

INTERMEDIATE QUALITY REPORT

Cross-Sectional Survey 2010

ITALY

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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	2010
A1 (Single person)	EUR	9562
	NAC	9562
	PPS	9068
A2_2CH_LT14 (Two adults with two children younger than 14 years)	EUR	20081
	NAC	20081
	PPS	19043

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

age	sex	unit	2010
TOTAL	T	1000PERS	10938.3
		PC_POP	18.2
	M	1000PERS	4918
		PC_POP	16.8
	F	1000PERS	6020.2
		PC_POP	19.5
Y18-64	T	1000PERS	6363.6
		PC_POP	16.9
	M	1000PERS	2991.1
		PC_POP	15.9
	F	1000PERS	3372.6
		PC_POP	17.9
Y_GE65	T	1000PERS	2010.2
		PC_POP	16.6
	M	1000PERS	643.2
		PC_POP	12.6
	F	1000PERS	1366.9
		PC_POP	19.5
Y_LT18	T	1000PERS	2564.5
		PC_POP	24.7

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

age	sex	2010
Y_GE60	T	15.6
	M	12.4
	F	18
Y_GE75	T	18.5
	M	13.5
	F	21.6
Y_LT60	T	19.1
	M	18.1
	F	20
Y_LT75	T	18.1
	M	17.1
	F	19.2

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

<i>Household type</i>	2010
TOTAL	18.2
HH_NDCH (Households without dependent children)	13.9
A1_LT64 (One adult younger than 64 years)	20.8
A1_GE65 (One adult older than 65 years)	27.9
A1F (Single female)	28.2
A1M (Single male)	18.6
A2_2LT65 (Two adults younger than 65 years)	11.4
A2_GE1_GE65 (Two adults, at least one aged 65 years and over)	11.8
A_GE3 (Three or more adults)	8.7
HH_DCH (Households with dependent children)	22.6
A1_DCH (Single parent with dependent children)	37.3
A2_1DCH (Two adults with one dependent child)	15.8
A2_2DCH (Two adults with two dependent children)	20.8
A2_GE3DCH (Two adults with three or more dependent children)	37.2
A_GE3_DCH (Three or more adults with dependent children)	11.6

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

Most frequent activity status	sex	2010
EMP (Employment)	T	9.4
	M	10.8
	F	7.3
NOT_EMP (Non employment)	T	22.9
	M	20.9
	F	24.2
UNE (Unemployment)	T	43.6
	M	47.5
	F	38.9
RETIR (Retired)	T	12.3
	M	11.8
	F	12.9
INACT_OTH (Inactive population - Other)	T	27.1
	M	26.7
	F	27.2

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

Age	sex	Accommodation tenure status	2010
TOTAL	T	OWNER	15.2
		RENT	30.8
	M	OWNER	14
		RENT	29
	F	OWNER	16.4
		RENT	32.6
Y18-64	T	OWNER	13.9
		RENT	28.9
	M	OWNER	13.1
		RENT	27.2
	F	OWNER	14.8
		RENT	30.6
Y_GE65	T	OWNER	14.5
		RENT	22.9
	M	OWNER	11.6
		RENT	18.3
	F	OWNER	16.8
		RENT	26
Y_LT18	T	OWNER	15.6
		RENT	22.7

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

sex	2010
T	9.4
M	10.8
F	7.3

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

break_il	2010
FULLTIME	8.3
PARTTIME	15.1

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

age	sex	2010
TOTAL	T	43.5
	M	40
	F	46.7
Y18-64	T	32.9
	M	30.8
	F	35
Y_GE65	T	83.7
	M	81.2
	F	85.6
Y_LT18	T	34.7

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

age	sex	2010
TOTAL	T	23.3
	M	21.9
	F	24.7
Y18-64	T	22.2
	M	21.1
	F	23.3
Y_GE65	T	19
	M	15.2
	F	21.8
Y_LT18	T	32.7

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

age	sex	2010
TOTAL	T	18q
	M	16.7q
	F	19.3q
Y18-64	T	16.8q
	M	15.8q
	F	17.7q
Y_GE65	T	16.4q
	M	12.4q
	F	19.3q
Y_LT18	T	24.6q

[PEPS01] Population at risk of poverty or social exclusion by age and gender

age	sex	unit	2010
TOTAL	T	1000PERS	14756.8
		PC_POP	24.5
	M	1000PERS	6623.1
		PC_POP	22.6
	F	1000PERS	8133.7
		PC_POP	26.3
Y18-64	T	1000PERS	9294.6
		PC_POP	24.7
	M	1000PERS	4322.5
		PC_POP	23
	F	1000PERS	4972.1
		PC_POP	26.3
Y_GE65	T	1000PERS	2462.3
		PC_POP	20.3
	M	1000PERS	795.4
		PC_POP	15.5
	F	1000PERS	1666.9
		PC_POP	23.7
Y_LT18	T	1000PERS	2999.9
		PC_POP	28.9

