

FINAL QUALITY REPORT

relating to the EU-SILC 2005 operation

Statistics Finland

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1 Common Longitudinal EU Indicators

Longitudinal EU indicators are not yet available for the operation years 2004 - 2005.

2 Accuracy

2.1 Sampling Design

The sampling design of the Finnish EU-SILC survey, the collection year 2005, (also parallel with the design of the Finnish Income Distribution Survey [IDS]) is a *two-phase sampling design*. The copy of the population register some weeks before the end of the study year included 4,185,517 non-institutional persons aged 16 years or over. The type of the frame was based on the *domicile code*, i.e. very exact identification of all the possible places where people can live. The first digits of this code include regional information (municipality code). Systematic sampling of persons was carried out from that frame in order to get the basis for a master sample (in 2005 exceptionally 100,000). After various checks and combinations we get 98,248 dwelling units with all their relevant members. The loss of 1,752 persons is due to the difference between the register which the selector of the master sample has and the final population register of the end of the study year. This final information (coming with the 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 copy of the register and before the end of the year are excluded from the master sample. With this processing we correct the effect of the frame imperfection (not exactly describing the right time) in the sample.

This master sample of dwelling units is used for different sampling purposes, and one of them is the Income Distribution Survey. For that the master sample is stratified by socio-economic criteria, emphasising high-earners, farmers and entrepreneurs in the allocation. The sample size of the first wave is 7,500. The second wave of the IDS (5,869) is included in the set of households to be interviewed. The final definition of the structure of the household is done during the interview. The stratum is identified for these IDS waves separately in the variable DB050.

The **first wave of the EU-SILC longitudinal component selected in 2005** of size 2500 is selected randomly within strata from the first wave of the Income Distribution Survey (of size 7500) proportionally to the size of the IDS sample.

Referring to the description of the sampling design above it can be observed that

- * **the Finnish cross-sectional data 2005 are based on a nationally representative probability sample of the population residing in private households** (non-institutionalised persons, two-phase sampling in both IDS waves),
- * **all private households and all persons aged 16 and over within the household are eligible for the operation** (selection of persons, creation of dwelling units around persons and definition of households 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 dwelling units around persons and definition of households 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 and Sampling Units

The Finnish sampling design includes only sampling of persons, thus there is only **one stage of sampling**. The **stratification** is constructed in the first-phase master sample, **not** in the population. Sampling is conducted in **two phases**: in the first phase **persons** are selected (first phase sampling unit), in the second phase the **target persons together with their dwelling units** are selected (second phase sampling unit). In a sense the second phase contains **clustering** (though constructed around the target person). However, the **sampling unit** can be still considered as a **person**.

2.1.2 Stratification Criteria

The SILC data selection follows parallelly the sampling design of the Income Distribution Survey. The IDS stratification is conducted in the first-phase master sample containing dwelling units. The strata are created by using a socio-economic categorisation based on the register information available for the members at the time of sample selection. The stratification takes the highest earning person as the categorising person, but the entrepreneur need not be the highest earning one to define the household in the class of entrepreneurs. The income class division is used to allocate the sample more to high-earners. The stratification variable is **DB050**, containing values 1-13 for the first IDS wave and 14-26 for the second IDS wave, based on the dwelling units created around the selected persons.

Table 2.1 Stratification Criteria for the IDS

IDS Wave 1 (CY 2005)			IDS Wave 2 (CY 2004)		
Socio-economic categorisation of the household	Income Class	Stratum code	Socio-economic categorisation of the target person	Income Class	Stratum code
Wage earners	Lowest	1	Wage earners	Lowest	14
	2nd lowest	2		2nd lowest	15
	3rd lowest	3		3rd lowest	16
	Highest	4		Highest	17
Entrepreneurs	Lower	5	Entrepreneurs	Lower	18
	Higher	6		Higher	19
Farmers	Lower	7	Farmers	Lower	20
	Higher	8		Higher	21
Pensioners	Lower	9	Pensioners	Lower	22
	Higher	10		Higher	23
Others	Lower	11	Others	Lower	24
	Higher	12		Higher	25
No tax information	-	13	No tax information	-	26

2.1.3 Sample Size and Allocation Criteria

One rotational group of size 2500 for the **longitudinal component of EU-SILC** was created from the selected sample of the Income Distribution Survey in 2005. 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: **5000**.

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: $0.75 \cdot 5000 = 3750$. 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 ($deff^2$) 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 $deff^2 = 1.25$.

Minimum achieved sample size: $n_{ach} = deff^2 \cdot n_{eff} = 1.25 \cdot 3750 \approx 4688$.

Thus the waves from 2 to 4 together should provide at least the achieved sample of size 4688.

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. According to the wave structure which began in 2004 (earlier decision: **2 500** for each wave) we have the following situation in 2005:

Three waves which began in 2004 (ending in 2005, 2006 and 2007) should each have $0.76 \cdot 2500 = 1900$ as a gross sample.

Actual longitudinal sample to be selected: $n_{act} = 3 \cdot 1900 = 5700$.

When taking the attrition of 8 % into account, we get the expected achieved longitudinal sample size.

Achieved sample size estimate: $0.92 \cdot 5700 = 5244$.

This sample size exceeds the minimum achieved sample size. Note that in the subsequent two years the attrition reduces still the achieved sample size of the third and fourth wave when compared with this sample size of year 2005.

Table 2.2 presents the relations between the longitudinal Income Distribution Survey (IDS) (areas with bold lines) and the wave structure of SILC (shaded). The assumptions are 76 % response for the first wave and 92 % response for other waves. Thus the sample sizes in Table 2.2 are anticipated. Table 2.3 includes the realised situation of the year 2005 SILC survey. The new sample in every stratum is distributed equally for three rotational groups.

Table 2.2 Structure of the longitudinal sample

	2004 1. year	2005 2. year	2006 3. year	2007 4. year	2008 5. year
Gross sample	5 700				
	2 500	1 900			
	2 500	1 900	1 748		
	2 500	1 900	1 748	1 608	
		5 000	3 800		
		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 sample (IDS + SILC)	13 200	13 200	16 696	16 556	16 556
IDS gross sample	13 200	13 200	13 200	13 200	13 200
Achieved IDS sample	10 944	10 944	10 944	10 944	10 944
SILC waves 3 & 4: gross sample		3 800	3 496	3 356	3 356
Achieved 3. & 4. sample		3 496	3 216	3 087	3 087
Longitudinal IDS + SILC gross sample (2, 3 & 4)		5 700	9 196	9 056	9 056
Longitudinal SILC gross sample		5 700	5 472	5 365	5 365
Achieved SILC sample (longitudinal)		5 244	5 034	4 935	4 935
Minimum achieved sample size requirement		4 688	4 688	4 688	4 688

Table 2.3 Information concerning the longitudinal sample in 2005

I	Sample		Sample excluding over-coverage		Accepted respondents	
	frequency	%	frequency	%	frequency	%
all (began 2004)	5873	100.00	5810	100.00	5432	100.00
2 year duration	1965	33.46	1948	33.53	1831	33.71
3 year duration	1966	33.48	1947	33.51	1818	33.47
4 year duration	1942	33.06	1915	32.96	1783	32.82
New SILC wave	2500	-	2463		1912	

2.1.4 Sample Selection Schemes

The master sample of persons (1st phase) is selected with **systematic sampling** from the population *sorted by the domicile code*. The SILC/IDS sample of the first wave with 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 IDS second wave respondents from the previous year were selected at that time in the same way. The **first wave of the EU-SILC longitudinal component selected in 2005** of size 2500 is selected randomly within strata from the first wave of the Income Distribution Survey (of size 7500) proportionally to the size of the IDS sample within strata.

2.1.5 Sample Distribution over Time

The income reference period is fixed 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. Household composition is also dated on the same day.

The second and subsequent wave data collection starts in January and is scheduled to be completed at the end of March. The first wave data collection starts in February and is scheduled to end in May.

Table 2.4 Distribution of interviews over time in 2004 and 2005

Year	DB075				DB075			
Month	1	2	3	Total	1	2	3	Total
	n	n	n	n	%	%	%	%
2005								
I	928	897	858	2683	50.7	49.3	48.1	49.4
II	870	870	872	2612	47.5	47.9	48.9	48.1
III	33	51	53	137	1.8	2.8	3.0	2.5
Total	1831	1818	1783	5432	100.0	100.0	100.0	100.0
2004								
II	229	214	207	650	11.7	10.9	10.7	11.1
III	928	948	901	2777	47.2	48.2	46.4	47.3
IV	474	489	521	1484	24.1	24.9	26.8	25.3
V	334	315	313	962	17.0	16.0	16.1	16.4
Total	1965	1966	1942	5873	100.0	100.0	100.0	100.0

2.1.6 Renewal of the Sample: Rotational Groups

The Finnish cross-sectional SILC data collection year 2005 contains two groups based on the Income Distribution Survey: one is a new rotation group (1st IDS wave) and another is a set of responded households of the IDS of the previous year (2nd IDS wave). In 2005 all observations of the second IDS wave are distributed between the SILC longitudinal waves with duration 2, 3 and 4. Note that the Finnish SILC design is not purely integrative from 2006 on, only the first two SILC waves (the new and the second year wave) are included in the cross-sectional SILC data. The third and fourth year waves appearing in the collection year 2006 and later are not connected to the Finnish Income Distribution Survey, but they are conducted separately.

2.1.7 Weightings

2.1.7.1 Master Sample

Calculated from the master sample CY 2004 (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 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 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.*

2.1.7.2 Income Distribution Survey Sample and the New SILC Wave Sample

The **inclusion probabilities of two-phase sampling** (the effect of selecting the master sample and the IDS sample) were calculated, at the second phase based on the stratification (13 strata) of the

master sample and the allocation used. *Note that the over-coverage is now included.* For those waves we separately calculated the inclusion probabilities $\pi_k^* = \pi_{ak} \pi_{k|s_a}$, where

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

and $\pi_{k|s_a} = n_h / N_{h, s_a}$ is the conditional inclusion probability at the second phase taking the stratification of the master sample into account. The **sample for the new SILC wave** is selected randomly within strata from the first wave of the Income Distribution Survey proportionally to the size of the IDS sample within strata. Thus the conditional inclusion probability $\pi_{k|s_a}$ is corrected with the term $n_{\text{SILC}, h} / n_h$. The **base weights** for the new wave were constructed as follows.

As the basis of calibration **the unit non-response was corrected** by $n_{\text{SILC}, \text{sample}, h} / n_{\text{SILC}, \text{respondents}, h}$ 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+} .

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 SILC wave 1912). 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
<i>Alue</i>	Region (NUTS 3 level), Capital region separated
<i>Ask8</i>	Size of dwelling unit
<i>Haastkur</i>	Degree of urbanisation
<i>Mibs01-Mibs18</i>	Men 0-4, 5-9, 10-14, ... , 80-84, 85-
<i>Nibs01-Nibs18</i>	Women 0-4, 5-9, 10-14, ... , 80-84, 85-
<i>Trplopti</i>	Income 1: Cash or near cash employee income
<i>Saipalk</i>	Income 2: Income 1 > 0
<i>Lelake</i>	Income 3: Pensions
<i>Tyotts</i>	Income 4: Unemployment benefits 1
<i>Perustur</i>	Income 5: Unemployment benefits 2
<i>Saiyott</i>	Income 6: Income 4 > 0
<i>Elintul3</i>	Income 7: Income from self-employment
<i>Yhtytulo</i>	Income 8: Capital income 1
<i>Maattulo</i>	Income 9: Income from agriculture
<i>Omaitul2</i>	Income 10: Income from property and forestry 1
<i>Muupaao2</i>	Income 11: Other capital income
<i>Metstulo</i>	Income 12: Income from forestry 2
<i>Myvo</i>	Income 13: Capital gains
<i>Saielake</i>	Income 14: Pensions > 0
<i>Askorot</i>	Mortgage interests

In addition, **2,415,000** 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.

2.1.7.3 Weighting of the Longitudinal SILC Waves

The master sample and inclusion probabilities of the three longitudinal SILC waves (durations 2, 3 and 4 years, at this moment two years) follow the same principles as presented in the previous section for the new SILC sample of 2005, but in that case concerning the collection year 2004. The **base weights of the waves** are also calculated in the same manner as described in the previous section, but applying the response data, frequencies and calibration marginals from 2004. The fixed number of households was then **2,405,000**.

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 that weight includes the impact of the old wave of the Income Distribution Survey. This effect is removed by multiplying the cross-sectional design weight by 2 (see the intermediate quality report of 2005 for more details). The result is such that when adding up the weights of the 2005 part of the longitudinal D file we get an approximation of the number of households in Finland.

DB090: Household Cross-Sectional Weight, RB060: Personal Base Weight and PB050: Personal Base Weight. Here the principles of weighting are explained for RB060, but DB090 and PB050 are strictly applied 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). The three longitudinal components create the two-year SILC data. For every person remaining (subscript j) from the first year the weight is

$$RB060_j = \frac{\omega_{1,j}}{p_j}.$$

Here the base weight from 2004 $\omega_{1,j}$ (calibrated *separately* for each SILC wave and thus here divided by 3) is expanded with the attrition occurring within a year (term $1 / p_j$). The response propensity p_j is estimated with a logit model based on gender, age groups, region and size of the household. The trimming limit of p_j mentioned in the weighting report is not exceeded.

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:

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

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 outside the survey population receive the average of base weights of existing household members. Persons moving into sample households from another non-sample households in the population (co-residents) are given zero base weight. All these operations are processed by using consecutive population registers from the ends of the years in comparison in order to find out these changes.

