

INTERMEDIATE QUALITY REPORT

Cross-Sectional Survey 2006

ITALY

1. COMMON CROSS-SECTIONAL EUROPEAN UNION INDICATORS

1.1. Common cross-sectional EU indicators based on the cross-sectional component of EU-SILC

In the following tables the poverty threshold at 60% median equivalized income and the at-risk of poverty rate are reported. The at-risk poverty rate is shown by age, by gender, by most frequent activity status, by household type, by tenure status and by household working intensity. Dispersion around at-risk-poverty-threshold is also calculated. Moreover the at-risk poverty rate before social transfers and the relative median risk-of-poverty gap are shown. As far other income distribution indicators are concerned the S80/S20 quintile share ratio and the Gini coefficient are given.

LI01: At-Risk-of-poverty thresholds

CURRENCY	Household Type	
	Single person	2 adults with two children
Euro	8712	18295
National Currency	8712	18295
Purchasing Power Parities	8435	17714

LI02: At-risk-poverty-rate by age and gender

AGE	At-risk-poverty-rate		
	Female	Male	Total
Less than 18 years			25
18 to 64 years	19	16	18
18 year and over	20	17	19
65 years and over	24	18	22
Total	21	18	20

LI03: At-risk-poverty-rate by household type

HOUSEHOLD TYPE	At-risk-poverty-rate
Single person	27
Single female	33
Single male	19
One adult younger than 65 years	21
One adult, 65 years and over	34
Single parent with at least one dependent child	32
2 adults with one dependent child	18
2 adults with two dependent children	22
2 adults with three or more dependent children	41
Three or more adults with dependent children	23
Households with dependent children	23
2 adults, no dependent children, both adults under 65 years	11
2 adults, no dependent children, at least one adult 65 years and over	18
Other households without dependent children	9
Households without dependent children	16
Total	20

LI04: At-risk-poverty-rate by most frequent activity and gender

MOST FREQUENT ACTIVITY	At-risk-poverty-rate		
	Female	Male	Total
At work	7	11	10
Not at work	27	24	26
Unemployed	38	50	43
Retired	17	15	16
Other inactive	30	28	30
Total population 16 years and over	20	17	19

LI06: At-risk-poverty-rate by work intensity of the household

HOUSEHOLD TYPE	HOUSEHOLD WORK INTENSITY	At-risk-poverty-rate
Households with dependent children	Household with work intensity = 1	5
	Household with work intensity ≥ 0.5 and < 1	27
	Household with work intensity > 0 and < 0.5	49
	Household with work intensity = 0	68
Households without dependent children	Household with work intensity = 1	5
	Household with work intensity > 0 and < 1	9
	Household with work intensity = 0	32

LI08: At-risk-poverty-rate by tenure status

TENURE STATUS	At-risk-poverty-rate
Owner or rent free	17
Tenant / subtenant, paying rent	30
Total	20

LI09: At-risk-poverty-rate by age and gender before social transfers and pensions

AGE	At-risk-poverty-rate		
	Female	Male	Total
Less than 18 years			32
18 to 64 years	23	20	22
65 years and over	26	20	24
18 years and over	24	20	22
Total	25	22	24

LI10: At-risk-poverty-rate by age and gender before social transfers excluding pensions

AGE	At-risk-poverty-rate		
	Female	Male	Total
Less than 18 years			34
18 to 64 years	36	31	33
65 years and over	85	82	83
18 years and over	49	41	45
Total	46	40	43

LI11: Relative at risk-of-poverty gaps

AGE	Relative at risk-of-poverty gap		
	Female	Male	Total
Less than 18 years			29
18 to 64 years	28	28	28
65 years and over	19	16	18
18 years and over	23	24	23
Total	24	25	24

DI11: S80/S20 income quintile share ratio

S80/S20 income quintile share ratio
5.5

DI12: Gini coefficient

Gini coefficient
32.1

LI12: Dispersion around poverty threshold

	At-risk-poverty-rate		
	Male	Female	Total
Below the ARPT 40% of median	7	8	8
Below the ARPT 50% of median	11	14	13
Below the ARPT 70% of median	25	29	27

1.2. Other indicator

In this section other indicators related to social inclusion, gender pay gap and pensions are shown.

1.2.1. Equivalised disposable income

D1. Mean equivalized income

CURRENCY	Mean equivalized income
National Currency	16638.
Euro	16638

1.2.2. The unadjusted gender pay gap

The unadjusted gender pay gap is calculated only for those who work at least 15 hours per week in the main job.