[PEPS05] Population at risk of poverty or social exclusion by broad group of citizenship (population aged 18 and over)

age	sex	citizen	2010
Y18-64	T	NAT	23.5
		FOR	38.1
		EU27_FOR	31.9
		NEU27_FOR	40.5
Y_GE18	T	NAT	22.6
		FOR	37.5
		EU27_FOR	31.8
		NEU27_FOR	39.7

[PEPS06] Population at risk of poverty or social exclusion by broad group of country of birth (population aged 18 and over)

age	sex	c_birth	2010
Y18-64	T	NAT	23.7
		FOR	34.6
		EU27_FOR	29.6
		NEU27_FOR	36.7
Y_GE18	T	NAT	22.9
		FOR	33.3
		EU27_FOR	29.3
		NEU27_FOR	35.1

[PEES01] Intersections of Europe 2020 Poverty Target Indicators by age and gender

age	sex	indic_il	unit	2010
TOTAL	T	NR_DEP_NLOW	1000PERS	1780.9
			PC_POP	3
		NR_NDEP_LOW	1000PERS	1850.5
			PC_POP	3.1
		R_NDEP_NLOW	1000PERS	7092.5
			PC_POP	11.8
Y18-64	T	NR_DEP_NLOW	1000PERS	1045
			PC_POP	2.8
		NR_NDEP_LOW	1000PERS	1710.1
			PC_POP	4.5
		R_NDEP_NLOW	1000PERS	3736.1
			PC_POP	9.9
Y_LT18	T	NR_DEP_NLOW	1000PERS	283.8
			PC_POP	2.7
		NR_NDEP_LOW	1000PERS	140.4
			PC_POP	1.4
		R_NDEP_NLOW	1000PERS	1656.8
			PC_POP	16

[LVHL11] People living in households with very low work intensity by age and gender

age	sex	unit	2010
Y18-59	T	1000PERS	3760.1
		PC_POP	11.1
	M	1000PERS	1585.3
		PC_POP	9.3
	F	1000PERS	2174.7
		PC_POP	12.8
Y_LT18	T	1000PERS	754.2
		PC_POP	7.3
Y_LT60	T	1000PERS	4514.3
		PC_POP	10.2
	M	1000PERS	1959.2
		PC_POP	8.8
	F	1000PERS	2555.1
		PC_POP	11.6

[SI-P8]% of pop lacking at least 4 items in the economic strain and durables dimension by age, gender and at-risk-of-poverty status

age	sex	incgrp	unit	n_item	2010
TOTAL	T	TOTAL	PC_POP	GE4	6.9
		A_MD60	PC_POP	GE4	4
		B_MD60	PC_POP	GE4	20.2
	M	TOTAL	PC_POP	GE4	6.7
		A_MD60	PC_POP	GE4	3.8
		B_MD60	PC_POP	GE4	21.1
	F	TOTAL	PC_POP	GE4	7.1
		A_MD60	PC_POP	GE4	4.2
		B_MD60	PC_POP	GE4	19.4
Y18-64	T	TOTAL	PC_POP	GE4	6.8
		A_MD60	PC_POP	GE4	3.9
		B_MD60	PC_POP	GE4	21.3
	M	TOTAL	PC_POP	GE4	6.8
		A_MD60	PC_POP	GE4	4
		B_MD60	PC_POP	GE4	21.5
	F	TOTAL	PC_POP	GE4	6.9
		A_MD60	PC_POP	GE4	3.8
		B_MD60	PC_POP	GE4	21.1
Y_GE65	T	TOTAL	PC_POP	GE4	6.3
		A_MD60	PC_POP	GE4	4.5
		B_MD60	PC_POP	GE4	15.4
	M	TOTAL	PC_POP	GE4	5.3
		A_MD60	PC_POP	GE4	3.4
		B_MD60	PC_POP	GE4	18.5
	F	TOTAL	PC_POP	GE4	7
		A_MD60	PC_POP	GE4	5.3
		B_MD60	PC_POP	GE4	14
Y_LT18	T	TOTAL	PC_POP	GE4	8
		A_MD60	PC_POP	GE4	3.8
		B_MD60	PC_POP	GE4	21

