

**FINAL QUALITY REPORT  
LONGITUDINAL SURVEY  
2007-2008-2009-2010**

**ITALY**

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

The at-persistent-risk-of-poverty rate is defined as the percentage of persons with an equivalised disposable income below the respective at-risk-of-poverty threshold in the last wave and at least twice in the previous three years, and is estimated using Eurostat's program.

Table 1. At-persistent-risk-of-poverty by age and sex

		Threshohold = 60% median	Threshohold = 50% median
Age	Sex	%	%
0-17	T	14.9	7.8
	M	14.2	7.5
	F	15.5	8.1
18-64	T	10.0	5.3
	M	9.0	4.9
	F	11.0	5.7
65+	T	14.1	6.7
	M	9.5	4.8
	F	17.5	8.1
TOTAL	T	11.6	6.0
	M	9.9	5.3
	F	13.3	6.6

## 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.

**Table 1. Sampling unites by rotational group**

DB075	Sample size (number of SSU)	Number of PSU	Number of SSU (Total)	Average number of SSU for each PSU
1	<=25	95	1346	14.17
1	26-50	182	5252	28.86
1	51-75	3	185	61.67
1	76-100	2	175	87.50
1	101-250	4	589	147.25
1	>=251	1	432	432.00
1	Total	287	7979	27.80
3	<=25	95	1346	14.17
3	26-50	182	5250	28.85
3	51-75	3	185	61.67
3	76-100	2	175	87.50
3	101-250	4	589	147.25
3	>=251	1	432	432.00
3	Total	287	7977	27.79
4	<=25	95	1346	14.17
4	26-50	183	5293	28.92
4	51-75	3	185	61.67
4	76-100	2	174	87.00
4	101-250	4	589	147.25
4	>=251	1	432	432.00
4	Total	288	8019	27.84

#### 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,  $T(c) = 0.25 \cdot T(\text{reg}) + 0.75 \cdot T(\text{mr})$ , 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. Deft by rotational group

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>

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 individuals at the first wave, the base weight is equal to the household cross-sectional weight. 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. In every stratum only one municipality is extracted.

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

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

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  $h$ ;

$P_h$  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 individuals belonging to respondent households were totally imputed.

Concerning with the non-response adjustment at household level, the base weights were adjusted through a correction factor for total non-response worked out as the reciprocal of the response probability obtained through a logistic model. The model uses information on the extracted sample available from registers (for the households at wave 1).

The re-calculated weight  $\hat{p}_j$  for the generic household  $j$  is:

$$\hat{p}_j = p_j \frac{1}{\gamma_j}, \text{ where } p_j \text{ is the design weight and } \gamma_j \text{ is the probability to participate the survey.}$$

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).

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 non-response in an income survey is highly correlated with the labour market condition (especially for self-employed) and with the educational 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:

- 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:

- 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 of each panel, the base weight is equal to the cross-sectional weight. We applied an integrative calibration, hence the procedure used both household and personal variables. 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 are adjusted through a correction factor for total non-response worked out as the reciprocal of the response probability identified through a logistic regression model; the model uses information gathered from the previous year of survey.

The re-calculated weight  $\hat{p}_j$  for the generic individual  $j$ :

$\hat{p}_j = p_j \frac{1}{\gamma_j}$ , where  $p_j$  is the base weight of the previous year and  $\gamma_j$  is the probability to participate the survey.

The information used:

territorial domain (NUTS II), demographic size of the municipalities, number of household members, nationality, sex, age, education and professional condition of the household members.

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

No adjustment to external data is 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 previous year of survey corrected for unit non-response, except for co-residents for 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 are 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 at NUTS I level by sex; by UE and non UE distribution; by age in two classes: 0-17, 18+ at the end of the income reference period (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 distinct in two classes: 0-17, 18+ at the end of the income reference period (year t-1). (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 2010 -, standard errors are calculated for the mean of the Income components (listed in Table 1) and for the mean of the Equivalised disposable income by household size, population age groups, population by sex (see Table 1).

Table 1. Mean, number of observations and standard errors(cross-sectional component 2010)

Income components	Mean	Number of observations		Standard Error
		Before imputation	After imputation	
Total household gross income	39535.84	18997	19147	301.01
Total disposable household income	29765.68	18986	19147	189.01
Total disposable household income before social transfers other than old-age survivors' benefits	28203.30	18875	19147	188.12
Total disposable household including old-age survivors' benefits	20179.45	17470	19147	183.83
<b>Net income components at household level</b>				
Income from rentals of properties or lands	6046.42	761	1736	279.95
Family/children related allowances	1127.59	4625	5058	23.08
Social exclusion	2192.79	556	595	266.73
Housing allowances	996.50	411	457	74.95
Transfers received	4639.60	914	1012	269.79
Interest, dividends, profits	927.22	7575	10593	21.10
Interest repayments on mortgage	3017.03	0	2580	92.44
Income of people aged less than 16	2624.81	119	139	357.08
Regular taxes on wealth	365.12	2799	7103	8.06
Transfers paid	3784.14	772	881	202.38
Repayments/receipts for tax adjustment	-396.73	12919	12948	0.00
<b>Gross income components at household level</b>				
Income from rentals of properties or lands	8178.88	761	1736	403.38
Family/children related allowances	1127.59	4625	5058	23.08
Social exclusion	2192.79	556	595	266.73
Housing allowances	996.50	411	457	74.95
Transfers received	4639.60	914	1012	269.79
Interest, dividends, profits	1204.65	7575	10593	21.10
Interest repayments on mortgage	3017.03	0	2580	92.44
Income of people aged less than 16	2624.81	119	139	357.08
Regular taxes on wealth	365.12	2799	7103	8.06
Transfers paid	3784.12	772	881	202.38

Table 1 (Follows). Mean, number of observations and standard errors(cross-sectional component 2010)

2016)

