disposable household income, before social transfers other than old-age and survivors' benefits (cross-sectional and longitudinal Hfile)	HY022	The register database, the IDS-SILC interview	Net value	The total disposable income (HY020) minus **total gross to net converted transfers** of unemployment benefits (PY090G), sickness benefits (PY120G), disability benefits (PY130G), education-related allowances (PY140G), family/children-related allowances (HY050G), social exclusion not elsewhere classified (HY060G) and housing allowances (HY070G). For net conversion of the social transfer, detailed income information from the Personal Tax Register was used. The phases in deriving HY022 and HY023 were as follows: 1. Deductions which are focused on social transfers subject to taxation were counted in order to obtain taxable social transfers. Deductions of the state and municipal taxation were done separately. 2. Taxes paid on taxable social transfers in state and municipal taxation were deducted. These are the actual taxes paid defined by the rate of the taxed social transfers and taxed earned income (incl. social transfers in the Finnish taxation). 3. The gross to net converted social transfers subject to taxation and social transfers not subject to taxation excluding and including old-age benefits and survivors' benefits were deducted from HY020, resulting in HY022 and HY023.
Total disposable household income, before social transfers including old-age and survivors' benefits (cross-sectional and	HY023	The register database, the IDS-SILC interview	Net value	The total disposable income (HY020) minus **total gross to net converted transfers** of unemployment benefits (PY090G), old-age benefits (PY100G), survivors' benefits (PY110G), sickness benefits (PY120G), disability benefits (PY130G), education-related

longitudinal Hfile)				allowances (PY140G), family/children-related allowances (HY050G), social exclusion not elsewhere classified (HY060G) and housing allowances (HY070G). See the method of HY022.
Imputed rent	HY030G	**The stratification method** has been used for imputing equivalent gross rent values to the EU-SILC sample dwellings from the external data source compiled annually by Statistics Finland. The data being coherent with NA includes mean gross rents/m2 to dwellings of different sizes, types and municipalities (strata). For producing gross rent values to the data, Rent statistics on actual market rents (incl. new and old contracts) has been used as a primary data source. Rent statistics is compiled by **conventional methods based on classification and regression analysis (hedonic method)**. Information is collected by monthly Labour Force Survey interviews (the whole sample size is 12,000), and from register sources maintained by Statistics Finland. Data according to stratum has been produced to the regions (municipalities) with narrow market rents by disaggregating information on rents of upper level classification of regions (NUTS3) or secondarily, by using additional information on statistics of Prices of Dwellings by Statistics Finland. The IDS-SILC interviewed data on sample household dwellings. The HBS interviewed data (for estimating insurance for detached houses) in 2006.	Gross value	**Stratification method:** Mean gross rent / m2 was imputed to the floor area (square meter) of the sample households' main dwellings by the following classes: - HH010 (detached house with 1-2 dwellings or other kind of accommodation, semi-detached or terraced house, apartment or flat in the block of flats) - HH030 (1, 2, 3, 4+) - Construction or renovation year (-60, 61-70, 71-80, 81-90, 91-) - Municipality and district area in the municipalities with the highest number of population (Helsinki, Espoo, Vantaa, Tampere, Turku) according to postal code. To obtain the value of imputed rent, costs on housing the household actually paid (rents, maintenance electricity, gas and other fuels, incl. subsidies received for them, minor repairs) and the ones imputed (insurance for detached houses) were subtracted from the gross rent value. For owners of detached houses: heating costs were excluded from the gross rent value of external data source and were not an item of subtracted housing costs. For others, (shareholders of stock in a housing corporation (joint owners) and tenants): heating costs were included in the gross rent value and subtracted housing costs. Tax on real estate is a part of maintenance charges in shareholders of stock in a housing corporation (joint owners). Tax on real estate of owners is included in HY120G. The items of costs on housing follow the definition of the market rent. Imputed minor repairs are derived from the EU-SILC sample, and insurance from the HBS. Comparability over time: The data is comparable over the EU-SILC survey years. The method was revised in the sy2007 data. The new method has been updated to the revised EU-SILC cross-sectional data of the earlier survey years (sy2004-sy2006) and the longitudinal component (sy2006).
Income from rental of property or land	HY040G	Register database	Gross value	
Family/children-related allowances	HY050G	Items either from the Register database or from the IDS-SILC interview	Gross value	
Social exclusion payments not elsewhere classified	HY060G	Items either from the Register database or from the IDS-SILC interview	Gross value	
Housing allowances	HY070G	Items either from the Register database or from the IDS-SILC interview	Gross value	
Regular inter-household cash transfers received	HY080G	The IDS/FI-SILC interview	Gross value	
Alimonies received (compulsory and voluntary)	HY081G	The IDS/FI-SILC interview	Gross value	
Interest, dividends, profit from capital investments in unincorporated businesses	HY090G	Items either from the Register database or from the IDS-SILC interview.	Gross value	Item non-responses of interest income taxed at source were imputed for the households that responded in the interview that they had received the income during the income reference year, but did not specify the exact amount. Imputing was done in two phases: first, to the

