



**Statistics Netherlands**

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# **Final quality report**

**EU-SILC 2008**

**The Netherlands**

## Preface

In recent years, Statistics Netherlands has focused on an increased use of register data instead of survey data in the production process of statistical information. By making efficient use of register data, Statistics Netherlands intends to improve the accuracy of the statistical information, and, at the same time, to decrease the response burden on households. Examples of administrative registrations are the Population Register (the municipal basic registration of population data; in Dutch: Gemeentelijke BasisAdministratie - GBA), data on social security and tax data. The Population Register (GBA) contains information on age, sex, ethnicity, place of birth, place of residence, marital status and other information for all (registered) persons living in the Netherlands. This registration has been available from 1995 onwards, and is updated monthly. The Labour Force Survey (LFS) is one of the social statistical databases that are linked to the GBA. The design of the LFS is based on a face-to-face interview (CAPI), followed by a four-wave panel by telephone interview (CATI).

The EU-SILC was conducted for the first time in 2005. And for various reasons (costs, response burden, available information), it was decided to consider the option of using the fifth wave LFS-respondents as the EU-SILC sampling frame. In doing so, a relatively short telephone-interview (on average 13 minutes) was sufficient to collect the additional EU-SILC information.. Consequently, all information based on the Population Register, register data on income and the LFS was matched to the EU-SILC respondents.

Statistics Netherlands implemented the integrated four-year rotational design which means that the cross-sectional en longitudinal EU-SILC data are based on the same set of sample observations. Rotational design refers to the sample selection based on a number of subsamples or replications. Once the system is fully established (from EU-SILC 2008 onwards) the sample for any one year consists of four replications which have been in the survey for 1, 2, 3 or 4 years. Each year one of the four replications is dropped and replaced by a new one. The new group consists of new sample persons who were drawn from the Labour Force.

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# 1. Common Indicators

## 1.1 Common longitudinal European Union indicators EU-SILC 2008

Because 2008 was the fourth year of the EU-SILC survey in the Netherlands the persistent at-risk-poverty rate has been computed for the first time. Persistent at risk of poverty occurs if a respondent is at risk of poverty (income below 60 % of median income) in the last wave of the four-year panel and has been at risk of poverty at least two times during the preceding waves (2005, 2006, and 2007).

Table 1.1: Persistent at-risk-poverty rate EU-SILC 2008

<b>Indicator</b>	<b>Value</b>
Persistent at-risk-of-poverty rate after social transfers - total	6,4
Male	7,0
Female	5,9
At-risk-of-poverty rate after social transfers - 0-17 years	7,8
Male	8,7
Female	6,9
At-risk-of-poverty rate after social transfers - 18-64 years	5,6
Male	5,7
Female	5,4
At-risk-of-poverty rate after social transfers – 65+ years	8,3
Male	10,7
Female	6,5

## 2. Accuracy

### 2.1 Sampling design

The EU-SILC survey is an annual survey with a four-year rotational panel and has been carried out as an integrated survey, covering both cross-sectional and longitudinal primary target variables by a single operation. The cross-sectional sample of SILC 2008, the fourth year of EU-SILC in the Netherlands, consists of one “old” rotational group (R4) which took part in SILC 2005. Group R1’ has entered the survey in 2006 and sample persons in group R2’ were interviewed for the first time in 2007. The new group R3’ consists of sample persons who were drawn from the Labour Force Study.

Figure 2.1. Rotational design EU-SILC

EU-SILC 2005	R1	R2	R3	R4			
EU-SILC 2006		R2	R3	R4	R1 <sup>1</sup>		
EU-SILC 2007			R3	R4	R1 <sup>1</sup>	R2 <sup>1</sup>	
EU-SILC 2008				R4	R1 <sup>1</sup>	R2 <sup>1</sup>	R3 <sup>1</sup>

#### 2.1.1 Type of sampling

Sample persons in the new rotational group 3 (R3<sup>1</sup>) were partly drawn from the Labour Force Survey (LFS). The LFS sample was drawn from the sampling frame of addresses. This sampling frame was constructed from the Population Register, and is updated monthly.

The LFS-sampling design can be classified as a two-stage sampling design, with municipalities as primary sampling units and addresses as secondary sampling units. The systematic sampling of first stage elements is with probability proportional to size (number of addresses per municipality), while the second stage elements are selected with simple random sampling such that the total sampling design becomes self-weighting. The primary sampling units are stratified according to a combination (crossing) of two regional attributes, COROP and interviewer region; the regions are non-overlapping. From the addresses further sampling units are constructed: households, and sample persons in selected households. For the measurement of detailed information on social variables one member of the household aged 16 or older is selected (the selected respondent).

