

# **INTERMEDIATE QUALITY REPORT**

**Cross-Sectional Survey 2007**

**ITALY**

1. COMMON CROSS-SECTIONAL EUROPEAN UNION INDICATORS .....	3
1.1. Common cross-sectional EU indicators based on the cross-sectional component of EU-SILC.....	3
2. ACCURACY .....	12
2.1. Sampling design .....	12
2.1.1 Type of sampling (stratified, multi-stage, clustered) .....	12
2.1.2 Sampling units (one stage, two stages) .....	12
2.1.3 Stratification and sub-stratification criteria.....	13
2.1.4 Sample size and allocation criteria .....	13
2.1.5 Sample selection schemes.....	14
2.1.6 Sample distribution over the time .....	14
2.1.7 Renewal of sample: Rotational groups .....	14
2.1.8. Weightings.....	15
2.1.8.1 Design weight.....	15
2.1.8.2 Non-response adjustments.....	15
2.1.8.3 Adjustments to external data (level, variables used and sources).....	16
2.1.8.4 Final cross-sectional weights .....	17
2.1.9. Substitutions .....	17
2.2. Sampling errors .....	17
2.2.1. Standard errors and effective sample size.....	17
2.3. Non-sampling errors .....	28
2.3.1. Sampling frame and coverage errors .....	28
2.3.2. Measurement and processing errors .....	28
2.3.2.1. Measurement errors .....	28
2.3.2.2. Processing errors .....	28
2.3.3. Non-response errors.....	29
2.3.3.1. Achieved sample size .....	29
2.3.3.2. Unit non-response.....	30
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 .....	31
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.....	31
2.3.3.5. Item non-response.....	32
2.3.3.6 The total item non-response and number of obs in the sample at unit level of the common cross- sectional European Union indicators based on the cross-sectional component of EU-SILC, for equivalised disposable income and for the unadjusted gender pay gap. ....	33
2.4. Mode of data collection .....	33
2.5. Interview duration.....	34
3. COMPARABILITY .....	34
3.1. Basic concepts and definitions.....	34
3.2. Components of income .....	35
3.2.1. Differences between the national definitions and standard EU-SILC definitions .....	35
3.2.2. The source or procedure used for the collection of income variables.....	37
3.2.3. The form in which income variables at component level have been obtained.....	37
4. COHERENCE .....	37
4.1. Comparison of income target variables and number of persons who receive income from each ‘income component’, with external sources.....	38

# 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 overarching indicators, the social inclusion indicators and the pensions indicators are reported.

### *Portfolio of Overarching Indicators calculated from SILC*

*[OV-1] At-risk-of-poverty threshold (illustrative values)*

Household type	currency	2007
A1 (Single person)	EUR	9003
	NAC	9003
	PPS	8748
A2_2CH_LT14 (Two adults with two children younger than 14 years)	EUR	18907
	NAC	18907
	PPS	18371

*[OV-1a] At-risk-of-poverty rate (by age and gender)*

Age	Sex	2007
TOTAL	T	20
	M	18
	F	21
Y0_17	T	25
Y18_64	T	18
	M	16
	F	19
Y65_MAX	T	22
	M	18
	F	25

*[OV-1b] Relative median at-risk-of-poverty gap (by age and gender)*

age	sex	2007
TOTAL	T	22
	M	24
	F	22
Y0_17	T	25
Y18_64	T	25
	M	25
	F	25
Y65_MAX	T	19
	M	17
	F	20

[OV-9] At-risk-of-poverty rate anchored at a fixed moment in time (2005) (by age and gender)

age	sex	2007
TOTAL	T	20
	M	18
	F	21
Y0_17	T	25
Y18_64	T	17
	M	16
	F	19
Y65_MAX	T	22
	M	18
	F	25

[OV-11] In-work at-risk-of-poverty rate (by gender)

sex	2007
T	10
M	12
F	7

[OV-2] Inequality of income distribution S80/S20 income quintile share ratio

	2007
S80_S20	5.5

[OV-7a] Relative median income ratio

	2007
R_GE65_45TO54 (Persons aged 65 years and over compared to persons aged between 45 and 54 years)	0.8

[OV-7b] Aggregate replacement ratio

	sex	2007
R_PN_WK (Ratio of income from pensions of persons aged between 65 and 74 years and income from work of persons aged between 50 and 59 years)	T	0.48
	M	0.55
	F	0.36

[OV-C11] At-risk-of-poverty rate before social transfers (by age and gender)

age	sex	2007
TOTAL	T	43
	M	40
	F	46
Y0_17	T	34
Y18_64	T	33
	M	31
	F	35
Y65_MAX	T	84
	M	83
	F	85

## Streamlined Social Inclusion Portfolio: Social Inclusion indicators calculated from EU-SILC

[SI-P1] At-risk-of-poverty threshold (illustrative values)

Household type	currency	2007
A1 (Single person)	EUR	9003
	NAC	9003
	PPS	8748
A2_2CH_LT14 (Two adults with two children younger than 14 years)	EUR	18907
	NAC	18907
	PPS	18371