				households with missing exact value, but the answered range value and second, to ones with completely missing value. **Hot-deck method was used as a statistical imputation method.** For the first phase imputation, the data including households that had received income was grouped to classes by domicile code (dwelling location) and range value, from within donor values (interviewed amount) were selected to recipient households (missing amount) randomly. For the second phase imputation, the data (including units with imputed value from the first phase), was grouped to classes by domicile code, socio-economic status and the number of household members. Donor values (interviewed amount) were selected within these strata to recipient households (missing amount) randomly as well.
Interest paid on mortgages	HY100G	Register database	Gross value	
Interest paid on mortgages	HY100N	Register database	Net value	Net conversion of gross value was done by information on taxation: **deductive imputation**.
Income received by people aged under 16	HY110G	Register database	Gross value	
Regular taxes on wealth	HY120G	Register database	Gross value	
Regular inter-household transfers paid	HY130G	The IDS-SILC interview	Gross value	
Alimonies paid	HY131G	The IDS-SILC interview	Gross value	
Repayments/receipts for tax adjustments	HY135G	-	-	-
Tax on income and social insurance contributions	HY140G	Register database	Gross value	Taxes paid from pensions received from private insurance plans have been included in the cross-sectional and longitudinal HY140G variable.
Cash or near-cash employee income	PY010G	Register database	Gross value	
Non-cash employee income	PY020G	Register database	Gross value	
Non-cash employee income	PY020N	Register database	Net value	Net conversion of gross value by the rate of actually paid taxes from taxable earned income: **deductive imputation.**
Non-cash employee income (company car)	PY021G	Register database	Gross value	
Non-cash employee income (company car)	PY021N	Register database	Net value	Net conversion of gross value by the rate of actually paid taxes from taxable earned income: **deductive imputation.**
Employers' social insurance contributions	PY030G	Register database	Gross value	**Deductive imputation** using information about obliged contributions of the compulsory social insurance schemes and information about employer.
Optional employers' social insurance contributions	PY031G	-	-	-
Optional employers' social insurance contributions	PY035G	Register database	Gross value	
Cash profits or losses from self-employment (including royalties)	PY050G	Register database	Gross value	Comparability over time: The component includes **items of timber selling as earned and capital forestry income, which are solely from registers**. In the previous survey years (sy2006 and before), a small part of the income was interviewed. Forestry tax reform has also been implemented. Accordingly, **the imputation method of expenses had been changed for these gross items**. Expenses are computed by fixed parameters from gross income items based on register information about timber selling income and expenses in TSID (Total Statistics on Income Distribution). Compared with the previous surveys, the register coverage has improved and provides more reliable data in line with the forestry tax

				reform. Based on the results from the 2007 survey year data, estimated total amount was 13,3 per cent of PY050G and 0.7 per cent of HY010 by the new method, and 13,7 per cent of PY050G and 0.8 per cent of HY010 by the (old) method used. Distributions of the item were almost completely correlated, small differences exist in income at the unit level.
Value of goods produced for own consumption	PY070G	-	-	-
Pensions received from individual private plans	PY080G	Register database	Gross value	
Unemployment benefits	PY090G	Register database	Gross value	
Old-age benefits	PY100G	Register database and the IDS-SILC interview data	Gross value	Survivors' benefits and disability benefits which were received simultaneously with old-age benefits have been regrouped into old-age benefits by using the statutory retirement ages of the national scheme (65), employment scheme (63-68) or under the employment scheme lower statutory retirement age in certain professions.
Survivors' benefits	PY110G	Register database	Gross value	
Sickness benefits	PY120G	Register database	Gross value	
Disability benefits	PY130G	Register database	Gross value	
Education-related allowances	PY140G	Register database	Gross value	
Gross monthly earnings for employees	PY200G	-	-	-

3.2.4 The method used for obtaining the income target variable in the required form (i.e. as gross values)

The collected data is in gross values. See the previous chapters 3.2.1, 3.2.2, 3.2.3 and table 3.2, the column on the method used for obtaining the target variables.

3.2.5 Comparison of income target variables and number of persons who received income from each component with the previous survey years

Table 3.3 presents mean income components and income receivers of the cross-sectional survey over the survey years and table 4.7 income receivers of the longitudinal survey. Mean income and standard errors have been reported in chapter 2.2. Differences between surveys result from sample size, initial wave non-response and attrition, the difference appears relatively as more marked in income components in which unit-non response rates were higher and income calibrating could not be initially used for correcting them.

Table 3.3 Mean income by each income target variable and the number of units received income in the 2005-2010 cross-sectional data

Survey year	2005	2006	2007	2008	2009	2010	2005	2006	2007	2008	2009	2010
All Households	Mean	Mean	Mean	Mean	Mean	Mean	N (1 000)	N (1 000)	N (1 000)	N(1000)	N (1 000)	N (1 000)
Variable												
HY010 (incl. PY080G)	38 710	40 047	41 458	43 095	44 843	44 952	2 415	2 435	2 455	2 483	2 513	2 530
HY020 (incl. PY080G)	28 992	29 788	30 939	32 316	33 768	34 341	2 415	2 435	2 454	2 483	2 513	2 530
HY022 (incl. PY080G)	24 868	25 580	26 788	28 203	29 680	29 851	2 328	2 374	2 382	2 417	2 455	2 457
HY023 (incl. PY080G)	20 594	21 082	22 202	23 384	24 502	24 121	2 232	2 335	2 323	2 351	2 393	2 398
HY010	38 479	39 787	41 128	42 668	44 416	44 503	2 415	2 435	2 455	2 483	2 513	2 530
HY020	28 761	29 528	30 609	31 889	33 341	33 892	2 415	2 435	2 454	2 483	2 513	2 530
HY022	24 638	25 320	26 458	27 776	29 253	29 403	2 328	2 374	2 382	2 417	2 455	2 457
HY023	20 363	20 822	21 873	22 957	24 075	23 673	2 231	2 335	2 323	2 351	2 393	2 398
HY030G	3 666	3 822	3 883	3 961	4 135	4 360	1 849	1 894	1 900	1 903	1 931	1 946
HY040G	350	409	409	422	429	454	176	176	159	165	173	193
HY050G	1 040	1 024	1 044	1 052	1 022	1 088	601	600	602	604	598	603
HY060G	169	152	166	187	184	209	218	212	207	213	185	221
HY070G	352	366	386	382	366	398	523	531	540	530	516	530
HY080G	128	125	137	115	134	128	215	222	236	216	243	229
HY090G	1 752	1 554	1 423	1 662	1 643	1 484	1 482	1 975	1 829	1 849	1 880	1 917
HY100G	492	543	688	999	1 216	793	720	774	787	819	842	865
HY110G	47	61	44	48	46	40	60	60	56	51	61	51
HY120G	126	102	87	89	101	126	985	1 024	1 015	987	1 129	1 149
HY130G	197	207	212	232	263	230	309	312	343	362	435	364
HY140G[1]	9 395	9 950	10 221	10 458	10 711	10 255	2 358	2 389	2 396	2 424	2 457	2 465
HY100N	348	388	493	716	870	569	720	774	787	819	842	865
All persons aged 16 and over												
Variable												
PY010G	13 700	14 285	14 998	15 647	16 640	16 369	2 645	2 681	2 691	2 737	2 776	2 720
PY020G[2]	99	108	194	215	200	198	71	67	596	642	656	669
PY021G	.	.	121	129	123	121	.	.	76	81	77	73
PY030G	.	.	3 786	3 953	4 129	3 969	.	.	2 663	2 708	2 746	2 699
PY035G	137	134	117	118	116	126	342	392	403	450	482	497
PY050G	1 293	1 337	1 322	1 536	1 500	1 325	476	466	443	480	469	442
PY080G	133	150	192	248	250	263	145	161	189	212	178	192
PY090G	848	856	819	754	699	881	652	730	690	663	641	854
PY100G	2 973	3 142	3 227	3 411	3 661	4 010	918	946	948	950	989	1 025
PY110G	94	92	75	76	63	54	69	72	55	55	48	47
PY120G	101	118	110	115	124	128	222	239	243	240	240	229
PY130G	762	813	783	797	840	829	364	369	356	368	362	350
PY140G	131	135	130	130	141	155	436	429	432	429	423	429
PY020N	.	.	127	142	134	135	.	.	596	642	656	669
PY021N	.	.	76	83	79	79	.	.	76	81	77	73
PY080N	99	111	143	185	185	198	145	161	189	212	178	192