#### 2.1.2 Sampling units

The sampling units are addresses that are registered in the sampling frame. All households on selected addresses are eligible for the survey, up to a maximum of three households per address.

#### 2.1.3 Stratification criteria

The stratification variables are the regional variables COROP (40 regions) and interviewer region. The strata are constructed by crossing these variables. Applying this type of stratification allows for representative samples on a regional level. Moreover, this type of stratification makes it possible to use fixed size samples for each of the interviewer regions.

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

Member states have to achieve a minimum effective sample size for the cross-sectional and longitudinal sample. For the Netherlands the net cross-sectional sample size is 6,500 households and 6,500 selected persons over 15 (concerning the measurement of social variables). Correcting for estimated design effects, the minimum achieved sample size should be 8,500 households and 8,500 selected persons over 15 years of age (a justification of this figure will be given in section 2.1.8.1). Similar considerations apply to the longitudinal sample: in this case the net sample size is 5,000 households and 5,000 selected persons over 15, and the achieved sample size should be 6,500 households and 6,500 selected persons over 15.

The sampling design is partly based on the design for the Labour Force Survey (LFS), which has a panel structure with five rotational groups. In the first wave, interviews are conducted through face-to-face interviewing. Subsequent waves are conducted through telephone interviewing. The period between waves is three months. When the first wave of the LFS survey has been completed, addresses with all residents aged over 64 are removed from the sample. Households that have taken part in all five waves of the labour force survey are recruited for the EU-SILC survey. If a household is willing to participate, it is contacted in the month following the final LFS interview. As addresses with all residents aged over 64 are no longer present in the last wave of the LFS survey an extra sample is required. We therefore distinguish between two EU-SILC samples: the first sample represents the set of addresses with households that have participated in the LFS survey. At least one of the household members living on such an address is under 65. The allocation of this sample is illustrated in table 2.1. The second sample is a set of addresses with all residents aged over 64. The allocation of this sample is illustrated in table 2.2. Both samples are based on the sample selection scheme of section 2.1.5.

In 2008, 10,085 households in the fifth wave of the LFS were recruited for the first wave of the EU-SILC survey (rotational group R3'). Among them 3,863 were actually used by the institute for EU-SILC and 3,001 households completed the household questionnaire.

Households in the LFS-sample which did not respond to the LFS-survey or which have not been used for recruiting EU-SILC respondents have not been registered in the EU-SILC household register (D-file). Only households which were actually used for the EU-SILC survey are registered in the D-file.

Table 2.1: sample size sample 1; at least one resident aged below 65

<i>Addresses used for recruiting EU-SILC households</i>	10,085
willing to participate in EU-SILC survey	7,463
not willing to participate	2,622
<i>Willing to participate in EU-SILC</i>	7,463
addresses used by the institute for EU-SILC	3,863
addresses not used by the institute for EU-SILC	3,600
<i>Addresses used by the institute for EU-SILC</i>	3,863
addresses successfully contacted for EU-SILC	3,719
addresses not successfully contacted	144
<i>Addresses successfully contacted for EU-SILC</i>	3,719
household questionnaire EU-SILC completed	3,001
refusal to co-operate	278
household temporarily away for duration of fieldwork	
unable to respond	6
other reasons	434
<i>Household questionnaire completed</i>	3,001
accepted for database	2,955
interview rejected	46

For the sample of addresses with all residents aged over 64, all of the issued 1,332 addresses were used. 84 of these were not successfully contacted. Of the remaining addresses 680 households completed the questionnaire. Again a small number of interviews had to be rejected, 666 households were accepted for the database. Combining both samples, the number of new accepted household interviews in the new rotational group (R3') is 3,621.

Table 2.2. sample size sample 2; all residents at address are 65 or older.

<i>Issued addresses</i>	1,332
addresses used by the institute	1,332
addresses not used by the institute	0
<i>Addresses used by the institute</i>	1,332
addresses successfully contacted	1,248
addresses not successfully contacted	84
<i>Addresses successfully contacted</i>	1,248
household questionnaire EU-SILC completed	680
refusal to co-operate	382
household temporarily away for duration of fieldwork	
unable to respond	114
other reasons	72
<i>Household questionnaire completed</i>	680
accepted for database	666
interview rejected	14

### 2.1.5 Sample selection scheme

As stated before, the primary sampling units are selected by means of systematic sampling with probability proportional to size. Therefore the ordering of these units in the strata is relevant: the primary sampling units in each of the strata are randomly ordered. The secondary sampling units are selected with simple random sampling in order that the total sampling design becomes self-weighting.

