

**QUALITY REPORT  
FINAL LONGITUDINAL SURVEY  
2004-2005-2006**

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

Not available at this stage of process.

## 2. ACCURACY

### 2.1. Sampling design for the first wave of the longitudinal component

#### 2.1.1 Type of sampling (stratified, multi-stage, clustered)

Two stage sampling design: The first stage units (or primary sampling units PSU) are the municipalities, the second stage units (SSU) are the households.

The PSU are stratified according to their size in terms of number of residents. Stratification is carried out inside each administrative region. Four municipalities are selected in each strata.

Use of clustering:

Municipalities are clusters of households, households are clusters of individuals.

#### 2.1.2 Sampling units (one stage, two stages)

Primary sampling units are the municipalities.

Secondary sampling units are the households selected from municipalities' registers with systematic sampling and not selected with PPS.

Extracted sample

DB075	Sample size (number of SSU)	Number of PSU	Number of SSU (Total)	Average number of SSU for each PSU
1	<=25	96	1370	14.3
1	26-50	182	5250	28.8
1	51-75	3	185	61.7
1	76-100	2	175	87.5
1	101-250	4	589	147.3
1	>=250	1	432	432.0
1	Total	288	8001	27.8
3	<=25	97	1392	14.4
3	26-50	181	5219	28.8
3	51-75	3	184	61.3
3	76-100	2	175	87.5
3	101-250	4	589	147.3
3	>=250	1	432	432.0
3	Total	288	7991	27.7
4	<=25	98	1443	14.7
4	26-50	180	5209	28.9
4	51-75	3	186	62.0
4	76-100	2	175	87.5
4	101-250	4	587	146.8
4	>=250	1	433	433.0
4	Total	288	8033	27.9

### 2.1.3 Stratification and sub-stratification criteria

Stratification of primary sampling units by the number of inhabitants so that the total number of inhabitants in each stratum is approximately constant (this guarantees self-weighting design in each region).

Municipalities which sizes are higher than a threshold are self-representing units i.e. are strata themselves and included with certainty in the sample of PSU.

Secondary sampling units are not stratified.

### 2.1.4 Sample size and allocation criteria

Sample size have been determined on the basis of expected deff reported in table 1 for macroregions (North, Centre, South). Data of ECHP for years 1995-1999, have been the basis for the evaluation of deff, results on income and poverty have been averaged over the 5 available years. National intra-classes correlation coefficient inside households,  $\rho_{SR}$ , and inside municipality,  $\rho_{NSR}$ , have been estimated on the basis of the above averages; then following formula to evaluate *deff* has been applied:

$$deff_r = \frac{n_r}{N_r^2} \left\{ \frac{N_{rSR}^2}{n_{rSR}} (1 + \rho_{SR} (\bar{b}_{rSR} - 1)) + \frac{N_{rNSR}^2}{n_{rNSR}} (1 + \rho_{NSR} (\bar{b}_{rNSR} - 1)) \right\}$$

where  $n_r$  and  $N_r$  are sample and population dimension of administrative regions,  $\bar{b}_{rSR}$  is the average household dimension and  $\bar{b}_{rNSR}$  is the average number of individuals selected in each municipalities.

On the basis of survey on income of year 2003, the following response rates have been estimated:

- T(reg) for regions by municipality type (municipality type: metropolitan, over 50.000 residents and others);
- T(mr) for macro-regions by municipality type.

Then to smooth the estimates,  $T(c) = 0.25 * T(\text{reg}) + 0.75 * T(\text{mr})$ , has been applied to inflate the achieved sample size so that

$$n(\text{sel}) = n(\text{ach}) / T(c).$$

The sample inside macro-regions has been allocated by means of a generalized version (Falorsi et al, 1998 and Falorsi e Russo, 2003.) of Bethel methods (Bethel 1989), with iterative procedure that recalculate at each step deff and sampling dimensions to satisfy given requirements.

Allocation inside regions averaging proportional and uniform allocation.

**Table 1**

Macroregions	Deft income	Deft poverty	Deff income	Deff poverty
1	2.64	1.59	6.97	2.54
2	2.26	1.43	5.09	2.05
3	2.69	1.61	7.24	2.61
<b>Italy</b>	<b>2.61</b>	<b>1.58</b>	<b>6.84</b>	<b>2.50</b>

**Table 2**

Macroregion	Households	Selected households	CV% income	CV% poverty rate
1	10,583,085	12,513	1.5	4.3
2	4,226,377	6,320	1.7	4.3
3	7,197,453	6,668	2.2	2.8
<b>Italy</b>	<b>22,006,915</b>	<b>25,501</b>	<b>1.1</b>	<b>2.1</b>

The sampling size of each rotational group is one-fourth of the above size.

### 2.1.5 Sample selection schemes

PSU are selected with probability proportional to their size (number of residents) by means of systematic sampling method by Madow (1949) inside each stratum.

Households are selected with equal probability by systematic sampling in each selected municipality from municipality-registers.

### 2.1.6 Sample distribution over the time

The sample is not distributed over time.

### 2.1.7 Renewal of sample: Rotational groups

Rotational design is used for households; the whole sample is composed of four rotational groups. Each group is included in the sample for four waves of the survey. Each year one fourth of the sample is renewed, replacing the group entered in the sample four years before.

	A	B	C	D	E	F	G	H	I
T	A4	B3	C2	D1					
T+1		B4	C3	D2	E1				
T+2			C4	D3	E2	F1			
T+3				D4	E3	F2	G1		
T+4					E4	F3	G2	H1	
T+5						F4	G3	H2	I1

Each group is associated to one municipality of the strata. The self-representative municipalities are enclosed in each of the rotational groups: in such case the households referring to these municipalities are divided in 4 independent samples.

### 2.1.8. Weightings

#### FOR THE FIRST WAVE OF THE EU-SILC LONGITUDINAL COMPONENT

##### 2.1.8.1 Design factor

In case of the individuals at the first wave, the base weight is equal to the cross-sectional weight, and is the same for all the household components. The design weight of each household was given by the inverse of its inclusion probability and was calculated taking into account the population of the stratum, the population and the number of households in the extracted municipalities and the number of extracted households in the municipality.

Let  $p_{ji}$  be the design weight of the generic household  $j$  in the municipality  $i$ :

$$p_{ji} = \frac{1}{\pi_{hi}} = n_h \frac{P_h}{P_{hi}} \frac{M_{hi}}{m_{hi}}$$

where :

$h$  is the stratum index;

$i$  is the municipality index;

$\pi_{hi}$  is the inclusion probability of the households resident in the municipality  $i$  of the stratum  $h$ ;

$n_h$  is the number of sample municipalities in the stratum  $h$ ;  
 $P_h$  is the population resident in the stratum  $h$ ;  
 $P_{hi}$  is the population in the municipality  $i$  of the stratum  $h$ ;  
 $M_{hi}$  is the number of households resident in the municipality  $i$  of the stratum  $h$ ;  
 $m_{hi}$  is the number of sample households in the municipality  $i$  of the stratum  $h$ .

### 2.1.8.2 Non-response adjustments

For the first wave of the longitudinal sample, we observe two different non-response level: individual-level and household-level.