[SI-P1a] At-risk-of-poverty rate, by gender and selected age groups

age	sex	2007
TOTAL	T	20
	M	18
	F	21
Y0_17	T	25
Y18_64	T	18
	M	16
	F	19
Y65_MAX	T	22
	M	18
	F	25

[SI-P3] Relative median at-risk-of-poverty gap, by age and gender

age	sex	2007
TOTAL	T	22
	M	24
	F	22
Y0_17	T	25
Y18_64	T	25
	M	25
	F	25
Y65_MAX	T	19
	M	17
	F	20

[SI-S1] At-risk-of-poverty rate, by age and gender

age	sex	2007
TOTAL	T	20
	M	18
	F	21
Y0_17	T	25
Y18_24	T	24
	M	22
	F	26
Y25_49	T	18
	M	16
	F	19
Y50_64	T	15

age	sex	2007
	M	14
	F	16
Y65_MAX	T	22
	M	18
	F	25

[SI-S1a] At-risk-of-poverty rate, by household type

Household type	2007
TOTAL	20
HH_NDCH (Households without dependent children)	17
A1_LT64 (One adult younger than 64 years)	21
A1_GE65 (One adult older than 65 years)	34
A1F (Single female)	33
A1M (Single male)	19
A2_2LT65 (Two adults younger than 65 years)	11
A2_GE1_GE65 (Two adults, at least one aged 65 years and over)	19
A_GE3 (Three or more adults)	11
HH_DCH (Households with dependent children)	23
A1_DCH (Single parent with dependent children)	31
A2_1DCH (Two adults with one dependent child)	15
A2_2DCH (Two adults with two dependent children)	23
A2_GE3DCH (Two adults with three or more dependent children)	41
A_GE3_DCH (Three or more adults with dependent children)	23

[SI-S1b] At-risk-of-poverty rate, by work intensity of the household and by gender and selected age

Age	sex	Household type	Household Work intensity	2007
TOTAL	T	HH_NDCH (Households without dependent children)	MAXWORK	4
			SOMEWORK	11
			NONEWORK	32
		HH_DCH (Households with dependent children)	MAXWORK	5
			SOMEGE05	27
			SOMELT05	51
			NONEWORK	68
	M	HH_NDCH (Households without dependent children)	MAXWORK	4
			SOMEWORK	11
			NONEWORK	30
		HH_DCH (Households with dependent children)	MAXWORK	5
			SOMEGE05	26
			SOMELT05	51
			NONEWORK	70
	F	HH_NDCH (Households without dependent children)	MAXWORK	4
			SOMEWORK	11
			NONEWORK	33
		HH_DCH (Households with dependent children)	MAXWORK	5
			SOMEGE05	27
			SOMELT05	52
			NONEWORK	66

Age	sex	Household type	Household Work intensity	2007
Y0_17	T	HH_NDCH (Households without dependent children)	MAXWORK	.
			SOMEWORK	.
			NONEWORK	.
		HH_DCH (Households with dependent children)	MAXWORK	6
			SOMEGE05	31
			SOMELT05	60
			NONEWORK	78
Y18_64	T	HH_NDCH (Households without dependent children)	MAXWORK	5
			SOMEWORK	11
			NONEWORK	32
		HH_DCH (Households with dependent children)	MAXWORK	5
			SOMEGE05	25
			SOMELT05	48
			NONEWORK	64
	M	HH_NDCH (Households without dependent children)	MAXWORK	5
			SOMEWORK	11
			NONEWORK	31
		HH_DCH (Households with dependent children)	MAXWORK	4
			SOMEGE05	24
			SOMELT05	47
			NONEWORK	65
	F	HH_NDCH (Households without dependent children)	MAXWORK	5
			SOMEWORK	11
			NONEWORK	33
		HH_DCH (Households with dependent children)	MAXWORK	5
			SOMEGE05	25
			SOMELT05	49
			NONEWORK	63
Y65_MAX	T	HH_NDCH (Households without dependent children)	MAXWORK	2
			SOMEWORK	6
			NONEWORK	30
		HH_DCH (Households with dependent children)	MAXWORK	1
			SOMEGE05	12
			SOMELT05	58
			NONEWORK	56
	M	HH_NDCH (Households without dependent children)	MAXWORK	1
			SOMEWORK	6
			NONEWORK	28
		HH_DCH (Households with dependent children)	MAXWORK	1
			SOMEGE05	13
			SOMELT05	52
			NONEWORK	51
	F	HH_NDCH (Households without dependent children)	MAXWORK	3
			SOMEWORK	7
			NONEWORK	33
		HH_DCH (Households with dependent children)	MAXWORK	1

Age	sex	Household type	Household Work intensity	2007
			SOMEGE05	12
			SOMELO05	64
			NONEWORK	63

[SI-S1c] At-risk-of-poverty rate, by most frequent activity status and by gender

Most frequent activity status	sex	2007
EMP (Employment)	T	10
	M	12
	F	7
NOT_EMP (Non employment)	T	26
	M	23
	F	27
UNE (Unemployment)	T	44
	M	50
	F	39
RETIR (Retired)	T	16
	M	15
	F	16
INACT_OTH (Inactive population - Other)	T	30
	M	29
	F	31