[SI-S4] Mean number of items lacked by persons considered as deprived in the 'economic strain and durables' dimension by age, gender and at-risk-of-poverty status

age	sex	incgrp	2010
TOTAL	T	A_MD60	3.7
		B_MD60	3.5
		TOTAL	3.9
	M	A_MD60	3.7
		B_MD60	3.5
		TOTAL	3.9
	F	A_MD60	3.7
		B_MD60	3.5
		TOTAL	3.8
Y18-64	T	A_MD60	3.7
		B_MD60	3.5
		TOTAL	3.9
	M	A_MD60	3.7
		B_MD60	3.5
		TOTAL	4
	F	A_MD60	3.7
		B_MD60	3.5
		TOTAL	3.9
Y_GE65	T	A_MD60	3.6
		B_MD60	3.5
		TOTAL	3.7
	M	A_MD60	3.6
		B_MD60	3.5
		TOTAL	3.8
	F	A_MD60	3.6
		B_MD60	3.6
		TOTAL	3.7
Y_LT18	T	A_MD60	3.7
		B_MD60	3.5
		TOTAL	3.8

[MDDD14] Severe material deprivation rate by education level (population aged 18 and over)

age	sex	isced97	2010
Y18-24	T	TOTAL	8
		ISCED0_2	13.8
		ISCED3_4	5.6
		ISCED5_6	2.4
Y18-59	T	TOTAL	6.9
		ISCED0_2	11.1
		ISCED3_4	4.7
		ISCED5_6	2.3
Y_GE18	T	TOTAL	6.6
		ISCED0_2	9.2
		ISCED3_4	4.4
		ISCED5_6	2.1

[MDHO06c] Severe housing deprivation rate by tenure status

TENSTATU	2010
OWNER_LOAN	5.2
OWNER_NLOAN	4.1
RENT_FRED	9.5
RENT_MKT	15.8

[LVHO05a] Overcrowding rate by age, gender and poverty status - Total population

age	sex	incgrp	2010
TOTAL	T	TOTAL	23.9
		A_MD60	21.1
		B_MD60	36.2
	M	TOTAL	24.3
		A_MD60	21.4
		B_MD60	39.1
	F	TOTAL	23.4
		A_MD60	20.9
		B_MD60	33.9
Y18-64	T	TOTAL	25.9
		A_MD60	23.1
		B_MD60	39.3
	M	TOTAL	25.9
		A_MD60	23.2
		B_MD60	40.5
	F	TOTAL	25.8
		A_MD60	23.1
		B_MD60	38.2
Y_GE65	T	TOTAL	8
		A_MD60	7.8
		B_MD60	9.2
	M	TOTAL	8
		A_MD60	7.5
		B_MD60	11.5
	F	TOTAL	8
		A_MD60	8
		B_MD60	8.1
Y_LT18	T	TOTAL	35.2
		A_MD60	30.4
		B_MD60	49.7

[LVHO07a] Housing cost overburden rate by age, gender and poverty status

age	sex	incgrp	2010
TOTAL	T	TOTAL	7.5
		A_MD60	2.7
		B_MD60	29.4
	M	TOTAL	7
		A_MD60	2.5
		B_MD60	29.3
	F	TOTAL	8.1
		A_MD60	2.9
		B_MD60	29.4
Y18-64	T	TOTAL	7.3
		A_MD60	2.5
		B_MD60	31.1
	M	TOTAL	6.9
		A_MD60	2.5
		B_MD60	30.1
	F	TOTAL	7.8
		A_MD60	2.5
		B_MD60	32
Y_GE65	T	TOTAL	6
		A_MD60	3.4
		B_MD60	18.8
	M	TOTAL	4
		A_MD60	2.7
		B_MD60	13.2
	F	TOTAL	7.4
		A_MD60	4
		B_MD60	21.5
Y_LT18	T	TOTAL	10.1
		A_MD60	2.5
		B_MD60	33.3

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

age	sex	2010
TOTAL	T	24.5
	M	24.6
	F	24.2
Y18-64	T	28
	M	26.4
	F	29
Y_GE65	T	16.2
	M	16
	F	16.2
Y_GE75	T	14.6
	M	13
	F	14.9
Y_LT18	T	29

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

indic_il	sex	2010
R_GE65_45TO54 (Persons aged 65 years and over compared to persons aged between 45 and 54 years)	T	0.92
	M	0.94
	F	0.9

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

age	indic_il	2010
TOTAL	S80_S20	5.2
Y_GE65	S80_S20	4.2
Y_LT65	S80_S20	5.5

[SI-C2] Inequality of income distribution Gini coefficient

indic_il	2009
GINI	31.2

[DI01] Distribution of income by quantiles

currency	quantile	indic_il	2010
NAC	QUARTILE1	SHARE	10.3
		TC	10944
	QUARTILE2	SHARE	28.7
		TC	15937.3
	QUARTILE3	SHARE	54.9
		TC	22534
	QUARTILE4	SHARE	100
		TC	571587.1

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)	Avarage number of SSU for each PSU
<25	481	6,309	13.1
26-50	374	11,381	30.4
51-75	33	1,906	57.8
76-100	10	807	80.7
101-250	13	1,889	145.3
>250	5	2,427	485.4
Total	916	24,719	27.0

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 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
Italy	2.61	1.58	6.84	2.50

The deff of the index "at-risk-of-poverty-rate 60% (after s.t.)" for Eusilc 2010 amounts to 1.33. The corresponding deff is 1.77. Solely for the present edition we have associated to the sampling unit a family measure of the linearized individual variable necessary for the estimates of the index.