The structure of the two-year longitudinal data requires weights also for the results of the first year. 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.

2.1.8 Substitutions

There are no substitutions in the Finnish SILC data.

2.2 Sampling Errors

The Framework Regulation 1177/2003 states that

"The precision requirements concerning publication of the data collected in EU-SILC shall be expressed in terms of the number of sample observations on which the statistic is based and the level of item non-response (additional to total non-response at unit level). The Commission shall not publish an estimate if it is based on fewer than 20 sample observations, or if non-response for the item concerned exceeds 50 %. The data shall be published by the Commission with a flag if the estimate is based on 20-49 sample observations, or if non-response for the item concerned exceeds 20 % and is lower than or equal to 50 %. The data shall be published by the Commission in the normal way when based on 50 or more sample observations and the item non-response does not exceed 20 %.

All data publications shall include technical information for each Member State on the effective sample size as well as a general indication of standard error of at least the main estimates."

That is, the MSs have to calculate the **effective sample size** and the **standard errors of at least the main estimates**, which are defined as follows:

Effective sample size

The effective sample size used in the construction of each common cross-sectional EU indicators based on the cross-sectional component of EU-SILC, for the equivalised disposable income and for the unadjusted gender pay gap, will be provided.

Standard errors

The standard errors for the common cross-sectional EU indicators based on the cross-sectional component of EU-SILC, for the equivalised disposable income and for the unadjusted gender pay gap, will be provided.

Table 2.6 Effective Sample Sizes, Item Non-responses and Standard Errors of the Main Estimators for the Cross-Sectional Data

Estimator	Accepted observations in general	Item non-response	Effective sample size	Standard error
Equivalentised disposable income	29 112	0	29 112	57.78
At-risk-of-poverty rate after social transfers	29 112	0	29 112	0.356
Inequality of income distribution S80/S20 income quintile share ratio	29 112	0	29 112	0.056
Relative median at-risk-of-poverty gap	29 112	0	29 112	0.610
Dispersion around the risk-of-poverty threshold	29 112	0	29 112	0.140
At-risk-of-poverty rate before social transfers except old-age and survivors' benefits	29 112	0	29 112	0.394
At-risk-of-poverty rate before transfers including old-age and survivors' benefits	29 112	0	29 112	0.380
Inequality of income distribution: Gini coefficient	29 112	0	29 112	0.381

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. See Section 2.3.3.5 for further studies. When compared with the intermediate report 2005 there are some changes in standard error estimates. This is due to the adjustment of the "purchasing power parities" figure.

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. *Unlike with the 2004 data, now 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 equivalentised 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 some income components at both cross-sectional and longitudinal levels. 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.

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

Components of income	Variable name	Mean	Number of observations		Standard error
			Before imp.	After imp.	
Total household gross income	HY010	39323.36		11229	109.536
Total disposable household income	HY020	28785.34		11229	73.444
Total disposable household income, before social transfers other than old-age and survivors' benefits	HY022	24695.56		11229	79.773
Total disposable household income, before social transfers including old-age and survivors' benefits	HY023	20387.19		11229	71.329
Imputed rent	HY030G	3203.39		11229	34.305
Income from rental or property or land	HY040G	349.63		11229	21.762
Family/children-related allowances	HY050G	1040.01		11229	26.507
Social exclusion payments not elsewhere classified	HY060G	169.16		11229	10.868
Housing allowances	HY070G	351.63		11229	10.69
Regular inter-household cash transfers received	HY080G	128.2		11229	9.828
Interest, dividends, profit from capital investments in unincorporated businesses	HY090G	2591.56		11229	72.352
Interest paid on mortgages	HY100G	492.09		11229	3.192
Income received by people aged under 16	HY110G	46.35		11229	6.928
Regular taxes on wealth	HY120G	125.76		11229	16.099
Regular inter-household transfers paid	HY130G	196.64		11229	12.035
Tax on income and social insurance contributions	HY140G	10215.61		11229	50.925
Repayments/receipts for tax adjustments	HY135G				
Cash or near-cash employee income	PY010G	13700.06		22961	110.634
Non-cash employee income	PY020G	98.83		22961	6.067
Employers' social insurance contributions	PY030G	.			.
Contributions to individual private plans	PY035G	136.55		22961	6.311
Gross cash profits or losses from self-employment (incl. royalties)	PY050G	1295.77		22961	40.26
Value of goods produced for own consumption	PY070G	.			.
Pensions from individual private plans other than those covered under ESSPROS	PY080G	.			.
Unemployment benefits	PY090G	844.52		22961	24.943
Old-age benefits	PY100G	2996.12		22961	51.822
Survivors' benefits	PY110G	93.23		22961	10.895
Sickness benefits	PY120G	101.06		22961	9.067
Disability benefits	PY130G	743.58		22961	33.271
Education-related allowances	PY140G	130.99		22961	7.447
Gross monthly earnings for employees	PY200G	.			.

* Households which have negative values or 0 values in the variable are counted as the households which have not received the income. Negative values of the certain gross income components in which they exist are counted in the variable HY010 on the total household gross income.

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

Equalised disposable income	Mean	Number of observations		Standard error
		Before imp.	After imp.	
All	19392.96		29112	57.780
1 household member	15475.43		2390	601.101
2 household members	21268.38		8414	359.450
3 household members	21138.52		5808	445.787
4 household members or more	18822.56		12500	132.132
Age group <25 years	17775.69		9720	246.927
Age group 25-34 years	20494.43		2812	746.295
Age group 35-44 years	20347.29		3861	452.664
Age group 45-54 years	21498.26		4941	408.106
Age group 55-64 years	22739.85		4465	746.532
Age group 65- years	15878.55		3313	304.873
Male	19822.51		14739	267.411
Female	18982.15		14373	226.321

Table 2.9 Mean, number of observations and standard errors for components of income, rotational group 2

Components of income	Variable name	Mean	Number of observations		Standard error
			Before imp.	After imp.	
Total household gross income	HY010	39396.65		1831	284.005
Total disposable household income	HY020	28805.70		1831	205.219
Total disposable household income, before social transfers other than old-age and survivors' benefits	HY022	24753.77		1831	226.917
Total disposable household income, before social transfers including old-age and survivors' benefits	HY023	20320.14		1831	190.123
Imputed rent	HY030G	3131.35		1831	100.971
Income from rental or property or land	HY040G	388.49		1831	41.076
Family/children-related allowances	HY050G	1053.31		1831	62.930
Social exclusion payments not elsewhere classified	HY060G	176.58		1831	34.575
Housing allowances	HY070G	314.60		1831	38.767
Regular inter-household cash transfers received	HY080G	113.75		1831	19.685
Interest, dividends, profit from capital investments in unincorporated businesses	HY090G	2427.49		1831	154.308
Interest paid on mortgages	HY100G	472.42		1831	10.104
Income received by people aged under 16	HY110G	65.91		1831	24.684
Regular taxes on wealth	HY120G	158.08		1831	16.246
Regular inter-household transfers paid	HY130G	192.00		1831	36.508
Tax on income and social insurance contributions	HY140G	10240.86		1831	122.503
Repayments/receipts for tax adjustments	HY135G				
Cash or near-cash employee income	PY010G	13743.38		3696	338.306
Non-cash employee income	PY020G	110.73		3696	22.262
Employers' social insurance contributions	PY030G	.			.
Contributions to individual private plans	PY035G	130.17		3696	17.394
Gross cash profits or losses from self-employment (incl. royalties)	PY050G	1271.71		3696	63.358
Value of goods produced for own consumption	PY070G	.			.
Pensions from individual private plans other than those covered under ESSPROS	PY080G	.			.
Unemployment benefits	PY090G	810.61		3696	61.285
Old-age benefits	PY100G	3083.88		3696	105.903
Survivors' benefits	PY110G	99.03		3696	29.241
Sickness benefits	PY120G	100.10		3696	29.573
Disability benefits	PY130G	800.15		3696	100.193
Education-related allowances	PY140G	105.66		3696	16.995
Gross monthly earnings for employees	PY200G	.			.

* Households which have negative values or 0 values in the variable are counted as the households which have not received the income. Negative values of the certain gross income components in which they exist are counted in the variable HY010 on the total household gross income.

Table 2.10 Mean, number of observations and standard errors for equalised disposable income in different population groups, rotational group 2

Equalised disposable income	Mean	Number of observations		Standard error
		Before imp.	After imp.	
All	19571.77		4698	104.85
1 household member	15304.70		404	831.46
2 household members	20912.84		1408	688.60
3 household members	22992.68		873	1059.39
4 household members or more	18869.18		2013	368.06
Age group <25 years	17950.55		1569	734.40
Age group 25-34 years	20044.65		436	1962.44
Age group 35-44 years	20676.63		607	1359.85
Age group 45-54 years	21351.06		781	1144.14
Age group 55-64 years	24201.34		736	1700.49
Age group 65- years	15692.81		569	595.55
Male	19787.53		2359	667.38
Female	19365.66		2339	635.98

Table 2.11. Mean, number of observations and standard errors for components of income, rotational group 3

Components of income	Variable name	Mean	Number of observations		Standard error
			Before imp.	After imp.	
Total household gross income	HY010	39282.97		1818	321.432
Total disposable household income	HY020	28679.80		1818	184.988
Total disposable household income, before social transfers other than old-age and survivors' benefits	HY022	24611.03		1818	182.539
Total disposable household income, before social transfers including old-age and survivors' benefits	HY023	20054.27		1818	165.669
Imputed rent	HY030G	3228.00		1818	67.981
Income from rental or property or land	HY040G	423.12		1818	72.976
Family/children-related allowances	HY050G	997.31		1818	30.483
Social exclusion payments not elsewhere classified	HY060G	147.26		1818	17.194
Housing allowances	HY070G	347.51		1818	23.923
Regular inter-household cash transfers received	HY080G	97.97		1818	13.042
Interest, dividends, profit from capital investments in unincorporated businesses	HY090G	2783.55		1818	219.627
Interest paid on mortgages	HY100G	502.86		1818	5.195
Income received by people aged under 16	HY110G	43.35		1818	13.410
Regular taxes on wealth	HY120G	118.03		1818	10.987
Regular inter-household transfers paid	HY130G	196.70		1818	24.516
Tax on income and social insurance contributions	HY140G	10288.45		1818	144.046
Repayments/receipts for tax adjustments	HY135G				
Cash or near-cash employee income	PY010G	13453.54		3718	203.260
Non-cash employee income	PY020G	119.46		3718	12.623
Employers' social insurance contributions	PY030G	.			.
Contributions to individual private plans	PY035G	141.04		3718	13.243
Gross cash profits or losses from self-employment (incl. royalties)	PY050G	1188.20		3718	57.551
Value of goods produced for own consumption	PY070G	.			.
Pensions from individual private plans other than those covered under ESSPROS	PY080G	.			.
Unemployment benefits	PY090G	905.09		3718	47.418
Old-age benefits	PY100G	3188.21		3718	76.866
Survivors' benefits	PY110G	77.57		3718	16.835
Sickness benefits	PY120G	78.65		3718	11.586
Disability benefits	PY130G	767.18		3718	58.268
Education-related allowances	PY140G	108.52		3718	10.787
Gross monthly earnings for employees	PY200G	.			.

* Households which have negative values or 0 values in the variable are counted as the households which have not received the income. Negative values of the certain gross income components in which they exist are counted in the variable HY010 on the total household gross income.

Table 2.12 Mean, number of observations and standard errors for equalised disposable income in different population groups, rotational group 3

Equalised disposable income	Mean	Number of observations		Standard error
		Before imp.	After imp.	
All	19685.80		4716	64.16
1 household member	14591.52		366	501.66
2 household members	21245.96		1408	467.53
3 household members	21117.98		909	637.23
4 household members or more	20103.64		2033	388.26
Age group <25 years	18736.97		1567	696.74
Age group 25-34 years	20446.96		436	915.72
Age group 35-44 years	21352.29		607	1011.24
Age group 45-54 years	20698.01		781	698.91
Age group 55-64 years	23114.47		736	1139.77
Age group 65- years	15460.53		569	333.52
Male	20207.81		2383	470.42
Female	19191.70		2333	443.36

Table 2.13 Mean, number of observations and standard errors for components of income, rotational group 4

Components of income	Variable name	Mean	Number of observations		Standard error
			Before imp.	After imp.	
Total household gross income	HY010	38647.17		1783	155.145
Total disposable household income	HY020	28293.95		1783	104.768
Total disposable household income, before social transfers other than old-age and survivors' benefits	HY022	24226.64		1783	139.340
Total disposable household income, before social transfers including old-age and survivors' benefits	HY023	19764.16		1783	109.738
Imputed rent	HY030G	3225.58		1783	85.827
Income from rental or property or land	HY040G	297.01		1783	36.089
Family/children-related allowances	HY050G	1043.13		1783	35.869
Social exclusion payments not elsewhere classified	HY060G	126.46		1783	10.819
Housing allowances	HY070G	373.89		1783	17.293
Regular inter-household cash transfers received	HY080G	115.76		1783	9.652
Interest, dividends, profit from capital investments in unincorporated businesses	HY090G	2454.70		1783	139.783
Interest paid on mortgages	HY100G	494.48		1783	3.897
Income received by people aged under 16	HY110G	27.34		1783	6.233
Regular taxes on wealth	HY120G	109.85		1783	12.099
Regular inter-household transfers paid	HY130G	182.80		1783	24.871
Tax on income and social insurance contributions	HY140G	10060.58		1783	77.439
Repayments/receipts for tax adjustments	HY135G				
Cash or near-cash employee income	PY010G	13316.54		3638	172.483
Non-cash employee income	PY020G	110.52		3638	10.374
Employers' social insurance contributions	PY030G	.			.
Contributions to individual private plans	PY035G	111.50		3638	7.446
Gross cash profits or losses from self-employment (incl. royalties)	PY050G	1297.52		3638	87.043
Value of goods produced for own consumption	PY070G	.			.
Pensions from individual private plans other than those covered under ESSPROS	PY080G	.			.
Unemployment benefits	PY090G	861.91		3638	60.367
Old-age benefits	PY100G	3093.52		3638	169.647
Survivors' benefits	PY110G	128.02		3638	23.634
Sickness benefits	PY120G	88.83		3638	9.816
Disability benefits	PY130G	724.03		3638	82.616
Education-related allowances	PY140G	130.42		3638	7.882
Gross monthly earnings for employees	PY200G	.			.