Income components	Mean	Number of observations		Standard Error
		Before imputation	After imputation	
Net income components at personal level				
Employee cash or near-cash income	15900.01	16045	16402	135.47
Non cash employee income	1349.36	1816	4295	33.32
Contributions to individual private pension plan	1771.99	1862	2142	74.76
Cash benefit or losses from self-employment	17890.43	4754	6589	500.22
Pension from individual private plans	5872.71	78	79	1465.01
Unemployment benefits	3412.73	4110	4318	110.13
Old-age benefits	13363.47	12019	12046	97.69
Survivor' benefits	7112.35	700	722	431.86
Disability benefits	6174.94	1303	1312	244.28
Education related allowances	4274.49	185	200	638.61
Gross income components at personal level				
Employee cash or near-cash income	21973.60	16292	16402	206.77
Non cash employee income	1736.46	1816	4295	44.09
Contributions to individual private pension plan	1771.99	1862	2142	74.76
Cash benefit or losses from self-employment	25860.23	6470	6589	784.60
Pension from individual private plans	8241.00	79	79	2296.11
Unemployment benefits	4022.65	4213	4318	130.29
Old-age benefits	16091.73	12030	12046	137.26
Survivor' benefits	8266.60	722	722	495.33
Disability benefits	6709.86	1303	1312	272.76
Education related allowances	4274.49	185	200	638.61
Equivalised disposable income				
Subclasses by household size				
1 household member	17143.88	5050	5144	233.84
2 household members	19822.08	5404	5432	342.72
3 household members	19164.22	4143	4164	335.37
4 and more	16960.49	4389	4407	316.99
Population by age group				
<25	16028.34	11506	11602	174.71
25-34	18470.61	5545	5580	174.36
35-44	18050.18	7344	7412	187.00
45-54	19496.95	6996	7053	236.11
55-64	21670.40	6028	6052	248.13
65+	17346.66	9841	9852	145.71
Population by sex				
Male	18661.03	22837	22964	119.06
Female	17607.72	24423	24587	105.82

With reference to the component of the survey - year 2007-2008-2009-2010, DB075=3, standard errors are calculated for the mean of the Income components (listed in Table 1) and for the mean of the Equivalised disposable income by household size, population age groups, population by sex (see Table 2).

Table 2. Mean, number of observations and standard errors (DB075 = 3)

Income components	Mean	Number of observations		Standard Error
		Before imputation	After imputation	
Total household gross income	40558.76	4326	4333	721.95
Total disposable household income	30464.8	4324	4335	428.64
Total disposable household income before social transfers other than old-age survivors' benefits	29005.04	4299	4315	440.59
Total disposable household including old-age survivors' benefits	21922.14	3950	4042	479.00
<b>Net income components at household level</b>				
Income from rentals of properties or lands	7008.74	181	369	652.93
Family/children related allowances	1042.87	1252	1323	41.41
Social exclusion	1449.74	145	154	302.33
Housing allowances	849.17	89	101	124.28
Transfers received	5243.68	201	215	523.95
Interest, dividends, profits	991.02	1717	2324	72.33
Interest repayments on mortgage	2765.84	0	566	139.32
Income of people aged less than 16	2950.65	31	37	472.84
Regular taxes on wealth	379.85	608	1611	16.72
Transfers paid	4021.25	162	181	397.42
Repayments/receipts for tax adjustment	-331.39	2925	2933	0.00
<b>Gross income components at household level</b>				
Income from rentals of properties or lands	9652.28	181	369	957.99
Family/children related allowances	1042.87	1252	1323	41.41
Social exclusion	1449.74	145	154	302.33
Housing allowances	849.17	89	101	124.28
Transfers received	5243.68	201	215	523.95
Interest, dividends, profits	1283.8	1717	2324	87.84
Interest repayments on mortgage	2765.84	0	566	139.32
Income of people aged less than 16	2950.65	31	37	472.84
Regular taxes on wealth	379.85	608	1611	16.72
Transfers paid	4021.25	162	181	397.42

Table 2 (Follows). Mean, number of observations and standard errors (DB075 = 3)

Income components	Mean	Number of observations		Standard Error
		Before imputation	After imputation	
Net income components at personal level				
Employee cash or near-cash income	16093.74	3717	3767	260.88
Non cash employee income	1302.37	392	976	61.11
Contributions to individual private pension plan	1692.71	376	427	120.96
Cash benefit or losses from self-employment	18733.93	1079	1496	1064.65
Pension from individual private plans	7776.82	18	18	11566.70
Unemployment benefits	3504.78	933	968	197.25
Old-age benefits	13072.06	2786	2792	194.51
Survivor' benefits	8046.45	187	191	994.62
Disability benefits	6100.83	352	354	498.32
Education related allowances	3371.32	42	42	1911.37
Gross income components at personal level				
Employee cash or near-cash income	22187.11	3756	3767	401.36
Non cash employee income	1674.36	392	976	81.93
Contributions to individual private pension plan	1692.71	376	427	120.96
Cash benefit or losses from self-employment	27219.38	1477	1496	1697.40
Pension from individual private plans	11213.61	18	18	19443.50
Unemployment benefits	4132.71	952	968	236.06
Old-age benefits	15681.82	2789	2792	273.65
Survivor' benefits	9264.75	191	191	1117.98
Disability benefits	6711.95	352	354	575.08
Education related allowances	3371.32	42	42	1911.37
Equivalised disposable income				
Subclasses by household size				
1 household member	17143.39	1138	1152	423.44
2 household members	19375.51	1209	1217	744.60
3 household members	20589.56	947	949	731.55
4 and more	17598.69	1030	1035	733.51
Population by age group				
<25	16736.01	2626	2645	389.78
25-34	17670.83	1633	1641	312.42
35-44	20484.66	1624	1639	538.13
45-54	22337.47	1421	1430	660.52
55-64	19117.89	1265	1269	320.03
65+	17260.18	2299	2301	260.46
Population by sex				
Male	19225.98	5220	5243	248.21
Female	17845.43	5648	5682	228.60

With reference to the component of the survey - year 2008-2009-2010, DB075=4, standard errors are calculated for the mean of the Income components (listed in Table B) and for the mean of the Equivalised disposable income by household size, population age groups, population by sex (see Table 3).

Table 3. Mean, number of observations and standard errors (DB075 = 4)

Income components	Mean	Number of observations		Standard Error
		Before imputation	After imputation	
Total household gross income	40942.38	4670	4684	890.99
Total disposable household income	30754.69	4674	4690	582.37
Total disposable household income before social transfers other than old-age survivors' benefits	29314.17	4646	4674	587.54
Total disposable household including old-age survivors' benefits	21849.62	4310	4425	605.13
<b>Net income components at household level</b>				
Income from rentals of properties or lands	6006.24	180	449	535.65
Family/children related allowances	1061.89	1240	1349	50.90
Social exclusion	2701.79	153	165	559.64
Housing allowances	954.36	102	115	117.33
Transfers received	4459.12	204	232	543.87
Interest, dividends, profits	945.10	1857	2582	39.37
Interest repayments on mortgage	2999.28	0	605	166.63
Income of people aged less than 16	3193.01	27	32	842.81
Regular taxes on wealth	382.29	749	1795	16.77
Transfers paid	4265.25	162	192	448.64
Repayments/receipts for tax adjustment	-401.07	3212	3218	0.00
<b>Gross income components at household level</b>				
Income from rentals of properties or lands	8098.02	180	449	785.70
Family/children related allowances	1061.89	1240	1349	50.90
Social exclusion	2701.79	153	165	559.64
Housing allowances	954.36	102	115	117.33
Transfers received	4459.12	204	232	543.87
Interest, dividends, profits	1225.66	1857	2582	49.78
Interest repayments on mortgage	2999.28	0	605	166.63
Income of people aged less than 16	3193.01	27	32	842.81
Regular taxes on wealth	382.29	749	1795	16.77
Transfers paid	4265.25	162	192	448.64