Addresses corresponding to institutions, addresses that have been part of a survey sample in the previous year, and addresses in some small regions of the national territory (West Frisian Islands) are removed from the sample. These addresses are not part of the reference population. In the case of sample 1, a number of sampling units in each of the interviewer regions is randomly removed in order to fit the sample with the available face-to face interview capacity. The sampling design for this sample is therefore no longer strictly self-weighting. In the case of sample 2 the datacollection process has been conducted by telephone interviewing. Only addresses were selected with all residents aged over 64. The resulting samples represent the sets of issued addresses in tables 2.1 and 2.2.

### 2.1.6 Sample distribution over time

The following tables provide an overview of the cumulative sample development (all rotational groups) during the fieldwork period from 1 June 2008 to 30 September 2008. Table 2.3 illustrates the sample development of sample 1, table 2.4 that of sample 2.

Table 2.3: cumulative sample size over time, EU-SILC sample 1, at least one resident aged below 65

Fieldwork	Accepted interviews
01/06 – 30/06	1,935
01/06 – 31/07	3,857
01/06 – 31/08	6,297
01/06 – 05/10	8,783

Table 2.4: cumulative sample size over time, EU-SILC sample 2, all residents at address are 65 or older

Fieldwork from .. to ..	Processed addresses	Accepted interviews
01/06 – 30/06	431	456
01/06 – 31/07	1,281	884
01/06 – 31/08	2,044	1,392
01/06 – 05/10	2,371	1,554

### 2.1.7 Renewal of samples: rotational groups

For the Netherlands, 2005 was the first year EU-SILC was conducted. A new sample was constructed and divided into four rotational groups. Each rotational group is a subsample, each by itself representative of the whole population, and each constructed using the same sampling design. One of the subsamples was purely cross-sectional and was not followed up in 2006. Respondents in the second subsample participated two years, in the third subsample three years, and in the fourth subsample four years. In order to compensate for panel attrition, the subsamples are chosen to be of different sizes: subsamples of respondents that participate longer in the EU-SILC survey are therefore larger. Because accurate panel attrition rates were not available in the first year of the EU-SILC survey, the subsample sizes are chosen to be of quite different sizes in order to guarantee a longitudinal sample of sufficient size. The longitudinal 2007-2008 sample consists of 6,716 households (rotational group R1', R2', and R4).

Table 2.5: size of rotational groups EU-SILC 2008

	Total	R1'	R2'	R3'	R4
Used addresses	12,745	1,828	3,545	4,748	2,624
Successfully contacted addresses	11,962	1,703	3,259	4,557	2,443
Accepted household interviews	10,337	1,552	2,893	3,621	2,271

### 2.1.8 Weighting

In this paragraph the computation of cross-sectional weights will be discussed. These weights were calculated in compliance with the Eurostat recommendations for these calculations.

#### 2.1.8.1 Design factor

The design factor (or design effect) expresses the loss in precision due to the actual sampling design, as compared to a single random sampling (SRS) design. As such, it plays an important role in determining the required sample size. The design factor can be calculated as the ratio of the variance (of a particular estimator), obtained under the actual design, to the variance obtained by SRS. Here, the design factor for the total at-risk-of-poverty rate is presented. The calculation of the design factor proceeds as follows. The variance obtained under the actual design is found by squaring the corresponding standard error. Next, in order to compute the variance that would have been obtained from a single random sample, a resampling method is used to simulate such a sample from the actual sample file. The simulated single random sample is subsequently used to infer the SRS variance, following the same strategy as outlined in section 2.2.1. With the thus found variance, the resulting design factor for the at-risk-of-poverty rate was 1.16 for the EU-SILC 2008 operation.

The design factor calculated here is in reasonable agreement with a preliminary estimate of the design factor, on the basis of which the total sample size was chosen (section 2.1.4). Calculating backwards, the effective sample size is  $10,337/1.16 = 8,911$  households for the total at-risk-of-poverty rate. This figure amply meets the requirement by the EU-SILC Regulation, which stipulates a minimum effective sample size of 6,500 households for the Netherlands.

### 2.1.8.2 *Non-response Adjustments*

Non-response adjustments are necessary because of the bias introduced by selective non-response on the household level. Selective non response affects the inclusion probabilities of the sampling units. Ideally the inclusion probability can be calculated by multiplying the inclusion probabilities of the sampling design with the exact response probabilities. Unfortunately, in practice these response probabilities are unknown and some kind of approximation has to be made.

The method of logistic regression was adopted to approximate the response probabilities for the new rotational group. The response probabilities were modelled by the explanatory variables age, degree of urbanisation, type of household, and labour force status. For the old rotational groups a proper model could not be fitted using logistic regression. Therefore the response probabilities were considered equal for all persons in the response.