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. In every stratum it is extracted one municipality.

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

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

where :

h is the stratum index;

i is the municipality index;

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

P_h is the population resident in the stratum h ;

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

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

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

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 probability for each household 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 response probability is obtained by a logistic regression model.

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

$$\hat{p} = p_j / \pi_j, \text{ where } p_j \text{ is the design weight and } \pi_j \text{ is the response probability.}$$

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 sex, age and nationality of the householder (gathered from demographic 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, tenure status, rotational group, household disposability to the interview in previous year, 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 at NUTS I level by sex; by UE and non UE distribution; by age in two classes: 0-17, 18+ at the end of the income reference period (year t-1).
- 4) Distribution of the population by demographic size of the municipality at Nuts I level (year t-1) (six classes).
- 5) Number of households at NUTS II level at the time of the survey (year t)

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

- 1) Distribution of the population by sex and five age-groups at NUTS I level. The age groups are: 0-15, 16-25, 26-45, 46-65, 65+ at the end of the income reference period (year t-1).
- 2) Amount of non-national population at NUTS I level distinct in two classes: 0-17, 18+ at the end of the income reference period (year t-1).
(year t-1).
- 3) Distribution of the population by demographic size of the municipality at Nuts I level (year t-1) (three classes).
- 4) Number of households at NUTS I level at the time of the survey (year t)

For the other sub-groups:

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

2.1.8.4 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 2010-, 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 2010: sampling errors and effective sample size

	Value	Absolute sampling error	Relative sampling error %	Effective sample size (persons)
	(a)	(b)	(c)=(b)/(a)*100	
At risk of pov. threshold	9562.00	57.18	0.60	47550
At risk of pov. rate 60% (after s.t.)	18.2	0.36	1.95	47550
At risk of pov. rate 40% (after s.t.)	6.9	0.23	3.38	47550
At risk of pov. rate 50% (after s.t.)	11.6	0.29	2.53	47550
At risk of pov. rate 70% (after s.t.)	26.0	0.35	1.36	47550
At risk of pov. rate 60% (before s.t.) without pensions	43.5	0.35	0.80	47550
At risk of pov. rate 60% (before s.t.) with pensions	23.3	0.28	1.19	47550
S80/S20	5.2	0.09	1.63	47550
Relative median at risk pov. gap	24.5	0.59	2.40	7898
Gini index	31.2	0.28	0.88	47550
Equivalentised disposable income	18130.88	93.50	0.52	47550

At risk of pov. rate 60% (after s.t.)					
<i>Age and Gender</i>					
	0-17	24.7	0.71	2.86	8175
	18-24	23.0	1.04	4.51	3427
	25-49	17.7	0.45	2.56	16688
	50-64	13.1	0.43	3.32	9408
	18-64	16.9	0.37	2.19	29523
	65+	16.6	0.56	3.37	9852
	18+	16.8	0.33	1.94	39375
	0-59	19.1	0.42	2.18	34702
	60+	15.6	0.49	3.12	12848
	0-74	18.1	0.37	2.03	42987
	75+	18.5	0.76	4.10	4563
	Female 0-17	25.5	0.91	3.56	4021
	Female 18-24	24.1	1.35	5.60	1699
	Female 25-49	19.0	0.53	2.77	8520
	Female 50-64	13.6	0.55	4.06	4813
	Female 18-64	17.9	0.42	2.35	15032
	Female 65+	19.5	0.67	3.43	5534
	Female 18+	18.3	0.36	1.98	20566
	Female 0-59	20.0	0.48	2.38	17522
	Female 60+	18.0	0.59	3.26	7065
	Female 0-74	19.2	0.42	2.18	21856
	Female 75+	21.6	0.94	4.34	2731
	Male 0-17	24.0	0.95	3.95	4154
	Male 18-24	22.0	1.33	6.02	1728
	Male 25-49	16.4	0.50	3.03	8168
	Male 50-64	12.6	0.54	4.26	4595
	Male 18-64	15.9	0.41	2.55	14491
	Male 65+	12.6	0.68	5.40	4318
	Male 18+	15.2	0.36	2.40	18809
	Male 0-59	18.1	0.45	2.46	17180
	Male 60+	12.4	0.57	4.62	5783
	Male 0-74	17.1	0.39	2.29	21131
	Male 75+	13.5	0.96	7.14	1832
	Female	19.5	0.39	1.98	24587
	Male	16.8	0.38	2.26	22963