Table 3 (Follows). Mean, number of observations and standard errors (DB075 = 4)

Income components	Mean	Number of observations		Standard Error
		Before imputation	After imputation	
Net income components at personal level				
Employee cash or near-cash income	15999,39	3961	4042	293,72
Non cash employee income	1317,8	428	1017	57,69
Contributions to individual private pension plan	1886,32	431	502	163,05
Cash benefit or losses from self-employment	18971,53	1193	1659	1754,71
Pension from individual private plans	5699,73	19	20	2021,63
Unemployment benefits	3442,54	953	1014	174,20
Old-age benefits	13347,01	2976	2980	180,61
Survivor' benefits	7042,08	157	161	1438,32
Disability benefits	6349,14	284	286	437,37
Education related allowances	4244,66	40	43	1421,19
Gross income components at personal level				
Employee cash or near-cash income	22155	4017	4042	462,69
Non cash employee income	1697,68	428	1017	75,85
Contributions to individual private pension plan	1886,32	431	502	163,05
Cash benefit or losses from self-employment	27622,88	1627	1659	2612,82
Pension from individual private plans	7969,44	20	20	2987,81
Unemployment benefits	4088,49	984	1014	207,32
Old-age benefits	16078,35	2979	2980	254,95
Survivor' benefits	8124,77	161	161	1582,04
Disability benefits	6896,97	284	286	482,38
Education related allowances	4244,66	40	43	1421,19
Equivalised disposable income				
Subclasses by household size				
1 household member	16995,51	1183	1205	450,31
2 household members	19816,20	1321	1330	702,92
3 household members	19512,95	1038	1042	689,29
4 and more	17973,8	1132	1132	949,43
Population by age group				
<25	16772,75	2912	2922	602,11
25-34	18629,69	1875	1890	507,47
35-44	19717,45	1734	1744	752,54
45-54	21872,19	1465	1468	504,35
55-64	18691,32	1408	1417	406,80
65+	17555,42	2426	2431	298,04
Population by sex				
Male	19071,08	5735	5760	332,83
Female	18043,70	6085	6112	295,59

With reference to the component of the survey - year 2009-2010, DB075=1, standard errors are calculated for the mean of the Income components (listed in Table C) and for the mean of the Equivalised disposable income by household size, population age groups, population by sex (see Table 4).

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

Income components	Mean	Number of observations		Standard Error
		Before imputation	After imputation	
Total household gross income	39696.22	4633	4638	543.84
Total disposable household income	29944.04	4632	4645	342.32
Total disposable household income before social transfers other than old-age survivors' benefits	28579.98	4599	4620	340.02
Total disposable household including old-age survivors' benefits	21069.08	4269	4380	335.55
<b>Net income components at household level</b>				
Income from rentals of properties or lands	5480.44	180	437	395.50
Family/children related allowances	1049.64	1190	1298	37.03
Social exclusion	2265.38	151	156	502.17
Housing allowances	1241.29	98	109	228.51
Transfers received	4407.16	241	261	403.37
Interest, dividends, profits	894.47	1822	2627	31.50
Interest repayments on mortgage	3076.73	0	652	181.61
Income of people aged less than 16	2139.76	26	28	468.27
Regular taxes on wealth	340.42	643	1725	14.78
Transfers paid	3405.03	185	213	304.41
Repayments/receipts for tax adjustment	-368.83	3218	3221	0.00
<b>Gross income components at household level</b>				
Income from rentals of properties or lands	7245.21	180	437	534.59
Family/children related allowances	1049.64	1190	1298	37.03
Social exclusion	2265.38	151	156	502.17
Housing allowances	1241.29	98	109	228.51
Transfers received	4407.16	241	261	403.37
Interest, dividends, profits	1161.98	1822	2627	39.39
Interest repayments on mortgage	3076.73	0	652	181.61
Income of people aged less than 16	2139.76	26	28	468.27
Regular taxes on wealth	340.42	643	1725	14.78
Transfers paid	3405.03	185	213	304.41

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

Income components	Mean	Number of observations		Standard Error
		Before imputation	After imputation	
Net income components at personal level				
Employee cash or near-cash income	15565.11	3956	4046	238.52
Non cash employee income	1349.17	440	1042	63.92
Contributions to individual private pension plan	1635.52	464	543	105.59
Cash benefit or losses from self-employment	17697.96	1129	1570	824.76
Pension from individual private plans	5180.29	13	13	1709.15
Unemployment benefits	3325.18	1026	1074	241.00
Old-age benefits	13648.90	2934	2942	197.01
Survivor' benefits	7020.72	153	162	682.46
Disability benefits	5437	340	342	379.35
Education related allowances	5680.23	45	52	1781.93
Gross income components at personal level				
Employee cash or near-cash income	21538.48	4021	4046	365.42
Non cash employee income	1743.40	440	1042	84.81
Contributions to individual private pension plan	1635.52	464	543	105.59
Cash benefit or losses from self-employment	25322.97	1542	1570	1273.97
Pension from individual private plans	7372.90	13	13	2462.89
Unemployment benefits	3888	1052	1074	280.26
Old-age benefits	16556.81	2938	2942	284.26
Survivor' benefits	8217.51	162	162	795.88
Disability benefits	5929.35	340	342	428.87
Education related allowances	5680.23	45	52	1781.93
Equivalised disposable income				
Subclasses by household size				
1 household member	17857.16	1211	1229	495.45
2 household members	19874.41	1323	1326	707.09
3 household members	19251.21	1004	1010	618.45
4 and more	16366.71	1094	1100	460.12
Population by age group				
<25	15654.97	2936	2963	296.55
25-34	17598.17	1783	1800	321.41
35-44	19171.05	1685	1696	435.74
45-54	22071.71	1504	1507	480.63
55-64	18081.21	1327	1333	287.36
65+	17698.31	2383	2385	385.63
Population by sex				
Male	18537.90	5568	5594	220.55
Female	17511.13	6050	6090	195.14



## 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 households' sample of the second rotational group (DB075 = 3) was extracted in July 2007 and validated within September 2007; the sample of the third rotational group (DB075 = 4) was extracted in July 2008 and validated within September 2008; the sample of the fourth rotational group (DB075 = 1) was extracted in July 2009 and validated within September 2009.

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 is based on (i) the experience of the previous 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.

	2007	2008	2009	2010
<b>DB075=3 &amp; DB135 = 1</b>	6115	5360	4942	4353
<b>DB075=4 &amp; DB135 = 1</b>	-	6114	5220	4709
<b>DB075=1 &amp; DB135 = 1</b>	-	-	5882	4665
<b>Total</b>	6115	11474	16044	13727

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.