Concerning with the individual-level non-response, the records of the non-respondent individual belonging to respondent households were totally imputed.

Concerning with the non-response adjustment at the household level, the base weights were adjusted by a correction factor for total non-response worked out as the reciprocal of the response ratio for subgroups of households identified by the information we had on the extracted sample (for the households at wave 1). The groups are identified by segmentation obtained with a chi-squared decision tree.

The re-calculated weight  $\hat{p}_{j,k}$  for the generic household  $j$  in the sub-group  $k$  is:

$$\hat{p}_{jk} = p_{jk} \frac{N_{Ek}}{N_{Ok}}$$
 , where  $p_{jk}$  is the design weight,  $N_{Ek}$  is the number of households extracted in the sub-group  $k$ , and  $N_{Ok}$  is the number of respondent households.

The information used are:

territorial domain (NUTS II level), demographic size of the municipalities, number of household components and nationality of the householder (gathered from demographic registers), type of income sources (gathered from fiscal registers).

A first stage of calibration procedure was adopted to assure the same structure as the population of the Labour Force Survey with regard to the education and professional position of the population. This is due to the fact that in Italy the non-response in an income survey is correlated with the position in the labour market (especially for self-employed) and with the education level of the respondents.

### 2.1.8.3 Adjustments to external data (level, variables used and sources)

After the non-response adjustments, the final weights were obtained applying a calibration of the household weights to external data sources (registers). Let  $X_1, X_2 \dots X_p$  denote the external (known) variables

The calibration procedure consists of calculating the household weights  $\psi_j$ , such as:

- The calibrated weights are “not very different” from the weights  $\hat{p}_j$
- The totals  $X_r$  of the calibration variables are exactly estimated by the same totals in the sample obtained with the weights  $\psi$ .

The external known totals regarding the households at the first participation are the following:

For the entering rotational sub-group (db075=4, the one going to complete the first longitudinal sample):

- 1) Distribution of the population by sex and five age-groups at NUTS I level. The age groups are: 0-15, 16-25, 26-45, 46-65, 65+ at the end of the income reference period (year t-1);
- 2) Amount of non-national population at NUTS I level (year t-1).
- 3) Distribution of the population by demographic size of the municipality at Nuts I level (year t-1) (three classes).
- 4) Number of households at NUTS I level at the time of the survey (year t).

For the entire sample (including db075=1, the one not included in the longitudinal sample):

- 1) Distribution of the population by sex and fourteen 5-years age-groups at NUTS I level (year t-1). The age groups are: 0-15, 16-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, 75+ at the end of the income reference period (year t-1);
- 2) Distribution of the population by sex and five age-groups at NUTS II level (year t-1). The age groups are: 0-15, 16-25, 26-45, 46-65, 65+ at the end of the income reference period (year t-1);

- 3) Distribution of non-national population by sex and by UE and non UE distribution at NUTS I level (year t-1).
- 4) Distribution of the population by demographic size of the municipality at Nuts I level (year t-1) (six classes).
- 5) Number of households at NUTS II level at the time of the survey (year t)

#### **2.1.8.4 Final longitudinal weights**

For the first wave (i.e. year=2004) of each panel, the base weight is equal to the cross-sectional weight. We applied an integrative calibration, that means that we used both household and personal variables in the procedure. The calibration is performed at household level using the household variables and the individual variables in their aggregate form as calibration variables. This technique ensures that members in the same household all receive the same weight. A trimming procedure was applied to avoid extreme values of weights.

### **FOR THE SECOND WAVE OF THE EU-SILC LONGITUDINAL COMPONENT**

#### **2.1.8.5 Non-response adjustments**

In the longitudinal component of the survey we observe non-response at individual-level.

Concerning with the non-response adjustment at the individual level, the base weights were adjusted by a correction factor for total non-response worked out as the reciprocal of the response ratio for subgroups of individuals identified by the information gathered from the previous year of survey. The groups are identified by segmentation obtained with a chi-squared decision tree.

The re-calculated weight  $\hat{p}_{j,k}$  for the generic individual  $j$  in the sub-group  $k$  is:

$$\hat{p}_{jk} = p_{jk} \frac{N_{Ek}}{N_{Ok}} \quad , \quad \text{where } p_{jk} \text{ is the base weight of the previous year, } N_{Ek} \text{ is the number of}$$

individuals interviewed in the sub-group  $k$ , and  $N_{Ok}$  is the number of respondent individuals.

The information used to identify the sub-groups are:

territorial domain (NUTS II), demographic size of the municipalities, number of household components, type of income sources, level of household income, nationality, sex, age, education and professional condition of the household components.

#### **2.1.8.6 Adjustments to external data**

No adjustment to external data was applied for the individuals participating not for the first time.

#### **2.1.8.7 Final longitudinal weights**

The longitudinal weight is only at individual level and is equal to the base weight at the first year of participation corrected for non-response.

#### **2.1.8.8 Final household cross-sectional weights**

In case of the households at the second, third or fourth wave, an indirect sampling of households is done through the panel of persons aged 14+ at the time of the panel selection. In this case, the inclusion probabilities cannot be calculated. Then, the solution consists of applying the Weight Share Method. Within a household, each member has been assigned a weight coming from the final cross-sectional weight of the precedent year of survey corrected for unit non-response, except for co-residents from whom the weight is =0. Average of these weights over all the household members (including co-residents) is assigned to each member (including co-residents).

After the non-response adjustments, the final weights were obtained applying a calibration of the household weights to external data sources (registers). Let  $X_1, X_2 \dots X_p$  denote the external (known) variables

The calibration procedure consists of calculating the household weights  $\psi_j$ , such as:

- The calibrated weights are “not very different” from the weights  $\hat{p}_j$
- The totals  $X_r$  of the calibration variables are exactly estimated by the same totals in the sample obtained with the weights  $\psi$ .

The external known totals are the following:

For the entire sample:

- 1) Distribution of the population by sex and fourteen 5-years age-groups at NUTS I level (year t-1). The age groups are: 0-15, 16-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, 75+ at the end of the income reference period (year t-1);
- 2) Distribution of the population by sex and five age-groups at NUTS II level (year t-1). The age groups are: 0-15, 16-25, 26-45, 46-65, 65+ at the end of the income reference period (year t-1);
- 3) Distribution of non-national population by sex and by UE and non UE distribution at NUTS I level (year t-1).
- 4) Distribution of the population by demographic size of the municipality at Nuts I level (year t-1) (six classes).
- 5) Number of households at NUTS II level at the time of the survey (year t).

For the entering rotational sub-group (at first wave):

- 1) Distribution of the population by sex and five age-groups at NUTS I level. The age groups are: 0-15, 16-25, 26-45, 46-65, 65+ at the end of the income reference period (year t-1);
- 2) Amount of non-national population at NUTS I level (year t-1).
- 3) Distribution of the population by demographic size of the municipality at Nuts I level (year t-1) (three classes).
- 4) Number of households at NUTS I level at the time of the survey (year t)

For the other sub-groups:

- 1) Population at NUTS I level (year t-1)
- 2) Number of households at NUTS I level (year t);

#### **2.1.9. Substitutions**

In Italy no substitution of unit non-response has been applied.