P1. Unadjusted gender pay gap

Hourly earning mean Male	Hourly earning mean Female	Gender Pay Gap
10.7231	10.1646	0.052

1.2.3 Relative median income ratio people aged 65+

Total (median income 65+/ median income 0-64)
0.869

1.2.4 Aggregate replacement ratio

Female	Male	Total
0.459	0.64	0.581

2. ACCURACY

2.1. Sampling design

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.

Sample size (number of SSU)	Number of PSU	Number of SSU (Total)	Average number of SSU for each PSU
<5	254	288	1.1
6-25	298	6303	21.2
26-50	385	11741	30.5
51-75	37	2163	58.5
76-100	11	964	87.6
101-200	11	1524	138.5
201-500	6	1968	328.0
>500	1	998	998.0
Total	1003	25949	25.9

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, ρ_{SR} , and inside municipality, ρ_{NSR} , have been estimated on the basis of the above averages; then following formula to evaluate $deff$ has been applied:

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

where n_r and N_r are sample and population dimension of administrative regions, $\bar{b}_{r,SR}$ is the average household dimension and $\bar{b}_{r,NSR}$ 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 re-calculate 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 incombe	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
Italy	2.61	1.58	6.84	2.50

Table 2

Macroregion	Households	Selected households	CV% income	CV% povertà 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
Italy	22,006,915	25,501	1.1	2.1

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

Weighting factors have been calculated taking into account the units' probability of selection, the non-response adjustment and the calibration to external data relating to the distribution of households and persons in the target population.

2.1.8.1 Design weight

Wave 1;

In case of the households at the first wave, 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;

π_{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 .

Wave 2, 3, 4;

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).

2.1.8.2 Non-response adjustments

In the 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) or gathered from the previous year of survey (for the households at wave 2, 3, 4). The groups are identified by segmentation obtained with a decision tree.

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

$$\hat{p}_{jk} = p_{jk} \frac{N_{Ek}}{N_{Ok}}, \text{ where } p_{jk} \text{ is the design weight, } N_{Ek} \text{ is the number of households}$$

extracted in the sub-group k , and N_{Ok} is the number of respondent households.

Wave 1: the information used for the “new” households 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).

Wave 2, 3, 4: the information used for the “old” households 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.

Even if for wave 2, 3 and 4 we have information on education and professional condition of the sample, in conformity with the previous year of survey 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 ψ_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 ψ .

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);

2.1.8.4 Final cross-sectional weights

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.

2.1.9. Substitutions

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

2.2. Sampling errors

With reference to the survey - year 2006-, sampling errors were calculated for the common cross-sectional EU indicators based on the cross-sectional component of EU-SILC (at risk of poverty rate 60% (after social transfers), at risk of poverty rate 60% (before social transfers) without pensions, at risk of poverty rate 60% (before social transfers) with pensions, S80/S20, relative median at risk of poverty gap, Gini index) and for the unadjusted gender pay gap and for the equivalised disposable income.

In particular, sampling errors of the above indicators were estimated by the following steps:

- 1) linearization of the statistics of interest and derivation of a fictive variable for each of them (using SAS programs developed by EUROSTAT);

2) calculation of sampling variance using GENESEES software (software used at ISTAT to evaluate sampling errors).

2.2.1. Standard errors and effective sample size

The following table contains respectively the value, the absolute sampling error, the percentage relative sampling error, the effective sample size (sample respondent persons) for each of the above indicators.

Cross-sectional EU indicators- year 2006: sampling errors and effective sample size

	Value	Absolute sampling error	Relative sampling error %	Effective sample size (persons)
	(a)	(b)	(c)=(b)/(a)*100	(d)
At risk of pov. Threshold	8712	48.46	0.56	54512
At risk of pov. rate 60% (after s.t.)	19.64	0.34	1.73	54512
At risk of pov. rate 40% (after s.t.)	7.50	0.27	3.55	54512
At risk of pov. rate 50% (after s.t.)	12.60	0.33	2.62	54512
At risk of pov. rate 70% (after s.t.)	27.20	0.31	1.15	54512
At risk of pov. rate 60% (before s.t.) without pensions	43.21	0.31	0.73	54512
At risk of pov. rate 60% (before s.t.) with pensions	23.98	0.32	1.33	54512
S80/S20	5.49	0.09	1.66	54512
Relative median at risk pov. gap	24.34	0.68	2.80	9523
Gini index	32.13	0.27	0.84	54512
Gender pay gap	5.21	0.92	17.65	15166
Equivalised disposable income	16641.29	97.28	0.58	54512