		<b>DB135 = 1 &amp; RB250 = 11 to 13</b>			
		2007	2008	2009	2010
<b>DB075=3</b>	<b>RB100 = 1</b>	12956	11242	10230	8919
	<b>RB100 = 2</b>	-	152	261	413
<b>DB075=4</b>	<b>RB100 = 1</b>	-	12821	10828	9793
	<b>RB100 = 2</b>	-	-	163	233
<b>DB075=1</b>	<b>RB100 = 1</b>	-	-	12283	9759
	<b>RB100 = 2</b>	-	-	-	85
<b>Total</b>	<b>RB100 = 1</b>	12956	24063	33341	28471
	<b>RB100 = 2</b>	-	152	424	731
<b>Total</b>		12956	24215	33765	29202

## Unit non-response

Table 1.1 Unit non-response, Rotational Group 3, first wave 2007

TYPE OF RATE	VALUE
RA	0.991
RH	0.811
NRH	19.687
RP	1
NRP	0
NRP_OVERALL	19.687

Table 1.2 Unit non-response, Rotational Group 4, first wave 2008

TYPE OF RATE	VALUE
RA	0.987
RH	0.840
NRH	17.012
RP	1
NRP	0
NRP_OVERALL	17.012

Table 1.3 Unit non-response, Rotational Group 1, first wave 2009

TYPE OF RATE	VALUE
RA	0.988
RH	0.834
NRH	17.673
RP	1
NRP	0
NRP_OVERALL	17.673

Table 2. Household response rates by rotational group and wave

	Rotational Group 3			Rotational Group 4		Rotational Group 1
	Waves 2007-2008	Waves 2008-2009	Waves 2009-2010	Waves 2008-2009	Waves 2009-2010	Waves 2009-2010
WAVE RESPONSE RATE	87.50	86.90	83.72	85.40	83.88	79.84
REFUSAL RATE	6.43	5.64	5.59	6.69	5.38	8.01
NO-CONTACTED AND OTHERS RATE	5.44	6.52	9.98	7.31	9.76	11.15
LONGITUDINAL FOLLOW-UP RATE	-	91.86	91.54	-	90.94	-
FOLLOW-UP RATIO	-	93.57	92.53	-	91.76	-
ACHIEVED SAMPLE SIZE RATIO	87.50	91.64	88.45	85.40	90.60	79.84

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

	Rotational Group 3			Rotational Group 4		Rotational Group 1
	Waves 2007-2008	Waves 2008-2009	Waves 2009-2010	Waves 2008-2009	Waves 2009-2010	Waves 2009-2010
WAVE RESPONSE RATE OF SAMPLE PERSONS	88.89	90.05	87.06	85.98	88.00	80.76
WAVE RESPONSE RATE OF CO-RESIDENTS	NA	NA	NA	NA	NA	NA
LONGITUDINAL FOLLOW-UP RATE	86.58	88.08	85.31	84.10	86.48	78.95
RATE (RB205=21, 22, 23, 31, 32, 33)	0.00	0.00	0.00	0.00	0.00	0.00
ACHIEVED SAMPLE SIZE RATIO FOR SAMPLE PERSONS	86.19	88.02	84.57	84.02	86.75	79.13
ACHIEVED SAMPLE SIZE RATIO FOR SAMPLE PERSONS & CO-RESIDENTS	87.36	89.12	86.40	85.29	87.58	79.82
ACHIEVED SAMPLE SIZE RATIO FOR CO-RESIDENTS SELECTED IN THE FIRST WAVE	NA	NA	NA	NA	NA	NA
WAVE RESPONSE RATE FOR NON-SAMPLE PERSONS	100	100	100	100	100	100

### 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 3, 2<sup>nd</sup> wave 2008

Household Status - Rotational Group 3, Wave=2008

	DB110=1	DB110=2	DB110=3	DB110=4	DB110=5	DB110=6	DB110=7	DB110=8	DB110=11	TOTAL
N	5843	122	16	10	40	0	0	123	84	6238
%	93.7	2	0.3	0.2	0.6	0	0	2	1.3	100

Record of Contact at Address - Rotational Group 3, Wave=2008

	DB120=11	DB120=21	DB120=22	DB120=23	TOTAL
N	236	5	1	3	245
%	96.3	2	0.4	1.2	100

Household Questionnaire Result - Rotational Group 3, Wave=2008

	DB130=11	DB130=21	DB130=22	DB130=23	DB130=24	TOTAL
N	5360	403	168	38	110	6079
%	88.2	6.6	2.8	0.6	1.8	100

Household Interview Acceptance - Rotational Group 3, Wave=2008

	DB135=1	DB135=2	TOTAL
N	5360	0	5360
%	100	0	100

Table 1.2 Distribution of households by DB110, DB120, DB130 and DB135, Rotational Group 3, 3<sup>rd</sup> wave 2009

Household Status - Rotational Group 3, Wave=2009

	DB110=1	DB110=2	DB110=3	DB110=4	DB110=5	DB110=6	DB110=7	DB110=8	DB110=11	TOTAL
N	5423	121	12	4	34	0	7	108	69	5778
%	93.9	2.1	0.2	0.1	0.6	0	0.1	1.9	1.2	100

Record of Contact at Address - Rotational Group 3, Wave=2009

	DB120=11	DB120=21	DB120=22	DB120=23	TOTAL
N	227	1	1	0	229
%	99.1	0.4	0.4	0	100

Household Questionnaire Result - Rotational Group 3, Wave=2009

	DB130=11	DB130=21	DB130=22	DB130=23	DB130=24	TOTAL
N	4942	327	129	53	199	5650
%	87.5	5.8	2.3	0.9	3.5	100

Household Interview Acceptance - Rotational Group 3, Wave=2009

	DB135=1	DB135=2	TOTAL
N	4942	0	4942
%	100	0	100

Table 1.3 Distribution of households by DB110, DB120, DB130 and DB135, Rotational Group 3, 4<sup>th</sup> wave 2010

Household Status - Rotational Group 3, Wave=2010

	DB110=1	DB110=2	DB110=3	DB110=4	DB110=5	DB110=6	DB110=7	DB110=8	DB110=11	TOTAL
N	4938	171	9	5	25	2	2	61	80	5293
%	93.3	3.2	0.2	0.1	0.5	0	0	1.2	1.5	100