## 2.2. Sampling errors

With reference to the cross-sectional component of the survey year 2006 and the longitudinal component of the survey years 2004-2005-2006, standard errors are calculated for the mean of the income components and for the mean of the equivalised disposable income by household size, population age groups, population by sex.

**Table 1. Mean, number of observations and standard errors (cross-sectional component 2006)**

Income components	Mean	Number of observations		Standard error
		Before imputation	After imputation	
Total disposable household income	27731.16	21338	21499	169.47
Total disposable household income before social transfers other than old-age survivors' benefits	26487.51	21248	21499	168.97
Total disposable household including old-age survivors' benefits	19314.62	19911	21499	156.93
<b>Net income components at household level</b>				
Income from rentals of properties or lands	6100.84	1359	1493	346.42
Family/children related allowances	959.39	5634	6132	26.16
Social exclusion	3439.46	84	126	558.16
Housing allowances	1149.18	254	341	102.44
Transfers received	5141.62	905	996	312.62
Interest, dividends, profits	1043.78	8519	9823	51.08
Interest repayments on mortgage	2700.72	2	2429	89.68
Income of people aged less than 16	2633.02	116	154	679.09
Regular taxes on wealth	356.85	13979	14546	5.06
Transfers paid	4075.89	891	964	232.73
Repayments/receipts for tax adjustment	251.78	7809	8456	28.53
<b>Net income components at personal level</b>				
Employee cash or near-cash income	15513.67	18143	18574	139.60
Non cash employee income	1528.95	379	379	107.42
Contributions to individual private pension plan	1670.87	2770	3047	53.76
Cash benefit or losses from self-employment	15956.74	6572	7699	361.76
Pension from individual private plans	4623.79	78	79	766.29
Unemployment benefits	2974.82	3952	4010	109.11
Old-age benefits	12123.88	13261	13272	101.07
Survivor' benefits	6537.91	767	767	350.26
Disability benefits	5723.37	1497	1504	230.34
Education related allowances	3752.36	257	283	430.71
Gross monthly earnings of employees	1687.20	13940	15243	15.53
<i>Subclasses by household size</i>				
1 household member	14998.47	5392	5493	202.79
2 household members	18049.67	6074	6097	328.49
3 household members	18016.45	4519	4544	349.39
4 and more	15666.26	5353	5365	219.36
<b>Population by age group</b>				
<25	14973.36	13518	13601	126.84
25-34	17507.70	7209	7264	209.10
35-44	17015.81	8551	8591	160.82
45-54	17914.21	7353	7406	229.28
55-64	19379.24	6896	6928	228.87
65+	15279.59	10710	10722	141.96
<b>Population by sex</b>				
Male	17130.83	26281	26413	115.83
Female	16170.17	27956	28099	102.38



**Table 1. Mean, number of observations and standard errors (DB075=1)**

Income components	Mean	Number of observations		Standard error
		Before imputation	After imputation	
Total disposable household income	28208.91	5385	5401	323.11
Total disposable household income before social transfers other than old-age survivors' benefits	27038.32	5368	5388	327.86
Total disposable household including old-age survivors' benefits	20847.37	5012	5087	333.27
<b>Net income components at household level</b>				
Income from rentals of properties or lands	7363.89	359	392	813.97
Family/children related allowances	988.12	1449	1596	41.81
Social exclusion	3057.81	29	43	810.65
Housing allowances	1251.83	58	86	226.36
Transfers received	5933.21	240	263	594.78
Interest, dividends, profits	1163.65	2040	2374	151.36
Interest repayments on mortgage	2843.36	0	635	172.20
Income of people aged less than 16	2842.09	28	40	637.87
Regular taxes on wealth	350.81	3561	3720	9.17
Transfers paid	3954.41	220	237	399.19
Repayments/receipts for tax adjustment	254.37	2018	2193	51.64
<b>Net income components at personal level</b>				
Employee cash or near-cash income	15433.25	4571	4677	275.71
Non cash employee income	1486.26	93	93	178.12
Contributions to individual private pension plan	1558.78	654	727	86.31
Cash benefit or losses from self-employment	16720.52	1637	1948	788.71
Pension from individual private plans	3688.24	28	28	891.12
Unemployment benefits	2806.07	1023	1038	180.23
Old-age benefits	12235.78	3332	3336	176.51
Survivor' benefits	6694.36	195	195	611.34
Disability benefits	5701.92	391	392	393.09
Education related allowances	3698.87	76	89	983.32
<i>Subclasses by household size</i>				
1 household member	15145.44	1315	1334	360.75
2 household members	18287.87	1534	1541	621.38
3 household members	18251.82	1156	1161	667.28
4 and more	15943.84	1380	1382	382.75
<b>Population by age group</b>				
<25	15167.3	3504	3527	228.38
25-34	18173.00	1807	1811	469.20
35-44	17198.06	2226	2235	321.92
45-54	18040.09	1829	1843	487.92
55-64	19970.53	1754	1760	462.02
65+	15338.47	2695	2696	234.51
<b>Population by sex</b>				
Male	17393.72	6724	6752	221.10
Female	16468.92	7091	7120	194.27

**Table 1. Mean, number of observations and standard errors (DB075=3)**

Income components	Mean	Number of observations		Standard Error
		Before imputation	After imputation	
Total disposable household income	27761.08	4852	4867	370.59
Total disposable household income before social transfers other than old-age survivors' benefits	26587.00	4829	4848	377.83
Total disposable household including old-age survivors' benefits	20189.03	4545	4613	373.78
<b>Net income components at household level</b>				
Income from rentals of properties or lands	6220.60	290	317	790.45
Family/children related allowances	879.35	1343	1455	37.39
Social exclusion	3149.95	14	28	700.48
Housing allowances	1172.93	50	61	210.99
Transfers received	4589.73	203	225	605.90
Interest, dividends, profits	1052.65	2013	2332	101.02
Interest repayments on mortgage	2296.87	0	599	144.51
Income of people aged less than 16	2603.31	31	42	979.91
Regular taxes on wealth	346.73	3222	3350	10.55
Transfers paid	4290.55	184	202	449.97
Repayments/receipts for tax adjustment	234.03	1807	1933	59.59
<b>Net income components at personal level</b>				
Employee cash or near-cash income	15449.18	4187	4265	294.13
Non cash employee income	1579.16	97	97	217.82
Contributions to individual private pension plan	1750.71	663.00	720	121.39
Cash benefit or losses from self-employment	15732.31	1498	1756	852.07
Pension from individual private plans	7099.50	12	12	2008.77
Unemployment benefits	3276.94	920	928	250.28
Old-age benefits	12070.88	3060	3060	218.21
Survivor' benefits	6156.76	184	184	561.74
Disability benefits	5748.02	369	371	486.28
Education related allowances	3523.22	46	48	564.48
<i>Subclasses by household size</i>				
1 household member	14447.03	1178	1200	403.73
2 household members	18128.61	1397	1402	652.56
3 household members	18374.75	1043	1050	982.91
4 and more	15672.24	1234	1237	508.22
<b>Population by age group</b>				
<25	15190.99	3030	3048	242.08
25-34	17842.86	1703	1724	456.35
35-44	16604.87	1931	1938	267.08
45-54	17853.37	1695	1706	468.66
55-64	19016.25	1593	1600	543.49
65+	14939.94	2495	2498	284.95
<b>Population by sex</b>				
Male	16943.00	6110	6144	223.18
Female	16215.58	6337	6370	219.49