[SI-S1d] At-risk-of-poverty rate, by accommodation tenure status and by gender and selected age groups

Age	sex	Accommodation tenure status	2007
TOTAL	T	OWNER	17
		RENT	32
	M	OWNER	16
		RENT	31
	F	OWNER	19
		RENT	33
Y0_17	T	OWNER	20
		RENT	44
Y18_64	T	OWNER	15
		RENT	29
	M	OWNER	14
		RENT	28
	F	OWNER	16
		RENT	31
Y65_MAX	T	OWNER	21
		RENT	25
	M	OWNER	17
		RENT	23
	F	OWNER	25
		RENT	27



[SI-S1e] Dispersion around the at-risk-of-poverty threshold [by gender and selected age group]

	age	sex	2007
At risk of poverty rate 40% median	TOTAL	T	7
		M	7
		F	7
	Y0_17	T	10
	Y18_64	T	7
		M	6
		F	7
	Y65_MAX	T	5
		M	4
		F	5
At risk of poverty rate 50% median	TOTAL	T	12
		M	11
		F	13
	Y0_17	T	16
	Y18_64	T	11
		M	11
		F	12
	Y65_MAX	T	12
		M	9
		F	14
At risk of poverty rate 70% median	TOTAL	T	27
		M	25
		F	29
	Y0_17	T	35
	Y18_64	T	24
		M	23
		F	26
	Y65_MAX	T	31
		M	26
		F	34

[SI-C1] Inequality of income distribution S80/S20 income quintile share ratio

	2007
S80_S20	5.5

[SI-C2] Inequality of income distribution Gini coefficient

	2007
GINI	32

[SI-C5] At-risk-of-poverty rate anchored at a fixed moment in time (2005) (by age and gender)

age	sex	2007
TOTAL	T	20
	M	18
	F	21
Y0_17	T	25
Y18_64	T	17

age	sex	2007
	M	16
	F	19
Y65_MAX	T	22
	M	18
	F	25

*[SI-C6] At-risk-of-poverty rate before social transfers, by gender and selected age groups (except pensions)*

age	sex	2007
TOTAL	T	24
	M	23
	F	25
Y0_17	T	32
Y18_64	T	22
	M	21
	F	23
Y65_MAX	T	24
	M	20
	F	27

*[SI-C8] In-work at-risk-of-poverty rate (by full-time/part-time work)*

	2007
FULLTIME	9
PARTTIME	14

### ***Portfolio of Pension Indicators calculated from SILC - Adequacy of pensions***

*[PN-P1] At-risk-of-poverty rate of older people*

age	sex	2007
Y0_64	T	19
	M	18
	F	20
Y65_MAX	T	22
	M	18
	F	25

*[PN-P2] Relative median income ratio of elderly people (65+)*

	sex	2007
R_GE65_45TO54 (Persons aged 65 years and over compared to persons aged between 45 and 54 years)	T	0.8
	M	0.85
	F	0.78

*[PN-P3] Aggregate replacement ratio*

	sex	2007
R_PN_WK (Ratio of income from pensions of persons aged between 65 and 74 years and income from work of persons aged between 50 and 59 years)	T	0.48
	M	0.55
	F	0.36

*[PN-S1] At-risk-of-poverty rate of older people*

age	sex	2007
Y0_59	T	20
	M	19
	F	20
Y0_74	T	20
	M	18
	F	21
Y60_MAX	T	21
	M	17
	F	23
Y75_MAX	T	23
	M	17
	F	26

*[PN-S2] Relative median income ratio of elderly people (60+)*

	sex	2007
R_GE60_45TO54 (Persons aged 60 years and over compared to persons aged between 45 and 54 years)	T	0.84
	M	0.88
	F	0.81

*[PN-S4] Inequality of income distribution S80/S20 income quintile share ratio*

age	2007
Y0_64	5.7
Y65_MAX	4.6

*[PN-S5] Relative median at-risk-of-poverty gap of elderly people*

age	sex	2007
Y65_MAX	T	19
	M	17
	F	20
Y75_MAX	T	17
	M	13
	F	19

*[PN-S6] At-risk-of-poverty rate for pensioners*

	sex	2007
RETIR (Retired)	T	16
	M	15
	F	16

*[PN-S7] At-risk-of-poverty rate of older people by accommodation tenure status*

age	accomodartion tenure status	2007
Y60_MAX	OWNER	20
	RENT	26
Y65_MAX	OWNER	21
	RENT	25
Y75_MAX	OWNER	23
	RENT	23

*[PN-S8] Dispersion around the at-risk-of-poverty threshold*

	age	2007
At risk of poverty rate 50% median	Y60_MAX	12
	Y65_MAX	12
	Y75_MAX	12
At risk of poverty rate 70% median	Y60_MAX	29
	Y65_MAX	31
	Y75_MAX	33