Record of Contact at Address - Rotational Group 3, Wave=2010

	DB120=11	DB120=21	DB120=22	DB120=23	TOTAL
N	229	0	0	3	232
%	98.7	0	0	1.3	100

Household Questionnaire Result – Rotational Group 3, Wave=2010

	DB130=11	DB130=21	DB130=22	DB130=23	DB130=24	TOTAL
N	4353	295	173	37	309	5167
%	84.2	5.7	3.3	0.7	6	100

Household Interview Acceptance - Rotational Group 3, Wave=2010

	DB135=1	DB135=2	TOTAL
N	4353	0	4353
%	100	0	100

Table 1.4 Distribution of households by DB110, DB120, DB130 and DB135, Rotational Group 4, 2<sup>nd</sup> wave 2009

Household Status - Rotational Group 4, Wave=2009

	DB110=1	DB110=2	DB110=3	DB110=4	DB110=5	DB110=6	DB110=7	DB110=8	DB110=11	TOTAL
N	5843	141	15	5	32	0	0	95	78	6209
%	94.1	2.3	0.2	0.1	0.5	0	0	1.5	1.3	100

Record of Contact at Address - Rotational Group 4, Wave=2009

	DB120=11	DB120=21	DB120=22	DB120=23	TOTAL
N	234	2	0	0	236
%	99.2	0.8	0	0	100

Household Questionnaire Result - Rotational Group 4, Wave=2009

	DB130=11	DB130=21	DB130=22	DB130=23	DB130=24	TOTAL
N	5220	415	127	36	279	6077
%	85.9	6.8	2.1	0.6	4.6	100

Household Interview Acceptance - Rotational Group 4, Wave=2009

	DB135=1	DB135=2	TOTAL
N	5220	0	5220
%	100	0	100

Table 1.5 Distribution of households by DB110, DB120, DB130 and DB135, Rotational Group 4, 3<sup>rd</sup> wave 2010

Household Status - Rotational Group 4, Wave=2010

	DB110=1	DB110=2	DB110=3	DB110=4	DB110=5	DB110=6	DB110=7	DB110=8	DB110=11	TOTAL
N	5343	183	8	4	23	0	11	52	81	5705
%	93.7	3.2	0.1	0.1	0.4	0	0.2	0.9	1.4	100

Record of Contact at Address - Rotational Group 4, Wave=2010

	DB120=11	DB120=21	DB120=22	DB120=23	TOTAL
N	232	0	0	3	235
%	98.7	0	0	1.3	100

Household Questionnaire Result - Rotational Group 4, Wave=2010

	DB130=11	DB130=21	DB130=22	DB130=23	DB130=24	TOTAL
N	4709	303	207	54	302	5575
%	84.5	5.4	3.7	1	5.4	100

Household Interview Acceptance - Rotational Group 4, Wave=2010

	DB135=1	DB135=2	TOTAL
N	4709	0	4709
%	100	0	100

Table 1.6 Distribution of households by DB110, DB120, DB130 and DB135, Rotational Group 1, 2<sup>nd</sup> wave 2010

Household Status - Rotational Group 1, Wave=2010

	DB110=1	DB110=2	DB110=3	DB110=4	DB110=5	DB110=6	DB110=7	DB110=8	DB110=11	TOTAL
N	5598	154	7	9	19	0	6	55	89	5937
%	94.3	2.6	0.1	0.2	0.3	0	0.1	0.9	1.5	100

Record of Contact at Address - Rotational Group 1, Wave=2010

	DB120=11	DB120=21	DB120=22	DB120=23	TOTAL
N	205	0	0	4	209
%	98.1	0	0	1.9	100

Household Questionnaire Result - Rotational Group 1, Wave=2010

	DB130=11	DB130=21	DB130=22	DB130=23	DB130=24	TOTAL
N	4665	464	271	58	345	5803
%	80.4	8	4.7	1	5.9	100

Household Interview Acceptance - Rotational Group 1, Wave=2010

	DB135=1	DB135=2	TOTAL
N	4665	0	4665
%	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 3, 2<sup>nd</sup> wave 2008

	Current Household Member				No Current Household Member			TOTAL
	RB110=1	RB110=2	RB110=3	RB110=4	RB120=2-4	RB110=6	RB110=7	
N	13031	108	206	73	38	71	4	13531
%	96.30	0.80	1.52	0.54	0.28	0.52	0.03	100

Table 1.2 Distribution of persons for membership status (RB110), Rotational Group 3, 3<sup>rd</sup> wave 2009

	Current Household Member				No Current Household Member			TOTAL
	RB110=1	RB110=2	RB110=3	RB110=4	RB120=2-4	RB110=6	RB110=7	
N	12040	100	194	59	18	58	17	12486
%	96.43	0.80	1.55	0.47	0.14	0.46	0.14	100

Table 1.3 Distribution of persons for membership status (RB110), Rotational Group 3, 4<sup>th</sup> wave 2010

	Current Household Member				No Current Household Member			TOTAL
	RB110=1	RB110=2	RB110=3	RB110=4	RB120=2-4	RB110=6	RB110=7	
N	10740	72	100	18	10	47	7	10994
%	97.69	0.65	0.91	0.16	0.09	0.43	0.06	100

Table 1.4 Distribution of persons for membership status (RB110), Rotational Group 4, 2<sup>nd</sup> wave 2009

	Current Household Member				No Current Household Member			TOTAL
	RB110=1	RB110=2	RB110=3	RB110=4	RB120=2-4	RB110=6	RB110=7	
N	12709	75	220	73	25	54	7	13163
%	96.55	0.57	1.67	0.55	0.19	0.41	0.05	100

Table 1.5 Distribution of persons for membership status (RB110), Rotational Group 4, 3<sup>rd</sup> wave 2010

	Current Household Member				No Current Household Member			TOTAL
	RB110=1	RB110=2	RB110=3	RB110=4	RB120=2-4	RB110=6	RB110=7	
N	11624	60	154	36	14	44	18	11950
%	97.27	0.50	1.29	0.30	0.12	0.37	0.15	100

Table 1.6 Distribution of persons for membership status (RB110), Rotational Group 1, 2<sup>nd</sup> wave 2010

	Current Household Member				No Current Household Member			TOTAL
	RB110=1	RB110=2	RB110=3	RB110=4	RB120=2-4	RB110=6	RB110=7	
N	11482	47	121	34	25	43	4	11756
%	97.67	0.40	1.03	0.29	0.21	0.37	0.03	100

Table 2.1 Distribution of persons moving out by variable RB120, Rotational Group 3, 2<sup>nd</sup> wave 2008

	RB110=5				TOTAL
	RB120=1	RB120=2	RB120=3	RB120=4	
N	196	13	25	0	234
%	83.8	5.6	10.7	0.0	100

Table 2.2 Distribution of persons moving out by variable RB120, Rotational Group 3, 3<sup>rd</sup> wave 2009

	RB110=5				TOTAL
	RB120=1	RB120=2	RB120=3	RB120=4	
N	192	2	16	0	210
%	91.4	1.0	7.6	0.0	100



Table 2.3 Distribution of persons moving out by variable RB120, Rotational Group 3, 4<sup>th</sup> wave 2010