BREAKDOWNS				
	Value	Absolute sampling error	Relative sampling error %	Effective sample size (persons)
	(a)	(b)	(c)=(b)/(a)*100	(d)
At risk of pov. rate 60% (after s.t.)				
<i>Age and Gender</i>				
0-17	24.52	0.70	2.84	9646
18-64	17.64	0.38	2.16	34144
65+	21.70	0.57	2.61	10722
18+	18.60	0.32	1.72	44866
Female 18-64	18.93	0.42	2.22	17350
Female 65+	24.00	0.68	2.83	6119
Female 18+	20.39	0.36	1.74	23469
Male 18-64	16.35	0.43	2.64	16794
Male 65+	17.81	0.71	4.01	4603
Male 18+	16.65	0.37	2.22	21397
Female	21.16	0.38	1.78	28099
Male	18.04	0.38	2.12	26413

	Value	Absolute sampling error	Relative sampling error %	Effective sample size (persons)
	(a)	(b)	(c)=(b)/(a)*100	(d)
<i>Frequent activity status</i>				
Frequent activity status and gender: total population	18.58	0.40	2.16	45552
Employment	9.61	0.27	2.78	19790
Unemployment	43.49	1.59	3.65	2568
Retired	15.79	0.52	3.30	9825
Inactive population- other	29.99	0.60	2.01	13369
Non employment	25.98	0.46	1.77	25762
Frequent activity status and gender: females	20.39	0.44	2.15	23779
Females employment	6.62	0.35	5.32	7882
Females unemployment	37.88	1.69	4.45	1387
Females retired	16.52	0.70	4.23	4287
Females inactive population- other	30.39	0.63	2.08	10223
Total females non employment	27.40	0.50	1.84	15897
Frequent activity status and gender: males	16.61	0.46	2.76	21773
Males employment	11.00	0.36	3.27	11908
Males unemployment	49.82	2.42	4.85	1181
Males retired	15.22	0.60	3.95	5538
Males inactive population- other	28.48	1.12	3.93	3146
Total males non employment	23.62	0.63	2.65	9865

	Value	Absolute sampling error	Relative sampling error %	Effective sample size (persons)
	(a)	(b)	(c)=(b)/(a)*100	(d)
<i>Household type</i>				
Total no dependent children	15.91	0.33	2.06	27348
One person household, under 65 years	21.48	0.99	4.60	2701
One person household, 65 years and over	33.78	0.99	2.93	2790
One person household, male	19.04	1.00	5.25	2095
One person household, female	33.03	0.91	2.75	3396
One person household, total	27.49	0.68	2.48	5491
2 adults, no dependent children, both adults under 65 years	11.32	0.66	5.86	4886
2 adults, no dependent children, at least one adult 65 years or more	18.37	0.76	4.12	6548
Other households without dependent children	8.93	0.57	6.38	10423
Total dependent children	23.35	0.58	2.50	27164
Single parent household, one or more dependent children	31.87	2.15	6.76	1467
2 adults, one dependent child	17.66	0.92	5.21	6747
2 adults, two dependent children	22.11	0.98	4.43	9772
2 adults, three or more dependent children	40.77	2.85	6.99	2697
other households with dependent children	22.98	1.39	6.07	6481

	Value	Absolute sampling error	Relative sampling error %	Effective sample size (persons)
<i>Accommodation tenure status</i>				
Owner or rent free	17.3	0.38	2.22	46145
tenant	30.4	0.89	2.93	8367

	Value	Absolute sampling error	Relative sampling error %	Effective sample size (persons)
	(a)	(b)	(c)=(b)/(a)*100	(d)
At risk of pov. rate 60% (before s.t.) without pension				
<i>Age and gender</i>				
Female18- 64	35.84	0.45	1.24	17350
Female 65+	84.81	0.55	0.65	6119
Female 18+	48.70	0.35	0.73	23469
Male 18-64	31.02	0.46	1.47	16794
Male 65 +	81.60	0.70	0.85	4603
Male 18+	41.41	0.39	0.93	21397
0-17	33.85	0.68	1.99	9646
18-64	33.44	0.39	1.16	34144
65+	83.46	0.49	0.58	10722
18+	45.20	0.32	0.71	44866
female	46.41	0.35	0.75	28099
male	39.83	0.38	0.95	26413