[1] HY140G includes taxes paid and social contributions on the HY010 gross income components including PY080G

[2] PY020G includes income of PY021G only in the sy2005-sy2006.

Table 3.4 Mean income by each income target variable and the number of units received income in the 2010 cross-sectional data by DB075

Survey year	Total	Wave 1, DB075=1	Wave 2, DB075=4	Wave 3, DB075=3	Wave 4, DB075=2	Total	Wave 1, DB075=1	Wave 2, DB075=4	Wave 3, DB075=3	Wave 4, DB075=2
All Households	Mean	Mean	Mean	Mean	Mean	N (1 000)	N (1 000)	N (1 000)	N (1 000)	N(1000)
Variable										
HY010 (incl. PY080G)	44 952	44 990	44 877	44 859	45 194	2 531	2 531	2 531	2 531	2 531
HY020 (incl. PY080G)	34 341	34 399	34 231	34 350	34 543	2 530	2 530	2 530	2 531	2 531
HY022 (incl. PY080G)	29 851	29 948	29 714	29 751	30 162	2 457	2 442	2 464	2 469	2 458
HY023 (incl. PY080G)	24 121	24 216	24 007	24 118	24 268	2 398	2 392	2 400	2 429	2 377
HY010	44 503	44 465	44 454	44 500	44 755	2 530	2 530	2 530	2 531	2 531
HY020	33 892	33 874	33 808	33 990	34 103	2 530	2 530	2 530	2 531	2 531
HY022	29 403	29 423	29 292	29 392	29 723	2 457	2 442	2 464	2 469	2 458
HY023	23 673	23 691	23 584	23 758	23 828	2 398	2 392	2 400	2 429	2 372
HY030G	4 360	4 314	4 368	4 382	4 421	1 946	1 918	1 952	1 969	1 972
HY040G	454	459	451	464	442	193	194	195	202	176
HY050G	1 088	1 085	1 109	982	1 132	603	587	614	604	605
HY060G	209	217	191	216	239	221	224	208	232	239
HY070G	398	407	391	371	422	530	540	519	520	549
HY080G	128	112	140	127	132	229	189	255	243	225
HY090G	1 484	1 579	1 297	1 516	1 828	1 917	1 888	1 940	1 881	1 952
HY100G	793	796	789	793	800	865	865	864	832	900
HY110G	40	31	41	37	63	51	47	55	55	45
HY120G	126	131	124	120	127	1 149	1 148	1 153	1 107	1 176
HY130G	230	235	217	249	242	364	369	348	414	350
HY140G[1]	10 255	10 225	10 305	10 141	10 283	2 465	2 465	2 464	2 468	2 469
HY100N	569	570	567	568	574	865	865	864	832	900
All persons aged 16 and over										
Variable										
PY010G	16 369	16 360	16 404	16 380	16 263	2 720	2 715	2 731	2 718	2 702
PY020G[2]	198	213	182	213	199	669	713	634	693	651
PY021G	121	132	109	127	125	73	75	66	80	82
PY030G	3 969	3 958	3 978	3 960	3 979	2 699	2 695	2 710	2 700	2 675
PY035G	126	131	119	116	147	497	504	478	501	539
PY050G	1 325	1 300	1 355	1 295	1 318	442	432	454	405	469
PY080G	263	309	248	211	258	192	200	195	168	191
PY090G	881	854	877	930	912	854	841	860	879	837
PY100G	4 010	4 047	3 970	3 949	4 114	1 025	1 031	1 027	1 008	1 026
PY110G	54	47	62	34	66	47	43	50	34	62
PY120G	128	134	128	125	117	229	235	230	216	226
PY130G	829	810	850	935	701	350	367	348	355	307
PY140G	155	160	160	147	132	429	423	434	422	436
PY020N	135	146	124	143	135	669	713	634	693	651
PY021N	79	88	71	82	83	73	75	66	80	82
PY080N	198	233	184	160	197	192	200	195	168	191

For the panel estimates are used the weights (not in the EU-SILC target variables) on which the total sample weight DB090 is based. DB090 is the calbibrated weight by wave (rotation group) multiplied by the proportions of accepted sample households of the wave (w) of all accepted sample households ($n_{respondents\ w}$ / $n_{respondents}$).