	RB110=5				TOTAL
	RB120=1	RB120=2	RB120=3	RB120=4	
N	110	4	6	0	120
%	97.7	3.3	5.0	0.0	100

Table 2.4 Distribution of persons moving out by variable RB120, Rotational Group 4, 2<sup>nd</sup> wave 2009

	RB110=5				TOTAL
	RB120=1	RB120=2	RB120=3	RB120=4	
N	180	3	22	0	205
%	87.8	1.5	10.7	0.0	100

Table 2.5 Distribution of persons moving out by variable RB120, Rotational Group 4, 3<sup>rd</sup> wave 2010

	RB110=5				TOTAL
	RB120=1	RB120=2	RB120=3	RB120=4	
N	94	3	11	0	108
%	87.0	2.8	10.2	0.0	100

Table 2.6 Distribution of persons moving out by variable RB120, Rotational Group 1, 2<sup>nd</sup> wave 2010

	RB110=5				TOTAL
	RB120=1	RB120=2	RB120=3	RB120=4	
N	123	7	18	0	148
%	83.1	4.7	12.2	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	2007			2008			2009			2010		
	(A)	(B)	(C)	(A)	(B)	(C)	(A)	(B)	(C)	(A)	(B)	(C)
Total household gross income	99.30	0.33	80.75	99.43	0.51	88.38	99.45	0.52	89.02	99.48	0.19	86.27
Total disposable household income	99.61	0.46	23.97	99.67	0.54	62.07	99.56	0.70	58.51	99.58	0.28	48.26
Total disposable household income before social transfers other than old-age and survivors' benefits	99.08	0.56	23.76	99.31	0.90	60.53	99.11	1.01	56.73	99.14	0.46	46.18
Total disposable household income including old-age and survivors' benefits	94.60	1.14	20.85	95.54	2.94	58.45	93.75	3.45	54.13	93.59	2.29	44.22
<b>Net income components at household level</b>												
Imputed rent	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Income from rentals of properties or lands	7.56	0.62	0.18	8.66	3.50	0.78	9.27	4.81	0.85	9.14	5.20	0.89
Family/children related allowances	27.70	2.31	0.69	28.56	1.99	0.58	29.04	2.03	0.52	28.92	2.10	0.62
Social exclusion	0.80	0.23	0.00	0.61	0.03	0.00	1.07	0.13	0.00	3.46	0.19	0.03
Housing allowances	2.03	0.18	0.05	2.10	0.17	0.01	2.21	0.23	0.02	2.37	0.26	0.01
Transfers received	5.51	0.54	0.10	5.66	0.60	0.04	5.59	0.64	0.92	5.16	0.45	0.05
Interest. Dividends. Profits	46.74	8.29	2.50	54.14	15.84	2.95	52.41	20.06	2.87	54.88	15.57	2.99
Interest repayments on mortgage	11.82	11.82	0.00	13.03	13.03	0.00	13.79	13.79	0.00	13.28	13.28	0.00
Income of people aged less than 16	0.75	0.07	0.28	0.63	0.09	0.03	0.55	0.08	0.03	0.71	0.09	0.01
Regular taxes on wealth	66.72	2.78	1.77	69.17	33.24	10.41	40.50	24.30	3.78	37.38	22.81	3.14
Transfers paid	4.63	0.21	0.03	4.81	0.24	0.04	4.77	0.41	0.08	4.27	0.56	0.09
Repayments/receipts for tax adjustment	62.47	0.77	0.72	66.25	0.16	0.18	68.61	0.12	0.26	68.27	0.12	0.18

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

<b>Gross income components at household level</b>												
Imputed rent	87.62	0.00	0.00	88.00	0.00	0.00	88.21	0.00	0.00	88.28	0.00	0.00
Income from rentals of properties or lands	7.56	0.62	6.49	8.66	3.50	4.88	9.27	4.81	4.18	9.14	5.20	3.69
Family/children related allowances	27.70	2.31	0.69	28.56	1.99	0.58	29.04	2.03	0.52	28.92	2.10	0.62
Social exclusion	0.80	0.23	0.00	0.61	0.03	0.00	1.07	0.13	0.00	3.46	0.19	0.03
Housing allowances	2.03	0.18	0.05	2.10	0.17	0.01	2.21	0.23	0.02	2.37	0.26	0.01
Transfers received	5.51	0.54	0.10	5.66	0.60	0.04	5.59	0.64	0.92	5.16	0.45	0.05
Interest. Dividends. Profits	46.74	8.29	38.45	54.14	15.84	38.30	52.41	20.06	32.34	54.88	15.57	39.29
Interest repayments on mortgage	11.82	11.82	0.00	13.03	13.03	0.00	13.79	13.79	0.00	13.28	13.28	0.00
Income of people aged less than 16	0.75	0.07	0.28	0.63	0.09	0.03	0.55	0.08	0.03	0.71	0.09	0.01
Regular taxes on wealth	66.72	2.78	1.77	69.17	33.24	10.41	40.50	24.30	3.78	37.38	22.81	3.14
Transfers paid	4.63	0.21	0.03	4.81	0.24	0.04	4.77	0.41	0.08	4.27	0.56	0.09
Tax on income and social contributions	94.05	9.29	70.45	95.22	42.57	44.81	95.51	39.86	47.79	95.98	13.79	71.10

(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

longitudinal component															
	2007				2008				2009				2010		
Item Non-response	(A)	(B)	(C)		(A)	(B)	(C)		(A)	(B)	(C)		(A)	(B)	(C)
Net income components at personal level															
Employee cash or near-cash income	41.01	0.25	0.72		40.90	5.76	1.66		41.36	2.81	6.20		40.60	0.76	0.70
Non cash employee income	10.09	8.24	0.98		10.52	8.23	1.22		10.80	6.28	0.97		10.39	6.08	0.85
Company car	0.73	0.01	0.00		0.92	0.00	0.00		0.85	0.00	0.00		0.85	0.00	0.00
Employer's social insurance contribution	NA	NA	NA		NA	NA	NA		NA	NA	NA		NA	NA	NA
Contributions to individual private pension plan	6.14	0.65	0.00		6.34	0.78	0.00		6.00	0.82	0.00		5.04	0.69	0.00
Cash benefit or losses from self-employment	16.73	3.94	0.36		16.28	2.51	0.17		15.91	4.22	0.27		16.18	4.54	0.26
Value of goods produces by own-consumption	26.27	0.00	0.00		26.46	0.00	0.00		26.07	0.00	0.00		NA	NA	NA
Pension from individual private plans	0.20	0.02	0.00		0.17	0.00	0.00		0.17	0.00	0.00		0.17	0.00	0.00
Unemployment benefits	9.39	0.38	0.02		9.96	0.41	0.07		9.88	0.44	0.06		10.47	0.49	0.06
Old-age benefits	29.21	1.42	1.13		29.68	0.05	0.17		29.91	0.07	0.18		29.85	0.06	0.09
Survivor' benefits	1.70	0.04	0.00		1.55	0.00	0.00		1.51	0.00	0.00		1.76	0.06	0.00
Disability benefits	3.51	0.19	0.00		3.32	0.03	0.02		3.31	0.02	0.00		3.37	0.02	0.00
Education related allowances	0.67	0.07	0.00		0.56	0.09	0.00		0.63	0.11	0.00		0.47	0.03	0.00