### 2.1.8.3 *Adjustments to external data*

For each rotational group adjustments to external data were made to calculate the base weights. The basis for this base weight (RB060) in year t is the cross-sectional weight (RB050) in t-1. These weights were scaled to the longitudinal population in scope. The calibration was performed on household and personal level using linear consistent weighting, so that individuals within the household have identical weights.

The following variables were included in the calibration scheme:

- Household size : 1 household member, 2 household members 3 household members, 4 or more household members
- Sex:
- Age class : 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 years or older.

For each rotational group and each wave, the sum of the weights RB060 is equal to the size of the longitudinal population in scope. The base weights of year t +1 are based on the cross-sectional weights (RB050) of year t. For the rotational groups 3 and 4 the sum of the base weights is equal to the size of the longitudinal population in scope in 2005-2007. With respect to group 1' (first wave in 2006) the sum of the weights is equal to the size of the longitudinal population in scope from 2006 to 2007. Household Members with RB110 = 3, 5, 6 or 7 (moved into from outside sample, moved out, died or not in register) have a zero weight and members with RB110=4 (newly born) received the weight of their mother.

#### 2.1.8.4 longitudinal weights

For the 2008-operation, three sets of longitudinal weights have been calculated for the persons in the participating panels in the relevant period. These weights are rb062 (two years), rb063 (three years) and rb064 (four years).

#### 2.1.8.5 Non-response Adjustments

For the “old ” rotational groups a proper model using logistic regression could not be fitted to approximate the response probabilities. Therefore the response probabilities were considered equal for all persons in the response.

#### 2.1.8.6 Adjustments to external data

see section 2.1.8.8

#### 2.1.8.7. Final longitudinal weights

The basis for the weight DB090 in the longitudinal files is the weight DB090 from the cross-sectional files. However, these weights are now summing to a total less than the household population, because the longitudinal file consists of only three rotational groups (R4,R1’ and R2’). Therefore, variable DB090 had to be expanded with a scale factor. With this scale factor the sum of the weights for the rotational groups R4,R1’ and R2’ together is equal to the cross-sectional household population size.

Table 2.6: Household weight in longitudinal file 2005-2007

	2005	2006	2007	2008
Accepted household interviews (R1’, R3, R4)	4,110	5,624	8,310	6,716
Sum of cross-sectional weights	<b>4,090,627</b>	<b>4,872,157</b>	<b>7,503,727</b>	<b>4,870,290</b>
Number of households in population	7,090,965	7,146,088	7,190,543	7,242,202
Scale factor	1.73	1.47	0.96	1.49

The two-, three- and four-year duration longitudinal personal weights (RB062, RB063 and RB064) have only values for 2008 as this correspond to the last wave in the file. With respect to RB062 the sum of the weights, all rotational groups together, is equal to the size of the longitudinal population of individuals in scope in 2007 and 2008. Concerning RB064 this sum is equal to the size of the longitudinal population 2005-2008. Individuals in scope are the ones with RB110 = 1 or 2. Members with RB110 = 3, 4, 5, 6 or 7 (moved into from outside sample, newly born, moved out, died or not in register) have a zero weight.

#### 2.1.8.8. Final household cross-sectional weight

Final cross sectional weights were obtained by a calibration of the joint cross-sectional and longitudinal sample. Adjustments made by calibration schemes in general improve the accuracy of the data (mean square error). Three good reasons for using calibration schemes are: 1) the estimates of variables that are used in the calibration scheme are made consistent with those of more reliable sources. 2) the standard error of the estimates is reduced if the calibration variables correlate with target variables. 3) non-response bias is reduced if the calibration variables correlate with both target variables and response probabilities.

Two external data sources were used in the calibration procedure:

1. the Population Register (GBA), and
2. the register on income data based on integral data from the tax authorities.

The adjustments were made on the basis of the base weights: the product of the design weights with the inverse of the response probabilities (non-response weights). The calibration was performed on household and personal level using linear consistent weighting, so that individuals within the household have identical weights equal to the household weight. The set of variables used for calibration includes the smaller subset suggested by Eurostat in document EU-SILC 065/04. Additional calibration variables that correlate strongly with the target variables were added: income data and data on tenure status from the income register. The following variables were included in the calibration scheme:

- sex,
- age in years, 0,1,2,3,4 thru 84 and 85 years and over,
- household level: four categories (1, 2, 3, 4 and more household members),
- region: 12 categories, one for each of the provinces (nuts 2),
- tenure status, in two classifications (owner, tenant)
- equivalized disposable income (CBS-definition) in deciles
- main source of income (employee, self-employed, unemployed, social assistance, disabled, retired aged under 65, retired aged 65 years or older, student, no income).
- low income category, in three classifications (non target population, low income and other income).
- at-risk of poverty-rate (based on Income Panel Survey, national definition)

Taking into account consistency requirements and the correlation of weighting terms with important target variables (Laeken indicators), the following weighting terms were constructed:

*weighting model terms at household level:*

- household size,
- region (nuts 2),
- tenure status
- low income category.