[1] HY140G includes taxes paid and social contributions on the HY010 gross income components including PY080G

3.3 Tracing rules

The tracing rules for the follow-up of sample persons, sample households and co-residents have been followed in the longitudinal survey according to the EU-SILC requirements framework. Because of the sampling design and the sampling unit definition used (the selected individuals), only the initial sample persons of the first wave are followed over the survey years/waves. Acceptance of household interview for database (DB135=1) from the previous wave is provided for continuing in the sample of the survey year. Households of the survey year are constructed and household members are defined (mostly co-residents, see the household membership definition) around these sample persons. Household members include the ones who are currently (end of the income reference period, 31 December) living in the households containing the initial sample person, the persons who are temporarily absent, and the persons who have moved and born into the household since the previous wave. Membership status is checked in the each wave.

4 Coherence

4.1 Comparison of income target variables and number of persons who received income from each income component with external sources

Tables 4.1—4.6 show results from income comparisons with relevant data sources. They are the Income Distribution Statistics (IDS), Total Statistics on Income Distribution (TSID) and National Accounts (NA) by Statistics Finland. IDS is the primary national source for the household income statistics. TSID is compiled from the Total Income Database (TIDB) which is used as a register income source both for IDS and EU-SILC. The TSID household definition is based on the household-dwelling unit, not the housekeeping unit like in the sample statistics IDS and EU-SILC.

Social transfers received have been compared with the social expenditure on cash benefits by main group from the European System of Integrated Social Protection Statistics (ESSPROS) compiled by the National Institute for Health and Welfare (THL), Finland. Social transfers of ESSPROS cover also those ones paid to the persons in institutional care (incl. pensions) and the persons permanently resident abroad, but who are entitled to benefits (e.g. employees and their family members). Benefits in kind (e.g. institutional care for children, young people and elderly) are not in the figures except housing allowances.

The differences in total income amounts across the statistics are mostly due to differences in items defined to the components. Vast majority of the income information is collected to the EU-SILC sample units from TIDB. Further, the EU-SILC data is estimated to the private households by using information on crucial demographic and income variables from TIDB in the sampling and the weightings (chapter 2.1). Therefore, inconsistencies between the estimated EU-SILC and TSID income are primarily resulting from the unit-non responses among the units having received certain type of register-based income not used in the weightings (see below). Interviewed information again completes the register information on income, and as a result from this part, the income is slightly more comprehensive in EU-SILC than in TSID.

The EU-SILC and IDS income data is processed equally in the integrated statistical survey. The sample and the frame households are the same. Small differences between these two statistics are caused by income definitions and classifications. They are as follows, IDS includes:

- Profits from sales
- All items of gross non-cash employee income
- Imputed rent and mortgage interests, except to household dwellings rented from a public, municipal, voluntary or non-profit agency (defined as housing benefits in kind and as a part of adjusted household disposable income).

IDS excludes inter-household transfers paid except a compulsory child support.

Compared with the ESSPROS and with the TSID social benefits in more detail (table 4.3), definitions and used classifications have an effect on the figures. The definitions cause differences between EU-SILC and ESSPROS statistics in the following income components: PY110G, PY120G, PY130G and HY070G. Sick pay which is included in EU-SILC PY010G, not in PY120G, consists of 56 per cent of all sickness cash benefits in ESSPROS. PY110G survivors' benefits and PY130G sickness benefits have not been grouped to PY100G old age benefits after statutory retirement age in ESSPROS like in EU-SILC. From housing allowances which have been counted in HY070G, pensioner's housing allowances are as a part of old age benefits in kind, whereas students' housing supplements have not been included in ESSPROS.

In addition to estimation, under-coverage in relation to ESSPROS in particular is also due to the reference population (See above). The effect of the benefits received in resident in collective households and institutions included in ESSPROS can be supposed to be small on the basis of the estimated number of these persons (chapter 3.1). Information about these and social benefits paid abroad is not available as a separate statistical data from ESSPROS.

The differences from comparing income recipients by main income components in table 4.5—4.6. are caused mostly by the same factors as the differences in total income sums. Further, the household definition used in the sample statistics and TSID has also an effect on the figures.

The more marked differences of the longitudinal component of the survey year compared to cross-sectional data, in certain income components in particular, follow from the attrition, and weighting procedures used for the data (See chapter 2.1.8). Income components have not been calibrated since the first wave for the second and following waves. Attrition focusing and income changes since the first wave (certain income types are more temporary (e.g. HY050G), changes are less or more permanent due to changes in household members' labour force status, or that the level or certain income components varies more easily (e.g. PY050G)) affect the differences.

Table 4.1 Total gross income of private household in the income reference year 2009 according to different data sources: Income Distribution Statistics (IDS), Total Statistics on Income Distribution (TSID), National Accounts (NA), European System of Integrated Social Protection Statistics (ESSPROS). Difference of the cross-sectional EU-SILC income amounts (%) to other statistics.

