



# **Final Quality Report**

## **EU-SILC 2008**

**National Statistics Office  
Malta**

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## 1. Common Longitudinal European Union Indicators based on the Longitudinal Component of EU-SILC

Persistent-at-risk-of-poverty rate by gender and age			
Age group	Males	Females	Total
18 - 24	6.9	0	3.7
25 - 49	5.7	7	6.3
50 - 64	4.1	5.9	5.1
65+	6.9	7.4	7.2
Total	6.7	6.9	6.8

## 2. Accuracy

### 2.1. Sample design

#### 2.1.1. Type of sample design

For EU-SILC 2005 – 2008, Malta adopted a simple random sampling of households. In the first year of the survey, the *Water Services Database* was used as a sampling frame. However, for the following years, the sample was extracted from the Census of Population & Housing 2005 database. This database is regularly updated by our office.

Malta used a 4-year rotational panel design as recommended by Eurostat. The 2008 longitudinal wave consists of a gross sample of 691 households from the first year of the survey (2005), 939 households from 2006 and 1,195 from 2007. An illustration of the longitudinal file composition by panel is given below:

Panel	2005	2006	2007	2008
1	█			
3		█		
4			█	
2	█	█	█	█
1		█	█	█
3			█	█
4				█

#### 2.1.2. Sampling units

The sampling population is comprised of persons living in private households residing in Malta. All persons living in the selected households are interviewed for four consecutive years. As stated above, the sampling frame used for the year 2005 was the *Water Services Database*, whilst the *Census of Population & Housing 2005* was used for the subsequent three years. In both cases a simple random sample of households was selected from these registers.

### **2.1.3. Stratification and substratification criteria**

Not applicable as no stratification is used for EU-SILC in Malta.

### **2.1.4. Sample size and allocation criteria**

According to the Council Regulation, all Member States are required to meet specific minimum effective sample sizes of private households and eligible persons, i.e. persons aged 16 and over. For Malta the minimum sample size for the cross-sectional component is 3,000 households, which means more than 7,000 eligible persons. On the other hand, for the longitudinal component, 2,250 households and 5,250 eligible persons are required.

The gross sample size in the 2005 cross-sectional component was 3,459 households. Every year a new panel of about 1,500 households is added to the sample and another one is dropped. In addition, the split households formed in 2005, 2006 and 2007 were added to the sample for the subsequent survey.

### **2.1.5. Sample selection schemes**

The sampling design for EU-SILC in Malta involves just one stage, that is, simple random sampling. Malta uses an integrated design where all persons within the selected households are interviewed.

### **2.1.6. Sample distribution over time**

The following is the distribution of interviews in the longitudinal component 2008, by year of survey and month of interview:

		Month of interview				
		June	July	August	September	October
Year of survey	2005	-	65	195	258	355
	2006	970	350	406	197	1
	2007	931	811	306	713	1
	2008	-	260	223	850	980

As shown in the above table, in 2006 and 2007, 2 cases exceeded the 4 months timeframe for data collection since it was not possible to make an earlier appointment.

### **2.1.7. Renewal of the sample: rotational groups**

Malta has adopted a 4-year rotational design as recommended by Eurostat. For the cross-sectional component of 2006, the panel with the lowest response rate from the 2005 survey was dropped and replaced by a new sample of households. The same procedure was adopted in 2007 and 2008, where another panel (the one with the lowest response rate) had to be dropped for each year as required by the rotational panel. In addition, a new panel was added to the sample every year.

From 2009, being the fifth year of the survey, the oldest panel will be dropped. In this case, the second panel, being the oldest panel from the 2005 cross-sectional component, will be replaced.

## **2.1.8. Weightings**

### **2.1.8.1. Design factor**

The household design weight (DB080) was calculated for all households in 2005 and those households in 2006 and 2007 that were added to the sample for the first time. The design weight is calculated as the inverse of the inclusion probability of the households. The sum of design weights in each panel is equal to the total number of households in the cross-sectional file of the corresponding year.

### **2.1.8.2. Non-response adjustments (1<sup>st</sup> wave of EU-SILC longitudinal component)**

The non-response adjustment for households in the first wave was catered for after the computation of the design weight through post-stratification.

### **2.1.8.3. Adjustment to external data (1<sup>st</sup> wave of EU-SILC longitudinal component)**

CALMAR software was utilised to calibrate household data by applying the logit method. Variables used in the calibration exercise were

- Sex (male, female);
- Age group (10-year age-groups up to age 19, 5-year age groups from that point onwards);
- Educational level (up to and including lower secondary, lower secondary and higher);
- Household type (with dependent children, without dependent children)
- Household size (1,2,3,4,5+).

### **2.1.8.4. Final longitudinal weight (1<sup>st</sup> wave of EU-SILC longitudinal component)**

The personal base weight (RB060) for the first wave is equivalent to the cross-sectional weight of that same wave, adjusted to reflect the total population for that year. The longitudinal weights (RB062 and RB063) were only computed for the final year of the longitudinal component (2008).

### **2.1.8.5. Non-response adjustments (other waves of EU-SILC longitudinal component)**

Adjustment for non-response to compensate for panel attrition was carried out separately for each panel. This was done through post-stratification at individual level. The variables used for this were 5-year age-groups (as at the year of entry into the survey) and sex. Newborns were assigned a personal base weight equal to that of their mother while persons who moved into the sample from outside the sample were assigned a weight of 0. These weights were then averaged at household level to serve as a basis for constructing the longitudinal weights (refer to 2.1.8.6).

### **2.1.8.6. Adjustment to external data (other waves of EU-SILC longitudinal component)**

Calibration for households in other waves was also carried out using CALMAR. As before, the logit method was applied and the variables used in the calibration exercise were sex, age-group, educational level, household type and household size. In this case the benchmarks used referred to the households' year of entry into the sample (i.e. 2005, 2006 or 2007) and not the year of interview.

### 2.1.8.7. Final longitudinal weight (other waves of EU-SILC longitudinal component)

For the 2<sup>nd</sup> and subsequent panels of the longitudinal component, the base weights (RB060) were computed by adjusting the cross-sectional weight for the year of entry into the survey for panel attrition. A rescaling of weights to reflect the target population was also carried out.

The longitudinal weights (RB062 and RB063) were obtained by calibrating the base weights using 2007, 2006 and 2005 population benchmarks respectively. The calibration was carried out using CALMAR.

### 2.1.8.8. Final household cross-sectional weight

The household cross-sectional weight (DB090) was derived from the base weights and was calibrated at household level using CALMAR.

### 2.1.9. Substitutions

No substitutions were made.

## 2.2. Sampling errors

The following tables show the mean, the total number of observations (before and after imputation) and the standard errors for income components. The means displayed in these tables are averaged over all households (for gross income components at household level) or over all persons aged 16+ (for gross income components at personal level), irrespective of whether the household / person received income from each component. Separate tables for the 2008 cross-sectional component and for each wave of the 2008 longitudinal component are given:

#### – 2008 cross-sectional component:

		Mean (€)		Number of observations		Standard error
		Weighted	Un-weighted	Before imputation	After imputation	
<b>Total household income</b>						
Total household gross income	HY010	23126	22051	2328	3368	299
Total disposable household income	HY020	19364	18603	2298	3368	222
Total disposable household income before social transfers other than old age and survivors' benefits	HY022	18170	17374	2337	3368	226
Total disposable household income before social transfers including old age and survivors' benefits	HY023	15149	14017	2357	3368	248
<b>Gross income components at household level</b>						
Income from rental of property or land	HY040G	140	145	3335	3368	21

Interest, dividends, profit from capital investments in unincorporated business	HY090G	1156	1204	2619	3368	37
Family/Children related allowances	HY050G	285	286	3367	3368	14
Social exclusion not elsewhere classified	HY060G	213	225	3368	3368	16
Housing allowances	HY070G	23	23	3351	3368	2
Regular inter-household cash transfer received	HY080G	47	47	3353	3368	9
Interest repayments on mortgage	HY100G	265	208	3361	3368	15
Income received by people aged under 16	HY110G	0	0	3368	3368	0
Regular inter-household cash transfer paid	HY130G	29	25	3351	3368	6
Tax on income and social contributions	HY140G	3733	3424	3302	3368	82
<b>Gross income components at personal level</b>						
Gross employee cash or near cash income	PY010G	6209	5712	7593	7874	100
Gross non-cash employee income	PY020G	66	60	7501	7874	4
Company car	PY021G	27	22	7874	7874	3
Contributions to individual private pension plans	PY035G	71	68	7849	7874	5
Cash benefits or losses from self-employment	PY050G	1233	1139	7766	7874	65
Value of goods produced for own consumption	PY070G	19	22	7874	7874	2
Pension from individual private plans	PY080G	23	27	7861	7874	6
Unemployment benefits	PY090G	55	48	7869	7874	5
Old-age benefits	PY100G	1225	1378	7848	7874	36
Survivors' benefits	PY110G	59	58	7874	7874	7
Sickness benefits	PY120G	40	40	7874	7874	3
Disability benefits	PY130G	132	145	7873	7874	10
Education-related allowances	PY140G	59	65	7813	7874	3