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

Gross income components at personal level															
Employee cash or near-cash income	41.01	0.03	3.35		40.90	0.41	9.47		41.36	0.36	11.01		40.60	0.21	3.75
Non cash employee income	10.09	8.24	0.98		10.52	8.23	1.60		10.80	6.28	1.42		10.39	6.08	4.21
Company car	0.73	0.00	0.03		0.92	0.00	0.04		0.85	0.00	0.04		0.85	0.00	0.05
Employer's social insurance contribution	NA	NA	NA		NA	NA	NA		NA	NA	NA		NA	NA	NA
Contributions to individual private pension plan	6.14	0.65	0.00		6.34	0.78	0.00		6.00	0.82	0.00		5.04	0.69	0.00
Cash benefit or losses from self-employment	16.73	0.73	4.19		16.28	0.32	3.24		15.91	0.28	5.13		16.18	0.27	5.48
Value of goods produces by own-consumption	26.27	3.10	0.00		26.46	3.68	0.00		26.07	2.64	0.00		NA	NA	NA
Pension from individual private plans	0.20	0.01	0.02		0.17	0.00	0.00		0.17	0.00	0.01		0.17	0.00	0.00
Unemployment benefits	9.39	0.25	9.05		9.96	0.20	9.51		9.88	0.24	9.58		10.47	0.23	10.16
Old-age benefits	29.21	0.73	2.29		29.68	0.04	0.64		29.97	0.06	0.70		29.85	0.03	0.85
Survivor' benefits															
Disability benefits	3.51	0.12	0.08		3.32	0.02	0.07		3.31	0.02	0.05		3.37	0.02	0.01
Education related allowances	0.67	0.07	0.00		0.56	0.09	0.00		0.63	0.11	0.00		0.47	0.03	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.)

**Mode of data collection**

Table 1.1 The distribution of household member by RB250 and Rotational Group (DB075), Wave 2007

Household Members 16+ (RB245= 1 to 3), Wave 2007

		RB250=11	Total
DB075=3	N	12956	12956
	%	100	100
Total	N	12956	12956
	%	100	100

Note: at first wave all household members 16+ are defined as sample persons

Table 1.2 The distribution of household member by RB250 and Rotational Group (DB075), Wave 2007

Household Members 16+ (RB245= 1 to 3), Wave 2008

		RB250=11	Total
DB075=3	N	11394	11394
	%	100	100
DB075=4	N	12821	12821
	%	100	100
Total	N	24215	24215
	%	100	100

Sample Persons 16+ (RB245= 1 to 3 and RB100=1), Wave 2008

		RB250=11	Total
DB075=3	N	11242	11242
	%	100	100
DB075=4	N	12821	12821
	%	100	100
Total	N	24063	24063
	%	100	100

Co-residents 16+ (RB245= 1 to 3 and RB100=2), Wave 2008

		RB250=11	Total
DB075=3	N	152	152
	%	100	100
DB075=4	N	0	0
	%	-	-
Total	N	152	152
	%	100	100

Table 1.3 The distribution of household member by RB250 and Rotational Group (DB075), Wave 2009

Household Members 16+ (RB245= 1 to 3), Wave 2009

		RB250=11	Total
DB075=3	N	10491	10491
	%	100	100
DB075=4	N	10991	10991
	%	100	100
DB075=1	N	12283	12283
	%	100	100
Total	N	33765	33765
	%	100	100

Sample Persons 16+ (RB245= 1 to 3 and RB100=1), Wave 2009

		RB250=11	Total
DB075=3	N	10230	10230
	%	100	100
DB075=4	N	10828	10828
	%	100	100
DB075=1	N	12283	12283
	%	100	100
Total	N	33341	33341
	%	100	100

Co-residents 16+ (RB245= 1 to 3 and RB100=2), Wave 2009

		RB250=11	Total
DB075=3	N	261	261
	%	100	100
DB075=4	N	163	163
	%	100	100
DB075=1	N	0	0
	%	-	-
Total	N	424	424
	%	100	100

Table 1.4 The distribution of household member by RB250 and Rotational Group (DB075), Wave 2010

Household Members 16+ (RB245= 1 to 3), Wave 2010

		RB250=11	Total
DB075=3	N	9332	9332
	%	100	100
DB075=4	N	10026	10026
	%	100	100
DB075=1	N	9844	9844
	%	100	100
Total	N	29202	29202
	%	100	100

Sample Persons 16+ (RB245= 1 to 3 and RB100=1), Wave 2010

		RB250=11	Total
DB075=3	N	8919	8919
	%	100	100
DB075=4	N	9793	9793
	%	100	100
DB075=1	N	9759	9759
	%	100	100
Total	N	28471	28471
	%	100	100

Co-residents 16+ (RB245= 1 to 3 and RB100=2), Wave 2010

		RB250=11	Total
DB075=3	N	413	413
	%	100	100
DB075=4	N	233	233
	%	100	100
DB075=1	N	85	85
	%	100	100
Total	N	731	731
	%	100	100



Table 2.1 The distribution of household member by RB260 and Rotational Group (DB075), Wave 2007

Household Members 16+ (RB245=1 to 3) and RB250 in 11 or 13, Wave 2007

		RB260=.	RB260=1	RB260=5	Total
		Missing	Face to face interview-PAPI	Proxy interview	
DB075=3	N	204	10788	1964	12956
	%	1.57	83.27	15.16	100
Total	N	204	10788	1964	12956
	%	1.57	83.27	15.16	100

Note: at first wave all household members 16+ are defined as sample persons

Table 2.2 The distribution of household member by RB260 and Rotational Group (DB075), Wave 2008

Household Members 16+ (RB245=1 to 3) and RB250 in 11 or 13, Wave 2008

		RB260=.	RB260=1	RB260=5	Total
		Missing	Face to face interview-PAPI	Proxy interview	
DB075=3	N	0	9282	2112	11394
	%	-	81.46	18.54	100
DB075=4	N	0	10456	2365	12821
	%	-	81.55	18.45	100
Total	N	0	19738	4477	24215
	%	-	81.51	18.49	100