IDS		
Income components	Difference %	Notes
2.1. Gross employee income (py010g, py021g)	-0.5	IDS: Employee income received by persons aged under 16 is included. All items of gross non-cash employee income are included.
2.2. Self-employment income	-0.3	IDS: Employee income received by persons aged under 16 is included.
2.3.Property income (hy040g, hy090g, py080g)	-20.3	IDS: Profits from sales in property income is included.
2.4. Current transfers received	-0.2	IDS: Imputed rent to dwellings rented from another household and income received by persons aged under 16 is included.
2.5. Other income received	100.0	Income (HY110G) is included in other IDS income components.
2.6. Current transfers paid (incl. py080g taxes)	-0.2	See above. EU-SILC; taxes from other non-cash employee and profits from sales are included.
Total gross household income including PY080g (excluding imputed rent and mortgage interests, negative values have been changed for 0-values).	-1.6	The difference is mostly due to other non-cash employee income than a company car (-), profits from sales (-) and household transfers received except compulsory child support (-).
Total disposable household income including PY080g (excluding imputed rent and mortgage interests, negative values have been changed for 0-values).	-2.0	The difference is mostly due to other non-cash employee income than a company car (-), profits from sales (-) and inter-household transfers paid except compulsory child support (-).
Components not in the EU-SILC definition, included in the more complete IDS total disposable household income definition		
- Gross employee income (py010g, py020g)	0.0	IDS: Employee income received by persons aged under 16 is included.
- Imputed rent	3.4	IDS: Imputed rent to rental dwellings except the ones rented from another household at a lower rent than the market price or free has not been included. This item is included in current transfers received.
- Interest payments	0.0	
TSID		
Income components	Difference %	
2.1. Gross employee income (py010g, py021g)	-0.3	TSID: Employee income received by persons aged under 16 is included. All items of gross non-cash employee income are included.
2.2. Self-employment income	0.9	TSID: Employee income received by persons aged under 16 is included.
2.3.Property income (hy040g, hy090g, py080g)	-15.6	TSID: Profits from sales which are included, interests income taxed at a source is not included.
2.4. Current transfers received	2.8	TSID: All inter-household transfers received are not included
2.5. Other income received	100.0	Income (HY110G) is included in other TSID income components.
2.6. Current transfers paid	2.0	TSID: Inter-household transfers paid are not included. Tax paid on profits from sales is included.
Total gross household income including PY080g (excluding imputed rent and mortgage interests, negative values have been changed for 0-values).	-0.3	In addition to estimation of EU-SILC, the difference is mostly due to other non-cash employee income than a company car (-), profits from sales included in TSID (-), and household transfers received not included in TSID (-).
Total disposable household income including PY080g (excluding imputed rent and mortgage interests, negative values have been changed for 0-values).	-1.0	In addition to estimation of EU-SILC, the difference is mostly due to other non-cash employee income than a company car (-), profits from sales included in TSID (-), and inter-household transfers not included in TSID (-).
Components not in the EU-SILC definition, included in the more complete IDS total disposable household income definition		
- Gross employee income (py010g, py020g)	0.1	TSID: Employee income received by persons aged under 16 is included.

NA		
Income components	Difference %	
2.1. Gross employee income (py010g, py021g)	-1.7	NA includes non-taxable income items, e.g. estimate on non-taxable and non-monetary income provided to an employee by an employer
2.2. Self-employment income	-35.6	NA's concept s on operating surplus and mixed income differs from the one of the EU-SILC entrepreneur income. For example, NA's mixed income includes rental income from rental activity (other than land) in unincorporated enterprises and value added from self construction. Operating surplus from owner-occupied dwellings as imputed rent has been excluded from the figure beside.
2.3.Property income (hy040g, hy090g, py080g)	-43.2	NA includes following items, e.g. estimated value of premiums and claims from life- and pension insurances to insurants, property income of mutual funds (interests and dividends), which have been invested forward on shareholders' behalf.
2.4. Current transfers received	-10.1	NA includes more widely compensation from individual personal insurance schemes , NA does not include transfers received from other private households
2.5. Other income received	.	NA: Income (HY110G) is included in other income components.
2.6. Current transfers paid	-19.1	NA includes optional contributions, e.g. contributions to indemnity insurance, church tax, membership fees of trade unions, other membership fees and employees' optional contributions to social insurance. It does not include transfers received from other private households. In NA income tax refers to time point the taxes have been actually paid, whereas in SILC the tax reference time period equals to the income reference period (i.e. when the income have been received).
Total gross household income including PY080g (excluding imputed rent and mortgage interests, negative values have been changed for 0-values).	-7.7	
Total disposable household income including PY080g (excluding imputed rent and mortgage interests, negative values have been changed for 0-values).	-6.6 .	
Components not in the EU-SILC definition. They have been included in the more complete NA total disposable household income definition		
- Gross employee income (py010g, py020g)	-1.3	
- Imputed rent	107.8	NA: Net operating surplus from owner-occupied dwellings. NA counts FISIM and depreciation of owner-occupied dwellings as expenses for net value
- Interest payments of housing loans for owner occupiers	-1.5	
ESSPROS		
Income components	Difference %	
PY090G. Unemployment benefits	2.9	
PY100G. Old-age benefits	8.5	ESSPROS does not include income received from PY110G and PY130G for the persons after the standard retirement age.
PY110G. Survivors' benefits	-85.9	See PY100G.
PY120G. Sickness benefits	-75.3	ESSPROS includes sick pay which has been counted in PY010G employee income.
PY130G. Disability benefits	-17.6	See PY100G.
PY140G. Education-related allowances	.	
HY050G.Family/children -related allowances	-4.9	ESSPROS includes the income maintenance benefits paid in the event of child birth and the parental leave benefits which are in PY010G employee income.
HY060G. Social exclusion payments not elsewhere classified	-20.2	ESSPROS includes wage quarantee, which is in PY010G employee income.
HY070G. Housing allowances	18.2	ESSPROS does not include students' housing supplements. As of 2008, ESSPROS contains pensioners' housing allowances, when earlier they were items of PY100G and PY130G.
Total, excl. education-related allowances	-8.7	
Same definitions in accordance with ESSPROS:		
HY070G. Housing allowances	-18.3	
PY100G,PY110G,PY130G	-3.8	

.. Information is not available; . Information is not logical

Table 4.2 The total gross income of private households in the income reference year 2009 according to the longitudinal EU-SILC and TSID. Difference of the EU-SILC income amounts (%) to TSID.