– wave 2005 of 2008 longitudinal component:

		Un-weighted mean (€)	Number of observations		Standard error
			Before imputation	After imputation	
<b>Total household income</b>					
Total household gross income	HY010	19578	306	873	468
Total disposable household income	HY020	16378	300	873	358
Total disposable household income before social transfers other than old age and survivors' benefits	HY022	15404	303	873	365
Total disposable household income before social transfers including old age and survivors' benefits	HY023	12450	304	873	401
<b>Gross income components at household level</b>					
Income from rental of property or land	HY040G	95	873	873	30
Interest, dividends, profit from capital investments in unincorporated business	HY090G	921	492	873	108
Family/Children related allowances	HY050G	251	867	873	20
Social exclusion not elsewhere classified	HY060G	148	873	873	21
Housing allowances	HY070G	38	871	873	12
Regular inter-household cash transfer received	HY080G	43	873	873	16
Interest repayments on mortgage	HY100G	214	868	873	27
Income received by people aged under 16	HY110G	3	872	873	2
Regular inter-household cash transfer paid	HY130G	91	870	873	25
Tax on income and social contributions	HY140G	3109	294	873	132
<b>Gross income components at personal level</b>					
Gross employee cash or near cash income	PY010G	5020	1686	2096	163
Gross non-cash employee income	PY020G	54	2090	2096	13
Company car	PY021G	54	2090	2096	13
Contributions to individual private pension plans	PY035G	73	2095	2096	20
Cash benefits or losses from self-employment	PY050G	1002	2054	2096	99
Pension from individual private plans	PY080G	8	2096	2096	4
Unemployment benefits	PY090G	51	2096	2096	10
Old-age benefits	PY100G	1172	2079	2096	59
Survivors' benefits	PY110G	65	2095	2096	12
Sickness benefits	PY120G	20	2096	2096	4
Disability benefits	PY130G	112	2096	2096	16
Education-related allowances	PY140G	35	2092	2096	4

– wave 2006 of 2008 longitudinal component:

		Un-weighted mean (€)	Number of observations		Standard error
			Before imputation	After imputation	
<b>Total household income</b>					
Total household gross income	HY010	21456	1294	1924	358
Total disposable household income	HY020	17938	681	1924	270
Total disposable household income before social transfers other than old age and survivors' benefits	HY022	16766	672	1924	277
Total disposable household income before social transfers including old age and survivors' benefits	HY023	13668	646	1924	303
<b>Gross income components at household level</b>					
Income from rental of property or land	HY040G	107	1923	1924	25
Interest, dividends, profit from capital investments in unincorporated business	HY090G	1193	1445	1924	76
Family/Children related allowances	HY050G	290	1924	1924	15
Social exclusion not elsewhere classified	HY060G	202	1924	1924	19
Housing allowances	HY070G	46	1917	1924	7
Regular inter-household cash transfer received	HY080G	27	1922	1924	7
Interest repayments on mortgage	HY100G	238	1918	1924	20
Income received by people aged under 16	HY110G	7	1923	1924	2
Regular inter-household cash transfer paid	HY130G	37	1920	1924	11
Tax on income and social contributions	HY140G	3481	650	1924	99
<b>Gross income components at personal level</b>					
Gross employee cash or near cash income	PY010G	5507	4464	4590	122
Gross non-cash employee income	PY020G	56	4590	4590	8
Company car	PY021G	56	4590	4590	8
Contributions to individual private pension plans	PY035G	41	4581	4590	4
Cash benefits or losses from self-employment	PY050G	1057	4474	4590	73
Pension from individual private plans	PY080G	30	4590	4590	8
Unemployment benefits	PY090G	49	4590	4590	6
Old-age benefits	PY100G	1272	4590	4590	42
Survivors' benefits	PY110G	45	4590	4590	8
Sickness benefits	PY120G	28	4590	4590	3
Disability benefits	PY130G	150	4590	4590	12
Education-related allowances	PY140G	44	4586	4590	3

– wave 2007 of 2008 longitudinal component:

		Un-weighted mean (€)	Number of observations		Standard error
			Before imputation	After imputation	
<b>Total household income</b>					
Total household gross income	HY010	21740	1595	2762	297
Total disposable household income	HY020	18152	1387	2762	219
Total disposable household income before social transfers other than old age and survivors' benefits	HY022	16913	1393	2762	225
Total disposable household income before social transfers including old age and survivors' benefits	HY023	14069	821	2762	249
<b>Gross income components at household level</b>					
Income from rental of property or land	HY040G	104	2755	2762	17
Interest, dividends, profit from capital investments in unincorporated business	HY090G	1059	1518	2762	44
Family/Children related allowances	HY050G	289	2762	2762	14
Social exclusion not elsewhere classified	HY060G	208	2762	2762	17
Housing allowances	HY070G	20	2731	2762	4
Regular inter-household cash transfer received	HY080G	46	2757	2762	11
Interest repayments on mortgage	HY100G	230	2752	2762	17
Income received by people aged under 16	HY110G	8	2754	2762	3
Regular inter-household cash transfer paid	HY130G	39	2753	2762	8
Tax on income and social contributions	HY140G	3548	2459	2762	85
<b>Gross income components at personal level</b>					
Gross employee cash or near cash income	PY010G	5633	6352	6631	103
Gross non-cash employee income	PY020G	50	6631	6631	4
Company car	PY021G	19	6631	6631	3
Contributions to individual private pension plans	PY035G	89	6573	6631	6
Cash benefits or losses from self-employment	PY050G	1136	6529	6631	71
Value of goods produced for own consumption	PY070G	25	6631	6631	3
Pension from individual private plans	PY080G	26	6631	6631	7
Unemployment benefits	PY090G	46	6631	6631	5
Old-age benefits	PY100G	1193	6631	6631	35
Survivors' benefits	PY110G	51	6631	6631	7
Sickness benefits	PY120G	38	6631	6631	3
Disability benefits	PY130G	158	6631	6631	11
Education-related allowances	PY140G	59	6627	6631	6

– wave 2008 of 2008 longitudinal component:

		Un-weighted mean (€)	Number of observations		Standard error
			Before imputation	After imputation	
<b>Total household income</b>					
Total household gross income	HY010	21711	1617	2313	342
Total disposable household income	HY020	18343	1597	2313	256
Total disposable household income before social transfers other than old age and survivors' benefits	HY022	17088	1622	2313	261
Total disposable household income before social transfers including old age and survivors' benefits	HY023	13653	1638	2313	287
<b>Gross income components at household level</b>					
Income from rental of property or land	HY040G	142	2280	2313	22
Interest, dividends, profit from capital investments in unincorporated business	HY090G	1164	1826	2313	16
Family/Children related allowances	HY050G	283	2313	2313	19
Social exclusion not elsewhere classified	HY060G	221	2313	2313	2
Housing allowances	HY070G	23	2300	2313	11
Regular inter-household cash transfer received	HY080G	55	2300	2313	40
Interest repayments on mortgage	HY100G	209	2310	2313	18
Income received by people aged under 16	HY110G	0	2313	2313	0
Regular inter-household cash transfer paid	HY130G	31	2296	2313	8
Tax on income and social contributions	HY140G	3337	2262	2313	93
<b>Gross income components at personal level</b>					
Gross employee cash or near cash income	PY010G	5372	5216	5387	119
Gross non-cash employee income	PY020G	57	5134	5387	5
Company car	PY021G	22	5387	5387	4
Contributions to individual private pension plans	PY035G	59	5368	5387	6
Cash benefits or losses from self-employment	PY050G	1154	5308	5387	81
Value of goods produced for own consumption	PY070G	20	5387	5387	2
Pension from individual private plans	PY080G	27	5387	5387	7
Unemployment benefits	PY090G	45	5382	5387	6
Old-age benefits	PY100G	1469	5368	5387	45
Survivors' benefits	PY110G	47	5387	5387	8
Sickness benefits	PY120G	41	5387	5387	3
Disability benefits	PY130G	170	5386	5387	13
Education-related allowances	PY140G	61	5343	5387	4