* Households which have negative values or 0 values in the variable are counted as the households which have not received the income. Negative values of the certain gross income components in which they exist are counted in the variable HY010 on the total household gross income.

Table 2.14 Mean, number of observations and standard errors for equalised disposable income in different population groups, rotational group 4

Equalised disposable income	Mean	Number of observations		Standard error
		Before imp.	After imp.	
All	19203.30		4626	79.644
1 household member	15474.46		359	868.503
2 household members	20667.85		1390	431.160
3 household members	21385.68		960	551.075
4 household members or more	18601.81		1917	178.741
Age group <25 years	17606.58		1540	366.646
Age group 25-34 years	19474.31		459	602.538
Age group 35-44 years	19985.49		582	747.774
Age group 45-54 years	21351.10		790	651.841
Age group 55-64 years	23302.15		736	816.583
Age group 65- years	15811.89		519	738.660
Male	19739.42		2351	404.426
Female	18689.08		2275	394.770

2.3 Non-sampling Errors

2.3.1 Sampling Frame and Coverage Errors

The target population is the set of elements about which information is wanted and parameter estimates 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. Small parts of the national territory amounting to no more than 2 % of the national population and the national territories listed in the Regulation may be excluded from EU-SILC, after agreement between the Member States concerned and the Commission (Eurostat).*” There is no register of households in Finland, so the selection is based on the population register and the creation of the households begins with the 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 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. The Population Information System is a compilation of local registers kept up by population register districts.

The Population Information System (PIS) includes information on Finnish citizens and aliens permanently resident in Finland. It includes persons living in households, institutions, persons living temporarily abroad, and also homeless persons. Persons living in institutions, collective households or residential homes do not belong to 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 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. Even the homeless are registered in municipal registers but without information of an address. The linkage between identification and domicile codes enables the pre-entry into the IDS-SILC questionnaire of all persons permanently registered in the dwelling unit-households 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 Income Distribution Survey (IDS) sample. After the separation of the persons placed in institutions and the homeless (a specific code identifies both cases), this frame included 4,185,517 persons aged 16 years or over. The sort of the frame was based on the domicile code, i.e. a very exact identification of all the possible places where persons can live. This code includes regional information at the beginning (municipality code). That frame is used for the **construction of the 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 dwelling units with all their relevant members for the selected master sample. Before the fieldwork begins the information of the second panel of the IDS and the changes after the selection of the sample are updated based on the register of the end of the year (then already available).

2.3.1.2 Information about the Frame: Reference Period, Updating Actions, Quality Review Actions

In general, the Population Information System 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 the 5. - 8. 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 the Population Information System.

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 the Population Information System is conducted yearly by means of a sample interview of 10,000 persons. From the EU-SILC point of view, reliability of its address information is of special relevance¹. In the 2004 survey, assuming that all the unverifiable addresses were incorrect the final proportion of the correct addresses was 97.5 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 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 2.7). Of those interviewed by CATI for the first time, 99 percent were interviewed by CATI also the second time. Of the interviews conducted by CAPI in 2004, 65 percent had switched into CATI mode in 2005.

Table 2.15 Type of interview (%), longitudinal EU-SILC, 2004 and 2005

Rotational group		2004		2005	
DB075	Start year / duration	CATI	CAPI	CATI	CAPI
1	2004 / 2 years	96	4	98	2
2	2004 / 3 years	96	4	98	2
3	2004 / 4 years	97	3	99	1
Total		96	4	98	2

¹ 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.

For the first wave respondents, the **phone numbers** are sought out from the electronic phone book and listed in the central unit. In case of unlisted numbers, the interviewer contacts the respondent by mail and asks them to contact the interviewer by phone. If the respondent has no phone, the interviewer proposes him a date of face-to-face interview in the respondent's **address**. In collecting the second and later waves, the interviewer uses phone numbers established in the previous wave.

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

Processing fieldwork tools

Cognitive laboratory studies preceding the questionnaire build-up process

The fieldwork of 2004 was thoroughly evaluated by Statistics Finland's Cognitive Laboratory. This was done during and after the actual fieldwork period and the results were exploited in the development of the questionnaire for the next wave. The evaluation consisted of three different methods:

- a table evaluation of the questionnaire by experienced survey experts
- careful and detailed feedback given by some 30 interviewers based on fieldwork experience
- a study of the fieldwork based on behavioural coding of tape-recorded actual interviews.

Some 180 pages of analysis were produced. The results are not easily summarised. Most of the feedback consisted of detailed observations on the understandability of question formulations, on the ability of respondents to grasp the question and give adequate answers on the telephone, or questionnaire logic. These documents carry abundant material that has been only partly exploited.

During the fieldwork period, 20 randomly selected interviewers gave detailed, written feedback about their field experience and the fieldwork tools on a standardised query.

Behavioural coding of the tape-recorded interviews produced critical observations about how the interviewers followed or did not follow the standardised interviewing method and, if they did not follow the rules, why not. Some questions were too long for a telephone interview. The questionnaire did not support probing. The ordering of questions was sometimes illogical and occasionally repetitious. It was evident that the questionnaire did not function well enough, especially in the complex section of yearly activities and current working life.

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

The 2004 questionnaire was criticised by the interviewers whenever there were contacts between them and the central office. In 2005, a more systematic feedback system was created: *the interviewers' feedback survey* is collected yearly from all interviewers at the end of the project through a standard questionnaire. The interviewers are asked about the technical and substantial functioning of the questionnaires, how the letters and brochures motivate the respondents, whether the instructions are adequate, and specific remarks on each detail on the questionnaire. This feedback is utilised in the planning of the next year's tools. The 2005 questionnaire was functioning badly according to the opinion of 20 percent of the interviewers.

Questionnaire build-up and testing process in SILC2005

Finland's longitudinal SILC sample responds to the questionnaire that is identical for cross-section and longitudinal, and similar for the first and second wave. On the third year, the questionnaire is changed into a shorter one which focuses only on the target variables requested for the longitudinal component.

Questionnaire build-up has its starting point in the previous year's questionnaire, feedback from the Cognitive Laboratory and field interviewers and feedback from the data editing process and users.

The leading principle in the questionnaire build-up is a gradual integration process of the SILC to the IDS, and to avoid too many changes in the national IDS.

During the process of BLAISE programming (fall 2004), the questionnaire was table-tested by the team responsible for the IDS and EU-SILC. Eight persons were involved. In weekly meetings details of the questions were discussed, the focus being the parts of the questionnaire undergoing some change. In the end, a group of professional interviewers checked the questionnaire against their experience. Finally, the technical functioning of the questionnaire was tested in the interviewer organisation before they were 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. Of them 127 were involved with EU-SILC interviews in spring 2005.

In 2004, all interviewers had a two days training exclusively for the EU-SILC survey. In 2005, all the interviewers participated the interviewers' training courses that took place in January. One-and-a-half-hour training on the changes of the EU-SILC 2005 questionnaire was given to all interviewers in connection with a general training day for each of five different areas of Finland. Before this, they had training material in the form of the CATI questionnaire and interviewer instructions and they were paid to study the material.

The questionnaire changes for 2005 were introduced 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. This year, new charts about the domain order on the questionnaire and a directory were added. The interviewers are paid to get acquainted with the material and practice with it.

Besides that, newly recruited interviewers are trained separately. They have one 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

Measurement errors stemming from

- difficulties in understanding complex questions on the telephone,
- difficulties in remembering complex life course events like the year's activities, day care changes, payments of many sorts, and

- difficulties in knowing/reporting another household member's activities

have not been systematically surveyed. The questionnaire was evaluated - in principle, not empirically - in the Cognitive Laboratory from the above-mentioned points of view. The observations from this process is paid attention to in the next year's questionnaire build-up.

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 (occupation, NACE)
- 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 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

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 interviewers have been instructed to prefer interviewing the selected respondent if he is able to give information about the household economy, housing and the other household members' activity. Otherwise, a proxy respondent is interviewed. The proxy respondent is chosen by the interviewer.

The use of proxy respondents is a problematic choice because of the integration of the IDS and EU-SILC. 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.

The consequences of the use of proxy are twofold: on the one hand, missing and/or poorer quality answers in questions focused on personal labour market variables or personal assessments of health; on the other hand, proxies are chosen to give informed and/or better quality answers in questions focusing on household income, mortgage and other loans, arrears in payments, housing variables, child care, and report uniformly about other household members' activities and incomes.

Interviewing more than one household member - both the selected person and a household respondent - is supported, but it rarely happens. Other members are allowed to be consulted during the interview if they are available. This option is often used.

The interviewers have traditionally been trained to find a household respondent in the earlier years when collecting the IDS data and they have been continuing this procedure. 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. In the 2004 longitudinal component, 26 per cent of the selected respondents have been represented by a proxy respondent. In 2005, the corresponding figure was 23 per cent. (Table 2.8).

Table 2.16 Proxy interviews in the longitudinal component, 2004 and 2005

Rotational group DB075 Start year / duration	Collection year			Collection year		
	2004			2005		
	Total	proxy	%	Total	proxy	%
1 2004 / 2 years	1,965	496	25.2	1,831	532	29.1
2 2004 / 3 years	1,966	545	27.7	1,818	446	24.5
3 2004 / 4 years	1,942	501	25.8	1,783	398	22.3

Proxies are mostly (2004 and 2005: 88%) persons responsible for the accommodation. The youngest selected persons under the age of 18 have most often been represented by a proxy respondent. Most of the proxy respondents are parents or spouses of the selected respondent. (More details in the intermediate reports 2004 - 2006.)

Does the same proxy respondent give the interview in subsequent years? Of the 5,432 selected respondents present in the longitudinal component both in 2004 and 2005, 70.4 percent gave the interview themselves on both waves. 19.4 percent of the interviews were given by the same proxy respondents on both waves. In 10.2 percent of the households, the second wave respondent was a different person.

Fieldwork problems

Fieldwork tools. According to feed-back from the interviewers, the 2004 and 2005 questionnaires were rather complex and hard to manage. This may have an effect on attrition, but does it and to what extent is unknown.

Integration of the questionnaires of the national IDS and the 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. A serious concern in the integration process is to preserve the national time-series without violating demands made to EU-SILC comparability. A stepwise integration strategy aims to achieve full integration in 2007.

Labour information in the 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. The consequent time gaps are reported in Section 5.

Table 2.17 Examples of labour information with different requirements in the IDS and EU-SILC

Concepts / Variables	Requirements		Solution
	IDS	EU-SILC	Integrated
			Current = Last December
Main job	Longest period of employment during the year or highest income	Current	If main job is different from current job, both are collected
Second job	The second longest period of employment during the year or second highest income	Current	If second job is different from current second job, both are collected
PL020	---	Current - 4 weeks	December
PL025	---	Current + 2 weeks	December
PL030	---	Current	December
PL040	Status in main job	Current	If main job is different from current job, both are collected
PL050	Occup. in main job	Current	If main job is different from current job, both are collected
PL070, PL072, PL080, PL085, PL087, PL090	Number of months for each activity - 12 categories - overlaps allowed	Number of months for each main activity - no overlaps allowed	Number of months and calendar of activities collected for all members 16+
PL110	NACE in main job	Current	If main job is different from current job, both are collected
PL140	Contract in main job	Current	If main job is different from current job, both are collected
PL180	---	since last interview	constructed through calendar of activities

Changes in the 2005 questionnaire

In 2004, all interviews - cross-section and longitudinal, first wave and second wave - were carried out with a uniform CATI questionnaire. The same applies to the 2005 questionnaire, only it was somewhat changed from the previous year.

Reshaping the labour variables questionnaire in general: The 2005 questionnaire was partly rebuilt. The section on labour market activity was totally reconstructed, since the three tests of the 2004 questionnaire carried out by the Cognitive Laboratory showed major problems in the interviewing process. However, the trouble seemed to emerge from ordering of the questions, not from wordings. The ordering of the questions was changed thoroughly in 2005.

A noteworthy change of question wordings was executed only in target variable **PL030**, self-defined current economic status. In 2004, PL030 was constructed using responses to the IDS monthly activity questions and the EU-SILC calendar of activities (addressed to all members of the household aged 16 years and over). In 2005, the question starts the section on labour market activities. The question is divided into two parts: first, whether the respondent was gainfully employed, yes or no. Secondly: if not employed, what was his main activity. In spite of the reformulation and change of context, comparisons of the results 2004 and 2005 do not show great breaks in the distributions of the mentioned variables. The small rise in employment observed in the sample reflects the real improved situation in the labour market at that time.

Testing the changes: The changes were table-tested by members of the IDS-SILC team and five experienced interviewers.