**Table 1. Mean, number of observations and standard errors (DB075=4)**

Income components	Mean	Number of observations		Standard Error
		Before imputation	After imputation	
Total disposable household income	27503.67	4948	4958	401.55
Total disposable household income before social transfers other than old-age survivors' benefits	26325.38	4924	4948	400.49
Total disposable household including old-age survivors' benefits	19735.87	4623	4684	417.27
<b>Net income components at household level</b>				
Income from rentals of properties or lands	4945.23	308	335	539.29
Family/children related allowances	942.88	1253	1378	71.30
Social exclusion	3821.20	13	17	1750.59
Housing allowances	1058.63	62	84	169.34
Transfers received	5230.81	192	215	774.82
Interest, dividends, profits	968.57	2033	2286	67.65
Interest repayments on mortgage	2416.92	0	549	160.42
Income of people aged less than 16	3456.18	30	40	2332.93
Regular taxes on wealth	366.53	3283	3414	10.28
Transfers paid	3648.79	174	195	400.74
Repayments/receipts for tax adjustment	306.84	1823	1964	62.66
<b>Net income components at personal level</b>				
Employee cash or near-cash income	15273.16	4245	4344	337.36
Non cash employee income	1525.11	91	91	220.58
Contributions to individual private pension plan	1717.27	607	673	114.29
Cash benefit or losses from self-employment	16322.33	1548	1791	873.71
Pension from individual private plans	5611.32	9	10	2535.07
Unemployment benefits	3082.00	887	900	256.51
Old-age benefits	12215.78	3094	3094	398.62
Survivor' benefits	6319.15	169	169	583.54
Disability benefits	5888.72	332	332	458.56
Education related allowances	4003.56	46	47	926.57
<i>Subclasses by household size</i>				
1 household member	14919.60	1245	1266	392.42
2 household members	17317.69	1420	1423	632.27
3 household members	18044.12	1025	1028	872.29
4 and more	15727.97	1258	1261	574.71
<b>Population by age group</b>				
<25	14852.01	3133	3147	278.92
25-34	17427.13	1706	1713	412.75
35-44	16497.85	1932	1940	305.55
45-54	18062.03	1705	1714	516.00
55-64	19138.39	1598	1607	483.02
65+	15004.46	2482	2484	378.79
<b>Population by sex</b>				
Male	16947.10	6060	6082	242.71
Female	16019.21	6496	6523	215.91

## 2.3 Non sampling errors

### 2.3.1. Sampling frame and coverage errors

The sampling frame is composed by the registers of the municipalities.

The sample of the households belonging to the first rotational group was extracted in July 2005 and validated within September 2005; while the others households were extracted in June 2004.

The sampling frame is updated in continuous way by the municipalities in interactive modality.

### 2.3.2. Measurement and processing errors

#### 2.3.2.1. Measurement errors

We consider that the following sources of measurement errors are likely to affect the collected data:

1. *respondents*: (i) memory effect, because information is collected according to respondents memories (official documentation about income is not required; external sources of information, as administrative registers, are used when available); (ii) omission, because respondents might not be willing to provide correct information about income or other living conditions; (iii) proxy effect, because in a few cases some individuals are allowed to provide information about other household members;
2. *interviewers*, who might provide the respondents with an incorrect interpretation of the questions, or might mistake when filling the questionnaire. Istat territorial offices are firstly trained and provided with training tools (e.g. instruction manuals, or presentations). Then, they are responsible for the interviewers training: they establish the timing and the duration of the training meetings, as well as provide support during the field work and control for the quality of the interviewers' work. Training strategies have been outlined also on the experience of pilot surveys;
3. *data entry* personnel, who might enter incorrect information, although some automatic controls are implemented in the registration software;
4. *questionnaire*. The final version of the questionnaire, as used in the survey 2006, is based on (i) the first two waves of SILC surveys; (ii) the support of experts working in other research institutes; and (iii) a cognitive laboratory on self-employment. Information is collected through three main questionnaires: the first one collects information about each household member's demographic characteristics, and child care; the second one collects information at household level; the third one collects information at individual level (about individual aged 16 and over).

#### 2.3.2.2. Processing errors

##### *Description of data entry procedure*

Data entry procedure is realised through a software application implemented using Blaise. The procedure contains automatic controls about: range of variable, main routes of questionnaire and any logical controls referred to internal inconsistency of collected information. Every control is set-up like "soft" in order to reduce typing errors.

Furthermore, the procedure provides for "hard" control in order to compare register and questionnaire information about household's composition.

##### *Coding controls*

Coding controls are implemented in post-data-collection-process based on donor method.

##### *Main errors detected in the post data collection process*

Main errors detected are:

- Missing value.
- Value outside acceptance range.
- Incoherence value compared to other information in the same record.

### 2.3.3 Non-response errors

#### 2.3.3.1. Achieved sample size

**Table 1 Number of Households for which an interview is accepted for the database (DB135=1). Longitudinal component by wave.**

	2004	2005	2006
DB075=1 and DB135=1	-	6187	5418
DB075=3 and DB135=1	5998	5245	4889
DB075=4 and DB135=1	6245	5366	4978
<b>Total</b>	12243	16798	15285

**Table 2 Number of persons 16 years or older, number of sample persons (RB100=1) and number of co-residents (RB100=2), who are members of the households for which the interview is accepted for the database (D135=1), and who completed a personal interview (RB250=11 to 13). Longitudinal component by wave.**

		DB135 = 1 and RB250 = 11 to 13		
		2004	2005	2006
DB075=1	RB100 = 1	-	13272	11486
	RB100 = 2	-	-	180
DB075=3	RB100 = 1	12983	11166	10243
	RB100 = 2	-	193	357
DB075=4	RB100 = 1	13297	11247	10334
	RB100 = 2	-	205	309
Total	RB100 = 1	26280	35685	32063
	RB100 = 2	.	398	846
Total		26280	36083	32909

#### 2.3.3.2 Unit non-response

**Table 1.1 Unit non-response, Rotational Group 1 (DB075=1), first wave 2005**

Rotational Group 1, 1 <sup>st</sup> Wave 2005	
TYPE OF RATE	VALUE
RA	0.989
RH	0.826
NRH	18.356
RP	1
NRP	0
NRP_OVERALL	18.356

**Table 1.2 Unit non-response, Rotational Group 3 (DB075=3), first wave 2004**

Rotational Group 3, 1 <sup>st</sup> Wave 2004	
TYPE OF RATE	VALUE
RA	0.987
RH	0.801
NRH	20.881
RP	1
NRP	0
NRP_OVERALL	20.881

**Table 1.3 Unit non-response, Rotational Group 4 (DB075=4), first wave 2004**

Rotational Group 4, 1 <sup>st</sup> Wave 2004	
TYPE OF RATE	VALUE
RA	0.988
RH	0.827
NRH	18.281
RP	1
NRP	0
NRP_OVERALL	18.281