The following tables summarise the mean, total number of observations (before and after imputation) and the standard errors for the equivalised disposable income. The information is disaggregated by sex, age-group and household size. The means displayed in these tables are averaged over all persons. Separate tables for the 2008 longitudinal component are given:

– **2008 cross-sectional component:**

	Mean (€)		Number of observations		Standard error
	Weighted	Un-weighted	Before imputation	After imputation	
<b>Subclasses by household size</b>					
1 household member	7886	7755	450	601	184
2 household members	9961	9391	1350	1868	144
3 household members	11925	11557	1428	2085	148
4 or more	10487	10163	3063	5037	68
<b>Population by age group</b>					
<25	10221	9892	1852	2967	95
25-34	12329	11975	665	1059	178
35-44	10689	10402	763	1145	200
45-54	11339	11036	924	1455	154
55-64	10772	10355	996	1487	153
65+	8266	8183	1091	1478	105
<b>Population by sex</b>					
Male	10730	10322	3068	4733	83
Female	10388	10011	3223	4858	79

– wave 2005 of 2008 longitudinal component:

	Un-weighted mean (€)	Number of observations		Standard error
		Before imputation	After imputation	
<b>Subclasses by household size</b>				
1 household member	7124	64	135	323
2 household members	8686	226	460	241
3 household members	9483	141	573	177
4 or more	8389	341	1434	117
<b>Population by age group</b>				
<25	8118	190	853	144
25-34	10367	68	293	300
35-44	8220	82	347	211
45-54	9407	97	397	247
55-64	9211	129	335	283
65+	7424	206	395	183
<b>Population by sex</b>				
Male	8739	367	1299	128
Female	8496	405	1303	123

– wave 2006 of 2008 longitudinal component:

	Un-weighted mean (€)	Number of observations		Standard error
		Before imputation	After imputation	
<b>Subclasses by household size</b>				
1 household member	8026	105	294	264
2 household members	9300	394	1044	218
3 household members	10154	396	1263	148
4 or more	9462	1082	3081	79
<b>Population by age group</b>				
<25	8927	674	1823	102
25-34	11538	186	647	298
35-44	9401	256	720	188
45-54	10034	343	866	160
55-64	10181	263	785	200
65+	8155	255	841	141
<b>Population by sex</b>				
Male	9724	962	2807	100
Female	9304	1015	2875	95

– wave 2007 of 2008 longitudinal component:

	Un-weighted mean (€)	Number of observations		Standard error
		Before imputation	After imputation	
<b>Subclasses by household size</b>				
1 household member	7959	209	419	222
2 household members	9159	852	1454	144
3 household members	10466	909	1878	124
4 or more	9628	1957	4401	66
<b>Population by age group</b>				
<25	9335	1162	2606	88
25-34	11345	448	967	174
35-44	9810	444	1009	156
45-54	10212	615	1255	137
55-64	9645	615	1198	150
65+	8161	643	1117	125
<b>Population by sex</b>				
Male	9767	1929	4045	77
Female	9539	1998	4107	76

– wave 2008 of 2008 longitudinal component:

	Un-weighted mean (€)	Number of observations		Standard error
		Before imputation	After imputation	
<b>Subclasses by household size</b>				
1 household member	7683	313	418	226
2 household members	9092	926	1272	154
3 household members	11188	1044	1455	138
4 or more	10254	2070	3414	84
<b>Population by age group</b>				
<25	9917	1249	2001	109
25-34	11973	455	708	211
35-44	10197	514	771	205
45-54	10983	639	1000	160
55-64	10028	712	1030	170
65+	8168	784	1049	124
<b>Population by sex</b>				
Male	10201	2113	3240	92
Female	9946	2240	3319	88

## **2.3. Non-sampling errors**

### **2.3.1. Sampling frame and coverage errors**

In 2005, for EU-SILC Malta, the Water Services Database was used as a sampling frame. This database is comprised of all the dwellings in Malta having a water meter and the number of individuals living in each dwelling. At the time this was the most comprehensive database of dwellings existing in Malta.

For the subsequent three years of EU-SILC the sampling frame used was the Census of Population & Housing 2005 database. This database was preferred to the one used in 2005, mostly because the Census provides a comprehensive count of all persons living in Malta and Gozo at a particular point in time. As previously mentioned, this database is updated yearly; though despite this there are still some households which were found to be ineligible in the EU-SILC sample.

### **2.3.2. Measurement and processing errors**

The main sources of measurement and processing errors are summarised below:

#### ***Questionnaire***

Each year a new and improved questionnaire is created, since, from one year to the next, the questionnaire is checked and improved to correct for any errors or misinterpretations. Despite this, a few errors in wording and misprints were identified during the data collection stage. When such errors occurred, interviewers were contacted and informed immediately, in an attempt to minimise the risk of misinterpretation. Obviously, these errors are corrected in the subsequent year.

In Malta, we use a Computer-Assisted Personal Interviewing (CAPI) method. This method is preferred over the PAPI method since it contains various automatic validations in the program which help avoid data entry errors and/or other human errors. The CAPI system facilitates the interviewing process, thus reducing the amount of burden on the households.

Though there is always room for improvement, the EU-SILC team in Malta is confident that problems in the questionnaire are minimal.

#### ***Interviewers***

One essential requirement when gathering any type of data is having good and well-informed interviewers. For this reason, briefing sessions were organised every year, even though some interviewers participated in EU-SILC more than once. In fact, two different briefing sessions were organised – one for the interviewers who had already participated in the EU-SILC survey where just the changes and errors found were highlighted, and the second for those interviewers who had never participated in this survey where, consequently, the questionnaire was explained in depth.

In these briefing sessions, presentations showing the main points concerning EU-SILC were highlighted and explained. These training sessions were organised for the interviewers to give them instructions on how the data collection should be conducted. Moreover, the interviewers were also given notes summarizing the main points in the questionnaire. In addition, interviewers were encouraged to contact our office whenever there was any problem or misunderstanding.

Audits were also carried out by our office to make sure that the work done by our interviewers was conducted properly. When, in rare cases, this was found not to be the case, action was immediately taken.

### ***Respondents***

In Malta, the co-operation of the respondents in this survey is considered to be reasonably good. However, the burden on the respondents is high, especially when the household is participating in this survey for the fourth time. This is mainly due to the fact that the effective sample size for Malta is large when compared to the population, therefore the same persons end up responding to various other surveys as well as EU-SILC. Consequently, this might be the reason why in some panels the level of attrition is quite high.

In EU-SILC Malta there is a high level of proxy, mainly because it is difficult to find all the persons who belong to that household there at the same time. In such cases, gathering this information through proxy is preferred to having no information at all. This means that other members of the household answer the survey on behalf of those persons not available at the time of interview. Nevertheless, we do make it a point to emphasize to interviewers to keep proxy interviews to a minimum, and where possible to re-contact households by telephone to collect the information from persons who were not present at time of interview. Moreover, prior to the interview, all household members who cannot be present during the interview were asked to leave appropriate documentation related to income (such as payslips and tax returns) with the person who will be responding on their behalf.

Another issue that probably affects the response is related to the nature of the questions in EU-SILC such as those related to income. Therefore, there might be an element of under-reporting or refusal to co-operate. In addition, the fact that the survey is so intense might mean that biases are more present towards the end of the questionnaire since respondents' interest, attention and level of co-operation are likely to diminish as time goes by.

### ***Data collection and data entry***

As previously mentioned, in Malta, the data collection for EU-SILC is carried out through CAPI by means of laptops. The program used is based on Blaise software, and has been designed to facilitate interviewers through automated routing and in-built validations to avoid certain errors. This means that with the use of the CAPI system processing errors due to data entry are reduced, while it simultaneously speeds up the data collection process.

Due to our CAPI system, the EU-SILC team in Malta makes sure that the interviewers are computer literate. However, specialised training sessions are also organised to familiarise interviewers with the program and laptop usage. In addition, fictitious 'test' households are created in the program to encourage interviewers to test the program by inputting data so as to be familiar with the process before interviewing actual households.

For the first two waves of EU-SILC data collection (2005 and 2006), the CAPI system was used in parallel with the PAPI system. However from the year 2007 onwards the data collection was through a CAPI system only. Furthermore, for households that had already participated in EU-SILC, some data (such as date of birth and sex) was uploaded in the laptop prior to the new data collection phase.