At risk of pov. rate 60% anchored at a fixed moment in time				
<i>Age and Gender</i>				
Total	18.0	0.31	1.71	47550
Female 0-17	22.7	0.83	3.67	4021
Female 18-64	17.7	0.39	2.22	15032
Female 65+	19.3	0.65	3.37	5534
Male 0-17	21.5	0.87	4.06	4154
Male 18-64	15.8	0.38	2.39	14491
Male 65+	12.4	0.61	4.88	4318
Female	19.3	0.35	1.80	24587
Male	16.7	0.34	2.05	22963

Dispersion around poverty threshold (40%)				
<i>Age and Gender</i>				
Total	6.9	0.23	3.25	47550
0-17	10.9	0.49	4.49	8175
18-64	7.2	0.26	3.63	29523
65+	2.8	0.21	7.42	9852
Female	7.4	0.25	3.37	24587
Female 0-17	11.8	0.68	5.74	4021
Female 18-64	7.9	0.29	3.70	15032
Female 65+	3.1	0.25	8.29	5534
Male	6.4	0.25	3.86	22963
Male 0-17	10.1	0.63	6.27	4154
Male 18-64	6.4	0.29	4.54	14491
Male 65+	2.5	0.27	10.56	4318

Dispersion around poverty threshold (50%)				
<i>Age and Gender</i>				
Total	11.6	0.28	2.39	47550
0-17	17.0	0.57	3.32	8175
18-64	11.3	0.30	2.67	29523
65+	7.7	0.41	5.29	9852
60+	7.6	0.35	4.64	12848
75+	8.0	0.55	6.90	4563
Female	12.4	0.32	2.61	24587
Female 0-17	17.9	0.80	4.49	4021
Female 18-64	12.2	0.36	2.93	15032
Female 65+	9.0	0.51	5.64	5534
Female 60+	8.8	0.45	5.13	7065
Female 75+	9.2	0.72	7.81	2731
Male	10.7	0.29	2.72	22963
Male 0-17	16.3	0.75	4.60	4154
Male 18-64	10.4	0.32	3.11	14491
Male 65+	5.9	0.45	7.56	4318
Male 60+	6.0	0.38	6.33	5783
Male 75+	5.9	0.63	10.66	1832

Dispersion around poverty threshold (70%)				
<i>Age and Gender</i>				
Total	26.0	0.35	1.35	47550
0-17	34.6	0.73	2.10	8175
18-64	23.8	0.39	1.64	29523
65+	25.5	0.56	2.21	9852
60+	23.7	0.49	2.05	12848
75+	28.5	0.82	2.86	4563
Female	27.7	0.39	1.42	24587
Female 0-17	36.1	0.95	2.62	4021
Female 18-64	25.1	0.44	1.74	15032
Female 65+	28.6	0.70	2.44	5534
Female 60+	26.4	0.61	2.30	7065
Female 75+	31.2	1.00	3.21	2731
Male	24.2	0.39	1.61	22963
Male 0-17	33.3	0.95	2.87	4154
Male 18-64	23.8	0.45	1.89	14491
Male 65+	21.2	0.70	3.29	4318
Male 60+	20.2	0.58	2.89	5783
Male 75+	24.0	1.09	4.53	1832

S80/S20				
<i>Age and Gender</i>				
0-64	5.5	0.10	1.81	37698
65+	4.2	0.08	1.88	9852

At risk of pov. rate 60% (after s.t.)				
<i>Frequent activity status</i>				
Frequent activity status and gender: total population	17.0	0.40	2.32	47550
Employment	9.4	0.29	3.04	17525
Unemployment	43.6	1.41	3.24	2374
Retired	12.3	0.48	3.91	9051
Inactive population- other	27.1	0.61	2.25	11144
Non employment	22.9	0.46	1.99	22569
Frequent activity status and gender: females	18.5	0.44	2.35	20918
Females employment	7.3	0.37	5.07	7144
Females unemployment	47.5	1.91	4.02	1168
Females retired	12.9	0.66	5.12	3967
Females inactive population- other	27.2	0.64	2.37	8639
Total females non employment	24.2	0.51	2.12	13774
Frequent activity status and gender: males	15.4	0.44	2.87	19176
Males employment	10.8	0.37	3.47	10381
Males unemployment	38.9	1.90	4.88	1206
Males retired	11.8	0.57	4.85	5084
Males inactive population- other	26.7	1.14	4.26	2505
Total males non employment	20.9	0.59	2.84	8795