*[PN-P9] Gender differences in the at-risk-of-poverty rate of older people*

	age	2007
A1 (Single person)	Y0_64	-7
	Y65_MAX	-15

*[PN-P10] Gender differences in the relative median income ratio of older people*

	indic_il	2007
A1 (Single person)	R_GE65_LT65 (Persons aged 65 years and over compared to persons aged less than 65 years)	0.06

*[PN-S11] Gender differences in the relative median income ratio of older people*

	indic_il	2007
A1 (Single person)	R_GE60_LT60 (Persons aged 60 years and over compared to persons aged less than 60 years)	0.09
	R_GE75_LT75 (Persons aged 70 years and over compared to persons aged less than 75 years)	-0.04

## 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
<25	570	6763	11.9
26-50	373	11364	30.5
51-75	36	2077	57.7
76-100	11	934	84.9
101-250	13	1876	144.3
>250	5	2389	477.8
Total	1008	25403	25.2

### 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 deft 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:

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

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,  $T(c) = 0.25 * T(reg) + 0.75 * T(mr)$ , has been applied to inflate the achieved sample size so that

$$n(sel) = n(ach) / T(c).$$

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

Table 2

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

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

### 2.1.5 Sample selection schemes

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

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

### 2.1.6 Sample distribution over the time

The sample is not distributed over time.

### 2.1.7 Renewal of sample: Rotational groups

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

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

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

### 2.1.8. Weightings

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;

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

$n_h$  is the number of sample municipalities in the stratum  $h$ ;

$P_h$  is the population resident in the stratum  $h$ ;

$P_{hi}$  is the population in the municipality  $i$  of the stratum  $h$ ;

$M_{hi}$  is the number of households resident in the municipality  $i$  of the stratum  $h$ ;

$m_{hi}$  is the number of sample households in the municipality  $i$  of the stratum  $h$ .

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  $\psi_j$ , 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).

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 2007-, sampling errors were calculated for the following EU indicators based on the cross-sectional component of EU-SILC.

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.

#### **EU indicators- year 2007: sampling errors and effective sample size**

	<b>Value</b>	<b>Absolute sampling error</b>	<b>Relative sampling error %</b>	<b>Effective sample size (persons) 2007</b>
	(a)	(b)	(c)=(b)/(a)*100	(d)
At risk of pov. threshold	9003	47.66	0.53	52722
At risk of pov. rate 60% (after s.t.)	20	0.33	1.67	52722
At risk of pov. rate 40% (after s.t.)	7	0.26	3.74	52722
At risk of pov. rate 50% (after s.t.)	12	0.33	2.71	52722
At risk of pov. rate 70% (after s.t.)	27	0.31	1.14	52722
At risk of pov. rate 60% (before s.t.) without pensions	43	0.31	0.72	52722
At risk of pov. rate 60% (before s.t.) with pensions	24	0.31	1.30	52722
S80/S20	5	0.09	1.79	52722
Relative median at risk pov. gap	22	0.67	3.07	9349
Gini index	32	0.26	0.83	52722
Equivalised disposable income	17213	94.67	0.55	52722

BREAKDOWNS				
	Value	Absolute sampling error	Relative sampling error %	Effective sample size (persons) 2007
	(a)	(b)	(c)=(b)/(a)*100	(d)
<b>At risk of pov. rate 60% (after s.t.)</b>				
<i>Age and Gender</i>				
0-17	25	0.68	2.73	9249
18-24	24	1.02	4.25	3784
25-49	18	0.44	2.44	18833
50-64	15	0.46	3.07	10355
18-64	18	0.38	2.08	32972
65+	22	0.56	2.55	10551
0-59	20	0.43	2.15	39017
60+	21	0.47	2.24	13755
0-74	20	0.38	1.90	48032
75+	23	0.75	3.26	4740
Female 18-24	26	1.23	4.73	1912
Female 25-49	19	0.49	2.58	9602
Female 50-64	16	0.56	3.50	5290
Female 18-64	19	0.41	2.18	16804
Female 65+	25	0.67	2.70	6052
Female 0-59	20	0.46	2.30	19628
Female 60+	23	0.60	2.61	7708
Female 0-74	21	0.41	1.95	24405
Female 75+	26	0.93	3.58	2931
Male 18-24	22	1.47	6.68	1872
Male 25-49	16	0.50	3.13	9231
Male 50-64	14	0.58	4.14	5065
Male 18-64	16	0.42	2.64	16168
Male 65+	18	0.71	3.92	4499
Male 0-59	19	0.49	2.58	19389
Male 60+	17	0.53	3.12	6047
Male 0-74	18	0.42	2.33	23627
Male 75+	17	1.03	6.06	1809
Female	21	0.37	1.77	27336
Male	18	0.37	2.08	25436