### 2.3.3. Non-response errors

#### 2.3.3.1. Achieved sample size

The following table refers to households and persons aged 16+ in the 2008 EU-SILC longitudinal component:

Wave	Number of households for which an interview is accepted for database	Sample persons (aged 16+)	Co-residents (aged 16+)
2005	873	2096	-
2006	1924	4576	14
2007	2762	6569	62
2008	2313	5290	97
<b>Total</b>	<b>7872</b>	<b>18531</b>	<b>173</b>

#### 2.3.3.2. Unit non-response

##### – Household non-response rate (wave 2005)

The address contact rate ( $R_a$ ) is given by:

$$R_a = \frac{\sum[DB120 = 11]}{\sum[DB120 = all] - \sum[DB120 = 23]} = \frac{1164}{1284 - 13} = 0.916$$

The proportion ( $R_h$ ) of complete household interviews accepted for the database is:

$$R_h = \frac{\sum[DB135 = 1]}{\sum[DB130 = all]} = \frac{873}{1164} = 0.75$$

The household non-response rate ( $NR_h$ ) is given by:

$$NR_h = (1 - (R_a * R_h)) * 100 = (1 - (0.916 * 0.75)) * 100 = 31.3\%$$

##### – Individual non-response rate (wave 2005)

The proportion ( $R_p$ ) of complete interviews within the households accepted for the database is:

$$R_p = \frac{\sum[RB250 = 11 + 12 + 13]}{\sum[RB245 = 1 + 2 + 3]} = \frac{2096}{2096} = 1$$

The individual non-response rate ( $NR_p$ ) is given by:

$$NR_p = (1 - (R_p)) * 100 = (1 - (1)) * 100 = 0\%$$

The reason behind a zero individual non-response rate is that whenever a household was interviewed and one (or more) of the household members did not respond, proxy answers for these individuals were requested from responding members.

– **Overall individual non-response rate (wave 2005)**

The overall individual non-response rate ( $NR_p$ ) is given by:

$$NR_p = (1 - (R_a * R_h * R_p)) * 100 = (1 - (0.916 * 0.75 * 1)) * 100 = 31.3\%$$

The following information refers to the 2006, 2007 and 2008 wave of the EU-SILC longitudinal component:

– **Response rate for households**

• **Wave response rate**

- **Wave 2006:** where  $t-1 = 2005$  and  $t = 2006$   
Wave response rate =  $100 * (\text{number of households with DB135=1 and DB010=2006} / \text{number of households with DB010=2006})$   
=  $100 * (1924/2384)$   
= 80.70%
- **Wave 2007:** where  $t-1 = 2006$  and  $t = 2007$   
Wave response rate =  $100 * (\text{number of households with DB135=1 and DB010=2007} / \text{number of households with DB010=2007})$   
=  $100 * (2762/3488)$   
= 79.19%
- **Wave 2008:** where  $t-1 = 2007$  and  $t = 2008$   
Wave response rate =  $100 * (\text{number of households with DB135=1 and DB010=2008} / \text{number of households with DB010=2008})$   
=  $100 * (2313/2825)$   
= 81.88%

• **Longitudinal follow-up rate**

- **Wave 2007:** where  $t-1 = 2006$ ,  $t = 2007$  and  $t+1 = 2008$   
Longitudinal follow-up rate =  $100 * (\text{number of households with DB010=2008 and DB075 = 1 or 2} / \text{number of households with DB010=2006})$   
=  $100 * (1630/2384)$   
= 68.37%

• **Follow-up ratio**

- **Wave 2006:** where  $t-1 = 2005$  and  $t = 2006$   
Number of households passed on from 2005 to 2006  
= number of households with DB010=2006 and DB075 = 2  
= 884
- **Wave 2007:** where  $t = 2006$  and  $t+1 = 2007$   
Number of households passed on from 2006 to 2007 (that were originally in 2005)  
= number of households with DB010=2007 and DB075 = 2  
= 832

- **Wave 2008:** where  $t = 2007$  and  $t+1 = 2008$   
 Number of households passed on from 2007 to 2008 (that were originally in 2005)  
 = number of households with DB010=2008 and DB075 = 2  
 = 691

**Follow-up ratio** =  $691/884 = 0.78$

- **Achieved sample size ratio**

- **Wave 2006:** where  $t-1 = 2005$  and  $t = 2006$   
 Achieved sample size ratio = number of households with DB135=1 and DB010=2006 / number of households with DB135=1 and DB010=2005  
 =  $1924/873$   
 = 2.20
- **Wave 2007:** where  $t-1 = 2006$  and  $t = 2007$   
 Achieved sample size ratio = number of households with DB135=1 and DB010=2007 / number of households with DB135=1 and DB010=2006  
 =  $2762/1924$   
 = 1.44
- **Wave 2008:** where  $t-1 = 2007$  and  $t = 2008$   
 Achieved sample size ratio = number of households with DB135=1 and DB010=2008 / number of households with DB135=1 and DB010=2007  
 =  $2313/2762$   
 = 1.16

- **Response rate for persons**

- **Wave response rate for sample persons**

- **Wave 2006:** where  $t-1 = 2005$  and  $t = 2006$   
 Wave response rate for sample persons =  $100 * (\text{number of persons with RB100=1 \& RB250=11,12,13 \& RB010=2006} / \text{number of persons with RB100=1 \& RB010=2006})$   
 =  $100 * (4576/4787)$   
 = 95.59%
- **Wave 2007:** where  $t-1 = 2006$  and  $t = 2007$   
 Wave response rate for sample persons =  $100 * (\text{number of persons with RB100=1 \& RB250=11,12,13 \& RB010=2007} / \text{number of persons with RB100=1 \& RB010=2007})$   
 =  $100 * (6569/6815)$   
 = 96.39%

- **Wave 2008:** where  $t-1 = 2007$  and  $t = 2008$   
Wave response rate for sample persons =  $100 * (\text{number of persons with RB100=1 \& RB250=11,12,13 \& RB010=2008} / \text{number of persons with RB100=1 \& RB010=2008})$   
=  $100 * (5290/5471)$   
= 96.69%

- **Wave response rate for co-residents**

- **Wave 2006:** where  $t-1 = 2005$  and  $t = 2006$   
Wave response rate for co-residents =  $100 * (\text{number of persons with RB100=2 \& RB250=11,12,13 \& RB010=2006} / \text{number of persons with RB100=2 \& RB010=2006})$   
=  $100 * (14/962)$   
= 1.46%
- **Wave 2007:** where  $t-1 = 2006$  and  $t = 2007$   
Wave response rate for co-residents =  $100 * (\text{number of persons with RB100=2 \& RB250=11,12,13 \& RB010=2007} / \text{number of persons with RB100=2 \& RB010=2007})$   
=  $100 * (62/1461)$   
= 4.24%
- **Wave 2008:** where  $t-1 = 2007$  and  $t = 2008$   
Wave response rate for co-residents =  $100 * (\text{number of persons with RB100=2 \& RB250=11,12,13 \& RB010=2008} / \text{number of persons with RB100=2 \& RB010=2008})$   
=  $100 * (97/1249)$   
= 7.77%

- **Longitudinal follow-up rate**

- **Wave 2006:** where  $t-1 = 2005$  and  $t = 2006$   
Longitudinal follow-up rate =  $100 * (\text{number of persons with RB100=1 \& RB250=11,12,13 \& RB010=2006} / \text{number of persons with RB100=1 \& RB110<5 \& RB010=2006})$   
=  $100 * (4576/4727)$   
= 96.81%
- **Wave 2007:** where  $t-1 = 2006$  and  $t = 2007$   
Longitudinal follow-up rate =  $100 * (\text{number of persons with RB100=1 \& RB250=11,12,13 \& RB010=2007} / \text{number of persons with RB100=1 \& RB110<5 \& RB010=2007})$   
=  $100 * (6569/6701)$   
= 98.03%
- **Wave 2008:** where  $t-1 = 2007$  and  $t = 2008$   
Longitudinal follow-up rate =  $100 * (\text{number of persons with RB100=1 \& RB250=11,12,13 \& RB010=2008} / \text{number of persons with RB100=1 \& RB110<5 \& RB010=2008})$   
=  $100 * (5290/5325)$   
= 99.34%