<i>Household type</i>				
Total no dependent children	13.9	0.90	6.47	24200
One person household, under 65 years	20.8	1.00	4.81	1414
One person household, 65 years and over	27.9	1.00	3.58	1102
One person household, male	18.6	0.89	4.79	645
One person household, female	28.2	0.70	2.47	1982
One person household, total	24.3	0.76	3.13	5143
2 adults, no dependent children, both adults under 65 years	11.4	0.71	6.19	4194
2 adults, no dependent children, at least one adult 65 years or more	11.8	0.55	4.62	5924
Other households without dependent children	8.7	0.36	4.11	8939
Total dependent children	22.6	1.95	8.63	23350
Single parent household, one or more dependent children	37.3	1.01	2.72	1616
2 adults, one dependent child	15.8	0.96	6.05	5973
2 adults, two dependent children	20.8	2.34	11.25	8148
2 adults, three or more dependent children	37.2	1.47	3.96	2300
other households with dependent children	22.5	0.60	2.66	5313

<i>Accommodation tenure status</i>				
Owner	15.2	0.34	2.25	40002
Rent	30.8	1.05	3.42	7549

<i>Accommodation tenure status (Owner)</i>				
0-17	19.7	0.72	3.68	6665
18-64	13.9	0.35	2.54	24615
65+	15.6	0.58	3.75	8722
60+	14.5	0.50	3.46	11385
75+	17.9	0.82	4.59	4071
Female	16.4	0.39	2.36	20624
Female 0-17	20.0	0.90	4.51	3252
Female 18-64	14.8	0.40	2.68	12513
Female 65+	18.4	0.69	3.73	4859
Male	14.0	0.37	2.68	19378
Male 0-17	19.3	0.97	5.00	3413
Male 18-64	13.1	0.40	3.07	12102
Male 65+	11.9	0.71	5.93	3863

<i>Accommodation tenure status (Tenant)</i>				
0-17	42.8	1.92	4.50	1510
18-64	28.9	1.11	3.84	4909
65+	22.7	1.48	6.53	1130
60+	22.9	1.38	6.04	1463
75+	23.3	2.03	8.69	492
Female	32.6	1.12	3.42	3963
Female 0-17	44.4	2.29	5.15	769
Female 18-64	30.6	1.22	4.00	2519
Female 65+	26.3	1.90	7.24	675
Male	29.0	1.22	4.20	3586
Male 0-17	41.2	2.55	6.18	741
Male 18-64	27.2	1.26	4.61	2390
Male 65+	42.8	1.92	4.50	1510

At risk of pov. rate 60% (before s.t.)				
without pension				
<i>Age and gender</i>				
Female 18- 64	35.0	0.44	1.26	15032
Female 65+	85.6	0.69	0.81	5534
Female 18+	48.7	0.36	0.74	20566
Male 18-64	30.8	0.42	1.35	14491
Male 65 +	81.2	0.71	0.88	4318
Male 18+	41.5	0.36	0.88	18809
0-17	34.7	0.70	2.03	8175
18-64	32.9	0.38	1.15	29523
65+	83.7	0.58	0.70	9852
18+	45.3	0.33	0.72	39375
female	46.7	0.38	0.82	24587
male	40.0	0.37	0.94	22963

At risk of pov. rate 60%(before s.t.)				
with pension				
<i>Age and gender</i>				
Female 18- 64	23.3	0.46	1.99	15032
Female 65+	21.8	0.52	2.40	5534
Female 18+	22.8	0.37	1.61	20566
Male 18-64	21.1	0.47	2.21	14491
Male 65 +	15.2	0.69	4.53	4318
Male 18+	19.8	0.40	2.03	18809
0-17	32.7	0.70	2.15	8175
18-64	22.2	0.41	1.83	29523
65+	19.0	0.46	2.41	9852
18+	21.4	0.33	1.56	39375
female	24.7	0.39	1.56	24587
male	21.9	0.40	1.82	22963

Relative median at risk pov. Gap				
<i>Age and gender</i>				
Female 18-64	29.0	0.96	3.31	2507
Female 65+	16.2	0.55	3.39	983
Female 18+	22.8	0.59	2.61	3490
Male 18-64	26.4	1.10	4.16	2089
Male 65 +	16.0	0.97	6.08	511
Male 18+	24.0	0.84	3.50	2600
0-17	29.0	1.28	4.40	1808
18-64	28.0	0.92	3.29	4596
65 +	16.2	0.53	3.27	1494
18+	23.4	0.60	2.58	6090
female	24.2	0.69	2.85	4390
male	24.6	0.84	3.43	3508

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 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; households with DB075 = 4 were extracted in July 2008 and validated within September 2008; finally, households whose DB075 is equal to 1 were extracted in July 2009 and validated within next September.

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.