<b>BREAKDOWNS</b>				
	<b>Value</b>	<b>Absolute sampling error</b>	<b>Relative sampling error %</b>	<b>Effective sample size (persons) 2007</b>
	(a)	(b)	(c)=(b)/(a)*100	(d)
<b>At risk of pov. rate 60% anchored at a fixed moment in time</b>				
<i>Age and Gender</i>				
Total	20	0.35	1.75	52772
Female 18-64	19	0.40	2.11	16804
Female 65+	25	0.68	2.72	6052
Male 18-64	16	0.43	2.69	16168
Male 65+	18	0.63	3.50	4499
Female	21	0.38	1.81	27336
Male	18	0.40	2.22	25436

<b>BREAKDOWNS</b>				
	<b>Value</b>	<b>Absolute sampling error</b>	<b>Relative sampling error %</b>	<b>Effective sample size (persons) 2007</b>
	(a)	(b)	(c)=(b)/(a)*100	(d)
<b>Dispersion around poverty threshold (40%)</b>				
<i>Age and Gender</i>				
Total	7	0.24	3.43	52772
0-17	10	0.55	5.50	9249
18-64	7	0.25	3.57	32972
65+	5	0.26	5.20	10551
Female	7	0.27	3.86	27336
Female 18-64	7	0.29	4.14	16804
Female 65+	5	0.36	7.20	6052
Male	7	0.27	3.86	25436
Male 18-64	6	0.28	4.67	16168
Male 65+	4	0.32	8.00	4499

<b>BREAKDOWNS</b>				
	<b>Value</b>	<b>Absolute sampling error</b>	<b>Relative sampling error %</b>	<b>Effective sample size (persons) 2007</b>
	(a)	(b)	(c)=(b)/(a)*100	(d)
<b>Dispersion around poverty threshold (50%)</b>				
<i>Age and Gender</i>				
Total	12	0.31	2.58	52772
0-17	16	0.66	4.13	9249
18-64	11	0.33	3.00	32972
65+	12	0.46	3.83	10551
60+	12	0.40	3.33	13755
75+	12	0.63	5.25	4740
Female	13	0.35	2.69	27336
Female 18-64	12	0.35	2.92	16804
Female 65+	14	0.61	4.36	6052
Male	11	0.34	3.09	25436
Male 18-64	11	0.38	3.45	16168
Male 65+	9	0.49	5.44	4499

<b>BREAKDOWNS</b>				
	<b>Value</b>	<b>Absolute sampling error</b>	<b>Relative sampling error %</b>	<b>Effective sample size (persons) 2007</b>
	(a)	(b)	(c)=(b)/(a)*100	(d)
<b>Dispersion around poverty threshold (70%)</b>				
<i>Age and Gender</i>				
Total	27	0.33	1.22	52772
0-17	35	0.69	1.97	9249
18-64	24	0.36	1.50	32972
65+	31	0.61	1.97	10551
60+	29	0.52	1.79	13755
75+	33	0.87	2.64	4740
Female	29	0.37	1.28	27336
Female 18-64	26	0.41	1.58	16804
Female 65+	34	0.74	2.18	6052
Male	25	0.38	1.52	25436
Male 18-64	23	0.43	1.87	16168
Male 65+	26	0.76	2.92	4499

	Value	Absolute sampling error	Relative sampling error %	Effective sample size (persons) 2007
	(a)	(b)	(c)=(b)/(a)*100	(d)
<b>S80/S20</b>				
<i>Age and Gender</i>				
0-64	6	0.10	1.67	7365
65+	5	0.10	2.00	1993
<b>BREAKDOWNS</b>				
<b>At risk of pov. rate 60% (after s.t.)</b>				
<i>Frequent activity status</i>				
Employment	10	0.27	2.65	19562
Unemployment	44	1.51	3.44	2331
Retired	16	0.51	3.19	9450
Inactive population- other	30	0.60	1.99	13018
Non employment	26	0.44	1.69	23779
Females employment	7	0.35	5.02	7849
Females unemployment	39	1.60	4.10	1243
Females retired	16	0.69	4.32	4190
Females inactive population- other	31	0.62	2.01	9955
Total females non employment	27	0.50	1.84	15388
Males employment	12	0.36	3.01	11713
Males unemployment	50	2.32	4.64	1088
Males retired	15	0.59	3.91	5260
Males inactive population- other	29	1.11	3.81	3063
Total males non employment	23	0.61	2.66	9411

<b>BREAKDOWNS</b>				
	<b>Value</b>	<b>Absolute sampling error</b>	<b>Relative sampling error %</b>	<b>Effective sample size (persons) 2007</b>
	(a)	(b)	(c)=(b)/(a)*100	(d)
<i>Household type</i>				
Total no dependent children	17	0.32	1.91	26769
One person household, under 65 years	21	0.98	4.67	2662
One person household, 65 years and over	34	1.00	2.95	2865
One person household, male	19	1.01	5.30	2128
One person household, female	33	0.91	2.76	3399
2 adults, no dependent children, both adults under 65 years	11	0.65	5.91	4694
2 adults, no dependent children, at least one adult 65 years or more	19	0.74	3.92	6354
Other households without dependent children	11	0.56	5.12	10194
Total dependent children	23	0.57	2.49	26003
Single parent household, one or more dependent children	31	2.11	6.81	1407
2 adults, one dependent child	15	0.91	6.04	6534
2 adults, two dependent children	23	0.94	4.11	9108
2 adults, three or more dependent children	41	2.92	7.13	2837
other households with dependent children	23	1.35	5.89	6117