- **Achieved sample size ratio**

- **Wave 2006:** where  $t-1 = 2005$  and  $t = 2006$   
 Achieved sample size ratio = number of persons with  
 RB250=11,12,13 & RB010=2006 / number of persons with  
 RB250=11,12,13 & RB010=2005  
 =4590/2096  
 =2.19
- **Wave 2007:** where  $t-1 = 2006$  and  $t = 2007$   
 Achieved sample size ratio = number of persons with  
 RB250=11,12,13 & RB010=2007 / number of persons with  
 RB250=11,12,13 & RB010=2006  
 =6631/4590  
 =1.44
- **Wave 2008:** where  $t-1 = 2007$  and  $t = 2008$   
 Achieved sample size ratio = number of persons with  
 RB250=11,12,13 & RB010=2008 / number of persons with  
 RB250=11,12,13 & RB010=2007  
 =5387/6631  
 =0.8

- **Response rate for non-sample persons**

- **Wave 2006:**  
 Response rate for non-sample persons = number of persons aged  
 16+ and with RB100=2 & RB250=11,12,13 & RB010=2006 / number  
 of persons aged 16+ and with RB100=2 & RB010=2006  
 =14/14  
 =1
- **Wave 2007:**  
 Response rate for non-sample persons = number of persons aged  
 16+ and with RB100=2 & RB250=11,12,13 & RB010=2007 / number  
 of persons aged 16+ and with RB100=2 & RB010=2007  
 =62/62  
 =1
- **Wave 2008:**  
 Response rate for non-sample persons = number of persons aged  
 16+ and with RB100=2 & RB250=11,12,13 & RB010=2008 / number  
 of persons aged 16+ and with RB100=2 & RB010=2008  
 =97/97  
 =1

**2.3.3.3. Distribution of households by household status (DB110), by record of contact at address (DB120), by household questionnaire result (DB130) and by household interview acceptance (DB135)**

Distribution of households by household status (DB110) for each wave of the EU-SILC longitudinal component:

	2005		2006		2007		2008	
	Count	% of total	Count	% of total	Count	% of total	Count	% of total
At the same address as last interview	0	0.0	844	35.4	1811	51.9	2642	93.5
Entire household moved to a private household within the country	0	0.0	8	0.3	23	0.7	75	2.7
Entire household moved to a collective household or institution within the country	0	0.0	0	0.0	2	0.1	1	0.0
Household moved outside the country	0	0.0	1	0.0	2	0.1	4	0.1
Entire household died	0	0.0	1	0.0	4	0.1	3	0.1
Household does not contain sample person	0	0.0	0	0.0	1	0.0	3	0.1
Household unable to access	0	0.0	17	0.7	1	0.0	0	0.0
Split-off household	0	0.0	11	0.5	42	1.2	63	2.2
New address added to the sample this wave or first wave	1284	100.0	1500	62.9	1507	43.2	0	0.0
Lost household	0	0.0	2	0.1	95	2.7	34	1.2
<b>Total</b>	<b>1284</b>	<b>100</b>	<b>2384</b>	<b>100</b>	<b>3488</b>	<b>100.0</b>	<b>2825</b>	<b>100.0</b>

Distribution of households by record of contact at address (DB120) for each wave of the EU-SILC longitudinal component:

	2005			2006			2007			2008		
	Count	% of total	% of sub-total	Count	% of total	% of sub-total	Count	% of total	% of sub-total	Count	% of total	% of sub-total
Address contacted	1164	90.7	90.7	1336	56.0	88.0	1416	40.6	90.1	60	2.1	43.5
Address cannot be located	64	5.0	5.0	105	4.4	6.9	39	1.1	2.5	28	1.0	20.3
Address unable to access	43	3.3	3.3	0	0.0	0.0	57	1.6	3.6	47	1.7	34.1
Address does not exist or is non-residential address or is unoccupied or not principal residence	13	1.0	1.0	78	3.3	5.1	60	1.7	3.8	3	0.1	2.2
Sub-total	<b>1284</b>	<b>100</b>	<b>100.0</b>	<b>1519</b>	<b>63.7</b>	<b>100.0</b>	<b>1572</b>	<b>45.1</b>	<b>100.0</b>	<b>138</b>	<b>4.9</b>	<b>100.0</b>
N/A (DB110 not = 2,8 or 9)	0	0.0		865	36.3		1916	54.9		2687	95.1	
<b>Total</b>	<b>1284</b>	<b>100.0</b>		<b>2384</b>	<b>100.0</b>		<b>3488</b>	<b>100.0</b>		<b>2825</b>	<b>100.0</b>	

Distribution of households by household questionnaire result (DB130) for each wave of the EU-SILC longitudinal component:

	2005			2006			2007			2008		
	Count	% of total	% of sub-total	Count	% of total	% of sub-total	Count	% of total	% of sub-total	Count	% of total	% of sub-total
Household questionnaire completed	873	68.0	75.0	1924	80.7	88.3	2762	79.2	85.6	2313	81.9	85.6
Refusal to cooperate	124	9.7	10.7	196	8.2	9.0	301	8.6	9.3	216	7.6	8.0
Entire household temporarily away for duration of fieldwork	46	3.6	4.0	14	0.6	0.6	0	0.0	0.0	27	1.0	1.0
Household unable to respond (illness, incapacity,...)	24	1.9	2.1	23	1.0	1.1	39	1.1	1.2	22	0.8	0.8
Other reasons	97	7.6	8.3	23	1.0	1.1	125	3.6	3.9	124	4.4	4.6
Sub-total	<b>1164</b>	<b>90.7</b>	<b>100.0</b>	<b>2180</b>	<b>91.4</b>	<b>100.0</b>	<b>3227</b>	<b>92.5</b>	<b>100.0</b>	<b>2702</b>	<b>95.6</b>	<b>100.0</b>
N/A (DB120 not = 11 or DB110 not = 1)	120	9.3		204	8.6		261	7.5		123	4.4	
<b>Total</b>	<b>1284</b>	<b>100.0</b>		<b>2384</b>	<b>100.0</b>		<b>3488</b>	<b>100.0</b>		<b>2825</b>	<b>100.0</b>	

Distribution of households by household interview acceptance (DB135) for each wave of the EU-SILC longitudinal component:

	2005		2006		2007		2008	
	Count	% of total						
Interview accepted for database	873	68.0	1924	80.7	2762	79.2	2313	81.9
N/A (DB130 not = 11)	411	32.0	460	19.3	726	20.8	512	18.1
<b>Total</b>	<b>1284</b>	<b>100.0</b>	<b>2384</b>	<b>100.0</b>	<b>3488</b>	<b>100.0</b>	<b>2825</b>	<b>100.0</b>

### 2.3.3.4. Distribution of persons by membership status (RB110)

Distribution of persons by membership status (RB110) for 2006, 2007 and 2008 waves of the EU-SILC longitudinal component:

	2006		2007		2008	
	Count	% of total	Count	% of total	Count	% of total
Was in this household in previous wave or current household member	5642	98.1	8029	97.0	6445	95.9
Moved into this household from another sample household since previous wave	9	0.2	15	0.2	20	0.3
Moved into this household from outside sample since previous wave	17	0.3	75	0.9	52	0.8
Newly born into this household since last wave	14	0.2	33	0.4	42	0.6
Moved out since previous wave or last interview if not contacted in previous wave	58	1.0	93	1.1	117	1.7
Died	9	0.2	28	0.3	40	0.6
Lived in the household for at least three months during the income reference period and was not recorded in the register	0	0.0	3	0.0	4	0.1
<b>Total</b>	<b>5749</b>	<b>100.0</b>	<b>8276</b>	<b>100.0</b>	<b>6720</b>	<b>100.0</b>

### 2.3.3.5. Item non-response

The following information on item non-response refers to income components collected at household level for every wave of the longitudinal component

Note:

\* percentages are out of the total number of households in each wave, for which the interview was accepted for the database

\*\* percentages are out of the total number of households in each wave, having received an amount (positive or negative) for that household income variable