	Value	Absolute sampling error	Relative sampling error %	Effective sample size (persons)
	(a)	(b)	(c)=(b)/(a)*100	(d)
At risk of pov. rate 60%(before s.t.)				
with pension				
<i>Age and gender</i>				
Female18- 64	23.32	0.41	1.77	17350
Female 65+	26.28	0.68	2.60	6119
Female 18+	24.10	0.35	1.44	23469
Male 18-64	20.46	0.43	2.11	16794
Male 65 +	19.72	0.73	3.69	4603
Male 18+	20.31	0.37	1.85	21397
0-17	31.93	0.68	2.13	9646
18-64	21.90	0.37	1.70	34144
65+	23.53	0.57	2.42	10722
18+	22.28	0.31	1.40	44866
female	25.00	0.35	1.40	28099
male	22.36	0.38	1.70	26413

	Value	Absolute sampling error	Relative sampling error %	Effective sample size (persons)
	(a)	(b)	(c)=(b)/(a)*100	(d)
Relative median at risk pov. Gap				
<i>Age and gender</i>				
Female18- 64	28.12	0.87	3.09	2871
Female 65+	18.78	0.52	2.74	1429
Female 18+	22.68	0.57	2.51	4300
Male 18-64	27.67	1.07	3.85	2359
Male 65 +	16.00	0.73	4.56	805
Male 18+	24.24	0.85	3.52	3164
0-17	28.92	1.42	4.89	2059
18-64	27.97	0.86	3.08	5230
65+	17.97	0.49	2.72	2234
18+	23.36	0.62	2.66	7464
female	23.99	0.66	2.76	5287
male	24.69	0.87	3.53	4236

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; the one belonging to the second rotational group was extracted in July 2006 and validated within September 2006, 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

The following table shows the number of households for which the interview is accepted for the database and number of persons of 16 years or older who are members of the households for which the interview is accepted for the database, by rotational group.

Rotational Group (DB075)	Households (%)	Persons of 16 years or older (%)
1	5426 (25.24)	11683 (25.41)
2	6167 (28.69)	12956 (28.18)
3	4903 (22.81)	10638 (23.14)
4	5003 (23.27)	10698 (23.27)
Total	21499 (100.00)	45975 (100.00)

2.3.3.2. Unit non-response

For the Italian 2006 SILC survey the address contact rate (R_a), the proportion of completed household interviews accepted for the database (R_p), the household non-response rate (NR_h), the proportion of complete personal interviews within the households accepted for the database (R_p), the individual non-response rates (NR_p) and the overall individual non-response rates ($NR_{p_overall}$) are shown below:

TYPE OF RATE	VALUE
RA	0.99042
RH	0.86258
NRH	14.5679
RP	1
NRP	0.000
NRP_OVERALL	14.5679

where:

$$NR_h = (1 - (R_a * R_h)) * 100$$

Where:

$$R_a = \frac{\text{Number of addresses successfully contacted}}{\text{Number of valid addresses selected}} = \frac{\sum[DB120 = 11]}{\sum[DB120 = all] - \sum[DB120 = 23]}$$

R_a is the address contact rate

$$R_h = \frac{\text{Number of household interviews completed and accepted for database}}{\text{Number of eligible households at contacted addresses}} = \frac{\sum[DB135 = 1]}{\sum[DB130 = all]}$$

R_h is the proportion of complete household interviews accepted for the database

DB120 is the record of contact at the address

DB130 is the household questionnaire result, and

DB135 is the household interview acceptance result.

$$NR_p = (1 - (R_p)) * 100$$

Where:

$$R_p = \frac{\text{Number of personal interviews completed}}{\text{Number of eligible individuals in the households whose interviews were completed and accepted for the database}} = \frac{\sum[RB250 = 11 + 12 + 13]}{\sum[RB245 = 1 + 2 + 3]}$$

R_p is the proportion of complete personal interviews within the households accepted for the database

RB245 is the respondent status, and

RB250 is the data status.