*weighting model terms at personal level:*

- sex x age,
- equivalized income (decile groups),
- main source of income
- at-risk-of poverty-rate IPS

The household cross-sectional weight DB090 and the personal cross-sectional weight RB050 are the direct result of the linear consistent weighting procedure. PB040 equals this weight for persons of 16 years and older. PB040 equals 0 for people younger than 16 years.

Finally, the cross-sectional weights for the selected respondent are determined by adjusting the weight PB040 for the probability with which this respondent is selected within the household. This probability is equal for all persons that are older than 16. This probability is four times as large for persons that are exactly 16 years.

#### *2.1.8.9 Substitutions*

Not applicable.

## 2.2 Sampling errors

### 2.2.1. Standard errors and effective sample size

The subsequent tables present means, number of observations and standard errors for the cross sectional component 2007 and for each wave of the longitudinal component. The standard errors have been calculated with the use of the software package Bascula which has been developed by the methodology department at Statistics Netherlands. Using Bascula one can calculate (weighted) totals, means, ratios and the standard errors of target variables for a variety of sampling designs and weighting models.

Table 2.7: Mean, number of Observations, and standard errors for household income components EU-SILC cross-sectional 2008

<i>Gross income components at household level</i>	<b>Mean (euro)</b>	<b>N</b>	<b>Standard Error</b>
Total household gross income (hy010)	51,132	10,337	311
Total disposable household income (hy020)	34,280	10,337	194
Total disposable household income before social transfers other than old age and survivors' benefits (hy022)	31,419	10,337	179
Total disposable household income before social transfers including old age and survivors' benefits (hy023)	25,137	10,337	186
<i>Gross income components at household level</i>			
Imputed Rent (hy030g)	2,422	7,163	14
Income from rental of property or land (hy040g)	7,960	368	950
Family/child related allowances (hy050g)	1,751	3,476	12
Social exclusion not elsewhere classified (hy060g)	7,935	674	254
Housing allowances (hy070g)	1,746	982	37
Regular inter-household cash transfer received (hy080g)	4,799	618	359
Interest, dividends, profit from capital investments (hy090g)	2,459	9,140	185
Interest repayments on mortgage (hy100g)	7,650	6,515	83
Income received by people aged under 16 (hy110g)	719	193	125
Regular taxes on wealth (hy120g)	-	-	-
Regular inter-household cash transfer paid (hy130g)	5,098	1,162	384
Tax on income and social contributions (hy140g)	16,320	10,337	142

Table 2.8: Mean, number of observations, and standard errors for personal income components, EU-SILC cross-sectional 2008

<i>Gross income components at personal level</i>	<b>Mean (euro)</b>	<b>N</b>	<b>Standard Error</b>
Employee cash or near cash income (py010g)	28,749	13,371	240
Non-cash employee income (py020g)			
Contributions to individual private pension plans (py035g)	2,520	2,942	137
Cash benefits or losses from self-employment (py050g)	17,614	2,088	898
Value of goods produced for own-consumption (py070g)	-	-	-
Pension from individual private plans (py080g)	11,382	97	1,473
Unemployment benefits (py090g)	7,704	682	312
Old-age benefits (py100g)	14,476	5,491	192
Survivor's benefits (py110g)	10,502	159	349
Sickness benefits (py120g)	3,714	291	374
Disability benefits (py130g)	13,015	896	338
Education-related allowances (py140g)	2,884	1,013	78

Table 2.9: Mean, number of observations, and standard error for the equivalized disposable income, cross-sectional 2008).

<b>Equivalized disposable income</b>	<b>Mean</b>	<b>Number of Observations</b>	<b>Standard Error</b>
<i>Population by household size</i>			
1 household member	18,981	2,724	269
2 household members	24,397	7,344	290
3 household members	23,064	4,229	553
4 and more household members	21,573	11,151	312
<i>Population by age groups</i>			
<25	20,430	8,247	231
25-34	22,237	2,409	293
35-44	23,189	4,229	279
45-54	24,928	4,100	400
55-64	25,184	3,612	470
65+	19,577	2,851	282
<i>Population by sex</i>			
Male	22,596	12,535	134
Female	21,885	12,913	182
<b>Total</b>	<b>22,237</b>	<b>25,448</b>	<b>135</b>

Table 2.10: Mean, number of observations, and standard errors for income components and equivalized disposable income EU-SILC 2008, rotational group R1', R2' and R4.