– **wave 2005 of 2008 longitudinal component:**

		Households having received an amount		Of which (before imputation)...					
				Full Information		Partial Information		Missing values	
		No.	%*	No.	%**	No.	%**	No.	%**
<b>Total household income</b>									
Total household gross income	HY010	873	100.0	306	35.1	562	64.4	5	0.6
Total disposable household income	HY020	873	100.0	300	34.4	567	64.9	6	0.7
Total disposable household income before social transfers except old age and survivors' benefits	HY022	873	100.0	303	34.7	551	63.1	19	2.2
Total disposable household income before social transfers including old age and survivors' benefits	HY023	873	100.0	304	34.8	450	51.5	119	13.6
<b>Gross income components at household level</b>									
Income from rental of property or land	HY040G	47	5.4	47	100.0	0	0.0	0	0.0
Interest, dividends, profit from capital investments in unincorporated business	HY090G	873	100.0	492	56.4	5	0.6	376	43.1
Family/Children related allowances	HY050G	216	24.8	210	97.2	0	0.0	6	2.8
Social exclusion not elsewhere classified	HY060G	170	19.5	170	100.0	0	0.0	0	0.0
Housing allowances	HY070G	39	4.4	37	94.9	0	0.0	2	5.1
Regular inter-household cash transfer received	HY080G	12	1.4	12	100.0	0	0.0	0	0.0
Interest repayments on mortgage	HY100G	114	13.1	109	95.6	0	0.0	5	4.4
Income received by people aged under 16	HY110G	4	0.4	3	75.0	0	0.0	1	25.0
Regular inter-household cash transfer paid	HY130G	29	3.3	26	89.7	0	0.0	3	10.3

– wave 2006 of 2008 longitudinal component:

		Households having received an amount		Of which (before imputation)...					
				Full Information		Partial Information		Missing values	
		No.	%*	No.	%**	No.	%**	No.	%**
<b>Total household income</b>									
Total household gross income	HY010	1924	100.0	1294	67.3	623	32.4	7	0.4
Total disposable household income	HY020	1924	100.0	681	35.4	1236	64.2	7	0.4
Total disposable household income before social transfers except old age and survivors' benefits	HY022	1924	100.0	672	34.9	1209	62.8	43	2.2
Total disposable household income before social transfers including old age and survivors' benefits	HY023	1924	100.0	646	33.6	1131	58.8	147	7.6
<b>Gross income components at household level</b>									
Income from rental of property or land	HY040G	88	4.6	87	98.9	0	0.0	1	1.1
Interest, dividends, profit from capital investments in unincorporated business	HY090G	1923	100.0	1444	75.1	0	0.0	479	24.9
Family/Children related allowances	HY050G	562	29.2	562	100.0	0	0.0	0	0.0
Social exclusion not elsewhere classified	HY060G	442	23.0	442	100.0	0	0.0	0	0.0
Housing allowances	HY070G	108	5.6	101	93.5	0	0.0	7	6.5
Regular inter-household cash transfer received	HY080G	21	1.1	19	90.5	0	0.0	2	9.5
Interest repayments on mortgage	HY100G	242	12.6	236	97.5	0	0.0	6	2.5
Income received by people aged under 16	HY110G	16	0.9	15	93.8	0	0.0	1	6.3
Regular inter-household cash transfer paid	HY130G	40	2.1	36	90.0	0	0.0	4	10.0

– wave 2007 of 2008 longitudinal component:

		Households having received an amount		Of which (before imputation)...					
				Full Information		Partial Information		Missing values	
		No.	%*	No.	%**	No.	%**	No.	%**
<b>Total household income</b>									
Total household gross income	HY010	2762	100.0	1595	57.7	1165	42.2	2	0.1
Total disposable household income	HY020	2762	100.0	1387	50.2	1368	49.5	7	0.3
Total disposable household income before social transfers except old age and survivors' benefits	HY022	2762	100.0	1393	50.4	1366	49.5	3	0.1
Total disposable household income before social transfers including old age and survivors' benefits	HY023	2762	100.0	820	29.7	1935	70.1	6	0.2
<b>Gross income components at household level</b>									
Income from rental of property or land	HY040G	112	4.1	105	93.8	0	0.0	7	6.3
Interest, dividends, profit from capital investments in unincorporated business	HY090G	2761	100.0	1517	54.9	1244	45.0	0	0.0
Family/Children related allowances	HY050G	737	26.7	739	100.0	0	0.0	0	0.0
Social exclusion not elsewhere classified	HY060G	581	21.0	581	100.0	0	0.0	0	0.0
Housing allowances	HY070G	81	2.9	53	65.4	0	0.0	28	34.6
Regular inter-household cash transfer received	HY080G	34	1.2	29	85.3	0	0.0	5	14.7
Interest repayments on mortgage	HY100G	329	11.9	319	97.0	0	0.0	10	3.0
Income received by people aged under 16	HY110G	16	0.6	8	50.0	0	0.0	8	50.0
Regular inter-household cash transfer paid	HY130G	45	1.6	36	80.0	0	0.0	9	20.0

– wave 2008 of 2008 longitudinal component:

		Households having received an amount		Of which (before imputation)...					
				Full Information		Partial Information		Missing values	
		No.	%*	No.	%**	No.	%**	No.	%**
<b>Total household income</b>									
Total household gross income	HY010	2313	100.0	1617	69.9	677	29.3	19	0.8
Total disposable household income	HY020	2313	100.0	1597	69.0	707	30.6	9	0.4
Total disposable household income before social transfers except old age and survivors' benefits	HY022	2313	100.0	1622	70.1	641	27.7	50	2.2
Total disposable household income before social transfers including old age and survivors' benefits	HY023	2313	100.0	1638	70.8	527	22.8	148	6.4
<b>Gross income components at household level</b>									
Income from rental of property or land	HY040G	103	4.4	70	68.0	0	0.0	33	32.0
Interest, dividends, profit from capital investments in unincorporated business	HY090G	2313	100.0	1826	78.9	0	0.0	487	21.1
Family/Children related allowances	HY050G	576	24.9	576	100.0	0	0.0	0	0.0
Social exclusion not elsewhere classified	HY060G	512	22.1	512	100.0	0	0.0	0	0.0
Housing allowances	HY070G	440	19.1	427	97.0	0	0.0	13	3.0
Regular inter-household cash transfer received	HY080G	44	1.9	31	70.5	0	0.0	13	29.5
Interest repayments on mortgage	HY100G	247	10.6	244	98.8	0	0.0	3	1.8
Income received by people aged under 16	HY110G	0	100.0	0	0.0	0	0.0	0	0.0
Regular inter-household cash transfer paid	HY130G	29	1.2	12	41.4	0	0.0	17	58.6

The following information on item non-response refers to income components collected at personal level for every wave of the longitudinal component.

Note:

- \* percentages are out of the total number of respondents (aged 16+) in each wave, for which the interview was accepted for the database
- \*\* percentages are out of the total number of respondents (aged 16+) in each wave, having received an amount (positive or negative) for that household income variable

– wave 2005 of 2008 longitudinal component:

		Persons 16+ having received an amount		Of which (before imputation)...					
				Full Information		Partial Information		Missing values	
		No.	%*	No.	%**	No.	%**	No.	%**
<b>Gross income components at personal level</b>									
Gross employee cash or near cash income	PY010G	850	40.6	440	51.8	348	40.9	62	7.3
Gross non-cash employee income	PY020G	27	1.3	21	77.8	0	0.0	6	22.2
Company car	PY021G	27	1.3	21	77.8	0	0.0	6	22.2
Contributions to individual private pension plans	PY035G	83	4.0	0	0.0	83	100.0	0	0.0
Cash benefits or losses from self-employment	PY050G	146	7.0	104	71.2	33	22.6	9	6.2
Pension from individual private plans	PY080G	7	0.3	7	100.0	0	0.0	0	0.0
Unemployment benefits	PY090G	36	1.7	36	100.0	0	0.0	0	0.0
Old-age benefits	PY100G	404	19.3	387	95.8	2	0.5	15	3.7
Survivors' benefits	PY110G	32	1.5	31	96.9	0	0.0	1	3.1
Sickness benefits	PY120G	58	2.8	58	100.0	0	0.0	0	0.0
Disability benefits	PY130G	56	2.7	56	100.0	0	0.0	0	0.0
Education-related allowances	PY140G	71	3.4	67	94.4	0	0.0	4	5.6

– wave 2006 of 2008 longitudinal component:

		Persons 16+ having received an amount		Of which (before imputation)...					
				Full Information		Partial Information		Missing values	
		No.	%*	No.	%**	No.	%**	No.	%**
<b>Gross income components at personal level</b>									
Gross employee cash or near cash income	PY010G	1900	41.3	1774	93.4	0	0.0	126	6.6
Gross non-cash employee income	PY020G	80	1.7	80	100.0	0	0.0	0	0.0
Company car	PY021G	80	1.7	80	100.0	0	0.0	0	0.0
Contributions to individual private pension plans	PY035G	205	4.5	0	0.0	205	100.0	0	0.0
Cash benefits or losses from self-employment	PY050G	272	5.9	156	57.4	79	29.0	37	13.6
Pension from individual private plans	PY080G	26	0.6	26	100.0	0	0.0	0	0.0
Unemployment benefits	PY090G	104	2.3	104	100.0	0	0.0	0	0.0
Old-age benefits	PY100G	931	20.3	931	100.0	0	0.0	0	0.0
Survivors' benefits	PY110G	38	0.8	38	100.0	0	0.0	0	0.0
Sickness benefits	PY120G	307	6.7	307	100.0	0	0.0	0	0.0
Disability benefits	PY130G	158	3.4	158	100.0	0	0.0	0	0.0
Education-related allowances	PY140G	195	4.3	191	97.9	0	0.0	4	2.1