Measurement failures due to questionnaire techniques

Variable-specific problems

Income information or income-related information collected by interviews

Since the income data are mainly collected from registers, the questionnaire covers only those types of income that are not registered at all or on individual level (transfers between households, income from abroad, interest received, grants, non-taxed insurance compensations, strike pay). These variables cover a very small part of the total household income. The nature of questionnaire-collected income data is supplementary, important for some special groups such as single parents or students. These income items usually form only small fractions of target variables. These income items are collected similarly for the IDS and EU-SILC as the income definitions, reference periods and units of observation. Problems of the respondent's willingness to answer, perception and remembering constitute the source of measurement errors and, as a consequence, possible under-coverage of non-registered income data.

HB100, PB120 - Household and personal interview duration - separate measurement failed in both 2004 and 2005. Only total duration of the interview (with the selected respondent -model, quite sufficient information) is available (but not presented as a target variable).

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. To collect the highest ISCED level attained (PE040), the register on examinations was utilised. In case the person had an examination in this register, the coverage of the examinations is good, but the year of passing the examination is often missing in the register - hence a **high number of missing values**. The missing values are concentrated on examinations passed before the year 1970 - the register was established in 1970. This is an example of fieldwork problems resulting from the intertwined use of register and interview data.

PL020, Actively looking for a job in previous four weeks, PL025, Are you available for work in the next two weeks. A BLAISE programming error: the questions were **not asked from persons older than 65 years**. The consequence as to the resulting distribution is negligible. All citizens are entitled to old-age pension after the age of 65 and expected to retire (self-employed are an exception).

PH010 - PH030 Health questions: **item response rate is somewhat lower** than the overall response rate since the health questions were not allowed to be answered by a proxy respondent. As a consequence, 1.4 per cent of the values are missing due to item non-response (=318 selected respondents were never reached). It has appeared only in 2006 in connection with a cognitive laboratory study that the questions are not formulated according to the regulation. **The scale used in PH010 is not in accordance with the regulation**, and the **formulation of PH030** differs slightly from the regulation.

2.3.2.3 Processing Errors

The data collection and files construction process is shortly described in this chapter. No uncorrected errors have been detected in the processing.

Description of the data processing procedures

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 (Section 2.3.2.2) 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, in 2005 it was begun 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 2005 operation, seven interviews were excluded from the received sample as incomplete. 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 m² 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. In 2004, the SILC data files for EUROSTAT were compiled from the data base by SAS after the IDS data were 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. In 2005, use was made of nine registers. 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 modelling (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 are routinely made each year. These comparisons also have an effect on error detection.

2.3.3 Non-response errors

2.3.3.1 Rotational Groups

This section concentrates on non-response errors in the cross-sectional SILC data. **Many of the subsequent tables include the *rotational breakdown as a requirement*.** The second cross-sectional Finnish SILC data include the rotational group variable **DB075**, which is coded as follows:

- 1: Households included in the second wave of the Income Distribution Survey, the Collection Year 2005, the Study Year 2004.
- 2: Households included in the first wave of the Income Distribution Survey (CY 2005, SY 2004).

This year the 2004 groups for the longitudinal study (2-year, 3-year, 4-year panels) are included in the second wave of the IDS. Also the new IDS sample includes a smaller panel group (of size 2,500) for the longitudinal study, the others continue only for the cross-sectional purposes.

The two-year longitudinal data:

- 1: Households included in the second wave of the Income Distribution Survey (CY 2004, SY 2003) and in the two-year panel of SILC (longitudinal DB075 = 1).
- 2: Households included in the second wave of the Income Distribution Survey (CY 2004, SY 2003) and in the three-year panel of SILC (longitudinal DB075 = 2).
- 3: Households included in the second wave of the Income Distribution Survey (CY 2004, SY 2003) and in the four-year panel of SILC (longitudinal DB075 = 3).

The Finnish SILC design can be interpreted as *semi-rotational*, i.e. only a part of longitudinal rotational groups are included in the cross-sectional data. However, the forthcoming tables include both the cross-sectional rotational breakdown as well as the longitudinal study groups.

Table 2.18 Anticipated Sample Sizes and Wave Structure in Subsequent Years

Rotational group	2004	2005	2006	2007	2008	2009
	1. year	2. year	3. year	4. year	5. year	6. year
1	5 700					
2	2 500	1 900				
3	2 500	1 900	1 748			
4	2 500	1 900	1 748	1 608		
5		5 000	3 800			
6		2 500	1 900	1 748	1 608	
1			5 000	3 800		
2			2 500	1 900	1 748	1 608
...						

Shaded area = longitudinal study, box with a bold line in a column = cross-sectional study.

2.3.3.2 Achieved Sample Size

Table 2.19 Interview Information

Rotational group	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 who completed a personal interview (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).
Total	11 229	22 961	11 229
SILC cross-sectional 1	5 797	11 909	5 797
SILC cross-sectional 2	5 432	11 052	5 432
SILC Longitudinal 2004			
2-year	1 831	3 696	1 831
3-year	1 818	3 718	1 818
4-year	1 783	3 638	1 783
SILC Longitudinal 2005	1 912	3 890	1 912

2.3.3.3 Unit Non-response

For Member States using a rotational design, information on unit non-response will be provided for the new replications in accordance with the formulas described below. For the total sample, the unit non-response will be calculated by removing, from the numerator and the denominator of the formulas described below, those units that according to the tracing rules are out of scope.

$$* \text{Household non-response rates } NRh = (1 - (Ra * Rh)) * 100$$

Ra (address contact rate) = addresses successfully contacted / valid addresses selected =
 $\text{sum}(DB120=11) / [\text{sum}(DB120=all) - \text{sum}(DB120=23)]$

Rh (proportion of complete household interviews accepted for the database) = number of HH interviews completed and accepted for the database / number of eligible households at contacted addresses =
 $\text{sum}(DB135=1) / \text{sum}(DB130=all)$

DB120 is the record of contact at the addresses

DB130 is the household questionnaire result

DB135 is the household interview acceptance result

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

Rp (proportion of complete personal interviews within the households accepted for the database) = Number of personal interviews completed / number of eligible individuals in the household whose interviews were completed and accepted for the database = $sum(RB250=11+12+13) / sum(RB245 = 1+2+3)$

RB245 is the respondent status

RB250 is the data status

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

For those MSs where a sample of persons rather than a sample of HHs (addresses) was selected, the individual non-response rates will be calculated for the selected respondent (RB245=2), for all individuals aged 16 or older (RB245=2+3) and for the non-selected respondent (RB245=3).

Table 2.20 Non-response Rates

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
Total	14.6408	0	0	0	14.6408	14.6408	14.6408
Cross-sect. 1	21.1614	0	0	0	21.1614	21.1614	21.1614
Cross-sect. 2	6.3771	0	0	0	6.3771	6.3771	6.3771
Longitudinal 2004							
2-year	5.7643	0	0	0	5.7643	5.7643	5.7643
3-year	6.6256	0	0	0	6.6256	6.6256	6.6256
4-year	6.7469	0	0	0	6.7469	6.7469	6.7469
Longitudinal 2005	22.2132	0	0	0	22.2132	22.2132	22.2132

The following longitudinal tables do not include new households, because that practice does not occur in the Finnish practice of EU-SILC (tracing only selected respondents).

Table 2.21 Household response rates: comparison of result codes between wave 2 and wave 1 (all rotational groups)

Wave 2		Household questionnaire completed		Address unable to access	Entire HH temporarily away for duration of fieldwork	Household unable to respond (illness, incapacity ...)	Other reasons	Refusal to co-operate	Address cannot be located	Not contacted	Fusion	Address does not exist etc.	Total (col. %)
		Interview accepted for database	Interview rejected										
Wave 1	Household questionnaire completed	5432 (92.49)	0	0	82 (1.40)	40 (0.68)	69 (1.17)	179 (3.05)	0	71 (1.21)	0	0	5873 (78.31)
	Interview rejected												7 (0.09)
Address cannot be located													30 (0.40)
Address unable to access													0
Address does not exist or is non-residential address or is unoccupied or not principal residence													100 (1.33)
Refusal to co-operate													966 (12.88)
Entire household temporarily away for duration of fieldwork													123 (1.64)
Household unable to respond (illness, incapacity ...)													102 (1.36)
Other reasons													299 (3.99)
Total for the first wave													7500
Total for the second wave (row %)		5432 (92.49)	0	0	82 (1.40)	40 (0.68)	69 (1.17)	179 (3.05)	0	71 (1.21)	0	0	5873

Table 2.22 Household response rates: comparison of result codes between wave 2 and wave 1 (rotational group 1, two-year duration)

Wave 2		Household questionnaire completed		Address unable to access	Entire HH temporarily away for duration of fieldwork	Household unable to respond (illness, incapacity ...)	Other reasons	Refusal to co-operate	Address cannot be located	Not contacted	Fusion	Address does not exist etc.	Total (col. %)
		Interview accepted for database	Interview rejected										
Wave 1	Household questionnaire completed	1831 (93.18)	0	0	19 (0.97)	11 (0.56)	26 (1.32)	56 (2.85)	0	22 (1.12)	0	0	1965 (78.60)
	Interview rejected												2 (0.08)
Address cannot be located													13 (0.52)
Address unable to access													0
Address does not exist or is non-residential address or is unoccupied or not principal residence													30 (1.20)
Refusal to co-operate													319 (12.76)
Entire household temporarily away for duration of fieldwork													37 (1.48)
Household unable to respond (illness, incapacity ...)													35 (1.40)
Other reasons													99 (3.96)
Total for the first wave													2500
Total for the second wave (row %)		1831 (93.18)	0	0	19 (0.97)	11 (0.56)	26 (1.32)	56 (2.85)	0	22 (1.12)	0	0	1965

Table 2.23 Household response rates: comparison of result codes between wave 2 and wave 1 (rotational group 2, three-year duration)

Wave 2		Household questionnaire completed		Address unable to access	Entire HH temporarily away for duration of fieldwork	Household unable to respond (illness, incapacity ...)	Other reasons	Refusal to co-operate	Address cannot be located	Not contacted	Fusion	Address does not exist etc.	Total (col. %)
		Interview accepted for database	Interview rejected										
Wave 1													
Household questionnaire completed	Interview accepted for database (row %)	1818 (92.47)	0	0	35 (1.78)	16 (0.81)	18 (0.92)	60 (3.05)	0	19 (0.97)	0	0	1966 (78.64)
	Interview rejected												4 (0.16)
Address cannot be located													7 (0.28)
Address unable to access													0
Address does not exist or is non-residential address or is unoccupied or not principal residence													38 (1.52)
Refusal to co-operate													312 (12.48)
Entire household temporarily away for duration of fieldwork													46 (1.84)
Household unable to respond (illness, incapacity ...)													31 (1.24)
Other reasons													96 (3.84)
Total for the first wave													2500
Total for the second wave (row %)		1818 (92.47)	0	0	35 (1.78)	16 (0.81)	18 (0.92)	60 (3.05)	0	19 (0.97)	0	0	1966

Table 2.24 Household response rates: comparison of result codes between wave 2 and wave 1 (rotational group 3, four-year duration)

Wave 2		Household questionnaire completed		Address unable to access	Entire HH temporarily away for duration of fieldwork	Household unable to respond (illness, incapacity ...)	Other reasons	Refusal to co-operate	Address cannot be located	Not contacted	Fusion	Address does not exist etc.	Total (col. %)
		Interview accepted for database	Interview rejected										
Wave 1													
Household questionnaire completed	Interview accepted for database (row %)	1783 (91.81)	0	0	28 (1.44)	13 (0.67)	25 (1.27)	63 (3.24)	0	30 (1.54)	0	0	1942 (77.68)
	Interview rejected												1 (0.04)
Address cannot be located													10 (0.40)
Address unable to access													0
Address does not exist or is non-residential address or is unoccupied or not principal residence													32 (1.28)
Refusal to co-operate													355 (13.40)
Entire household temporarily away for duration of fieldwork													40 (1.60)
Household unable to respond (illness, incapacity ...)													36 (1.44)
Other reasons													104 (4.16)
Total for the first wave													2500
Total for the second wave (row %)		1783 (91.81)	0	0	28 (1.44)	13 (0.67)	25 (1.27)	63 (3.24)	0	30 (1.54)	0	0	1942

Table 2.25 Longitudinal statistics for households

Rotational group	Response rates (%)				Longitudinal follow-up rate (%)	Achieved sample size rate (%)
	Wave response rate	Refusal rate	No contacted & others	Total		
Total	93.13	3.07	3.80	100.00	95.74	92.49
RG1, 2-year	93.70	2.87	3.43	100.00	96.03	93.18
RG2, 3-year	93.23	3.08	3.69	100.00	95.98	92.47
RG3, 4-year	92.43	3.27	4.30	100.00	95.21	91.81

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

Table 2.26 Personal response rates (all rotational groups)

	PERSONAL INTERVIEW OUTCOME IN WAVE 2										total
	RB250 = 11, 12, 13	Not completed because of								PI	
		RB250 = 21	RB250=22	RB250=23	RB250=31	RB250=32	RB250=33	HHnc	Pn		
SAMPLE PERSONS (RB100=1 and RB245 = 1,2,3) FROM THE SAMPLE FORWARDED FROM LAST WAVE (1)											
[1] RB110 = 1-2	5432	0	0	0	0	0	0				5432
[2] RB110 = 6											0
[3] RB110 = -1											0
[4] RB120 = 2											0
[5] RB120 = 3											0
[6] RB120 = 4											0
[7] DB135=2 or -1, or DB110=7 or DB120=21-23, or DB130 = 21-24 or -1											378
[8] DB110 = 3-6											63
NON-SAMPLE PERSONS 16+											
[11] This wave	from wave 1	5409	0	0	0	0	0	0	0	0	5409
	not in wave 1	211	0	0	0	0	0	0	0	0	211
[12] Earlier wave			0	0	0	0	0	0	0	0	6238
SAMPLE PERSONS FROM SAMPLE NOT FORWARDED FROM LAST WAVE (1) (excluded died or not eligible according to the tracing rules)											
[13]											0

Sum of rows:

[1], [3], [6], [7], [9], [10]	5873	0	0	0	0	0	0	0	0	0	5873
[1], [3], [6], [7], [9], [10], [13]	5873	0	0	0	0	0	0	0	0	0	5873
[1], [3], [6], [7], [9], [10], [11]	11493	0	0	0	0	0	0	0	0	0	11493

Note that only one person of the household is a selected respondent which yields the situation that the household is not included in the R file, if there is no response for the selected respondent (due to various reasons). Thus the reasons for the non-existing response come from the D file. The persons reaching age 16 are not included in the set of sample persons [9]. There are no new sample persons added because of the exceptional structure of the original cross-sectional data (only two waves included, only one selected respondent per household) [10]. When identified, all the information for non-sample persons 16+ of the household comes from the registers. The "Earlier wave" breakdown [12] is not yet applicable in the second year of the survey.