Rotational Group (DB075)	Households (%)	Persons of 16 years or older (%)
1	4665 (24.4)	9844 (24.4)
2	5419 (28.3)	11156 (27.6)
3	4353 (22.7)	9333 (23.1)
4	4710 (24.6)	10029 (24.9)
Total	19147 (100.0)	40362 (100.0)

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:

TYPE OF RATE	NEW REPLICATION	TOTAL SAMPLE
RA	0.988	0.993
RH	0.741	0.803
NRH	1	1
RP	0	0
NRP	26.760	20.294
NRP_OVERALL	0.988	0.993

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
1	5803	21	6	106	5936	4665	464	271	58	345	5803	4665
	23.48	0.08	0.02	0.43	24.01	19.55	1.94	1.14	0.24	1.45	24.32	24.36
	97.76	0.35	0.1	1.79		80.39	8	4.67	1	5.95		100
	24.32	17.36	13.95	15.23		24.36	25	21.63	25	25.18		24.36
2	7309	66	24	389	7788	5419	793	601	83	413	7309	5419
	29.57	0.27	0.1	1.57	31.51	22.71	3.32	2.52	0.35	1.73	30.64	28.3
	93.85	0.85	0.31	4.99		74.14	10.85	8.22	1.14	5.65		100
	30.64	54.55	55.81	55.89		28.3	42.73	47.96	35.78	30.15		28.3
3	5170	12	2	105	5289	4353	296	174	37	310	5170	4353
	20.92	0.05	0.01	0.42	21.4	18.25	1.24	0.73	0.16	1.3	21.67	22.73
	97.75	0.23	0.04	1.99		84.2	5.73	3.37	0.72	6		100
	21.67	9.92	4.65	15.09		22.73	15.95	13.89	15.95	22.63		22.73
4	5576	22	11	96	5705	4710	303	207	54	302	5576	4710
	22.56	0.09	0.04	0.39	23.08	19.74	1.27	0.87	0.23	1.27	23.37	24.6
	97.74	0.39	0.19	1.68		84.47	5.43	3.71	0.97	5.42		100
	23.37	18.18	25.58	13.79		24.6	16.33	16.52	23.28	22.04		24.6
Total	23858	121	43	696	24718	19147	1856	1253	232	1370	23858	19147
	96.52	0.49	0.17	2.82	100	80.25	7.78	5.25	0.97	5.74	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

	(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 household gross income ⁴	99.45	0.24	85.59
Total disposable household income	99.54	0.38	48.35
Total disposable household income before social transfers other than old-age and survivors' benefits	99.14	0.56	46.01
Total disposable household income before social transfers including old-age and survivors' benefits	93.66	2.42	44.03
Net income components at household level⁵			
Imputed rent	0.00	0.00	0.00
Income from rental of a property or land	9.07	5.09	0.89
Family/children related allowances	26.42	2.26	0.59
Social exclusion not elsewhere classified	3.11	0.2	0.03
Housing allowances	2.39	0.24	0.02
Regular inter-household cash transfer received	5.29	0.51	0.05
Interest, dividends, profit from capital investments in unincorporated business	55.32	15.76	2.99
Interest repayments on mortgage	13.47	13.47	0.00
Income received by people aged under 16	0.73	0.1	0.02
Regular taxes on wealth	37.1	22.48	3.14
Regular inter-household cash transfer paid	4.6	0.57	0.08
Repayments/receipts for tax adjustment	67.62	0.15	0.22
Value of goods produced by own-consumption	23.17	0.00	0.00
Gross income component at household level⁶			
Imputed rent	87.97	0.00	0.00
Income from rental of a property or land	9.07	5.09	3.74
Family/children related allowances	26.42	2.26	0.74
Social exclusion not elsewhere classified	3.11	0.2	0.11
Housing allowances	2.39	0.24	0.09
Regular inter-household cash transfer received	5.29	0.51	0.19
Interest, dividends, profit from capital investments in unincorporated business	55.32	15.76	39.54
Interest repayments on mortgage	13.47	13.47	0.00
Income received by people aged under 16	0.73	0.1	0.02
Regular taxes on wealth	37.1	22.48	3.14
Regular inter-household cash transfer paid	4.6	0.57	0.08