– wave 2007 of 2008 longitudinal component:

		Persons 16+ having received an amount		Of which (before imputation)...					
				Full Information		Partial Information		Missing values	
		No.	%*	No.	%**	No.	%**	No.	%**
<b>Gross income components at personal level</b>									
Gross employee cash or near cash income	PY010G	2703	40.8	2424	89.7	0	0.0	279	10.3
Gross non-cash employee income	PY020G	547	8.2	547	100.0	0	0.0	0	0.0
Company car	PY021G	95	1.4	95	100.0	0	0.0	0	0.0
Contributions to individual private pension plans	PY035G	467	7.0	0	0.0	467	100.0	0	0.0
Cash benefits or losses from self-employment	PY050G	416	6.2	314	75.5	0	0.0	102	24.5
Value of goods produced for own consumption	PY070G	215	3.2	215	100.0	0	0.0	0	0.0
Pension from individual private plans	PY080G	22	0.3	22	100.0	0	0.0	0	0.0
Unemployment benefits	PY090G	122	1.8	122	100.0	0	0.0	0	0.0
Old-age benefits	PY100G	1168	17.6	1168	100.0	0	0.0	0	0.0
Survivors' benefits	PY110G	57	0.9	57	100.0	0	0.0	0	0.0
Sickness benefits	PY120G	492	7.4	492	100.0	0	0.0	0	0.0
Disability benefits	PY130G	245	3.7	245	100.0	0	0.0	0	0.0
Education-related allowances	PY140G	288	4.4	284	98.6	0	0.0	4	1.4

– wave 2008 of 2008 longitudinal component:

		Persons 16+ having received an amount		Of which (before imputation)...					
				Full Information		Partial Information		Missing values	
		No.	%*	No.	%**	No.	%**	No.	%**
<b>Gross income components at personal level</b>									
Gross employee cash or near cash income	PY010G	2095	38.9	1924	91.8	0	0.0	171	8.2
Gross non-cash employee income	PY020G	395	7.3	142	35.9	27	6.8	226	57.2
Company car	PY021G	78	1.4	78	100.0	0	0.0	0	0.0
Contributions to individual private pension plans	PY035G	280	5.2	0	0.0	280	100.0	0	0.0
Cash benefits or losses from self-employment	PY050G	323	6.0	244	75.5	0	0.0	79	24.5
Value of goods produced for own consumption	PY070G	196	3.6	196	100.0	0	0.0	0	0.0
Pension from individual private plans	PY080G	24	0.4	12	50.0	0	0.0	12	50.0
Unemployment benefits	PY090G	91	1.7	86	94.5	0	0.0	5	5.5
Old-age benefits	PY100G	1116	2.8	1097	98.3	0	0.0	19	1.7
Survivors' benefits	PY110G	39	0.7	39	100.0	0	0.0	0	0.0
Sickness benefits	PY120G	420	7.8	420	100.0	0	0.0	0	0.0
Disability benefits	PY130G	196	3.6	196	99.5	0	0.0	1	0.5
Education-related allowances	PY140G	284	5.4	240	84.5	30	10.6	14	4.9

## 2.4. Mode of data collection

In Malta's EU-SILC, for all households whose interview was accepted for database, the information on all household members aged 16 or over was completed only from interview.

For each wave of the longitudinal component, the following table gives the distribution of household members aged 16 or over by 'type of interview' for sample persons, co-residents and total:

	Sample person		Co-resident		Total	
	Count	%	Count	%	Count	%
<b>2005</b>						
Face to face interview: PAPI	161	7.7	0	0.0	161	7.7
Face to face interview: CAPI	1319	63.1	0	0.0	1319	63.1
CATI, telephone interview	0	0.0	0	0.0	0	0.0
Self-administered by respondent	0	0.0	0	0.0	0	0.0
Proxy interview	611	29.2	0	0.0	611	29.2
<b>Total</b>	<b>2091</b>	<b>100.0</b>	<b>0</b>	<b>0.0</b>	<b>2091</b>	<b>100.0</b>
<b>2006</b>						
<b>2006</b>						
Face to face interview: PAPI	0	0.0	0	0.0	0	0.0
Face to face interview: CAPI	3144	69.1	9	64.3	3153	69.1
CATI, telephone interview	0	0.0	0	0.0	0	0.0
Self-administered by respondent	0	0.0	0	0.0	0	0.0
Proxy interview	1401	30.9	5	35.7	1409	30.9
<b>Total</b>	<b>4545</b>	<b>100.0</b>	<b>14</b>	<b>100.0</b>	<b>4562</b>	<b>100.0</b>
<b>2007</b>						
<b>2007</b>						
Face to face interview: PAPI	1	0.0	0	0.0	1	0.0
Face to face interview: CAPI	4502	68.6	39	62.9	4541	68.5
CATI, telephone interview	0	0.0	0	0.0	0	0.0
Self-administered by respondent	0	0.0	0	0.0	0	0.0
Proxy interview	2062	31.4	23	37.1	2085	31.5
<b>Total</b>	<b>6565</b>	<b>100.0</b>	<b>62</b>	<b>100.0</b>	<b>6627</b>	<b>100.0</b>
<b>2008</b>						
<b>2008</b>						
Face to face interview: PAPI	0	0.0	0	0.0	0	0.0
Face to face interview: CAPI	4192	79.5	53	54.6	4245	79.0
CATI, telephone interview	0	0.0	0	0.0	0	0.0
Self-administered by respondent	0	0.0	0	0.0	0	0.0
Proxy interview	1084	20.5	44	45.4	1128	21.0
<b>Total</b>	<b>5276</b>	<b>100.0</b>	<b>97</b>	<b>100.0</b>	<b>5373</b>	<b>100.0</b>

## **2.5. Imputation procedure**

The aim of imputing data is to utilise existing information to tackle item non-response in essential variables. Various methods of imputation were used, depending on the variable being imputed. Where possible auxiliary information from cases having similar characteristics was used, though for some variable it was necessary to use mathematical imputation methods such as hot deck imputation or regression based techniques. In some cases, information collected from previous years was used to impute missing information. This latter method was preferred over other methods since the value that was imputed was generally in line with past readings, thus increasing consistency with past data.

In addition, preventive measures to avoid item non-response were tackled during the questionnaire design stage. Income brackets were introduced in cases item non-response was very common (e.g. self-employment, interests and/or dividends). In these cases, respondents who did not want to give the exact amount were asked to indicate the range where their income lied. The value imputed in these cases was the mean of that income bracket.

## **2.6. Imputed rent**

Since this component became mandatory from 2007, it is only included in the 2007 and 2008 cross-sectional files and in the 2007 and 2008 wave of the EU-SILC longitudinal component. The imputed rent in Malta is not collected from EU-SILC directly. Due to the fact that the number of dwellings rented at market value is relatively low. In view of this, it was decided to assign imputed rents basing on average values estimated for National Accounts purposes, according to the dwelling size and type.

## **2.7. Company cars**

Insurance registers were used for the 2005 and 2006 waves of the longitudinal component, to estimate the non-cash employee income component related to the provision of a company car, van or other vehicle that was available for private use. Through the information on vehicle's make, model and year of registration which were collected through the SILC questionnaire, the registers enabled the calculation of the car fringe benefit.

For the 2007 and 2008 waves of the longitudinal component, insurance registers were used to estimate the market value of cars provided by the employers, using the vehicle's make, model, year of registration and engine type, which were collected in the questionnaire. The value of the fringe benefit was then estimated using the same methodology employed by the Inland Revenue Department for tax purposes – in fact, this method was used in order to estimate the car value, car use value, maintenance value, fuel value and private use value which are all income components required for the computation car fringe benefits.

## **3. Comparability**

In the following section, any minor departures in the definitions of national concepts from EU-SILC are highlighted. However, in order to ensure maximum comparability, Malta ensured that most national concepts coincide with those in EU-SILC.