TSID		
Income components	Difference %	
2.1. Gross employee income (py010g, py021g)	8.6	TSID: Employee income received by persons aged under 16 is included. All items of gross non-cash employee income are included.
2.2. Self-employment income	8.4	TSID: Employee income received by persons aged under 16 is included.
2.3.Property income (hy040g, hy090g, py080g)	-16.0	TSID: Profits from sales which are included, interests income taxed at a source is not included.
2.4. Current transfers received	6.9	TSID: All inter-household transfers received are not included
2.5. Other income received	100.0	Income (HY110G) is included in other TSID income components.
2.6. Current transfers paid	12.7	TSID: Inter-household transfers paid are not included. Tax paid on profits from sales is included.
Total gross household income including PY080g (excluding imputed rent and mortgage interests, negative values have been changed for 0-values).	6.7	In addition to estimation of EU-SILC, the difference is mostly due to other non-cash employee income than a company car, profits from sales included in TSID, and household transfers received not included in TSID.
Total disposable household income including PY080g (excluding imputed rent and mortgage interests, negative values have been changed for 0-values).	5.0	In addition to estimation of EU-SILC, the difference is mostly due to other non-cash employee income than a company car, profits from sales included in TSID, and inter-household transfers not included in TSID.
Components not in the EU-SILC definition. They have been included in the more complete IDS total disposable household income definition		
- Gross employee income (py010g, py020g)	9.1	TSID: Employee income received by persons aged under 16 is included.

Table 4.3 Income items of social benefits in the income reference year 2009 according to the cross-sectional EU-SILC and TSID. Difference of the EU-SILC income amounts (%) to TSID.

Income components	Difference %	
PY090G. Unemployment benefits	1.8	
PY100G. Old-age benefits	11.5	TSID does not include income received from PY110G and PY130G for the persons who are on old-age pensions after the standard age.
PY110G. Survivors' benefits	-84.4	See PY100G.
PY120G. Sickness benefits	1.4	
PY130G. Disability benefits	-6.4	See PY100G
PY140G.Education-related allowances	34.0	TSID does not include interviewed items. Certain differences in classification.
HY050G. Family/children -related allowances	5.1	
HY060G. Social exclusion payments not elsewhere classified	-13.8	
HY070G. Housing allowances	-4.7	

Table 4.4 Income items of social benefits in the income reference year 2009 according to the longitudinal EU-SILC and TSID. Difference of the EU-SILC income amounts (%) to TSID.

Income components	Difference %	
PY090G. Unemployment benefits	7.8	
PY100G. Old-age benefits	18.8	TSID includes pensioners' housing allowances (benefits in kind), it does not include income received from PY110G and PY130G for the persons who are on old-age pensions after the standard age.
PY110G. Survivors' benefits	-85.7	See PY100G.
PY120G. Sickness benefits	-11.8	
PY130G. Disability benefits	-6.1	See PY100G
PY140G.Education-related allowances	33.3	TIDS does not include interviewed items. Certain differences in classification.
HY050G. Family/children -related allowances	11.3	
HY060G. Social exclusion payments not elsewhere classified	-23.6	
HY070G. Housing allowances	-16.6	

Table 4.5 The number of income recipients in the income reference year 2009 according to the cross-sectional EU-SILC, IDS and TSID. Difference of the EU-SILC income recipient households and household persons (%) to IDS and TSID.

IDS	Households	Household persons	
Income components	Difference %	Difference %	Notes (See Table 4.1)
2.1. Gross employee income (py010g, py021g)	.	.	
(py010g, py020g)	-0.1	-1.1	
2.2. Self-employment income	-1.3	1.2	
2.3. Property income (incl. py080g)	-0.5	.	
2.4. Current transfers received	0.0	.	
2.5. Other income received	.	.	
2.6. Current transfers paid	0.1	.	
Imputed rent	12.5	.	
Interest payments	0.0	.	
TSID			
Income components	Difference %	Difference %	
2.1. Gross employee income	1.0	-0.8	
2.2. Self-employment income	0.2	-0.7	
2.3. Property income (incl. py080g)	13.3	.	A high number of households having income from interests taxed at a source not included in TSID.
2.4. Current transfers received	4.1	.	
2.5. Other income received	.	.	
2.6. Current transfers paid	2.0	.	

.. Information is not available; . Information is not logical

Table 4.6 The number of income recipients in the income reference year 2009 according to the longitudinal EU-SILC, IDS and TSID. Difference of the EU-SILC income recipient households and household persons (%) to IDS and TSID.

IDS	Households	Household persons
Income components	Difference %	Difference %
2.1. Gross employee income (py010g, py021g)	2.7	-0.4
(py010g, py020g)	2.8	-0.3
2.2. Self-employment income	3.3	2.1
2.3. Property income (incl. py080g)	2.7	.
2.4. Current transfers received	-1.8	.
2.5. Other income received	..	.
2.6. Current transfers paid	0.9	.
Imputed rent	16.4	.
Interest payments	6.3	.
TSID		
Income components	Difference %	Difference %
2.1. Gross employee income (py010g, py021g)	3.8	0.5
(py010g, py020g)	3.9	0.6
2.2. Self-employment income	5.0	0.3
2.3. Property income (incl. py080g)	16.9	.
2.4. Current transfers received	2.2	.
2.5. Other income received	.	.
2.6. Current transfers paid	2.8	.