Overall individual non-response rates ($NR_{p_overall}$) has been computed as follows:

$$NR_{p_overall} = (1 - (R_a * R_h * R_p)) * 100$$

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

Frequency Percent Row Pct Col Pct Rotational Group (DB075)	DB120					DB130						DB135
	11	21	22	23	Total	11	21	22	23	24	Total	1
1	6153	19	21	159	6352	5426	424	200	50	53	6153	5426
	23.71	0.07	0.08	0.61	24.48	21.77	1.7	0.8	0.2	0.21	24.69	25.24
	96.87	0.3	0.33	2.5		88.18	6.89	3.25	0.81	0.86		100
	24.69	14.73	18.75	20.28		25.24	22.36	21.69	20.75	14.48		25.24
2	7527	73	53	368	8021	6167	721	355	92	192	7527	6167
	29.01	0.28	0.2	1.42	30.91	24.74	2.89	1.42	0.37	0.77	30.2	28.69
	93.84	0.91	0.66	4.59		81.93	9.58	4.72	1.22	2.55		100
	30.2	56.59	47.32	46.94		28.69	38.03	38.5	38.17	52.46		28.69
3	5583	17	19	110	5729	4903	387	195	48	50	5583	4903
	21.52	0.07	0.07	0.42	22.08	19.67	1.55	0.78	0.19	0.2	22.4	22.81
	97.45	0.3	0.33	1.92		87.82	6.93	3.49	0.86	0.9		100
	22.4	13.18	16.96	14.03		22.81	20.41	21.15	19.92	13.66		22.81
4	5661	20	19	147	5847	5003	364	172	51	71	5661	5003
	21.82	0.08	0.07	0.57	22.53	20.07	1.46	0.69	0.2	0.28	22.71	23.27
	96.82	0.34	0.32	2.51		88.38	6.43	3.04	0.9	1.25		100
	22.71	15.5	16.96	18.75		23.27	19.2	18.66	21.16	19.4		23.27
Total	24924	129	112	784	25949	21499	1896	922	241	366	24924	21499
	96.05	0.5	0.43	3.02	100	86.26	7.61	3.7	0.97	1.47	100	100

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

In Italy the substitution of non-respondents units is not applied.

2.3.3.5. Item non-response

Table 1. Distribution of item non-response

	(A) % of households having received an amount	(B) % of households with missing values (before imputation)	(C) % of households with partial information (before imputation)
Item non-response			
Total disposable household income	99.57	0.32	38.90
Total disposable household income before social transfers other than old-age and survivors' benefits	99.30	0.47	37.00
Total disposable household income including old-age and survivors' benefits	93.94	1.33	36.06
<i>Net income components at household level</i>			
Income from rentals of properties or lands	6.94	0.62	0.17
Family/children related allowances	28.52	2.32	0.67
Social exclusion	0.59	0.20	0.00
Housing allowances	1.59	0.40	0.01
Transfers received	4.63	0.42	0.05
Interest. dividends. Profits	45.69	6.07	1.92
Interest repayments on mortgage	11.29	11.29	0.00
Income of people aged less than 16	0.72	0.18	0.01
Regular taxes on wealth	67.66	2.64	1.14
Transfers paid	4.48	0.34	0.02
Repayments/receipts for tax adjustment	39.33	3.01	1.20
	% of persons 16 + having received an amount	% of persons with missing values (before imputation)	% of persons with partial information (before imputation)
<i>Net income components at personal level</i>			
Employee cash or near-cash income	40.40	0.94	10.95
Non cash employee income	0.82	0.00	0.00
Contributions to individual private pension plan	6.63	0.60	0.00
Cash benefit or losses from self-employment	16.75	2.45	0.38
Pension from individual private plans	0.17	0.00	0.00
Unemployment benefits	8.72	0.13	0.03
Old-age benefits	28.87	0.02	0.03
Survivor' benefits	1.67	0.00	0.00
Disability benefits	3.27	0.02	0.00
Education related allowances	0.62	0.06	0.00
Gross monthly earnings of employees	33.15	2.83	0.00

Note to table 2.3.3.5

The variable "interest repayments on mortgage" is derived on the basis of survey's information and the percentage of households having received an amount is equal to the

percentage of households with missing value before imputation. For old age benefits, disability benefits and survivor' benefits, administrative data cover about 95% of Eu-Silc pensioners.

2.3.3.6 The total item non-response for equivalised disposable income is 0.32 per cent (number of observations is 69) and the total number of observations is 21.499 (unit=households). For unadjusted gender pay gap the total item non-response is 2.83 per cent (number of observations is 1303) and the total number of observations is 45.975 (unit=individuals 16 +).

2.4. Mode of data collection

The distribution of individuals aged 16 and over by data status (RB250) and by type of interview (RB260) is shown below. As the non-respondent individuals belonging to interviewed households have been completely imputed with donor method, the distribution of individual by data status is that of the achieved sample size of individuals aged 16 and over, reported in § 2.3.3.1.