For rotational groups a simplified tabulation is presented.

Table 2.27 Personal response rates (all rotational groups)

		RB250 = 11, 12, 13		
		Rotational group 1	Rotational group 2	Rotational group 3
[1] RB110 = 1-2		1831	1818	1783
[7] DB135=2 or -1, or DB110=7 or DB120=21-23, or DB130 = 21-24 or -1		117	129	132
[8] DB110 = 3-6		17	19	27
[11] This wave	from wave 1	1796	1832	1781
	not in wave 1	69	68	74
[12] Earlier wave		2058	2104	2076

Table 2.28 Longitudinal statistics for households, personal level

Rotational group	Wave response rate of sample persons	Wave response rate of co-residents	Longitudinal follow-up rate (%)	For all causes* non-response rate (%)	Achieved sample size ratio for sample persons (%)	Ach. s. s. ratio for sample persons and co-residents (%)	Ach. s. s. ratio for co-residents in the first wave (%)	Response rate for non-sample persons (%)
Total	100.00	100.00	100.00	0.00	92.49	91.21	86.71	100.00
RG1, 2-year	100.00	100.00	100.00	0.00	93.18	91.87	87.12	100.00
RG2, 3-year	100.00	100.00	100.00	0.00	92.47	91.20	86.45	100.00
RG3, 4-year	100.00	100.00	100.00	0.00	91.81	90.54	85.89	100.00

* Causes presented in Table 2.29.

Table 2.29 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)

Household status

	Total	DB110 = 1	DB110 = 2	DB110 = 3	DB110 = 4	DB110 = 5	DB110 = 6	DB110 = 7	DB110 = 8	DB110 = 9	DB110 = 10
Total (row %)	5873 (100.00)	5615 (95.61)	187 (3.18)	11 (0.19)	14 (0.24)	38 (0.65)	0	8 (0.14)	0	0	0
RG 1 (row %)	1965 (100.00)	1882 (95.78)	61 (3.10)	3 (0.15)	7 (0.36)	7 (0.36)	0	5 (0.25)	0	0	0
RG 2 (row %)	1966 (100.00)	1880 (95.63)	67 (3.41)	5 (0.25)	4 (0.20)	10 (0.51)	0	0	0	0	0
RG 3 (row %)	1942 (100.00)	1853 (95.42)	59 (3.04)	3 (0.15)	3 (0.15)	21 (1.08)	0	3 (0.15)	0	0	0

Record of contact at address (when DB110 = 2, 8, 10)

	Total	DB120= 11	DB120= 21	DB120= 22	DB120= 23	missing
Total (row %)	187 (100.00)	187 (100.00)	0	0	0	0
RG 1 (row %)	61 (100.00)	61 (100.00)	0	0	0	0
RG 2 (row %)	67 (100.00)	67 (100.00)	0	0	0	0
RG 3 (row %)	59 (100.00)	59 (100.00)	0	0	0	0

Household questionnaire result (when DB120 = 11 or DB110 = 1)

	Total	DB130= 11	DB130= 21	DB130= 22	DB130= 23	DB130= 24	missing
Total (row %)	5802 (100.00)	5432 (93.62)	179 (3.09)	82 (1.41)	40 (0.69)	69 (1.19)	0
RG 1 (row %)	1943 (100.00)	1831 (94.24)	56 (2.88)	19 (0.98)	11 (0.57)	26 (1.34)	0
RG 2 (row %)	1947 (100.00)	1818 (93.37)	60 (3.08)	35 (1.80)	16 (0.82)	18 (0.92)	0
RG 3 (row %)	1912 (100.00)	1783 (93.25)	63 (3.29)	28 (1.46)	13 (0.68)	25 (1.31)	0

No observations for the table **Household interview acceptance (when DB130 = 1)**.

Table 2.30 Distribution of persons for membership status (RB110)

	Total	RB110= 1	RB110= 2	RB110= 3	RB110= 4	missing
Total (row %)	13658 (100.00)	13658 (97.28)	0	238 (1.70)	144 (1.03)	0
RG 1 (row %)	4570 (100.00)	4570 (97.28)	0	76 (1.62)	52 (1.11)	0
RG 2 (row %)	4595 (100.00)	4595 (97.43)	0	80 (1.70)	41 (0.87)	0
RG 3 (row %)	4493 (100.00)	4493 (97.12)	0	82 (1.77)	51 (1.10)	0

The category "no current household members" is not applicable in Finland because of the person approach. No observations for the table *Distribution of persons moving out by variable RB120*

2.3.3.4. Distribution of households (original units) by 'record of contact at address' (DB120), by 'household questionnaire result' (DB130), and by 'household interview acceptance' (DB135), for each rotational group (if applicable) and for the total

Table 2.31 Distribution of Households by DB120, DB130 and DB135

Description	Total		Rotati on 1		Rotati on 2		L 2004 R2		L2004 R3		L2004 R4		L2005 R4	
	number	%	number	%	number	%								
Total	13 373	100	7 500	100	5 873	100	1 965	100	1 966	100	1 942	100	2 500	100
Address contacted	13 155	98.36	7 353	98.04	5 802	98.79	1 943	98.88	1 947	99.03	1 912	98.45	2 458	98.32
Address non-contacted	218	1.63	147	1.96	71	1.2	22	1.11	19	0.96	30	1.54	42	1.68
Total address non-contacted	218	100	147	100	71	100	22	100	19	100	30	100	42	100
Address cannot be located	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Address unable to access	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Address does not exist, etc.	218	100	147	100	71	100	22	100	19	100	30	100	42	100

Description	Total		Rotatio n 1		Rotatio n 2		L 2004 R2		L2004 R3		L2004 R4		L2005 R4	
	number	%	number	%	number	%								
Total	13 155	100	7 353	100	5 802	100	1 943	100	1 947	100	1 912	100	2 458	100
Household questionnaire completed	11 229	85.35	5 797	78.83	5 432	93.62	1 831	94.23	1 818	93.37	1 783	93.25	1 912	77.78
Interview not completed	1 926	14.64	1 556	21.16	370	6.37	112	5.76	129	6.62	129	6.74	546	22.21
Total interview not completed	1 926	100	1 556	100	370	100	112	100	129	100	129	100	546	100
Refusal to co-operate	1 147	59.55	968	62.21	179	48.37	56	50	60	46.51	63	48.83	338	61.9
Entire household temporarily away for duration of fieldwork	213	11.05	131	8.41	82	22.16	19	16.96	35	27.13	28	21.7	54	9.89
Household unable to respond	152	7.89	112	7.19	40	10.81	11	9.82	16	12.4	13	10.07	41	7.5
Other reasons	414	21.49	345	22.17	69	18.64	26	23.21	18	13.95	25	19.37	113	20.69
Household questionnaire completed	11 229	100	5 797	100	5 432	100	1 831	100	1 818	100	1 783	100	1 912	100
Interview accepted for database	11 229	100	5 797	100	5 432	100	1 831	100	1 818	100	1 783	100	1 912	100
Interview rejected	0	0	0	0	0	0	0	0	0	0	0	0	0	0

2.3.3.5 Item Non-response

Item non-response before imputing follows from the interviewed item on interest income taxed at source, and cause partial non-response in variable HY090G on interest, dividends, profit from capital investments in unincorporated businesses and in the total household income variables HY010, HY020, HY022 and HY023. Based on the sample observations, a partial item non-response rate was 6,7 per cent² in these variables. (Table 2.25). The item non-response rate was lower in the rotational groups of the households that had been selected to the EU-SILC longitudinal survey. In the household groups that had been selected to the longitudinal survey, the item non-response rate varied between 5,2 per cent and 6,0 per cent.

² Compared with the Intermediate Quality Report, the positive and negative values are counted to the item non-response rates to the households that received the income (Table 2.2.6, column C).

PY090G	14.1	14.1	14.0	13.2	14.2	14.6	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0
PY100G	17.5	17.1	17.8	18.1	17.7	17.6	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0
PY110G	1.4	1.3	1.5	1.5	1.3	1.6	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0
PY120G	6.2	6.2	6.2	6.1	5.8	6.7	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0
PY130G	8.3	8.3	8.4	8.5	8.3	8.5	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0
PY140G	10.1	10.0	10.1	9.6	10.1	10.7	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0
PY200G	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

.. not available

2.4 Mode of Data Collection

Table 2.34 Distribution of Household Members aged 16 and over by 'RB250' and 'RB245'

Rotational group	Total	RB250=11	RB250=12	RB250=13	RB250=21	RB250=22	RB250=23	RB250=31	RB250=32	RB250=33
Household members 16+ and RB245 = 1 to 3										
.	22 961	0	0	22 961	0	0	0	0	0	0
.	100	0	0	100	0	0	0	0	0	0
Cross-sectional 1	11 909	0	0	11 909	0	0	0	0	0	0
	100	0	0	100	0	0	0	0	0	0
Cross-sectional 2	11 052	0	0	11 052	0	0	0	0	0	0
	100	0	0	100	0	0	0	0	0	0
Longit. 2004										
2-year	3 696	0	0	3 696	0	0	0	0	0	0
	100	0	0	100	0	0	0	0	0	0
3-year	3 718	0	0	3 718	0	0	0	0	0	0
	100	0	0	100	0	0	0	0	0	0
4-year	3 638	0	0	3 638	0	0	0	0	0	0
	100	0	0	100	0	0	0	0	0	0
Longit. 2005	3 890	0	0	3 890	0	0	0	0	0	0
	100	0	0	100	0	0	0	0	0	0
Household members 16+ and RB245 = 2										
.	11 229	0	0	11 229	0	0	0	0	0	0
.	100	0	0	100	0	0	0	0	0	0
Cross-sectional 1	5 797	0	0	5 797	0	0	0	0	0	0
	100	0	0	100	0	0	0	0	0	0
Cross-sectional 2	5 432	0	0	5 432	0	0	0	0	0	0
	100	0	0	100	0	0	0	0	0	0
Longit. 2004										
2-year	1 831	0	0	1 831	0	0	0	0	0	0
	100	0	0	100	0	0	0	0	0	0
3-year	1 818	0	0	1 818	0	0	0	0	0	0
	100	0	0	100	0	0	0	0	0	0
4-year	1 783	0	0	1 783	0	0	0	0	0	0
	100	0	0	100	0	0	0	0	0	0
Longit. 2005	1 912	0	0	1 912	0	0	0	0	0	0
	100	0	0	100	0	0	0	0	0	0
Household members 16+ and RB245 = 3										
.	11 732	0	0	11 732	0	0	0	0	0	0
.	100	0	0	100	0	0	0	0	0	0
Cross-sectional 1	6 112	0	0	6 112	0	0	0	0	0	0
	100	0	0	100	0	0	0	0	0	0
Cross-sectional 2	5 620	0	0	5 620	0	0	0	0	0	0
	100	0	0	100	0	0	0	0	0	0
Longit. 2004										
2-year	1 865	0	0	1 865	0	0	0	0	0	0

3-year	100	0	0	100	0	0	0	0	0	0
	1 900	0	0	1 900	0	0	0	0	0	0
4-year	100	0	0	100	0	0	0	0	0	0
	1 855	0	0	1 855	0	0	0	0	0	0
Longit. 2005	100	0	0	100	0	0	0	0	0	0
	1 978	0	0	1 978	0	0	0	0	0	0

Table 2.35 Distribution of Household Members aged 16 and over by 'RB260' and 'RB245'

Rotational group	Total	RB260=1	RB260=2	RB260=3	RB260=4	RB260=5	RB260=missing
Household members 16+ and RB245 = 1 to 3							
.	22 961	0	357	10 871	0	11 733	0
	100	0	1.55	47.35	0	51.10	0
Cross-sectional 1	11 909	0	259	5 538	0	6 112	0
	100	0	2.17	46.50	0	51.32	0
Cross-sectional 2	11 052	0	98	5 333	0	5 621	0
	100	0	0.89	48.25	0	50.86	0
Longit. 2004							
2-year	3 696	0	39	1 791	0	1 866	0
	100	0	1.06	48.46	0	50.48	0
3-year	3 718	0	33	1 785	0	1 900	0
	100	0	0.89	48.01	0	51.10	0
4-year	3 638	0	26	1 757	0	1 855	0
	100	0	0.71	48.30	0	50.99	0
Longit. 2005	3 890	0	106	1 806	0	1 978	0
	100	0	2.72	46.43	0	50.84	0
Household members 16+ and RB245 = 2							
.	11 229	0	293	8 268	0	2 668	0
	100	0	2.61	73.63	0	23.76	0
Cross-sectional 1	5 797	0	214	4 174	0	1 409	0
	100	0	3.69	72.00	0	24.31	0
Cross-sectional 2	5 432	0	79	4 094	0	1 259	0
	100	0	1.45	75.37	0	23.18	0
Longit. 2004							
2-year	1 831	0	31	1 385	0	415	0
	100	0	1.69	75.64	0	22.67	0
3-year	1 818	0	28	1 344	0	446	0
	100	0	1.54	73.93	0	24.53	0
4-year	1 783	0	20	1 365	0	398	0
	100	0	1.12	76.56	0	22.32	0
Longit. 2005	1 912	0	74	1 381	0	441	0
	100	0	3.87	72.23	0	23.06	0
Household members 16+ and RB245 = 3							
.	11 732	0	64	2 603	0	9 065	0
	100	0	0.55	22.19	0	77.26	0
Cross-sectional 1	6 112	0	45	1 364	0	4 703	0
	100	0	0.74	22.32	0	76.94	0
Cross-sectional 2	5 620	0	13	1 239	0	4 362	0
	100	0	0.23	22.05	0	77.62	0
Longit. 2004							
2-year	1 865	0	8	406	0	1 451	0
	100	0	0.43	21.77	0	77.80	0

3-year	1 900	0	5	441	0	1 454	0
	100	0	0.26	23.21	0	76.53	0
4-year	1 855	0	6	392	0	1 457	0
	100	0	0.32	21.13	0	78.54	0
Longit.	1 978	0	16	425	0	1 537	0
2005	100	0	0.80	21.49	0	77.71	0

2.5 Imputation Procedure

Imputation procedure was used for the item non-responses of the interests income taxed at source, which is counted in the income variable HY090G interest, dividends, profit from capital investments in unincorporated business. The hot-deck method was applied for imputing the item non-responses. Imputing was done automatically by the SAS-supporting program developed by Statistics Finland.