Table 1. Distribution of item non-response

	(A) % of persons 16 having received an amount	(B) % of persons 16 with missing values (before imputation)	(C) % of persons 16 with partial information (before imputation)
Item non-response			
Employee cash or near cash income	40.64	0.88	0.68
Non cash employee income	10.64	6.14	0.91
Company car	0.86	0.00	0.00
Contributions to individual private pension plans	5.31	0.69	0.00
Cash benefits or losses from self-employment	16.32	4.55	0.27
Pension from individual private plans	0.2	0.00	0.00
Unemployment benefits	10.7	0.52	0.07
Old-age benefits	29.84	0.07	0.1
Survivor' benefits	1.79	0.05	0.00
Disability benefits	3.25	0.02	0.00
Education related allowances	0.5	0.04	0.00
Gross income components at personal level⁶			
Employee cash or near cash income	40.64	0.27	3.66
Non cash employee income	10.64	6.14	4.38
Company car	0.86	99.96	0.00
Employer's social insurance contribution	40.04	0.00	0.00
Contributions to individual private pension plans	5.31	0.69	0.00
Cash benefits or losses from self-employment	16.32	0.29	5.43
Pension from individual private plans	0.2	0.00	0.00
Unemployment benefits	10.7	0.26	10.37
Old-age benefits	29.84	0.04	0.57
Survivor' benefits	1.79	99.93	0.00
Disability benefits	3.25	0.02	0.01
Education related allowances	0.5	0.04	0.00
Gross monthly earnings of employees	33.09	3.26	0.00
Employee cash or near cash income	40.64	0.88	0.68
Non cash employee income	10.64	6.14	0.91
Company car	0.86	0.00	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 0.38 per cent (number of observations is 73) and the total number of observations is 19.147 (unit=households). For unadjusted gender pay gap the total item non-response is 3.26 per cent (number of observations is 1317) and the total number of observations is 40.362 (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
		Face to face interview-PAPI	Proxy interview	
Rotational Group (DB075)	11			
	9844	7938	1906	9844
1	24.39	19.67	4.72	24.39
	100	80.64	19.36	
	24.39	24.27	24.88	
	11156	9057	2099	11156
2	27.64	22.44	5.2	27.64
	100	81.19	18.81	
	27.64	27.7	27.4	
	9333	7620	1713	9333
3	23.12	18.88	4.24	23.12
	100	81.65	18.35	
	23.12	23.3	22.36	
	10029	8086	1943	10029
4	24.85	20.03	4.81	24.85
	100	80.63	19.37	
	24.85	24.73	25.36	
Total	40362	32701	7661	40362
	100	81.02	18.98	100

2.5. Interview duration

The mean household interview duration, calculated as prescribed amounts to 72 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 62 (0.32% with respect to the total number of households and 0.13% 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 deperated (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'.
- 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 income components: 1) Employee – cash, near cash income, non cash – income (PY010N/G+PY020N/G); 2) Social transfers as the sum of Old-age benefits (PY100N/G), Survival benefits (PY110N/G) and Disability benefits (PY130N/G). Data from National Accounts, 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 below shows the closeness of net employee income EU-SILC estimates respect to the National Accounts aggregates for the year 2009 (the underestimation is below 0.8%). Table 2 shows that the number of employed income earners estimated using EU-SILC approximates the number of employees from Fiscal Agency data (universe of taxable employed income recipients) during 2009. 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 - Employee income

Economic components:	millions of euro – 2009	
	National Accounts* and Fiscal Agencies**	Eu-Silc_10
Gross employee income (cash, near cash, non cash) (PY010G+PY020G) (+)	476,084	474,078
Social contribution paid on employee income (-)	41,716	41,817
Tax on employee income (-)	87,907	88,694
Net employee income (PY010N+PY020N)	346,461	343,567

Table 2 - Employees

Number of people who have received wage and salary (cash or near cash) during 2008	Thousands of units – 2009	
	Fiscal Agencies**	Eu-Silc_10
	20,871	21,128

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 2010 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 – Self-employed

Number of people who receive cash benefit or losses from self-employment (PY050N)	Thousands of units – 2009		
	National Accounts (ula*)	Labour force survey estimate Istat	Eu-Silc_10
	6,835	5,762	7,905

(*) 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 (ESSPROS) put all together: old-age, survival and disability. In both cases, EU-SILC 2010 estimates are quite close to the administrative data. We remark that the differences on social benefits amount (PY100N/G-PY110N/G-PY130N/G) displayed by the two datasources are due to the inclusion of an income component “severance pay” in the Eu-Silc survey (estimated at 3,612 millions of euro before tax) that is not allocated in NA.

Table 4 – Social benefits payment (old-age, survivors and disability functions)

PY100N-PY110N-Y130N	Millions of euro - 2009	
Economic Components:	National Account* and Fiscal Agencies**	Eu-Silc_10
PY100G-PY110G-PY130G* (+)	250,449 ***	254,106
Tax on Old-age-Survival-disability benefits** (-)	39,137	41,850
PY100N-PY110N-PY130N	211,312	212,256

(***) Severance payments (lump-sum) are excluded

Table 5 – Social benefits recipients

Number of beneficiaries of Old-age-Survival-disability pensions	Thousands – 2009	
	Pension Register of INPS*** (excluded persons aged under 15 and/or residing abroad)	Eu-Silc_10
	16,047	16,598

(***) Severance recipients are excluded