Rotational Group (DB075)	Frequency Percent Row Pct Col Pct	RB260			Total
		RB250	Face to face interview-PAPI	Proxy interview	
1	11683	9707	1824	152	11683
	25.41	21.11	3.97	0.33	25.41
		83.09	15.61	1.3	
		25.33	26	24.01	
2	12956	10843	1894	219	12956
	28.18	23.58	4.12	0.48	28.18
		83.69	14.62	1.69	
		28.29	27	34.6	
3	10638	8920	1572	146	10638
	23.14	19.4	3.42	0.32	23.14
		83.85	14.78	1.37	
		23.27	22.41	23.06	
4	10698	8856	1726	116	10698
	23.27	19.26	3.75	0.25	23.27
		82.78	16.13	1.08	
		23.11	24.6	18.33	
Total	45975	38326	7016	633	45975
	100	83.36	15.26	1.38	100

2.5. Interview duration

The mean household interview duration, calculated as prescribed amounts to 68 minutes.

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 number of these persons included in the sample was 30 (0,1% with respect to the total number of households and 0.05% 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 2006 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. and an assessment. if available, of the consequences of the differences mentioned will be reported for the following target variables:

- total household gross income: *not available before 2007*;
- 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: 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: *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 2009, 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 with gross incomes.*
- 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 before 2007*;
- 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: *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 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 (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.*

4. COHERENCE

4.1. Comparison of income target variables and number of persons who receive income from each 'income component', with external sources

In this section we present the main results of the comparison between EU-SILC data and external data sources for the principal income target variables. In particular, we focus on the following net income components: 1) Employee cash or near cash income (PY010N); 3) A variable computed as the sum of Old-age benefits (PY100N), Survival benefits (PY110N) and Disability benefits (PY130N). Data from National Accounts and Labour Force Survey by Istat, Fiscal Agencies of the Ministry of the Economy and Pensions Register by INPS (National Institute for Social Security) are used as external benchmarks. As the tax on employee cash or near income paid is not available, it is estimated by

applying the tax rate shown in 2004 to the gross employee cash estimated in 2005, on the basis of the hypothesis that fiscal burden is not changed over the two years.

The table 1 shows that the EU-SILC 2006 estimate of the net employee cash or near income is very close to the Italian National Accounts value: 1% over. Table 2 shows the coherence of EU-SILC 2005 estimate with the ones of Fiscal Agencies for the number of people who earn employee cash or near income. Differences in applied definitions – i.e. domestic vs resident employment – can explain well the gap in estimates.

Table 1

PY010N	millions of euro – 2005	
Economic components:	National Accounts* and Fiscal Agencies**	Eu-Silc_06
PY010G Gross employee cash or near income* (+)	418.970	-
Social contribution* (-)	34.725	-
Tax on employee cash or near income**(a) (-)	70.470	-
Net employee cash or near income	313.775	317.315

Table 2

Number of people who receive employee cash or near cash income	Thousands of units – 2005	
	Fiscal Agencies**	Eu-Silc_06
	20.950 ^(a)	20.453

Due to the different definitions, National Accounts are not directly comparable with EU-SILC estimates on self-employment incomes. In table 3 are compared the EU-SILC 2006 estimate of number of self-employment incomes earners with the self-employed of other sources. Notice that in LFS a worker is classified as an independent on the basis of his/her main activity. With respect to NA, the estimate of self-employed units in term of full time equalised workers are presented. The EU-SILC estimate is referred to the number of people whose earnings from self-employment may have been temporary and/or from a secondary working activity.

Table 3

Number of people who receive self-employment benefits (PY050N)	Thousands of units – 2005		
	National Accounts (ula*)	Labour force survey estimate Istat	Eu-Silc_06
	6.979	6.029	8.091

(*) full time equivalent unit of workers

Finally, in tables 4 and 5 are reported data on social expenditure and beneficiaries for three kind of functions put all together: old-age, survival and disability. In both cases, EU-SILC 2005 estimates are quite close to other sources' ones.

Table 4

PY100N-PY110N-Y130N

Millions of euro - 2005

Economic Components:	National Account* and Fiscal Agencies**	Eu-Silc_06
PY100G-PY110G-PY130G (+)	214.881	-
Tax on Old-age-Survival-disability benefits (-)	27.390	-
PY100N-PY110N-PY130N	187.491	180.361

Table 5

	Thousands – 2005	
Number of beneficiaries of Old-age-Survival-disability benefits	Pension Register of INPS (excluded persons aged under 15 and/or residing abroad)	Eu-Silc_05
	15.890	15.634