The procedure was as follows:

1. Defining households that had responded in the interview that they had received the income during the income reference year (yes). The precise amount was either specified or not specified (the amounts which were not known or wanted to reply in the interview).
2. Grouping the households by the domicile code (indicates the location of the household's dwelling), the socioeconomic status of the household reference person (28 groups) and the number of household members (16 groups), i.e. the variables which had been evaluated to predict the level of the income item.
3. Detecting records outliers of the responses, and dropping them out from the procedure (one outlier in the survey year 2005).
4. Checking the criterion for the proportion of specified records of all records (specified and unspecified) by the socioeconomic status of the household reference person (minimum 60 per cent). Certain groups were collapsed by the socioeconomic status and the number of household members (as a result 23*6 groups used for imputing), households were grouped by the individual domicile code.
5. Filling the item non-responses by selecting randomly the specified records of the nearest donor households. Automatic imputing.
6. Evaluating the results.

The percentages of the imputation for the target variable HY090G are presented over the total number of observations and the ones received the income in Tables 2.25 and 2.26. The percentages of partial values in HY090G before imputation and thus the percentages of imputed values are slightly higher in the rotational groups that were selected for the longitudinal survey than the percentage in the group of the gross-sectional sectional part of the survey. In the imputation procedure, the observations of the whole sample were handled in the same way irrespective of their rotational group.

2.6 Imputed Rent

Imputed rent was provided for the target variable HY030G in Finland's SILC 2005. The method is described in Table 3.3, Section 3.2.3.

2.7 Company Cars

Information on a company car was collected from the Personal Tax Register of National Board of Taxes.

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 than stated in the regulations, but within the framework.

The reference population consists of the members of the private households permanently resident in Finland on 31 December 2004. Persons living in institutions, in collective households or in residential homes³ are 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. If a person was temporarily absent from the household's main dwelling and from home, no time duration was set for the absence provided that the above-mentioned criteria of household formation and membership were fulfilled. Such persons have close ties to the household. 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 longitudinal survey, the following persons except the sample persons, were not household members any more:

- Persons moved out from households permanently or died during the year 2004
- or persons who otherwise were not permanently living in the household containing a sample person on 31 December 2004.

The permanently resident population that has not included in private households refers to the difference between the number of all persons and the private household persons permanently resident in Finland on 31 December. The number of total population is 5 236 600, from which about 1,4 per cent was not in the private households, but was permanently institutionalised or living in collective households or residential homes. The number of estimated household population was

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.

5 160 800 in the cross-sectional survey. The estimated household population number was 5 006 425 in the longitudinal survey.

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 (2005). 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 (2004). Then, the current is either the last day (dwelling, characteristics of dwelling for the imputed rent, housing environment, housing costs) or the last month (economic activity) 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.

Table 3.1 Finland's definitions for the reference periods in the EU-SILC 2005 survey.

<p>Current, time point of interview for the respondent in the survey year 2005:</p> <ul style="list-style-type: none"> - Non-monetary household deprivation indicators - Housing (amenities in the dwelling) - Education - Health <p>Current, last day (31 Dec.) of the income reference period (2004):</p> <ul style="list-style-type: none"> - Basic data - Physical and social environment - Housing (dwelling type, tenure status and housing conditions, housing costs) <p>Current, last month (December) of the income reference period (2004):</p> <ul style="list-style-type: none"> - Child care - Labour information <p>Last 12 months preceding the time point of interview:</p> <ul style="list-style-type: none"> - Health (access to health care) <p>Income reference period (a fixed 12-month period), i.e. 2004:</p> <ul style="list-style-type: none"> - Changes in household composition (longitudinal survey) - Income - Labour information (basic information on activity status, calendar of activities (longitudinal survey)) - Housing and non-housing related arrears.
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The income reference period is the preceding calendar year of the survey year, i.e. a fixed 12-month period. 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, and avoifiscal tax credit from the accounting periods 1993-1995, 1996-1999 and 2000-2004.

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, i.e. 90 per cent of enforced taxes in 2004 (National Board of Taxes 2005). Some of these payments can be done up till March of the year after the income reference period (t+1). As a result of the enforced taxation by tax

The reference period of taxes on wealth is the years when taxes are paid from the wealth owned in the income reference period. Most of 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 23 May in the survey year to the cross-sectional part of the survey. The time lag is then 4.7 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 7 January to 23 May in the survey year 2005. **The duration of interviewed data collection** was 4.5 months. Of all household interviews, 25 per cent were collected by 1 February, 50 per cent by 23 February, 75 per cent were collected by 5 April, and 90 per cent by 2 May.

The interview data collection was started simultaneously in **the rotational groups selected for the longitudinal survey** than in the ones selected for the cross-sectional survey (Table 2.6). The interviews were done in longitudinal groups by 7 March. 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.

For the register database, the last information was collected on 24 November in the survey year 2005. When data collection from registers is included in the measurement, **the duration of the whole data collection both from interviews and registers** was 10.5 months.

The basic information on activity status during the income reference period was derived from information on a person's main activity in each month by summing the activities over the months (twelve in total, see interviewed groups below). The information on a person's main activity was interviewed from the household respondent. For answering to a question, the respondent was instructed to give priority to employment over non-economic activity and inactivity if that person had had several activities during the month. Full-time and part-time work was separated by working hours. Work was full-time if a person worked at least 30 hours per week. Otherwise, work was part-time if a person worked under 30 hours per week. In economically inactive statuses, the answer is based on the respondent's assessment about his/her main activity during the month.

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

PL070, Number of months at full-time work :

- Employee working full-time (at least 30 hours per week)
- Entrepreneur or unpaid worker in family enterprise working full-time (at least 30 hours per week)

PL072, Number of months at part-time work:

- Employee working part-time (under 30 hours per week)
- Entrepreneur or unpaid worker in family enterprise working part-time (under 30 hours per week)

authorities, 5.9 per cent of the enforced taxes were received as tax refunds in the year after the income reference period (t+1), 3.9 per cent of the enforced taxes were 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 consistency is highest among employees and pensioners. 92 per cent of the total withholdings and advance payments for employees and 94 per cent of the total withholdings and advance payments for pensioners were in accordance with the enforced taxes in 2004. The consistency was not as high among self-employed persons, 75 per cent of total advance payments done by farmers and 70 per cent done by other self-employed persons were in accordance with the enforced taxes. (National Board of Taxes 2005).

PL080, Number of months in unemployment:

- Unemployed

PL085, Number of months in retirement:

- Retiree

PL087, Number of months in studying:

- Pupil, student

PL090, Number of months in inactivity:

- On unpaid sickness leave, etc.
- Others
- In military service or conscript service

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 gross household income, HY010**, and on **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 well in accordance with the requirements.

HY010 is the sum of gross income components at the household level. HY020 is HY010 after current transfers paid are 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. 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 nine in HY020, 120 in HY022 and 538 in HY023 in the cross-sectional part of the survey. For calculating the common European Union indicators, the negative values were set for zero values. The conversion has an effect on the HY020 mean equivalised income and Gini coefficient estimates.

Tax on income and social insurance contributions HY140G and regular inter-household transfers paid HY130G were done from the total household gross income received during the income reference year. They did not cause negative values to total household income components.

The target variable **HY030G on imputed rent** is required as a compulsory variable from 2007 onwards. Information on the variable is according to the national Income Distribution Statistics in the 2005 EU-SILC survey. The rental equivalence method used follows the EU-SILC regulation (Table 3.3). Information on imputed rent was not counted for total household income components (HY010, HY020, HY022, HY023).

The target variable HY030G covers imputed rent for all households occupying own dwellings and the households renting a dwelling from other households at a lower price than the market price, or got it free. Differing from what the regulation states about the coverage, imputed rent was not yet calculated for dwellings rented from a public, municipal, voluntary or non-profit agency in the 2005 survey.

For constructing the target variables **HY022 and HY023, total disposable household income before social transfers**, social transfers in gross amounts were converted to net amounts, and deducted from total disposable household income (HY020). 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.

Income received

The variables on gross income components were obtained by summing the detailed gross items to 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. **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:

- Payments (PY080G) received by persons from their voluntary personal insurances, which are in the same register item as income received from statutory, voluntary insurance taken by employers for their employees. This income could not be excluded exactly. It was counted in interests, dividends, profits from capital investment in an unincorporated business (HY090G).
- Income received from statutory, voluntary insurance taken by employers or employed persons (entrepreneurs) themselves to supplement compulsory social security was counted in interests, dividends, profits from capital investment in an unincorporated business (HY090G).
- Self-employed income (PY050G) is positive (incl. 0 income). Losses were 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 was 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 both have an effect on taxes paid from the reference period's income (HY140G).⁵
- Both received social benefits and social benefits obliged to be returned to payers were included in the certain target variables on social benefits (PY090G, PY100G, PY110G, PY120G, PY140G, HY050G, HY060G, HY070G). The statistical units have negative values on these variables if the social benefits were solely returned back, or the returned amount exceeded the amount received during the income reference period. The social

⁵ In the cross-sectional sample, 17.8 per cent of self-employed persons (PL030 =1,2, & PL040 = 1,2) had 0 income on PY050G (n = 650 / 3644). Most of them had other income sources, 72.6 per cent received income on PY010G, 71.4 per cent received personal income on HY090G, 88.9 per cent got income on either PY010G or HY090G, and 5.8 per cent on only other type of income during the reference year. Persons who were temporarily away from work are counted in the numbers. Losses were in 6.1 per cent for all self-employed persons (n= 224), for 30.8 per cent of whom the losses (incl. losses from HY090G) were considered as deductions for taxes paid (incl. all income to which deductions focused), and for 73.2 per cent the confirmed losses (the rest of the losses or all) can be considered in the taxes paid from income received after the income reference year. In addition, a small number of losses were counted in the spouse's taxation.

benefits are obliged to be returned if the 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 was counted in the target variable HY110G. The variable consists of the following type of income: employee income and self-employment income, education related allowances, survivors' benefits, disability benefits and 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 businesses is a relatively significant income source for people aged under 16. It was counted in HY090G.

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 (29 per cent of capital income in 2004). 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 taxes on real property owned and taxes paid on net wealth owned at the end (31 Dec.) of 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 the gross rent value in the imputed rent (HY030G).

Table 3.2 Components of income. Finland's definitions and assessed consequences resulting from differences compared with the EU-SILC definition in the 2005 survey.

Components of income	Variable name	The definition	Consequences to comparability 1 = comparable 0 = not comparable
Total household gross income	HY010		1 See notes below
Total disposable household income	HY020		1 See notes below
Total disposable household income, before social transfers other than old-age and survivors' benefits	HY022		1 See notes below
Total disposable household income, before social transfers including old-age and survivors' benefits	HY023		1 See notes below
Imputed rent	HY030G	Imputed gross rentals for all households that do not report paying full rent, either because they are owner-occupiers or they live in accommodation rented from another household at a lower price than the market price or rent-free minus housing costs actually paid (incl. subsidies received from government, i.e. housing benefits and tax deductions for mortgage interests). Imputed for the dwellings which are used as the main residence of the household.	0 Note: Consistent with the Finnish IDS. Dwellings rented at a lower price than the market price from a public, municipal, voluntary or non-profit agency are not included. The information on imputed gross rentals (equivalent to market rent) is based on the rent including other utility costs done besides the "space rent". After deducting consistent housing costs paid by the household, the definition is comparable. Imputed rent has not been included in the gross household income variable (HY010) and the total disposable household income variables (HY020, HY022, HY023).
Income from rental of property or land	HY040G	Income received, during the income reference period, from renting a property less expenses except interest payments.	1 Note: Interest payments on 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.	1
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.	1 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	1
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.	1
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 loans for acquisition of income are considered as expenses for certain income items, but not for all income items.	1 Note: Interest payments on loans for acquisition of income are subtracted as deductions from taxable income in taxation, and thus diminish the taxes paid on income. (HY140G). The component includes income from statutory benefits (incl. pensions) undertaken voluntarily by an employer, an employed person (entrepreneur), or a person individually in addition to the compulsory scheme of social benefits. These are a few register items which cannot be subdivided.
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.	1
Income received by people aged under 16	HY110G	Gross income received by all household members aged under 16 during the income reference period.	1
Regular taxes on wealth	HY120G	Taxes that are payable annually on the ownership or use of land and buildings paid during the income reference period (t). Taxes that are payable on the net wealth owned at the end (31 Dec.) of the income reference period (t) paid in the income reference year (t) and in the following years (t+1, t+2).	1 Taxes paid on the ownership and use of land or buildings of shareholders in housing companies are included indirectly in service charges as part of housing costs, and thus they diminish the gross value of imputed rent.
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.	1
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.	1 Note: Interests charged on arrears of taxes due and any fines imposed by tax authorities are not included.
Repayments/receipts for tax adjustments	HY145G	-	-
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.	1 Note: Tips and bonuses, and benefits based on profit sharing from stock options (excl. the ones converted into cash) are included in this component according to the Finnish IDS.
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, other goods and services provided free or at a reduced price by their employer to their employees.	1 Note: Company car is included.
Employers' social insurance contributions	PY030G	-	-
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	1 Note: Interest payments on loans for acquisition of income are subtracted as deductions for taxable income in taxation, and thus diminish the taxes paid on income (HY120G).