### 3.1. Basic concepts and definitions

- **Reference population**

No departure from the common definition i.e. the reference population is composed of all private households and their current members residing in Malta at the time of data collection. Persons living in institutions are excluded from the target population.

- **Private household definition**

No departure from the common definition i.e. a private household is defined as a person living alone or a group of people who live together in the same private dwelling and share expenditures, including the joint provision of the essentials of living.

- **Household membership**

A person is a household member if s/he is usually resident in that particular dwelling and shares household expenses. Persons who are temporarily absent for reasons of holiday, travel, work, health, education or similar are included as long as they do not intend to stay away for more than 6 months.

- **Income reference period**

The income reference period for each wave is the preceding calendar year.

- **Tax on income and social insurance contributions reference period**

The tax on income and social insurance contributions reference period is the same as the income reference period.

- **Taxes on wealth reference period**

The variable on regular taxes on wealth is not applicable for Malta.

- **Lag between income reference period and current variables**

The data collection was carried out between July and October for the 2005 and 2008 waves, and between June and October for the 2006 and 2007 waves. Thus the lag between income reference period and current variables spans between 5 and 10 months, depending on the date of interview for each household. We did not succeed in limiting the interval to 8 months due to practical problems with data collection.

- **Total duration of data collection of the sample**

The data collection for the 2005 and 2008 waves was carried out in 4 months whilst for the 2006 and 2007 waves it was carried out in 5 months. However, in the 2006 and 2007 waves the duration of the data collection exceeded 4 months only in the case of a few households for which it was not possible to conduct the interview earlier. In addition, a data collection procedure that was adopted is that households which were found to be temporarily away from home were re-contacted at a later stage. This also contributed to a slightly longer duration of data collection.

- **Basic information on activity status during the income reference period**

This information was collected through the inclusion of a question that requested the respondents' activity status for every month of the income reference period.

## **3.2. Components of income**

### **3.2.1. Differences between the national definition and standard EU-SILC definitions**

For the following income components, the standard EU-SILC definitions were used:

- Total household gross income
- Total disposable household income
- Total disposable household income before social transfers except old-age and survivors' benefits
- Total disposable household income before social transfers including old-age and survivors' benefits
- Income from rental of property or land
- Family/children related allowances
- Social exclusion not elsewhere classified
- Housing allowances
- Regular inter-household cash transfer received
- Interest, dividends, profit from capital investments in unincorporated business
- Interest paid on mortgage
- Income received by people aged under 16
- Regular inter-household cash transfer paid
- Tax on income and social insurance contributions
- Employee cash or near cash income
- Non-cash employee income (in 2005 and 2006 this only incorporated company car)
- Cash benefits or losses from self-employment (including royalties)
- Unemployment benefits
- Old-age benefits
- Survivors' benefits
- Sickness benefits
- Disability benefits
- Education-related allowances
- Imputed rent (2007 and 2008)

The methodology used for other income components is described below.

- Value of goods for own consumption (2007 and 2008)

The methodology for this variable in the 2008 wave of the longitudinal component was revised. The new methodology is as follows:

- DAFNE (DAta Food NEtworking) data was used in order to estimate the average consumption of food in quantities per household;
  - These average quantities were then multiplied by the average RPI prices for the year under review to calculate the average values;
  - These monetary values were then attached to the households and were multiplied by the fraction that is being produced in the households.
- Employers' social insurance contributions (2007 and 2008)

For Malta the employers' social insurance contribution is exactly equal to the contribution paid by the employee, plus subsidies (if any) paid by the employer on private health insurance, house insurance and life insurance. Private retirement plans and other employer insurance schemes, which should also be included, were not collected for EU-SILC 2008 cross-sectional component and thus for the 2008 wave in the longitudinal component. This will be amended for the EU-SILC 2010 cross-sectional and longitudinal components.

- Optional employer's social insurance contributions (2008)

For this variable, Malta included subsidies paid by the employer on private health insurance, house insurance and life insurance. Private retirement plans and other employer insurance schemes, which should also be included, were not collected for EU-SILC 2008 cross-sectional component and thus for the 2008 wave in the longitudinal component. This will be amended for the EU-SILC 2010 cross-sectional and longitudinal components.

The following income components have not been collected for reasons specified below:

- Regular taxes on wealth

The variable on regular taxes on wealth is not applicable for Malta.

- Repayments/receipts for tax adjustments

Since Malta has collected a combination of gross and net values for income components, the tax adjustments are included under the variable on tax on income and social contributions.

### **3.2.2. The source or procedure used for the collection of income variables**

In 2005, all information for EU-SILC was collected through interviews. However, in 2006 the NSO was granted access to the System of Social Assistance and Benefits Database (SABS) from the Ministry for Family and Social Solidarity (MFSS), covering the same reference period as EU-SILC. This database contains data of all persons receiving any type of social benefit at micro-level, and could be merged with EU-SILC through the ID card number. A feasibility study was carried out to check if the SABS database could be used as an alternative to the data collected from the interviews.

It was decided that the SABS database is more reliable due to the fact that a certain amount of bias exists in data collected from respondents such as under-reporting of small amounts received. Thus, from the year 2006 onwards in EU-SILC, the SABS database was used as the source for data on benefits.

Social benefits that are obtained from the SABS database are:

- PY090G: unemployment benefits
- PY100G: old-age benefits
- PY110G: survivor's benefits
- PY120G: sickness benefits
- PY130G: disability benefits
- HY050G: family / children related allowances
- HY060G: social exclusion not elsewhere classified
- HY070G: housing allowances (only energy benefits were obtained from SABS) (2008 only)

Subsequently, SABS data was also obtained for income reference year 2004, and EU-SILC 2005 data was revised accordingly. However, no revisions were made regarding housing allowances (HY070G).

PY140G, education related allowances, is the only variable not available in the SABS database. This variable has been collected from interviews for all years in the longitudinal component.

Data on value of goods for own consumption became mandatory as from 2007. For this variable new questions on whether respondents have grown or produced any goods for their own consumption such as vegetables, meat, fruit, other agricultural products and/or fish were introduced. Each category was then divided into sub-categories of goods and for each item the respondents were asked to indicate what percentage from the total consumption was actually grown at home (i.e. not bought or provided for free from other households). Having obtained the quantities in this way, the actual monetary values were then obtained by matching against the 2000 Household Budgetary Survey results and adjusting for inflation.

The questionnaire is also designed to gather information on lump sums. Respondents are asked whether during the 12 months of the previous year or before, any one-time lump sum was received. The main reason for receiving this lump sum is also asked, in order to identify which benefits these should be included with. For example, if the lump sum was given because of retirement from work or because of the need to stop working before retirement age; these were included with Old-age benefits (PY100G).

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

Information on income was collected through a number of sub-questions for each income component as follows:

1. Number of payments during the 12 months
2. Gross income at each payment
3. Net income at each payment
4. Tax paid per payment received
5. National Insurance paid per payment received

A note was included before these sub-questions, emphasizing that the income reference period was the preceding year and describing the specific income component being treated in each question. A response was expected for only one of the sub-divisions gross income at each payment (2) and net income at each payment (3). Preference for the collection of information on gross income (rather than net) was expressed during briefing sessions for interviewers and was also implied through the choice of ordering of the sub-questions mentioned above.

### ***3.2.4. The method used for obtaining the income target variables in the required form (i.e. as gross values)***

As mentioned previously, during the briefing sessions it was stressed that the collection of gross rather than net income was preferred. Nevertheless, sometimes only the net income was available. In order to convert these net values into gross values a table was derived by using information obtained from the Department of Inland Revenue showing gross income values corresponding to net income values.

In EU-SILC 2008, a new methodology of gathering information on income (mainly from employment) was introduced. Questions in this section were revised so as to differentiate between the main job and secondary job. This was of vital importance to verify the tax paid, since different tax bands apply depending on the type of job.

### **3.3. Tracing rules**

The EU-SILC tracing rules have been implemented in the tracing procedure. In an attempt to facilitate this procedure the questionnaire incorporates a question that asks about the intention or expectation to move house in the 12 months following the interview.

## **4. Coherence**

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

In terms of coherence, each year a set of variables which are collected from EU-SILC are compared to other data sources having the same reference period. The majority of the data used is mainly collected by the National Statistics Office itself. These include data from the National Accounts, Labour Force Survey and Government Finance data. Apart from this, we also verify data such as income from employment, interests and dividends with aggregated annual figures held at the Department of Inland Revenue.