	R4			R1'			R2'		
	Mean	Number of observations	standard error	Mean	Number of observations	standard error	Mean	Number of observations	standard error
HY010	49.560	2.261	1.098	51.191	1.543	857	52.891	2.875	688
HY020	33.516	2.261	630	34.463	1.543	533	35.190	2.875	404
HY022	30.633	2.261	668	31.861	1.543	572	32.619	2.875	427
HY023	24.517	2.261	643	25.328	1.543	558	26.156	2.875	417
HY030G	2.383	1.658	35	2.407	1.098	39	2.398	1.991	25
HY040G	8.563	85	1.191	12.865	51	5.606	5.692	109	660
HY050G	1.772	868	34	1.785	494	37	1.728	988	21
HY060G	7.677	144	762	6.764	93	1.064	8.218	183	512
HY070G	1.701	165	77	1.659	155	68	1.790	255	55
HY080G	5.717	119	778	4.026	81	706	5.161	161	810
HY090G	2.310	2038	474	1.845	1392	354	2.535	2543	349
HY100G	7.294	1.500	177	7.598	986	220	7.455	1.825	133
HY110G	553	58	74	657	25	151	698	60	175
HY120G									
HY130G	3.946	243	536	5.203	159	933	5.055	326	540
HY140G	15.637	2.261	507	16.257	1.543	369	17.185	2.875	304
PY010G	28.108	3194	700	29.324	1952	518	29.177	3704	357
PY021G	5.362	239	295	5.375	166	316	5.301	301	224
PY030G	4.613	3285	115	4.925	2019	100	4.953	3769	69
PY035G	2.318	746	187	2.457	422	245	2.579	823	323
PY050G	14.264	476	1.444	16.760	311	1.711	19.921	580	2.102
PY070G									
PY080G	7.889	18	1.218	10.891	15	2.509	10.295	32	2.681
PY090G	6.519	153	604	7.032	107	749	7.512	193	653
PY100G	14.245	1093	532	14.625	864	495	14.687	1547	364
PY110G	10.411	34	836	8.972	27	926	10.932	43	592
PY120G	2.762	60	727	4.317	45	1.090	2.925	76	498
PY130G	12.758	209	803	13.278	143	789	13.148	244	629
PY140G	2.674	203	172	3.189	136	206	2.756	276	127
<i>Equivalized disposable income</i>									
<i>Population by household size</i>									
1 household member	18.370	458	542	19.396	423	566	19.486	753	396
2 household members	23.977	1.630	587	24.245	1.074	629	25.322	2.041	570
3 household members	23.799	839	1.807	22.659	565	802	22.688	1.056	621
4 and more members	19.972	3.008	615	21.823	1.636	852	22.361	3.127	491
<i>Population by age groups</i>									
<25	19.593	1.985	582	20.549	1.119	681	21.338	2.204	398
25-34	21.702	430	669	23.362	355	681	22.894	672	426
35-44	22.164	1.069	586	23.838	577	863	23.569	1.196	440
45-54	23.707	1.130	878	24.365	726	613	24.965	1.227	671
55-64	24.689	813	1.036	23.971	456	875	26.563	884	959
65+	19.555	508	678	19.574	465	499	19.417	794	504
<i>Population by sex</i>									
Male	21.875	2.933	427	22.872	1.820	408	23.344	3.445	304
Female	21.191	3.002	487	21.722	1.878	434	22.311	3.532	282
Total	21.530	5.935	420	22.289	3.698	395	22.823	6.977	274

## 2.3 Non-sampling errors

### 2.3.1 *Sampling frame and coverage errors*

As already mentioned in paragraph 2.1.1, the sampling frame of addresses is constructed from the Population Register. First a complete list of addresses is made and then divided into 10 disjoint groups: A0, A1, A2 ..., A9. Each of these subsets contains 10% of all the addresses in the Population Register. Subset A0 is used as an address sampling frame for the years 2000, 2010, 2020, ..., subset A1 is used as an address sampling frame for the years 2001, 2011, and so on. With this kind of approach the sampling frames of ten subsequent years are disjoint and addresses that are contacted within one particular year will not be part of another address survey sample for the next nine years. This approach is in compliance with the policy of Statistics Netherlands to reduce respondent burden in all surveys. Finally, additional information on the type of address and number of postal delivery points is added to the sampling frame using data from the Geographical Municipal Registration (in Dutch: Geografisch BasisRegister – GBR). The result is a set of disjoint sampling frames (one for each year) with address information and personal information of all individuals that are registered in a Dutch municipality.

Each year in September the sampling frames for the next year are constructed. The sampling frame of addresses is updated monthly for changes related to births, deaths, migration, new addresses, and vacancies. Also taken into account are changes in municipality boundaries and postal codes. At the date of sample drawing the entries of the sampling frame are therefore practically equal to those in the Population Register (GBA). As the fieldwork period starts six weeks later, coverage errors may occur: during the six weeks between drawing and application of the sample new addresses will be established and some addresses have become vacant or have been demolished.