		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 on loans for acquisition of income are considered as costs for a few income items, but not for all income items.	Positive values (incl. 0 values). Losses are considered as deductions for taxable income and diminished taxes paid from other type of income in the income reference year, or in the spouse's taxes paid. If such taxable income that deductions concern has not been received at all, losses are considered as taxes which will be paid from the income received in the following years
Value of goods produced for own consumption	PY070G	-	Note: Value is not significant at national level, or to particular groups of households. The information is not collected.
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. The costs of travelling or relocating to obtain employment are included as deductions for taxes paid of unemployed benefits.	1
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 old-age pensions and part-time pensions are counted in old-age benefits. The statutory retirement age for old-age pension under the national and employment scheme is 65. Persons secured under the employment scheme are in certain professions entitled to start old-age pensions earlier. Early old-age pensions are awarded after the age of 58 in public sector contracts and 60 in private sector contracts under the employment scheme. Part-time pensions are awarded to persons aged 58 to 64 under the employment scheme.	1
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' pension 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.	1
Sickness benefits	PY120G	Benefits that replace in whole or in part loss of earnings during temporary inability to work due to sickness or injury.	1
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.	1
Education-related allowances	PY140G	Grants, scholarships and other education assistance received by students.	1
Gross monthly earnings for employees	PY200G		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. The TIDB is compiled from register sources maintained by several administrative authorities⁶, who are also in charge of the data quality. The sources cover the whole population of Finland. For the TIDB, information is further checked in order to ensure the consistency of the data from several sources.

Items which were not available from registers were collected by interviews (1.2 per cent from all gross income and 1.7 per cent from all paid transfers weighted at total households were interviewed). Interviewed items on income were as follows:

- Wages and salaries for persons who have no taxable income in Finland (incl. in PY010G)
- Income from agriculture received by a party to an estate (incl. in PY050G)
- Income from forestry after expenses (incl. in PY050G)
- 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)
- Small subsidies for studying (incl. in PY140G)
- Maintenance support for children (incl. in HY050G)
- Strike assistance (incl. in HY060G)
- Regular inter-household transfers received (HY080G)
- Regular inter-household transfers paid (HY130G)

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 (Section 2.3.3 Processing errors). The hot-deck method was used to impute item non-responses of interest income taxed at source in the component HY090G interest, dividends, profit from capital investments in unincorporated business to the households (Section 2.5. Imputation procedure).

The sources and procedures for compiling income target variables were consistent to the statistical units selected for the cross-sectional and longitudinal surveys. These units formed the cross-sectional part of the Income Distribution Statistics in the 2005 survey. Consistency in data compilation means thus also that income information of the longitudinal sample was processed to the units in the same way irrespective of their rotational group.

3.2.3 The Form in Which Income Variables at Component Level Have Been Obtained (Table 3.3)

Except for the target variables HY020, HY022 and HY023, the target variables on income are in gross amounts.

⁶ Administrative registers are the Personal Tax Register of National Board of Taxes, the Pension Register of the Finnish Centre 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 Social Assistance Register of the National Research and Development Centre for Welfare and Health (STAKES), 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.

Table 3.3 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 2005 survey.

	Variable name	Source or procedure used for collection	The form	The method used for obtaining the target variable
Total household gross income	HY010	The register database, the IDS/EU-SILC interview	Gross value	The sum for all household members of gross personal income components (PY010G, PY020G (company cars), PY030G, PY50G, PY070G, PY090G, PY100G, PY110G, PY120G, PY130G, PY140G) plus gross income components at household level (HY040G, HY050G, HY060G, HY070G, HY080G, HY090G, HY110G)
Total disposable household income	HY020	The register database, the IDS/EU-SILC interview	Net value	The sum for all household members of gross personal income components (PY010G, PY020G (company cars), PY030G, PY50G, 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, before social transfers other than old-age and survivors' benefits	HY022	The register database, the IDS/EU-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)
Total disposable household income, before social transfers including old-age and survivors' benefits	HY023	The register database, the IDS/EU-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 allowances (PY140G), family/children-related allowances (HY050G), social exclusion not elsewhere classified (HY060G) and housing allowances (HY070G)
Imputed rent	HY030G	<p>The external data source is Rent statistics for which information is collected by monthly Labour Force Survey interviews (the whole sample size is 12,000), and from register sources maintained by Statistics Finland. Rent statistics are compiled by a conventional method based on classification and regression analysis (hedonic method). The available data from the statistics include mean rents/m² for dwellings in different sizes, types, and areas.</p> <p>Source for repurchase prices: Federation of Finnish Insurance Companies, Finland's Tax Act</p> <p>The IDS/EU-SILC interviewed data.</p> <p>The HBS interviewed data (for estimating insurance for detached houses)</p>	Gross value	<p>Information about mean rent / m² (incl. utility costs which is not separable from "the space rent", incl. new and old contracts) of privately financed rented dwellings was imputed from the Rent statistics for the floor area of the sample households' main dwelling by using the following strata:</p> <ul style="list-style-type: none"> - Statistical grouping of municipalities (urban / other) - Number of rooms (1, 2, 3, 4+) - Type of building (detached houses with 1-2 dwellings and other type of buildings, semi-detached or terraced house, block of flats) - Construction or renovation year (-60, 61-70, 71-80, 81-90, 91-) <p>Since the base year, the mean rent (i.e. a price index) of the Rent Statistics by statistical grouping of municipalities has been annually extrapolated to the base year rents by the strata, and imputed to the equivalent sample dwellings.</p> <p>To obtain the value of imputed rent, costs on housing the household actually paid (rents, maintenance and repair of the dwelling, electricity, gas and other fuels, incl. subsidies received for them) were subtracted from the value. Further, depreciation of detached houses was imputed for the equivalent dwellings by stratifying, and subtracted from the value.</p> <p>Depreciation was imputed to detached houses according to the following strata:</p> <ul style="list-style-type: none"> - Statistical grouping of municipalities (urban / other) - Floor area m² available to households (<60, 60-89, 90-124, 124-) - Construction or renovation year (-50, 50-64, 64-) - Construction material (wood, other)
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/EU-SILC interview	Gross value	
Social exclusion payments	HY060G	Items either from the Register database or from	Gross	

not elsewhere classified		the IDS/EU-SILC interview	value	
Housing allowances	HY070G	Items either from the Register database or from the IDS/EU-SILC interview	Gross value	
Regular inter-household cash transfers received	HY080G	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/EU-SILC interview	Gross value	Item non-responses of interest income taxed at source were imputed for the households who responded in the interview that they had received the income during the income reference year, but did not specify the amount. The hot-deck method was used for imputing. Grouping variables were the socio-economic group of the reference person and the number of members in the household.
Interest paid on mortgages	HY100G	Register database	Gross value	
Income received by people aged under 16	HY110G	Register database	Gross value	
Regular taxes on wealth	HY120G	Register database	Gross value	The item of tax on real property was edited by using data on the taxes paid on the real property owned in the year (t-1) before the income reference period (t) and data on change of taxable value of the real property from the year t-1 to the income reference period t.
Regular inter-household transfers paid	HY130G	The IDS/EU-SILC interview	Gross value	
Tax on income and social insurance contributions	HY140G	Register database	Gross value	
Repayments/receipts for tax adjustments	HY135G	-	-	-
Cash or near-cash employee income	PY010G	Register database	Gross value	
Non-cash employee income	PY020G	Register database	Gross value	
Employers' social insurance contributions	PY030G	-	-	-
Cash profits or losses from self-employment (including royalties)	PY050G	Register database, the IDS/EU-SILC interview.	Gross value	The component includes the gross item of timber selling as earned and capital forestry income, for which expenses were imputed by using the parameter estimates of the regression model of the expenses based on the IDS data on the earlier year. For imputing the parameters of the expenses values, the following variables were used in a linear scale: - Forestry income from timber selling - Subsidies for forest improvement - Forestry levy - Forest area
Value of goods produced for own consumption	PY070G	-	-	-
Unemployment benefits	PY090G	Register database	Gross value	
Old-age benefits	PY100G	Register database and the IDS/EU-SILC interview data	Gross value	Survivors' benefits and disability benefits which were received simultaneously with old-age benefits were regrouped into old-age benefits by using the retirement age of the national pension scheme, which is 65. This was not done if a person was on part-time pension, and still at work.
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 and the IDS/EU-SILC interview	Gross value	
Gross monthly earnings for employees	PY200G	-	-	-

3.2.4 The method Used for Obtaining the Income Target Variables

See the previous chapters 3.2.1, 3.2.2, 3.2.3 and the Table 3.3, the column on the method used for obtaining the target variables.

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), the initial sample persons of the first wave in particular have been followed up over years. The households with other members (mostly co-residents, see the household membership definition) have been constructed to around these sample persons. The other household members of the initial sample person have not been followed. Household members are checked in the each wave. They include the ones who were living in the households containing the sample person or who were temporarily absent from that household at the end of the income reference period (31 December).

4 Coherence

4.1 Comparison of Income Target Variables and Number of Persons Who Receive Income from Each Income Component with External Sources

Table 4.1 shows 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. The IDS is the primary national source for the household income statistics. The TSID is compiled from the Total Income Database (TIDB) which is used as a register income source both for the IDS and EU-SILC. The EU-SILC comparisons with these two statistics (IDS, TIDB) have been done in more detail in the following tables (Tables 4.1, 4.2, 4.3).

Social transfers received are 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 Research and Development Centre for Welfare and Health (STAKES), Finland. Social transfers of ESSPROS cover also those ones paid to the persons in institutional care (incl. pensions), but excluding benefits in kind (e.g. institutional care for children, young people and elderly).

The differences on total income amounts across the statistics are mostly due to differences in items defined to the components. These are described in Table 4.1. Almost all of the income information was collected from the TIDB to the EU-SILC sample units. Further, the EU-SILC data were estimated to the private households by using information on crucial demographic and income variables from the TIDB in the sampling and the weightings (Section 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 completes the register information on income, and as a result from this part, the income is slightly more complete in the EU-SILC than in the TSID.

The EU-SILC and IDS income data were compiled in the integrated statistical survey. The sample and the frame households were the same. All differences between these two statistics are due to income definitions.

Compared with the ESSPROS (Table 4.1) and with the TSID in more detail (Table 4.2), the under-coverage of the EU-SILC income components is related to certain social transfers received. These are housing allowances (HY070G) and social exclusion not elsewhere classified (HY060G), both focused on low income households as means-tested income, and therefore, having relevancy to the indicators on poverty and social exclusion. The income components were not considered in the calibration.

The amount on register-based housing allowances is 8.3 per cent lower in the EU-SILC than in the TSID. Of housing allowances, general housing allowance as the largest item is 6.4 per cent lower, and of other items, students' housing supplements is 5.9 per cent lower and pensioners' housing allowances 13.9 per cent lower in the EU-SILC than in the TSID.

Social assistance is the main item consisting of 94 per cent of income on social exclusion not elsewhere classified. Compared with the TSID, the EU-SILC amount is 14.2 per cent lower.

The differences from comparing income recipients by main income components in Table 4.3 follows from the same factors as the differences in total income sums. Further, the EU-SILC and IDS household keeping unit definition differs from the TSID household dwelling unit definition. This also has an effect on the figures.

Table 4.4. presents the number of income receivers on according to the gross income components in the cross-sectional and longitudinal EU-SILC survey. Mean income and standard errors have been reported in the chapter 2.2. Compared to the general differences resulting from initial wave non-response and attrition, the differences appear as relatively more marked in income components for which non-unit response rates were higher and income calibrating could not be used for correcting them. Variance is higher in the longitudinal than cross-sectional income components in general which also has an effect on the differences.