BREAKDOWNS				
	Value	Absolute sampling error	Relative sampling error %	Effective sample size (persons) 2007
	(a)	(b)	(c)=(b)/(a)*100	(d)
<i>Accommodation tenure status</i>				
Owner or rent free	17	0.38	2.22	44705
tenant	32	0.88	2.74	8067
<i>Accommodation tenure status (Owner)</i>				
0-17	20	0.78	3.90	7593
18-64	15	0.41	2.73	27807
65+	21	0.57	2.71	9305
60+	20	0.50	2.50	12136
75+	23	0.81	3.52	4219
Female	19	0.41	2.16	23136
Female 18-64	16	0.44	2.75	14152
Female 65+	25	0.74	2.96	5301
Male	16	0.42	2.63	21569
Male 18-64	14	0.46	3.29	13655
Male 65+	17	0.65	3.82	4004
<i>Accommodation tenure status (Tenant)</i>				
0-17	44	1.85	4.20	1656
18-64	29	1.04	3.59	5165
65+	25	1.59	6.36	1246
60+	26	1.42	5.46	1619
75+	23	2.17	9.43	521
Female	33	1.12	3.39	4200
Female 18-64	31	1.14	3.68	2652
Female 65+	27	1.95	7.22	751
Male	31	1.16	3.74	3867
Male 18-64	28	1.20	4.29	2513
Male 65+	23	2.19	9.52	495

<b>BREAKDOWNS</b>				
	<b>Value</b>	<b>Absolute sampling error</b>	<b>Relative sampling error %</b>	<b>Effective sample size (persons) 2007</b>
	(a)	(b)	(c)=(b)/(a)*100	(d)
<b>At risk of pov. rate 60% (before s.t.)</b>				
<b>without pension</b>				
<i>Age and gender</i>				
Female18- 64	35	0.44	1.25	16804
Female 65+	85	0.55	0.64	6052
Male 18-64	31	0.45	1.45	16168
Male 65 +	83	0.69	0.83	4499
0-17	34	0.66	1.94	9249
18-64	33	0.38	1.16	32972
65+	84	0.48	0.57	10551
female	46	0.35	0.75	27336
male	40	0.37	0.93	25436

<b>BREAKDOWNS</b>				
	<b>Value</b>	<b>Absolute sampling error</b>	<b>Relative sampling error %</b>	<b>Effective sample size (persons) 2007</b>
	(a)	(b)	(c)=(b)/(a)*100	(d)
<b>At risk of pov. rate 60%(before s.t.)</b>				
<b>with pension</b>				
<i>Age and gender</i>				
Female18- 64	23	0.41	1.77	16804
Female 65+	27	0.68	2.52	6052
Male 18-64	21	0.42	2.02	16168
Male 65 +	20	0.72	3.60	4499
0-17	32	0.67	2.08	9249
18-64	22	0.37	1.66	32972
65+	24	0.56	2.35	10551
female	25	0.35	1.39	27336
male	23	0.37	1.62	25436
<b>BREAKDOWNS</b>				
	<b>Value</b>	<b>Absolute sampling error</b>	<b>Relative sampling error %</b>	<b>Effective sample size (persons) 2007</b>
	(a)	(b)	(c)=(b)/(a)*100	(d)
<b>Relative median at risk pov. Gap</b>				
<i>Age and gender</i>				
Female 18-64	25	0.86	3.44	2801
Female 65+	20	0.52	2.60	1461
Male 18-64	25	1.05	4.21	2302
Male 65 +	17	0.72	4.23	777
0-17	25	1.40	5.59	2008
18-64	25	0.85	3.40	5103
65 +	19	0.49	2.58	2238
female	22	0.66	2.99	5222
male	24	0.86	3.59	4127

## **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, the one belonging to the third rotational group was extracted in July 2007 and validated within September 2007, 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 2007, is based on (i) the first three 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.

<b>Rotational Group (DB075)</b>	<b>Households (%)</b>	<b>Persons of 16 years or older (%)</b>
1	4928 (23.49)	10589 (23.72)
2	5315 (28.69)	11240 (25.19)
3	6115 (29.14)	12956 (29.03)
4	4624 (22.04)	9844 (22.06)
<b>Total</b>	<b>20982 (100.00)</b>	<b>44629 (100.00)</b>

### 2.3.3.2. Unit non-response

For the Italian 2007 SILC survey the address contact rate (Ra), the proportion of completed household interviews accepted for the database (Rp), the household non-response rate (NRh), the proportion of complete personal interviews within the households accepted for the database (Rp), the individual non-response rates (NRp) and the overall individual non-response rates (NRp\_overall) are shown below, distinct :