Institutional addresses are removed after drawing the sample by comparing the sample addresses with entries in the register of institutional addresses. This register is updated once a year, so a small number of over-coverage errors are to be expected.

### 2.3.2 *Measurement and processing errors*

Measurement errors originate from four basic sources:

- (a) the questionnaire (effects of the design, content and wording);
- (b) the data collection method (effects of the modes of interviewing);
- (c) the interviewer (effects of the interviewer on the response to a question including errors of the interviewer);
- (d) the respondents (effects of the respondent on the interpretation of items).

Statistics Netherlands implemented a number of measures to reduce such errors.

- put in specialised expertise in developing questionnaires;
- routings in the questionnaires to provoke only the relevant questions for the respondent;
- cognitive laboratory experiments with focus groups and depth interviewing.
- there is an opportunity to make remarks in the questionnaire;
- evaluations of the questionnaire
- a stable automation system of data communication and production;
- monitoring system;
- each record contains interview accounts as well as interview data;
- extended interviewer instructions and regularly refreshing courses on basic skills and on EU-SILC;
- Interviewer manual;

In a first step in 2002 part of the EU-SILC questionnaire has been tested extensively in a pre-test and a field-test (Snijkers, Beukenhorst and Huynen, 2002).

The aim of this testing was to assess whether:

- The EU-SILC questions are understood and answered by respondents as intended and, if not, how the questions can be improved.
- Any problems occurred during the interviews with regard to the reading aloud by the interviewer or answering of the questions by respondents.

The laboratory pre-test addressed both aims mentioned above, whereas the field test focused on the second aim. Starting from the preliminary report of the laboratory pre-test (Giesen et al, 2002; Eurostat, 2001) rephrased the questions on health, among others. The Questionnaire Laboratory of Statistics Netherlands conducted face-to-face computer-assisted pre-test interviews with 10 volunteer respondents. In 20 in-depth interviews, the wording and comprehensibility of the questionnaire, duration of the interview and the sequence of the questions has been examined. This was important, particularly to improve the instructions for the interviewers (more information is included in Giesen et al, 2002).

Statistics Netherlands used the CATI-method for the EU-SILC interview. Two separate questionnaires for the 65- and 65plus households (see chapter 2) were programmed in Blaise with several data entry and coding controls to reduce processing errors. Finally the EU-SILC files were transformed into Eurostat's standard format and tested using the checking programs developed by Eurostat.

### 2.3.3 Non-response errors

#### 2.3.3.1 Achieved sample size

In 2005 a new sample was constructed and divided in four rotational groups. In table 2.11a it is shown that the four groups differ in size to compensate for panel attrition. The first group did only participate for one year (purely cross-sectional), the second for two years, the third for three years and the fourth for four years. Consequently the sample size for the first group (R1) was smaller than the sample size for the second group (R2), followed by the third (R3) and the fourth group (R4). The first group has been replaced by a new group R1' in EU-SILC 2006 (table 2.9b). Group R2' consists of sample persons who were drawn in 2007. Sample persons in group R3' entered the EU-SILC survey in 2008.

Table 2.11a: Sample Size and accepted Interviews EU-SILC 2005

	<b>Total</b>	<b>R1</b>	<b>R2</b>	<b>R3</b>	<b>R4</b>
Persons 16 years and older	17,852	1,667	2,581	5,674	7,930
Number of sample persons	9,356	957	1,331	2,958	4,110
Number of accepted personal questionnaires	17,852	1,667	2,581	5,674	7,930
Accepted household interviews	9,356	957	1,331	2,958	4,110

Table 2.11b: Sample Size and accepted Interviews EU-SILC 2006

	<b>Total</b>	<b>R1'</b>	<b>R2</b>	<b>R3</b>	<b>R4</b>
Persons 16 years and older	17,392	4,395	2,082	4,522	6,393
Number of sample persons	8,986	2,399	1,051	2,311	3,285
Number of accepted personal questionnaires	17,392	4,395	2,082	4,522	6,393
Accepted household interviews	8,986	2,339	1,051	2,311	3,285

Table 2.11c: Sample Size and accepted Interviews EU-SILC 2007

	<b>Total</b>	<b>R1'</b>	<b>R2'</b>	<b>R3</b>	<b>R4</b>
Persons 16 years and older	19,623	3,555	6,979	3,736	5,353
Number of sample persons	10,219	1,876	3,731	1,909	2,703
Number of accepted personal questionnaires	19,623	3,555	6,979	3,736	5,353
Accepted household interviews	10,219	1,876	3,731	1,909	2,703