Table 4.1a The total gross income of private households in the income reference year 2004 according to different data sources (EU-SILC (X): cross-sectional survey; IDS; TSID; NA; ESSPROS)

	EU-SILC (X)	IDS	Difference	Difference	Notes
Income components	Sum (EUR 1 000)	Sum (EUR 1 000)	Sum (EUR 1 000)	%	
2.1. Gross employee income	57 717 076	58 005 105	-288 028	-0.5	The IDS includes employee income received by those aged under 16, and other non-cash employee income than company car. Additionally, small differences in focusing costs of expenses of taxable earned income on income components.
2.2. Self-employment income	5 419 840	5 372 680	47 160	0.9	Small differences in forestry income definitions.
2.3. Imputed rent	..	..			Not a separate income component in the IDS.
2.4. Property income	7 102 987	15 279 513	.	.	The IDS includes imputed rent (incl. interest payments), profits from sales, and an item counted as social benefits (e.g. criminal liability substitution paid by the State Treasury) in the EU-SILC
excl. imputed rent	7 102 987	8 921 975	-1 818 988	-20.4	
2.5. Current transfers received	24 614 069	25 268 196	-654 126	-2.6	The IDS includes imputed rent from other household. Inter-household transfers received have been defined as more widely in the IDS than the EU-SILC.
excl. imputed rent	24 614 069	25 058 644	-444 575	-1.8	
2.6. Other income received	111 931	..	.	.	The income is included in other IDS income component.
2.7. Interest payments	1 188 389	..	.	.
2.8. Current transfers paid	25 536 448	25 148 509	387 939	1.5	The IDS does not include inter-household transfers paid except compulsory child support. Taxes paid on profits from sales and deduction due to voluntary payments done by persons themselves to personal private pensions plans are included in the IDS
Total disposable household income (incl. imputed rent)	..	78 777 045	.	.	
Total disposable household income (excl. imputed rent, positive values)	69 517 400	72 210 471	-2 693 071	-3.7	
	EU-SILC (X)	TSID	Difference	Difference	
Income components	Sum (EUR 1 000)	Sum (EUR 1 000)	Sum (EUR 1 000)	%	
2.1. Gross employee income	57 717 076	58 220 301	-503 224	-0.9	The TSID includes employee income received by those aged under 16, and other non-cash employee income than company car.
2.2. Self-employment income	5 419 840	5 249 414	170 426	3.2	Small differences in forestry income definitions.
2.3. Imputed rent	..	..	
2.4. Property income	7 102 987	8 784 608	-1 681 621	-19.1	Profits from sales included in TSID causes mostly the difference.
2.5. Current transfers received	24 614 069	23 955 888	658 182	2.7	The TSID does not include all inter-household transfers received.
2.6. Other income received	111 931	..	.	.	The income is included in other income components TSID.
2.7. Interest payments	1 188 389	..	.	.
2.8. Current transfers paid	25 536 448	25 024 254	512 194	2.0	The TSID does not include inter-household transfers paid. Tax paid on profits from sales is counted in the TSID.
Total disposable household income (incl. imputed rent)	..	..	
Total disposable household income (excl. imputed rent, positive values)	69 517 400	71 196 893	-1 679 493	-2.4	The TSID does not include the EU-SILC and IDS interviewed income.
	EU-SILC (X)	NA	Difference	Difference	
Income components	Sum (EUR 1 000)	Sum (EUR 1 000)	Sum (EUR 1 000)	%	
2.1. Gross employee income	57 717 076	58 989 029	-1 271 953	-0.9	Differences, e.g. employee income received

					by those aged under 16, and other non-cash employee income than company car is included in the NA.
2.2. Self-employment income	5 419 840	6 402 483	-982 644	3.2	
2.3. Imputed rent	..				
2.4. Property income	7 102 987	9 408 827			
excl. imputed rent	7 102 987	5 481 526	1 621 461	29.6	The NA does not include all profit and interest items, e.g. income from a rental of a property or land or income from voluntarily taken insurances.
2.5. Current transfers received	24 614 069	26 797 920	-2 183 851	-8.1	The NA does not include inter-household transfers received.
2.6. Other income received	111 931		111 931		The income is included in other income components in the NA.
2.7. Interest payments	1 188 389		1 188 389		
2.8. Current transfers paid	25 536 448	25 885 000	-348 552	-1.3	The NA does not include inter-household transfers paid.
	EU-SILC (X)	ESSPROS	Difference	Difference	
Income components	Sum (EUR 1 000)	Sum (EUR 1 000)	Sum (EUR 1 000)	%	
PY090G. Unemployment benefits	3 532 417	3 483 570	48 847	1.4	
PY100G. Old-age benefits	12 531 961	11 604 384	927 577	8.0	The ESSPROS includes pensioners' housing allowances, 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	389 972	1 441 662	-1 051 690	-72.9	See PY100G
PY120G. Sickness benefits	422 707	1 890 945	-1 468 238	-77.6	The ESSPROS includes sickness benefits paid as employee income
PY130G. Disability benefits	3 110 190	3 821 364	-711 174	-18.6	See PY100G
PY140G. Education-related allowances	547 903	..			
HY050G. Family/children-related allowances	2 511 613	2 499 220	12 393	0.5	
HY060G. Social exclusion payments not elsewhere classified	408 519	454 971	-46 452	-10.2	
HY070G. Housing allowances	849 188	436 000	413 188	94.8	See PY100G. The ESSPROS does not include students' housing supplements.
Total, excl. education-related allowances	23 756 569	25 632 116	-1 875 547	-7.9	
Same definitions in accordance with ESSPROS:					
HY070G. Housing allowances	407 994	454 971	-46 977	-10.3	
PY100G,PY110G,PY130G	16 262 513	16 867 410	-604 897	-3.6	
Total, excl. all education-related allowances	23 545 765	25 632 116	-2 086 351	-8.1	

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Table 4.1b The total gross income of private households in the income reference year 2004 according to different data sources (EU-SILC (L): longitudinal survey and TSID)

	EU-SILC (L)	TSID	Difference	Difference	
Income components	Sum (EUR 1 000)	Sum (EUR 1 000)	Sum (EUR 1 000)	%	
2.1. Gross employee income	56 960 690	58 220 301	-1 259 611	-2.2	The TSID includes employee income received by those aged under 16, and other non-cash employee income than company car.
2.2. Self-employment income	5 238 779	5 249 414	-10 635	-0.2	Small differences in forestry income definitions.
2.3. Imputed rent	..	..	
2.4. Property income	7 063 360	8 784 608	-1 721 248	-19.6	Profits from sales included in TSID causes mostly the difference.
2.5. Current transfers received	24 811 652	23 955 888	855 764	3.6	The TSID does not include all inter-household transfers received.
2.6. Other income received	373 580	..			The income is included in other income components TSID.
2.7. Interest payments	1 183 151	..			
2.8. Current transfers paid	25 395 608	25 024 254	371 354	1.5	The TSID does not include inter-household transfers paid. Tax paid on profits from sales is counted in the TSID.
Total disposable household income (incl. imputed rent)	..	..	
Total disposable household income (excl. imputed rent, positive values)	69 052 920	71 196 893	-2 143 973	-3.0	The TSID does not include the EU-SILC and IDS interviewed income.

Table 4.2 Income items of social exclusion payment not elsewhere classified (HY060G) and housing allowances (HY070G) in the income reference period 2004 in EU-SILC (X: cross-sectional survey) and TSID

HY060G		EU-SILC (X)		TSID	
Income item	Mean	Sum (EUR 1 000)	Mean	Sum (EUR 1 000)	
Social assistance	153	370 673	177	432 159	
Conscript's allowance	4	9 087	6	14 218	
Special assistance for immigrants	12	27 935	6	14 542	
Daily allowance from liability insurance	0	255	0	1 088	
Strike assistance	0	0	0	0	
Strike assistance (interviewed)	0	317	.	.	
HY070G		EU-SILC (X)		TSID	
Income item	Mean	Sum (EUR 1 000)	Mean	Sum (EUR 1 000)	
General housing allowance	168	405 860	178	433 777	
Students' housing supplements	87	210 804	92	224 097	
Pensioners' housing allowance	94	227 456	108	264 873	
Spouse pensioners' housing allowance	1	2 934	1	2 842	
Other (interviewed)	1	2 134	.	.	

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Table 4.3 The number of income recipients in the income reference period 2004 in EU-SILC (X: cross-sectional survey, L: longitudinal survey), IDS and TSID

Income components	EU-SILC (X)	IDS	Difference	EU-SILC (X)	IDS	Difference
	Households (1 000)	Households (1 000)	%	Persons (1 000)	Persons (1 000)	%
2.1. Gross employee income	1 666	1 668	-0.1	2 646	2 687	-1.5
2.2. Self-employment income	392	375	4.5	477	448	6.1
2.3. Imputed rent	..	..	.	..	..	..
2.4. Property income	1 533	1 892	.	.	.	.
excl. imputed rent	1 533	1 558	-1.6	.	.	.
2.5. Current transfers received	2 025	2 108	-4.1	.	.	.
excl. imputed rent	2 025	2 105	-3.9	.	.	.
2.6. Other income received	57	..	.	.	.	.
2.7. Interest payments	720	..	.	.	.	.
2.8. Current transfers paid	2 368	2 367	0.1	.	.	.
Income components	EU-SILC (X)	TSID	Difference	EU-SILC (X)	TSID	Difference
Income components	Households (1 000)	Households (1 000)	%	Persons (1 000)	Persons (1 000)	%
2.1. Gross employee income	1 666	1 679	-0.8	2 650	2 685	-1.3
2.2. Self-employment income	392	366	6.7	491	461	6.1
2.3. Imputed rent	..	..	.	..	..	..
2.4. Property income	1 533	1 355	11.6	.	.	.
2.5. Current transfers received	2 025	1 991	1.7	.	.	.
2.6. Other income received	57	..	.	.	.	.
2.7. Interest payments	720	..	.	.	.	.
2.8. Current transfers paid	2 368	2 360	0.4	.	.	.
Income components	EU-SILC (L)	IDS	Difference	EU-SILC (L)	IDS	Difference
Income components	Households (1 000)	Households (1 000)	%	Persons (1 000)	Persons (1 000)	%
2.1. Gross employee income	1 634	1 668	-2.0	2 525	2 687	-6.0
2.2. Self-employment income	393	375	4.8	474	448	5.8
2.3. Imputed rent	..	..	.	..	..	..
2.4. Property income	1 520	1 892	.	.	.	.
excl. imputed rent	1 520	1 558	-2.4	.	.	.
2.5. Current transfers received	2 018	2 108	-4.3	.	.	.
excl. imputed rent	2 018	2 105	-4.1	.	.	.
2.6. Other income received	57	..	.	.	.	.
2.7. Interest payments	706	..	.	.	.	.
2.8. Current transfers paid	2 361	2 367	-0.3	.	.	.
Income components	EU-SILC (L)	TSID	Difference	EU-SILC (L)	TSID	Difference
Income components	Households (1 000)	Households (1 000)	%	Persons (1 000)	Persons (1 000)	%
2.1. Gross employee income	1 634	1 679	-2.7	2 525	2 685	-6.0
2.2. Self-employment income	393	366	7.4	474	461	2.8
2.3. Imputed rent	..	..	.	..	..	..
2.4. Property income	1 520	1 355	12.2	.	.	.
2.5. Current transfers received	2 018	1 991	1.4	.	.	.
2.6. Other income received	57
2.7. Interest payments	706
2.8. Current transfers paid	2 361	2 360	0.0	.	.	.

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Table 4.4 The number of income receivers by the total gross income components in the income reference period 2004 according to the cross-sectional (X) and longitudinal (L) EU-SILC survey

	EU-SILC (X)	EU-SILC (L)	Difference %	EU-SILC (L) DB075=1	EU-SILC (L) DB075=2	EU-SILC (L) DB075=3
Households (N)	2 414 999	2 403 265	0.5	801 072	801 041	801 152
Persons aged 16+ (N)	4 182 733	4 063 284	2.9	1 352 013	1 356 444	1 354 827
Consumption units (modified OECD), (N)	3 619 693	3 590 785	0.8	1 198 728	1 194 370	1 197 686
	Number of statistical units received the income (1 000)	Number of statistical units received the income (1 000)		Number of statistical units received the income (1 000)	Number of statistical units received the income (1 000)	Number of statistical units received the income (1 000)
Income components*	Households (N)	Households (N)	Difference %	Households (N)	Households (N)	Households (N)
HY010	2 415	2 403	0.5	801	801	801
HY020 (incl. negative values)	2 415	2 403	0.5	801	801	801
HY022 (incl. negative values)	2 341	2 325	0.7	778	773	775
HY023 (incl. negative values)	2 256	2 234	1.0	753	734	748
HY030G	1 649	1 652	-0.2	548	557	547
HY040G	176	171	2.9	58	53	59
HY050G	601	582	3.3	199	189	194
HY060G	218	201	8.5	66	71	64
HY070G	523	518	1.0	173	167	178
HY080G	215	200	7.5	71	66	63
HY090G	1 512	1 498	0.9	513	488	497
HY100G	720	706	2.0	229	246	231
HY110G	57	57	0.0	23	18	16
HY120G	985	977	0.8	342	327	308
HY130G	309	303	2.0	113	98	92
HY140G	2 362	2 353	0.4	787	784	782
HY135G	..	..	..	..	..	..
	Persons (N)	Persons (N)		Persons (N)	Persons (N)	Persons (N)
PY010G	2 645	2 523	4.8	853	836	835
PY020G	71	81	-12.3	27	29	25
PY030G	..	..	..	..	..	..
PY035G	342	319	7.2	111	97	110
PY050G	477	474	0.6	162	148	163
PY070G	..	..	..	..	..	..
PY080G	..	..	..	..	..	..
PY090G	652	627	4.0	202	218	207
PY100G	957	984	-2.7	323	337	324
PY110G	69	73	-5.5	21	22	30
PY120G	222	211	5.2	68	69	74
PY130G	364	369	-1.4	129	118	122
PY140G	436	387	12.7	126	126	135
PY200G	..	..	..	..	..	..

.. Information is not available

* Income receivers on HY030G and HY100G is not included in the total income components