TYPE OF RATE	NEW REPLICATION	TOTAL SAMPLE
RA	0.991	0.993
RH	0.811	0.855
NRH	19.687	15.029
RP	1	1
NRP	0.000	0.000
NRP_OVERALL	19.687	15.029

where:

$$NRh = (1 - (Ra * Rh)) * 100$$

Where:

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

Ra is the address contact rate

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

Rh 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.

$$NRp = (1 - (Rp)) * 100$$

Where:

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

Rp 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 (NRp\_overall) has been computed as follows:

$$NRp\_overall = (1 - (Ra * Rh * Rp)) * 100$$

**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
<b>1</b>	5701	27	8	112	5848	4928	395	229	59	90	5701	4928
	22.44	0.11	0.03	0.44		20.09	1.61	0.93	0.24	0.37		
	97.49	0.46	0.14	1.92		86.44	6.93	4.02	1.03	1.58		
	23.24	25	14.81	15.77	23.02	23.49	21.5	21.36	27.83	21.03	23.24	23.49
<b>2</b>	6096	17	17	144	6274	5315	405	280	29	67	6096	5315
	24	0.07	0.07	0.57		21.67	1.65	1.14	0.12	0.27		
	97.16	0.27	0.27	2.3		87.19	6.64	4.59	0.48	1.1		
	24.85	15.74	31.48	20.28	24.7	25.33	22.05	26.12	13.68	15.65	24.85	25.33
<b>3</b>	7542	51	21	363	7977	6115	730	394	85	218	7542	6115
	29.69	0.2	0.08	1.43		24.93	2.98	1.61	0.35	0.89		
	94.55	0.64	0.26	4.55		81.08	9.68	5.22	1.13	2.89		
	30.74	47.22	38.89	51.13	31.4	29.14	39.74	36.75	40.09	50.93	30.74	29.14
<b>4</b>	5192	13	8	91	5304	4624	307	169	39	53	5192	4624
	20.44	0.05	0.03	0.36		18.85	1.25	0.69	0.16	0.22		
	97.89	0.25	0.15	1.72		89.06	5.91	3.26	0.75	1.02		
	21.17	12.04	14.81	12.82	20.88	22.04	16.71	15.76	18.4	12.38	21.17	22.04
<b>Total</b>	24531	108	54	710	25403	20982	1837	1072	212	428	24531	20982
	96.57	0.43	0.21	2.79	100	85.53	7.49	4.37	0.86	1.74	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**

<b>Item non-response</b>	(A)	(B)	(C)
imputation)		% of households having received an amount	
(before imputation)		% of households with missing values (before	
		% of households with partial information	
Total household gross income <sup>4</sup>	99.30	0.29	81.44
Total disposable household income	99.55	0.42	22.84
Total disposable household income before social transfers other than old-age and survivors' benefits			
99.20	0.51	23.14	
Total disposable household income including old-age and survivors' benefits			94.78
	1.11	20.02	
<b>Net income components at household level<sup>5</sup></b>			
Imputed rent	0,00	0,00	0,00
Income from rental of a property or land	7.03	0.69	0.14
Family/children related allowances	27.90	2.26	0.51
Social exclusion not elsewhere classified	0.57	0.13	0,00
Housing allowances	1.59	0.24	0.02
Regular inter-household cash transfer received	4.86	0.50	0.05
Interest, dividends, profit from capital investments in unincorporated business			46.19
	6.89	2.55	
Interest repayments on mortgage	11.67	11.67	0,00
Income received by people aged under 16	0.71	0.09	0.27
Regular taxes on wealth	67.65	3.04	1.76
Regular inter-household cash transfer paid	4.45	0.26	0.03
Tax on income and social contributions	94.40	9.33	70.98
Repayments/receipts for tax adjustment	63.52	0.78	0.64
<b>Gross income component at household level<sup>6</sup></b>			
Imputed rent	15.99	100.00	0,00
Income from rental of a property or land	7.03	0.69	6.00
Family/children related allowances	27.90	2.26	0.65
Social exclusion not elsewhere classified	0.57	0.13	0.01
Housing allowances	1.59	0.24	0.09
Regular inter-household cash transfer received	4.86	0.50	0.17
Interest, dividends, profit from capital investments in unincorporated business			46.19
	6.89	39.31	
Interest repayments on mortgage	11.67	11.67	0,00
Income received by people aged under 16	0.71	0.09	0.27
Regular taxes on wealth	67.65	3.04	1.76
Regular inter-household cash transfer paid	4.45	0.26	0.03
Tax on income and social contributions	94.40	9.33	70.98