**Table 2 Household response rates by rotational group and wave**

	Rotational Group 1 (DB075=1)	Rotational Group 3 (DB075=3)		Rotational Group 4 (DB075=4)	
	Waves 2005-2006	Waves 2004-2005	Waves 2005-2006	Waves 2004-2005	Waves 2005-2006
WAVE RESPONSE RATE	85.73	85.38	86.16	84.15	85.95
REFUSAL RATE	6.64	6.35	6.51	7.51	6.08
NO-CONTACTED AND OTHERS RATE	6.82	7.60	6.47	7.54	7.11
LONGITUDINAL FOLLOW-UP RATE	90.29	90.25	89.56	88.97	89.30
FOLLOW-UP RATIO	92.47	92.83	91.66	91.19	91.06
ACHIEVED SAMPLE SIZE RATIO	85.73	85.38	91.38	84.15	91.20

**Table 3 Personal interview response rates by rotational group and wave**

	Rotational Group 1 (DB075=1)	Rotational Group 3 (DB075=3)		Rotational Group 4 (DB075=4)	
	Waves 2005-2006	Waves 2004-2005	Waves 2005-2006	Waves 2005-2006	Waves 2004-2005
WAVE RESPONSE RATE OF SAMPLE PERSONS	87.16	86.98	89.72	85.76	90.17
WAVE RESPONSE RATE OF CO-RESIDENTS	NA	NA	NA	NA	NA
LONGITUDINAL FOLLOW-UP RATE	85.80	85.66	88.34	84.54	88.83
RATE (RB205=21, 22, 23, 31, 32, 33)	0	0	0	0	0
ACHIEVED SAMPLE SIZE RATIO FOR SAMPLE PERSONS	85.81	85.22	88.33	83.89	88.91
ACHIEVED SAMPLE SIZE RATIO FOR SAMPLE PERSONS & CO-RESIDENTS	87.15	86.69	89.96	85.42	89.99
ACHIEVED SAMPLE SIZE RATIO FOR CO-RESIDENTS SELECTED IN THE FIRST WAVE	NA	NA	NA	NA	NA
WAVE RESPONSE RATE FOR NON-SAMPLE PERSONS	100.0	100.0	100.0	100.0	100.0

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

**Table 1.1 Distribution of households by DB110, DB120, DB130 and DB135 Rotational Group 1, 2<sup>nd</sup> wave 2006**

Household Status - Rotational Group 1, Wave 2006

	DB110=1	DB110=2	DB110=3	DB110=4	DB110=5	DB110=6	DB110=7	DB110=8	TOTAL
N	5803	194	11	11	36	0	132	157	6344
%	91.5	3.1	0.2	0.2	0.6	0.0	2.1	2.5	100

Record of Contact at Address - Rotational Group 1, Wave 2006

	DB120=11	DB120=21	DB120=22	DB120=23	TOTAL
N	342	1	0	8	351
%	97.4	0.3	0.0	2.3	100

Household Questionnaire Result - Rotational Group 1, Wave 2006

	DB130=11	DB130=21	DB130=22	DB130=23	DB130=24	TOTAL
N	14649	1132	535	147	164	16627
%	88.1	6.8	3.2	0.9	1.0	100

Household Interview Acceptance - Rotational Group 1, Wave 2006

	DB135=1	DB135=2	TOTAL
N	5418	0	5418
%	100	0	100

**Table 1.2 Distribution of households by DB110, DB120, DB130 and DB135  
Rotational Group 3, 2nd wave 2005**

Household Status - Rotational Group 3, Wave 2005

	DB110=1	DB110=2	DB110=3	DB110=4	DB110=5	DB110=6	DB110=7	DB110=8	TOTAL
N	5670	124	13	13	40	0.0	138	172	6170
%	91.9	2.0	0.2	0.2	0.6	0.0	2.2	2.8	100

Record of Contact at Address - Rotational Group 3, Wave 2005

	DB120=11	DB120=21	DB120=22	DB120=23	TOTAL
N	289	1	1	5	296
%	97.6	0.3	0.3	1.7	100

Household Questionnaire Result - Rotational Group 3, Wave 2005

	DB130=11	DB130=21	DB130=22	DB130=23	DB130=24	TOTAL
N	10377	861	375	90	156	11859
%	87.5	7.3	3.2	0.8	1.3	100

Household Interview Acceptance - Rotational Group 3, Wave 2005

	DB135=1	DB135=2	TOTAL
N	5245	0	5245
%	100	0	100

**Table 1.3 Distribution of households by DB110, DB120, DB130 and DB135  
Rotational Group 3, 3<sup>rd</sup> wave 2006**

Household Status - Rotational Group 3, Wave 2006

	DB110=1	DB110=2	DB110=3	DB110=4	DB110=5	DB110=6	DB110=7	DB110=8	TOTAL
N	5193	230	11	4	36	0.0	89	142	5705
%	91.0	4.0	0.2	0.1	0.6	0.0	1.6	2.5	100

Record of Contact at Address - Rotational Group 3, Wave 2006

	DB120=11	DB120=21	DB120=22	DB120=23	TOTAL
N	368	0.0	2	2	372
%	98.9	0.0	0.5	0.5	100

Household Questionnaire Result - Rotational Group 3, Wave 2006

	DB130=11	DB130=21	DB130=22	DB130=23	DB130=24	TOTAL
N	14667	1142	530	147	167	16653
%	88.1	6.9	3.2	0.9	1.0	100

Household Interview Acceptance - Rotational Group 3, Wave 2006

	DB135=1	DB135=2	TOTAL
N	4889	0	4889
%	100	0	100



**Table 1.4 Distribution of households by DB110, DB120, DB130 and DB135  
Rotational Group 4, 2<sup>nd</sup> wave 2005**

Household Status - Rotational Group 4, Wave 2005

	DB110=1	DB110=2	DB110=3	DB110=4	DB110=5	DB110=6	DB110=7	DB110=8	TOTAL
N	5900	125	26	16	41	5	132	155	6400
%	92.2	2.0	0.4	0.3	0.6	0.1	2.1	2.4	100

Record of Contact at Address - Rotational Group 4, Wave 2005

	Missing	DB120=11	DB120=21	DB120=22	DB120=23	TOTAL
N	1	271	2	1	5	280
%	0.4	96.8	0.7	0.4	1.8	100

Household Questionnaire Result - Rotational Group 4, Wave 2005

	DB130=11	DB130=21	DB130=22	DB130=23	DB130=24	TOTAL
N	10366	856	374	91	154	11841
%	87.5	7.2	3.2	0.8	1.3	100

Household Interview Acceptance - Rotational Group 4, Wave 2005

	DB135=1	DB135=2	TOTAL
N	5366	0	5366
%	100	0	100

**Table 1.5 Distribution of households by DB110, DB120, DB130 and DB135  
Rotational Group 4, 3<sup>rd</sup> wave 2006**

Household Status - Rotational Group 4, Wave 2006

	DB110=1	DB110=2	DB110=3	DB110=4	DB110=5	DB110=6	DB110=7	DB110=8	TOTAL
N	5289	226	13	6	43	0.0	117	117	5811
%	91.0	3.9	0.2	0.1	0.7	0.0	2.0	2.0	100