.. Information is not available; . Information is not logical

Table 4.7 The number of income receivers by the total gross income components in the income reference year 2009 according to the cross-sectional (C) and longitudinal (L) EU-SILC

	EU-SILC (C)	EU-SILC (L)	Difference %	EU-SILC (L)	EU-SILC (L)	EU-SILC (L)
				Wave=2	Wave=3	Wave=4
				DB075=4	DB075=3	DB075=2
Households (N)	2 531 499	2 531 500	0.0	2 531 500	2 531 500	2 531 500
Persons aged 16+ (N)	4 316 224	4 302 395	0.3	4 288 514	4 320 481	4 298 191
Persons aged 0+ (N)	5 271 533	5 271 913	0..0	5 285 959	5 306 749	5 223 031
Number of statistical units received the income (1 000)						
Income components*	Households (N)	Households (N)	Difference %	Households (N)	Households (N)	Households (N)
HY010	2 530	2 531	0.0	2 531	2 531	2 531
HY020 (incl. negative values)	2 530	2 531	0.0	2 529	2 531	2 531
HY022 (incl. negative values)	2 457	2 440	0.7	2 426	2 436	2 459
HY023 (incl. negative values)	2 398	2 183	9.8	2 155	2 203	2 190
HY030G	1 946	2 014	-3.4	1 958	2 025	2 060
HY040G	193	190	1.6	212	166	194
HY050G	603	627	-3.8	577	641	663
HY060G	221	201	10.0	170	203	230
HY070G	530	450	17.8	445	432	474
HY080G	229	215	6.5	217	211	218
HY090G	1 917	1 982	-3.3	1 995	1 920	2 031
HY100G	865	919	-5.9	880	947	930
HY110G	51	56	-8.9	68	59	40
HY120G	1 149	1 218	-5.7	1 210	1 197	1 248
HY130G	364	373	-2.4	349	401	367
HY140G	2 465	2 484	-0.8	2 486	2 485	2 481
HY135G	..	..		..	..	..
	Persons (N)	Persons (N)		Persons (N)	Persons (N)	Persons (N)
PY010G	2 720	2 761	-1.5	2 710	2 805	2 767
PY020G	669	680	-1.6	612	753	676
PY021G	73	86	-15.1	71	103	85
PY030G	2 699	2 737	-1.4	2 692	2 784	2 736
PY035G	497	527	-5.7	497	535	548
PY050G	442	447	-1.1	457	399	484
PY070G	..	..	..	..	..	..
PY080G	192	182	5.5	192	165	190
PY090G	854	710	20.3	709	735	686
PY100G	1 025	1 021	0.4	1 028	1 011	1 025
PY110G	47	43	9.3	40	29	59
PY120G	229	219	4.6	186	217	253
PY130G	350	331	5.7	372	360	260
PY140G	429	415	3.4	412	401	431
PY200G	..	..	.	..	..	..

.. Information is not available; * Income receivers on HY030G and HY100G have not been included in the total income components.
Weights DB090 and RB060 have been used for estimation.

4.2 Comparison of income poverty indicators

Table 4.8 Income poverty indicators of the cross-sectional EU-SILC and equivalent estimates from the longitudinal data (L, 4-year panel) in the income reference year 2009

	EU-SILC	EU-SILC
	(C)	(L)*
HY020 (incl. PY080G) mean	23 527.55	24 809.58
HY020 (incl. PY080G) median	21 348.50	22 073.00
At-risk-of-poverty rate		
- LI_R_MD60	13.1	11.5
- LI_R_MD40	2.4	1.8
- LI_R_MD50	5.5	5.8
- LI_R_MD70	21.4	20.2
Gini-coefficient	25 (25.4)	27 (27.2)
S80/S20 share ratio	3.6	3.9
Households (N)	2 531 499	2 452 251
Persons (N)	5 271 533	4 988 368
Households (n)	10 989	1 394
Persons (n)	27 009	3 123

* RB064 has been used. Negative HY020 values have been converted for 0-values.

Table 4.9 Income poverty Indicators of the cross-sectional EU-SILC and equivalent estimates from the longitudinal data (L, 4-year panel) in the income reference years 2006-2009

	2006		2007		2008		2009	
	EU-SILC	EU-SILC	EU-SILC	EU-SILC	EU-SILC	EU-SILC	EU-SILC	EU-SILC
	(C)	(L)	(C)	(L)	(C)	(L)	(C)	(L)
HY020 (incl. PY080G) mean	20 787.4	21355.42	22 008.2	22 412.68	23 119.1	23 793.9	23 527.50	24 809.58
HY020 (incl. PY080G) median	18 702.7	18831.33	19 793.8	20 253.5	20 962.0	21 340.71	21 348.50	22 073.00
At-risk-of-poverty thresholds (X), equivalent point estimates (L)								
- LI_R_MD60	11 221.62	11298.80	11 876.29	12 152.10	12 577.20	12 804.43	12 809.10	13 243.80
- LI_R_MD40	7 481.08	7532.53	7 917.52	8 101.40	8 384.80	8 536.28	8 539.40	8 829.20
- LI_R_MD50	9 351.35	9415.67	9 896.90	10 126.75	10 481.00	10 670.36	10 674.25	11 036.50
- LI_R_MD70	13 091.88	13181.93	13 855.67	14 177.45	14 673.40	14 938.50	14 943.95	15 451.10

* RB064 has been used for all years of the longitudinal survey. Negative HY020 values have been converted for 0-values.

4.3 Comparison of labour target variables with Labour Force Survey (LFS)

The differences between the EU-SILC self defined current activity status (PL031) and the LFS activity status are logical to their definitions. Compared with EU-SILC, LFS uses the ILO concept which is more detailed in relation to the employment and unemployment definitions in particular. By specifying the SILC PL031 unemployment group by available information on active looking for a job (PL020) and availability for work (PL025) in order to produce more comparable operationalised groups, the Finnish EU-SILC data results less unemployed persons and consequently, more persons not in labour force groups (table 4.10). The number of employed persons (PL031) is smaller in EU-SILC than LFS. EU-SILC prioritises employment, but not as definitely as in LFS. In the interview, one hour working or temporary absence from work was not so strictly considered as working in the interview, although the latter criterion (temporary absence) had been provided in the survey question definition and interview guidelines. In a case of non-employment a person's perception of her/his activity is based on one activity of the defined non-employed activities in December.