**Table 1. Distribution of item non-response**



	(A)	(B)	(C)	%
<b>Item non-response</b>	% of persons 16 having received an amount			
of persons 16 with missing values (before imputation)	% of persons 16 with partial information (before imputation)			
<b>Net income components at personal level<sup>6</sup></b>				
Employee cash or near cash income	40.49	0.45	0.12	
Non cash employee income	9.40	7.73	0.84	
Company car	0.70	0.01	0,00	
Employer's social insurance contribution	39.97	100.00	0,00	
Contributions to individual private pension plans	6.15	0.79	0,00	
Cash benefits or losses from self-employment	16.62	3.59	0.35	
Value of goods produced by own-consumption	25.66	2.74	0,00	
Pension from individual private plans	0.19	0.01	0,00	
Unemployment benefits	9.03	0.27	0.04	
Old-age benefits	29.86	1.27	1.38	
Survivor' benefits	1.69	0.04	0,00	
Disability benefits	3.23	0.15	0.00	
Education related allowances	0.51	0.06	0,00	
<b>Gross income components at personal level<sup>6</sup></b>				
Employee cash or near cash income	40.49	0.04	3.07	
Non cash employee income	9.40	7.73	0.84	
Company car	0.70	99.96	0,00	
Employer's social insurance contribution	39.97	39.97	0,00	
Contributions to individual private pension plans	6.15	0.79	0,00	
Cash benefits or losses from self-employment	16.62	0.52	4.13	
Value of goods produced by own-consumption	25.66	2.74	0,00	
Pension from individual private plans	0.19	0.00	0.02	
Unemployment benefits	9.03	0.30	8.64	
Old-age benefits	29.86	0.67	2.47	
Survivor' benefits	1.69	0.01	0.05	
Disability benefits	3.23	0.09	0.08	
Education related allowances	0.51	0.06	0,00	
Gross monthly earnings of employees	33.44	3.01	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 and number of obs in the sample at unit level of the common cross-sectional European Union indicators based on the cross-sectional component of EU-SILC, for equivalised disposable income and for the unadjusted gender pay gap.

The total item non-response for total disposable household income is 0.42 per cent (number of observations is 89) and the total number of observations is 20.982 (unit=households). For unadjusted gender pay gap the total item non-response is 3.01 per cent (number of observations is 1342) and the total number of observations is 44.629 (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.

Frequency Percent Row Pct Col Pct	RB250	RB260			Total
Rotational Group (DB075)	11	Face to face interview-PAPI	Proxy interview	Missing	
<b>1</b>	10589	8660	1772	157	10589
	23.73	19.4	3.97	0.35	23.73
		81.78	16.73	1.48	
		23.55	24.53	24.69	
<b>2</b>	11240	9230	1840	170	11240
	25.19	20.68	4.12	0.38	25.19
		82.12	16.37	1.51	
		25.1	25.47	26.73	
<b>3</b>	12956	10788	1964	204	12956
	29.03	24.17	4.4	0.46	29.03
		83.27	15.16	1.57	
		29.34	27.19	32.08	
<b>4</b>	9844	8092	1647	105	9844
	22.06	18.13	3.69	0.24	22.06
		82.2	16.73	1.07	
		22.01	22.8	16.51	
Total	44629	36770	7223	636	44629
	100	82.39	16.18	1.43	100

## 2.5. Interview duration

The mean household interview duration, calculated as prescribed amounts to 71 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 51 (0.19% with respect to the total number of households and 0.08% with respect to interviewed individuals).
- 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 2007 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, we run distinct probit models for owners/renters at a below-the-mkt price/free tenants vs tenants at a mkt 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 mkt 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'. 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: 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.

## **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, near cash income, non cash – income (PY010N+PY020N); 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. The table 1 shows that the EU-SILC 2006 estimate of the net employee income approximates to the Italian National Accounts value (0.5% under). Table 2 shows the coherence of EU-SILC 2006 estimate with the ones of Fiscal Agencies for the number of people who earn employee income during 2005. Differences in applied definitions (i.e. domestic vs resident employment), reference period and coverage of the two data sources can explain well the gap in estimates. The tax register does not report information on incomes and employees of the hidden economy, that are partially included in the survey.

Table 1

PY010N+PY020N	millions of euro – 2006	
Economic components:	National Accounts* and Fiscal Agencies**	Eu-Silc_07
Gross employee income (cash, near cash, non cash) * (+)	445.039	-
Social contribution paid on employee income* (-)	35.348	-
Tax on employee income** (-)	75.707	-
Net employee income (PY010N+PY020N)	333.984	332.480

Table 2

Number of people who receive employee cash or near cash income	Thousands of units – 2006	
	Fiscal Agencies**	Eu-Silc_07
	19.656 <sup>(a)</sup>	20.523

Due to lack of harmonization, National Accounts data 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

	Thousands of units – 2006		
Number of people who receive self-employment benefits (PY050N)	National Accounts (ula*)	Labour force survey estimate Istat	Eu-Silc_07
	7.154	6.078	7.953

(\*) 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 2007 estimates are quite close to the administrative data.

Table 4

PY100N-PY110N-Y130N

Millions of euro - 2006

Economic Components:	National Account* and Fiscal Agencies**	Eu-Silc_07
PY100G-PY110G-PY130G (+)	221.480	-
Tax on Old-age-Survival-disability benefits (-)	30.084	-
PY100N-PY110N-PY130N	191.396	185.242

Table 5

	Thousands – 2006	
Number of beneficiaries of Old-age-Survival-disability benefits	Pension Register of INPS (excluded persons aged under 15 and/or residing abroad)	Eu-Silc_07
	16.000	16.077