Sample Persons 16+ (RB245=1 to 3 and RB100=1) and RB250 in 11 or 13, Wave 2008

		RB260=.	RB260=1	RB260=5	Total
		Missing	Face to face interview-PAPI	Proxy interview	
DB075=3	N	0	9178	2064	11242
	%	-	81.64	18.36	100
DB075=4	N	0	10456	2365	12821
	%	-	81.55	18.45	100
Total	N	0	19634	4429	24063
	%	-	81.59	18.41	100

Co-residents 16+ (RB245=1 to 3 and RB100=2) and RB250 in 11 or 13, Wave 2008

		RB260=.	RB260=1	RB260=5	Total
		Missing	Face to face interview-PAPI	Proxy interview	
DB075=3	N	0	104	48	152
	%	-	68.42	31.58	100
DB075=4	N	0	0	0	0
	%	-	-	-	-
Total	N	0	104	48	152
	%	-	68.42	31.58	100

Table 2.3 The distribution of household member by RB260 and Rotational Group (DB075), Wave 2009

Household Members 16+ (RB245=1 to 3) and RB250 in 11 or 13, Wave 2009

		RB260=.	RB260=1	RB260=5	Total
		Missing	Face to face interview-PAPI	Proxy interview	
DB075=3	N	0	8895	1996	10491
	%	-	80.97	19.03	100
DB075=4	N	0	8952	2039	10991
	%	-	81.45	18.55	100
DB075=1	N	0	9949	2334	12283
	%	-	81.00	19.00	100
Total	N	0	27393	6369	33765
	%	-	81.14	18.86	100

Sample Persons 16+ (RB245=1 to 3 and RB100=1) and RB250 in 11 or 13, Wave 2009

		RB260=.	RB260=1	RB260=5	Total
		Missing	Face to face interview-PAPI	Proxy interview	
DB075=3	N	0	8309	1921	10230
	%	-	81.22	18.78	100
DB075=4	N	0	8839	1989	10828
	%	-	81.63	18.37	100
DB075=1	N	0	9949	2334	12283
	%	-	81.00	19.00	100
Total	N	0	27097	6244	33341
	%	-	81.27	18.73	100

Co-residents 16+ (RB245=1 to 3 and RB100=2) and RB250 in 11 or 13, Wave 2009

		RB260=.	RB260=1	RB260=5	Total
		Missing	Face to face interview-PAPI	Proxy interview	
DB075=3	N	0	186	75	261
	%	-	71.26	28.74	100
DB075=4	N	0	113	50	163
	%	-	69.33	30.67	100
DB075=1	N	0	0	0	0
	%	-	-	-	-
Total	N	0	299	125	424
	%	-	70.52	29.48	100

Table 2.4 The distribution of household member by RB260 and Rotational Group (DB075), Wave 2010

Household Members 16+ (RB245=1 to 3) and RB250 in 11 or 13, Wave 2010

		RB260=.	RB260=1	RB260=5	Total
		Missing	Face to face interview-PAPI	Proxy interview	
DB075=3	N	0	7620	1712	9332
	%	-	81.65	18.35	100
DB075=4	N	0	8085	1941	10026
	%	-	80.64	19.36	100
DB075=1	N	0	7938	1906	9844
	%	-	80.64	19.36	100
Total	N	0	23643	5559	29202
	%	-	80.96	19.04	100

Sample Persons 16+ (RB245=1 to 3 and RB100=1) and RB250 in 11 or 13, Wave 2010

		RB260=.	RB260=1	RB260=5	Total
		Missing	Face to face interview-PAPI	Proxy interview	
DB075=3	N	0	7346	1573	8919
	%	-	82.36	17.64	100
DB075=4	N	0	7932	1861	9793
	%	-	81.00	19.00	100
DB075=1	N	0	7891	1868	9759
	%	-	80.86	19.14	100
Total	N	0	23169	5302	28471
	%	-	81.38	18.62	100

Co-residents 16+ (RB245=1 to 3 and RB100=2) and RB250 in 11 or 13, Wave 2010

		RB260=.	RB260=1	RB260=5	Total
		Missing	Face to face interview-PAPI	Proxy interview	
DB075=3	N	0	274	139	413
	%	-	66.34	33.66	100
DB075=4	N	0	153	80	233
	%	-	65.67	34.33	100
DB075=1	N	0	47	38	85
	%	-	55.29	44.71	100
Total	N	0	474	257	731
	%	-	64.84	35.16	100

## **2.5. Imputation procedure**

The imputation procedure for each quantitative variable is implemented by using the IMPUTE module of the software Ivieware, 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**

It is estimated through a semilogarithmic regression (log of the rent, avoiding the re-transformation bias) with self-selection correction à la heckman. In the first stage, we run distinct probit models for owners/renters at a below-the-market price/free tenants vs tenants at a market price. Seniority is included between regressors, but its effect is depurated (parameter from regression equal to 0) in estimating predicted values for sub-populations other than tenants at a market rate.

## **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 use **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 income reference period(s) used: same definition as standard EU-SILC;
- the period for taxes on income and social insurance contributions: same definition as standard EU-SILC;
- 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 current variables are referred to the moment of interview that 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

- 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: estimated by a semilogarithmic regression (log of the rent, avoiding the re-transformation bias) with self-selection correction à la heckman. In the first stage, distinct probit models for owners/renters at a below-the- market price/free tenants vs tenants at a market price are estimated.

Seniority is included between regressors, but its effect is depurated (parameter from regression equal to 0) in estimating predicted values for sub-populations other than tenants at a market rate;

— 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: same definition as standard EU-SILC;

— 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: same definition as standard EU-SILC;

— 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'.

— 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: includes also contribution for Cococo "co-ordinated and continuative collaborators", a special category of status in employment;

— 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). The departure from the standard definition (using both sampling and administrative data) 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: same definition as standard EU-SILC;

— 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;
- 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**

The sources or procedures used for the collection of income variables are Paper and pencil interviews (PAPI) for all income variable, including the money drawn out of business by the self-employed and administrative data. Administrative data have been linked to sample data and used for estimating data on employee income, pensions and self-employment incomes.

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

All income variables at component level are both net and gross of taxes and social security contribution at source.

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

Gross values are estimated by a new methodology using in conjunction an exact record linkage between survey and fiscal data at micro level and a microsimulation model (Siena Microsimulation Model SM2-EU-SILC). The integration of microsimulation with register data has the advantage of using administrative data for the validation of microsimulation results. On the other hand, SM2-EU-SILC estimates those tax and social insurance contributions not covered by register data. Four main register data are used: 730 tax returns used by employees and pensioners, UNICO tax returns used primarily by self employed workers, CUD employers' tax statements which include also data on social security contributions, and Pension Register Data. Both the use of administrative data and microsimulation estimates improves the quality and the amount of information on gross income variables.

### **3.3. Tracing rules**

The standard EUSILC tracing rules are applied.