Record of Contact at Address - Rotational Group 4, Wave 2006

	DB120=11	DB120=21	DB120=22	DB120=23	TOTAL
N	339	0.0	0.0	4	343
%	98.8	0.0	0.0	1.2	100

Household Questionnaire Result - Rotational Group 4, Wave 2006

	DB130=11	DB130=21	DB130=22	DB130=23	DB130=24	TOTAL
N	14651	1132	528	147	166	16624
%	88.1	6.8	3.2	0.9	1.0	100

Household Interview Acceptance - Rotational Group 4, Wave 2006

	DB135=1	DB135=2	TOTAL
N	4978	0	4978
%	100	0	100

### 2.3.3.4 Distribution of persons for membership status

**Table 1.1 Distribution of persons for membership status (RB110)  
Rotational Group 1, 2<sup>nd</sup> wave 2006**

	Current Household Member				No Current Household Member			TOTAL
	RB110=1	RB110=2	RB110=3	RB110=4	RB120=2-4	RB110=6	RB110=7	
N	13416	132	245	79	16	70	4	13888
%	96.6	1.0	1.8	0.6	0.1	0.5	0.0	100

**Table 1.2 Distribution of persons for membership status (RB110)  
Rotational Group 3, 2<sup>nd</sup> wave 2005**

	Current Household Member				No Current Household Member			TOTAL
	RB110=1	RB110=2	RB110=3	RB110=4	RB120=2-4	RB110=6	RB110=7	
N	12940	141	271	63	55	73	5	13470
%	96.1	1.0	2.0	0.5	0.4	0.5	0.0	100

**Table 1.3 Distribution of persons for membership status (RB110)  
Rotational Group 3, 3<sup>rd</sup> wave 2006**

	Current Household Member				No Current Household Member			TOTAL
	RB110=1	RB110=2	RB110=3	RB110=4	RB120=2-4	RB110=6	RB110=7	
N	12042	125	279	68	18	62	21	12532
%	96.1	1.0	2.2	0.5	0.1	0.5	0.2	100

**Table 1.4 Distribution of persons for membership status (RB110)  
Rotational Group 4, 2<sup>nd</sup> wave 2005**

	Current Household Member				No Current Household Member			TOTAL
	RB110=1	RB110=2	RB110=3	RB110=4	RB120=2-4	RB110=6	RB110=7	
N	13105	131	266	72	56	76	5	13630
%	96.1	1.0	2.0	0.5	0.4	0.6	0.0	100

**Table 1.5 Distribution of persons for membership status (RB110)  
Rotational Group 4, 3<sup>rd</sup> wave 2006**

	Current Household Member				No Current Household Member			TOTAL
	RB110=1	RB110=2	RB110=3	RB110=4	RB120=2-4	RB110=6	RB110=7	
N	12200	118	221	66	21	59	11	12626
%	96.6	0.9	1.8	0.5	0.2	0.5	0.1	100

**Table 2.1 Distribution of persons moving out by variable RB120  
Rotational Group 1, 2<sup>nd</sup> wave 2006**

	RB110=5				TOTAL
	RB120=1	RB120=2	RB120=3	RB120=4	
N	230	3	13	0	246
%	93.5	1.2	5.3	0.0	100

**Table 2.2 Distribution of persons moving out by variable RB120  
Rotational Group 3, 2<sup>nd</sup> wave 2005**

	RB110=5				TOTAL
	RB120=1	RB120=2	RB120=3	RB120=4	
N	204	6	49	0	259
%	78.8	2.3	18.9	0.0	100

**Table 2.3 Distribution of persons moving out by variable RB120  
Rotational Group 3, 3<sup>rd</sup> wave 2006**

	RB110=5				TOTAL
	RB120=1	RB120=2	RB120=3	RB120=4	
N	188	6	12	0	206
%	91.3	2.9	5.8	0.0	100

**Table 2.4 Distribution of persons moving out by variable RB120  
Rotational Group 4, 2<sup>nd</sup> wave 2005**

	RB110=5				TOTAL
	RB120=1	RB120=2	RB120=3	RB120=4	
N	202	5	51	0	258
%	78.3	1.9	19.8	0.0	100

**Table 2.5 Distribution of persons moving out by variable RB120  
Rotational Group 4, 3<sup>rd</sup> wave 2006**

	RB110=5				TOTAL
	RB120=1	RB120=2	RB120=3	RB120=4	
N	194	5	16	0	215
%	90.2	2.3	7.4	0.0	100

### 2.3.3.5 Item Non-response

**Table 1.1 Item non-response for income variables at household level.  
Every available wave of the longitudinal component**

Item Non-response	2004			2005			2006		
	(A)	(B)	(C)	(A)	(B)	(C)	(A)	(B)	(C)
Total disposable household income	99.59	1.32	56.22	99.64	0.79	63.01	99.61	0.27	39.35
Total disposable household income before social transfers other than old-age and survivors' benefits	99.19	2.09	53.04	99.32	0.91	60.24	99.34	0.41	37.33
Total disposable household income including old-age and survivors' benefits	93.92	3.88	51.18	93.98	1.93	43.67	94.11	1.33	36.35
<i>Net income components at household level</i>									
Income from rentals of properties or lands	7.09	1.54	0.37	7.14	0.57	0.11	6.83	0.57	0.22
Family/children related allowances	27.71	2.39	0.93	27.71	1.93	0.94	28.98	2.51	0.67
Social exclusion	1.14	1.14	0.00	0.91	0.14	0.00	0.58	0.21	0.00
Housing allowances	1.59	1.59	0.00	1.80	0.51	0.07	1.51	0.40	0.02
Transfers received	4.90	0.98	0.04	4.40	0.46	0.06	4.60	0.44	0.05
Interest, dividends, Profits	50.76	12.64	2.11	49.24	11.17	2.02	45.74	5.93	1.96
Interest repayments on mortgage	11.24	11.24	2.11	11.48	10.97	0.10	11.67	11.67	0.00
Income of people aged less than 16	0.70	0.27	0.10	0.77	0.14	0.07	0.80	0.22	0.02
Regular taxes on wealth	66.21	3.88	2.78	67.31	2.49	1.36	68.59	2.73	1.26
Transfers paid	4.47	0.56	0.01	4.33	0.32	0.01	4.15	0.37	0.03
Repayments/receipts for tax adjustment	40.96	3.93	1.58	42.29	3.7	1.51	39.84	2.89	1.13

- (A) % of households having received an amount  
 (B) % of households with missing values (before imp.)  
 (C) % of households with partial information (before imp.)