EU-SILC target persons refer to private household persons aged 16-64, whereas in LFS they refer to all persons aged 15-64. There are also differences in reference time periods which may explain the differences between the variable frequencies. The whole December was the time reference period in EU-SILC, whereas it was used one week periods over the whole December as the references periods in LFS. The LFS estimates are the averages of these reference periods.

The sampling and weighing methods (e.g. non-response correction and calibration) differ between the surveys, which affect the figures to some extent.

Table 4.10 Self defined current activity status (PL031) completed by information on looking for a job (PL020) and availability for a job (PL025) according to cross-sectional and longitudinal EU-SILC (C, L) and LFS, persons of aged 16-64 (15-64 in LFS) in December 2009, %

	SILC(C)	SILC(C)[1]	SILC(L)	SILC(L)[1]		SILC(C)	SILC(C)[1]	SILC(L)	SILC(L)[1]	LFS
PL031 Self defined activity status					Working full time or part time					
1,3. Working full time	56.6	57.6	57.9	59.6		62.8	63.8	63.9	65.9	67.0
2,4. Working part time	6.2	6.2	6.0	6.3						
5. Unemployed	8.9	9.2	8.7	8.9	PL020 & PL025. Without work. actively looked for a job in previous four weeks and available for work in the next two weeks	4.9	5.1	4.8	5.0	5.8
In labour force	71.7	73.0	72.6	74.8		67.7	68.9	68.7	70.8	72.8
6. Pupil, students, further training etc.	12.0	10.4	11.4	7.9						
7. In retirement or in early retirement or has given up business	5.5	5.0	6.0	6.0						
8. Permanently disabled or/and unfit to work	5.9	6.6	4.9	6.2						
9. In compulsory military or community service	0.5	0.6	0.5	0.4						
10 .Fulfilling domestic tasks and care responsibilities	3.7	3.8	4.0	4.1						
11. Other inactive persons	0.6	0.6	0.6	0.7						
Not in labour force	28.3	27.0	27.4	25.2		32.3	31.1	31.3	29.2	27.2
Total	100.0	100.0	100.0	100.0		100.0	100.0	100.0	100.0	100.0
Number of persons (1 000)	3 430.2	3 425.4	3 416.3	3 236.1		3 430.2	3 425.4	3416.3	3 236.1	3 551.0

[1] selected respondent (figures have been estimated by weight to selected respondent)

Table 4.11 Status in employment (PL040) according to cross-sectional and longitudinal EU-SILC (C, L) and LFS, employed persons of aged 16-64 (15-64 in LFS) in December 2009, %

	SILC (C)	SILC (L)	LFS[1]
PL040 Status in employment			
1. Self-employed with employees	4.8	4.3	4.3
2. Self-employed without employees	8.4	8.2	8.4
Self employed in total	13.3	12.5	12.7
3. Employee	86.6	87.4	86.9
4. Family worker	0.2	0.2	0.4
Missing	0.0	0.0	0.0
Total	100.0	100.0	100.0
Number of persons (1 000)	2 153.9	2 184.3	2 378.0

[1] Family workers refer to family members of self-employed persons and they are counted to self-employed persons in LFS

Table 4.12 Occupation (PL050) in employment according to cross-sectional and longitudinal EU-SILC and LFS, employed persons of aged 16-64 (15-64 in LFS) in December 2009, %

	SILC (C)	SILC(C) [1]	SILC (L)	SILC(L) [1]	LFS
	December	December	December	December	December
PL050 Occupation					
(11-13) Legislators, senior officials and managers	11.9	12.7	11.7	11.4	10.7
(21-24) Professionals	19.7	19.7	19.6	19.6	19.4
(31-34) Technicians and associate professionals	16.2	16.5	17.4	18.0	16.8
(41-42) Clerks	6.1	6.3	6.2	6.6	6.1
(51-52) Service workers and shop and market sales workers	16.1	15.4	17.3	18.2	16.6
(61) Skilled agricultural and fishery workers	3.6	3.6	4.2	3.8	3.8
(71-74) Craft and related trades workers	11.6	11.6	10.8	10.5	11.0
(81-83) Plant and machine operators and assemblers	7.7	7.8	6.5	5.7	7.8
(91-93) Elementary occupations	6.7	6.3	6.0	5.5	7.2
(01) Armed forces	0.4	0.3	0.5	0.8	0.5
Missing	0.0	0.0	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0
Number of persons	2 153.7	2 185.1	2 183.9	2 131.3	2 378.0

[1] Selected respondent

Table 4.13 NACE (Rev. 2; PL111) in employment. Employed persons of aged 16-64 (cross-sectional EU-SILC: selected respondents; LFS persons aged 15-64) in December 2009, %

	SILC[1]	LFS
	Rev.2.; December	December
PL111 NACE		
A Agriculture, forestry and fishing	4.3	4.1
B Mining and quarrying	0.1	0.2
C Manufacturing	17.2	15.4
D Electricity, gas, steam and air conditioning supply	0.7	0.6
E Water supply; sewerage, waste management and remediation activities	0.4	0.4
F Construction	7.3	6.9
G Wholesale and retail trade; repair of motor vehicles and motorcycles	12.7	12.0
H Transportation and storage	6.3	6.6
I Accommodation and food service activities	2.9	3.9
J Information and communication	4.0	4.1
K Financial and insurance activities	2.5	2.1
L Real estate activities	0.7	0.6
M Professional, scientific and technical activities	5.4	5.8
N Administrative and support service activities	3.7	4.1
O Public administration and defence; compulsory social security	5.4	5.0
P Education	7.4	6.6
Q Human health and social work activities	14.5	16.1
R Arts, entertainment and recreation	1.4	2.0
S Other service activities	2.9	2.6
T Activities of households as employers; undifferentiated goods- and services-producing activities of households	0.1	0.4
U Activities of extraterritorial organisations and bodies	0.0	0.0
Missing	0.0	0.3
Total	100.0	100.0
Number of persons	2 185 097	2 378 000

[1] Selected respondent