**Table 1.2 Item non-response for income variables at personal level.  
Every available wave of the longitudinal component**

Item Non-Response	2004			2005			2006		
	(A)	(B)	(C)	(A)	(B)	(C)	(A)	(B)	(C)
<i>Net income components at personal level</i>									
Employee cash or near-cash income	40.24	10.67	11.51	39.65	5.10	8.78	40.37	0.86	11.06
Non cash employee incombe	0.81	0.00	0.00	0.98	0.00	0.00	0.85	0.00	0.00
Contributions to individual private pension plan	8.15	1.00	0.00	7.57	0.96	0.00	6.44	0.60	0.00
Cash benefit or losses from self-employment	17.61	3.76	0.06	18.17	4.03	0.13	16.70	2.47	0.38
Pension from individual private plans	0.36	0.00	0.00	0.23	0.11	0.01	0.15	0.00	0.00
Unemployment benefits	8.54	0.34	0.09	8.72	0.43	1.04	8.71	0.11	0.03
Old-age benefits	28.23	0.07	0.05	28.16	1.15	11.40	28.84	0.01	0.03
Survivor' benefits	1.80	0.00	0.00	1.69	0.06	0.39	1.67	0.00	0.00
Disability benefits	3.42	0.01	0.00	3.27	0.27	0.68	3.33	0.01	0.00
Education related allowances	0.66	0.13	0.00	0.62	0.06	0.00	0.56	0.05	0.00

- (A) % of households having received an amount  
 (B) % of households with missing values (before imp.)  
 (C) % of households with partial information (before imp.)

## 2.4. Mode of data collection

**Table 1.1 The distribution of household member by RB250 and Rotational Group (DB075) Wave 2004**

Household Members 16+ (RB245= 1 to 3), Wave 2004

		RB250=11	Total
DB075=3	N	12983	12983
	%	100	100
DB075=4	N	13297	13297
	%	100	100
Total	N	26280	26280
	%	100	100

Note: in 2004 all Household Members 16+ are defined as Sample Persons

**Table 1.2 The distribution of household member by RB250 and Rotational Group (DB075) Wave 2005**

Household Members 16+ (RB245= 1 to 3), Wave 2005

		RB250=11	Total
DB075=1	N	13272	13272
	%	100	100
DB075=3	N	11359	11359
	%	100	100
DB075=4	N	11452	11452
	%	100	100
Total	N	36083	36083
	%	100	100

Sample Persons 16+ (RB245= 1 to 3 and RB100=1), Wave 2005

		RB250=11	Total
DB075=1	N	13272	13272
	%	100	100
DB075=3	N	11166	11166
	%	100	100
DB075=4	N	11247	11247
	%	100	100
Total	N	35685	35685
	%	100	100

Co-residents 16+ (RB245= 1 to 3 and RB100=2), Wave, 2005

		RB250=11	Total
DB075=1	N	0	0
	%	-	-
DB075=3	N	193	193
	%	100	100
DB075=4	N	205	205
	%	100	100
Total	N	398	398
	%	100	100

**Table 1.3 The distribution of household member by RB250 and Rotational Group (DB075) Wave 2006**

Household Members 16+ (RB245= 1 to 3), Wave 2006

		RB250=11	Total
DB075=1	N	11666	11666
	%	100	100
DB075=3	N	10600	10600
	%	100	100
DB075=4	N	10643	10643
	%	100	100
Total	N	32909	32909
	%	100	100

Sample Persons 16+ (RB245= 1 to 3 and RB100=1), Wave 2006

		RB250=11	Total
DB075=1	N	11486	11486
	%	100	100
DB075=3	N	10243	10243
	%	100	100
DB075=4	N	10334	10334
	%	100	100
Total	N	32063	32063
	%	100	100

Co-residents 16+ (RB245= 1 to 3 and RB100=2), Wave, 2006

		RB250=11	Total
DB075=1	N	180	180
	%	100	100
DB075=3	N	357	357
	%	100	100
DB075=4	N	309	309
	%	100	100
Total	N	846	846
	%	100	100

**Table 2.1 The distribution of household member by RB260 and Rotational Group (DB075) Wave 2004**

Household Members 16+ (RB245=1 to 3) and RB250 in 11 or 13 Wave, 2004

		RB260=.	RB260=1	RB260=5	Total
		Missing	Face to face interview-PAPI	Proxy interview	
DB075=3	N	611	10422	1950	12983
	%	4.71	80.27	15.02	100
DB075=4	N	570	10642	2085	13297
	%	4.29	80.03	15.68	100
Total	N	1181	21064	4035	26280
	%	4.49	80.15	15.35	100

Note: in 2004 all Household Members 16+ are defined as Sample Persons

**Table 2.2 The distribution of household member by RB260 and Rotational Group (DB075) Wave 2005**

Household Members 16+ (RB245=1 to 3) and RB250 in 11 or 13 Wave, 2005

		RB260=.	RB260=1	RB260=5	
		Missing	Face to face interview-PAPI	Proxy interview	Total
DB075=1	N	238	11091	1943	13272
	%	1.79	83.57	14.64	100
DB075=3	N	125	9367	1867	11359
	%	1.1	82.46	16.44	100
DB075=4	N	118	9419	1915	11452
	%	1.03	82.25	16.72	100
Total	N	481	29877	5725	36083
	%	1.33	82.80	15.87	100

Sample Persons 16+ (RB245=1 to 3 and RB100=1) and RB250 in 11 or 13 Wave, 2005

		RB260=.	RB260=1	RB260=5	
		Missing	Face to face interview-PAPI	Proxy interview	Total
DB075=1	N	238	11091	1943	13272
	%	1.79	83.57	14.64	100
DB075=3	N	109	9240	1817	11166
	%	0.98	82.75	16.27	100
DB075=4	N	105	9279	1863	11247
	%	0.93	82.5	16.56	100
Total	N	452	29610	5623	35685
	%	1.27	82.59	16.14	100

Co-residents 16+ (RB245=1 to 3 and RB100=2) and RB250 in 11 or 13 Wave, 2005

		RB260=.	RB260=1	RB260=5	
		Missing	Face to face interview-PAPI	Proxy interview	Total
DB075=1	N	0	0	0	0
	%	-	-	-	-
DB075=3	N	16	127	50	193
	%	8.29	65.8	25.91	100
DB075=4	N	13	140	52	205
	%	6.34	68.29	25.37	100
Total	N	29	267	102	398
	%	7.29	67.09	25.63	100

**Table 2.3 The distribution of household member by RB260 and Rotational Group (DB075) Wave 2006**

Household Members 16+ (RB245=1 to 3) and RB250 in 11 or 13 Wave, 2006

		RB260=.	RB260=1	RB260=5	
		Missing	Face to face interview-PAPI	Proxy interview	Total
DB075=1	N	152	9694	1820	11666
	%	1.3	83.1	15.6	100
DB075=3	N	146	8888	1566	10600
	%	1.38	83.85	14.77	100
DB075=4	N	111	8810	1722	10643
	%	1.04	82.78	16.18	100
Total	N	409	27392	5108	32909
	%	1.24	83.24	15.52	100

Sample Persons 16+ (RB245=1 to 3 and RB100=1) and RB250 in 11 or 13 Wave, 2006

		RB260=.	RB260=1	RB260=5	
		Missing	Face to face interview-PAPI	Proxy interview	Total
DB075=1	N	148	9551	1787	11486
	%	1.29	83.15	15.56	100
DB075=3	N	129	8643	1471	10243
	%	1.26	84.38	14.36	100
DB075=4	N	100	8600	1634	10334
	%	0.97	83.22	15.81	100
Total	N	377	26794	4892	32063
	%	1.18	83.57	15.26	100

Co-residents 16+ (RB245=1 to 3 and RB100=2) and RB250 in 11 or 13 Wave, 2006

		RB260=.	RB260=1	RB260=5	
		Missing	Face to face interview-PAPI	Proxy interview	Total
DB075=1	N	4	143	33	180
	%	2.22	79.44	18.33	100
DB075=3	N	17	245	95	357
	%	4.76	68.63	26.61	100
DB075=4	N	11	210	88	309
	%	3.56	67.96	28.48	100
Total	N	32	598	216	846
	%	3.78	70.69	25.53	100



## **2.5. Imputation procedure**

The imputation procedure for each quantitative variable is implemented by using the IMPUTE module of the software Iweware, as recommended by EUROSTAT.

The imputation procedure for the qualitative variables is based on a 'hot deck' stochastic technique that imputes each missing or inconsistent answer by replacing it with a correct value, taken from the 'nearest donor' (i.e. from a record randomly selected within a group of statistical units similar to the one that presents missing or erroneous answers). In a preliminary step, a set of explicit consistency rules is used to check for logical inconsistencies between the reported answers. The set is then expanded by using the Fellegy-Holt algorithm, in order to account for all the implicit rules (i.e. those logically implied by the explicit ones).

## **2.6. Imputed rent**

Not available before 2007.

## **2.7. Company cars**

The monetary value of company cars is taken from the tables published in the Italian Automobile Club (ACI) for tax purposes. The ACI values are econometric estimates of the user cost.

### 3. COMPARABILITY

#### 3.1. Basic concepts and definitions

The national concepts used, **the differences between the national concepts and standard EU-SILC concepts**, and an assessment, **if available**, of the consequences of the differences mentioned.

- The reference population: same definition as standard EU-SILC;
- the private household definition: in accordance with the Commission Regulation (EC) N° 1980/2003 (Annex I, paragraph 1.1), that allow to the Member States for using the common household definition defined in their own national statistical system, in EU-SILC Italy uses the following Italian household definition: *“cohabitants related through marriage, kinship, affinity, adoption, patronage and affection”*;
- the household membership: the Italian EU-SILC does not include live-in domestic personnel, au pairs. Concerning these persons, only some socio-demographic information are collected (date of birth, sex, marital status, duration of stay in the household). The number of these persons included in the sample was 35 (0,1% with respect to the total number of households and 0,06% w.r.t. interviewed individuals).
- the income reference period(s) used: same definition as standard EU-SILC;
- the period for taxes on income and social insurance contributions: *no income taxes and social security contributions at source available in the Italian EU-SILC before 2007*;
- the reference period for taxes on wealth: same definition as standard EU-SILC;
- the lag between the income reference period and current variables: *in the Italian EU-SILC 2004 current period is about 10 months after the end of the income reference period*;
- the total duration of the data collection of the sample: *2 months, starting from the transmission of questionnaires to interviewers until their return back*.
- basic information on activity status during the income reference period: same to the standard EU-SILC concept;

## 3.2. Components of income

### 3.2.1. Differences between the national definitions and standard EU-SILC definitions, and an assessment, if available, of the consequences of the differences mentioned will be reported for the following target variables:

- total household gross income: same definition as standard EU-SILC;
- total disposable household income: same definition as standard EU-SILC;
- total disposable household income, before social transfers other than old-age and survivors' benefits: same definition as standard EU-SILC;
- total disposable household income, before social transfers including old-age and survivors' benefits: same definition as standard EU-SILC;
- imputed rent: *not available before 2007*;
- income from rental of property or land: same definition as standard EU-SILC;
- family/children-related allowances: same definition as standard EU-SILC;
- social exclusion payments not elsewhere classified: same definition as standard EU-SILC;
- housing allowances: same definition as standard EU-SILC;
- regular inter-household cash transfers received: same definition as standard EU-SILC;
- interest, dividends, profit from capital investments in unincorporated businesses: same definition as standard EU-SILC;
- interest paid on mortgages: *not available before 2007*;
- income received by people aged under 16: same definition as standard EU-SILC;
- regular taxes on wealth: same definition as standard EU-SILC;
- regular inter-household transfers paid: same definition as standard EU-SILC;
- tax on income and social insurance contributions: *not available before 2007*;
- repayments/receipts for tax adjustments: *repayments/receipts for tax adjustments are those paid in the  $n+1$  year, where  $n$  is the income reference period. This is consistent with the (optional) definition of taxes as 'taxes due on the incomes of the reference period'. An accurate assessment of the differences between the two tax concepts will be feasible after 2008, when it is possible to compare the total taxes due on the incomes of the reference period with the total taxes paid during the same period for the individuals included in the first two-year panel.*
- cash or near-cash employee income: same definition as standard EU-SILC;
- non-cash employee income: *the value of the company car for personal use is the user's cost estimated by the ACI (Automobile Club Italiano)*;
- employers' social insurance contributions: *not available*;
- cash profits or losses from self-employment (including royalties): *the standard procedure requires to collect the amount of money drawn out of self-employment activity only when the profit/loss resulting from accounting books or the taxable self-employment income (net of corresponding taxes) are not available. For the Italian EU-SILC, both administrative and survey micro-data are available, through an exact matching of tax and sample records. The income from self-employment is set equal to the maximum value between: (i) the (net) self-employment income resulting from the Tax Report and (ii) the (net) self-employment income reported by the interviewee. In the questionnaire, the self-employment income question is preceded by a 'reminder question' that provides a YES/NO list of the possible personal uses of earnings (consumption and saving). This departure from the standard definition is adopted in order to minimise either tax avoidance in the administrative data or under-reporting in the survey data, depending on which of the two is greater. With respect to the standard one, the procedure adopted for the Italian EU-SILC leads to more comparable data, under the assumption that other countries' self-employment incomes are not underestimated*;
- value of goods produced for own consumption: *not available before 2007*;
- unemployment benefits: same definition as standard EU-SILC;
- old-age benefits: same definition as standard EU-SILC;
- survivors' benefits: same definition as standard EU-SILC;
- sickness benefits, *paid sickness leaves of employees are included in the dependent employment incomes; the same holds true for self-employed*;
- disability benefits: same definition as standard EU-SILC;
- education-related allowances: same definition as standard EU-SILC;
- gross monthly earnings for employees: same definition as standard EU-SILC;

**3.2.2. The source or procedure used for the collection of income variables** *Paper and pencil interviews (PAPI) for all income variables, including the money drawn out of business by the self-employed. Administrative data have been linked to sample data and used for checking pensions and self-employment incomes.*

**3.2.3. The form in which income variables at component level have been obtained (e.g. gross, net of taxes on income at source and social contributions, net of tax on income at source, net of social contributions):** *all income variables at component level are net of taxes and social security contribution at source;*

**3.2.4. The method used for obtaining income target variables in the required form (i.e. as gross values):** *gross values not available before 2007;*

### **3.3. Tracing rules**

They were adopted the standard EUSILC tracing rules.