Table 2.11d: Sample Size and accepted Interviews EU-SILC 2008

	<b>Total</b>	<b>R1'</b>	<b>R2'</b>	<b>R3'</b>	<b>R4</b>
Persons 16 years and older	19,519	2,957	5,437	6,614	4,511
Number of sample persons	10,337	1,552	2,893	3,621	2,271
Number of accepted personal questionnaires	19,519	2,957	5,437	6,614	4,511
Accepted household interviews	10,337	1,552	2,893	3,621	2,271

Table 2.12: accepted interviews , longitudinal sample EU-SILC 2005-2008

Longitudinal sample 2005-2008	2005	2006	2007	2008	Total
	n	n	n	n	n
DB135=1: Interview accepted for database	4,110	5,624	8,310	6,716	24,760
<b>R3'</b>	-	-	-	-	-
<b>R2'</b>	-	-	3,731	2,893	6,624
<b>R1</b>	-	2,339	1,876	1,552	5,767
<b>R4</b>	4,110	3,285	2,703	2,271	12,369
Personal interviews accepted	7,930	10,788	15,887	12,905	47,510
<b>R3'</b>	-	-	-	-	-
<b>R2'</b>	-	-	6,979	5,437	12,416
<b>R1</b>	-	4,395	3,555	2,957	10,907
<b>R4</b>	7,930	6,393	5,353	4,511	24,187

### 2.3.3.2 Unit non-response

Indicators of unit non-response are included in table 2.13. The overall household non response rate is 18%. This rate differs slightly between the four rotational groups. Statistics Netherlands has focused on an increased use of register data instead of survey data in the production process of statistical information. Examples of administrative registrations are the Population Register (in Dutch: GBA), data on social security and tax data. The GBA is a fully decentralised, comprehensive and cohesive registration which contains information on age, sex, ethnicity, place of birth, place of residence, marital status, and etcetera for (registered) persons living in the Netherlands. This registration is available from 1995 onwards.

Most of the present administrative Registers are provided with a unique link key. This is the so-called social security and fiscal number (SoFi-number). This SoFi-number is a personal identifier for every (registered) Dutch inhabitant and for those living abroad who receive an income from activities in the Netherlands and consequently have to pay tax over their earnings to the Dutch fiscal authorities. A few SoFi-numbers may be registered with incorrect values in the data-files, in which case linkage with other files is doomed to fail. However, in general, the percentage of matches is close to 100 percent. All social statistics data-files can be linked to the GBA, which in practice means that all these data files can be linked to each other via the GBA.

In surveys records do not have a SoFi-number. This is also true for EU-SILC in which data are collected by interviews. For those records an alternative link key must be used, which is often built up by combining a set of identifying variables (address, sex and date of birth). This sort of link key will in most cases be successful in distinguishing people. However, it is not a 100 percent unique combination of identifiers. When linking the Population Register as well as the records from EU-SILC with this alternative key – and tolerating a variation between sources in at most one of the variables sex, year of birth, month of birth or day of birth – it reveals that 99 percent of the EU-SILC-records can be linked to

the Population register. This is a very good result, though we should not exclude a danger of selectivity in the micro-linking process. People that could not be linked to the population register and their household members have been rejected from the database. Consequently, there's no partial unit non-response with respect to income in the EU-SILC database. This is acceptable because the number of unlinked records is very low and the developing of imputation methods for these households is high. However, this method implies a loss of efficiency of the survey and the non response bias is difficulty controllable. If the unlinked records belong to a selective subpopulation, then estimates based on the linked records may be biased, because they do not represent the total population. Analysis in the past has indicated that the young people, the 15–24 age group, show a lower linking rate in household sample surveys than other age groups. The explanation for this phenomenon is that they move more frequently and therefore they are often registered at the wrong address (e.g. students). However, in using a weighting model which includes age, any selectivity in the database has been solved accordingly.

Table 2.13: Indicators on Unit Non-response, EU-SILC 2008

	<b>Total</b>	<b>R1'</b>	<b>R2'</b>	<b>R3'</b>	<b>R4</b>
Addresses successfully contacted	11,962	1,703	3,259	4,557	2,443
Valid addresses selected	12,658	1,804	3,510	4,746	2,598
RA address contact rate	0,95	0,94	0,93	0,96	0,94
Number of household interviews accepted	10,337	1,552	2,893	3,621	2,271
RH (proportion of completed household interviews accepted)	0.86	0,91	0,89	0,79	0,93
NRh (Household non-response rate) %	18,3%	14,0%	17,6%	23,7%	12,6%
Personal interviews completed	19,519	2,957	5,437	6,614	4,511
Number of eligible individuals	19,519	2,957	5,437	6,614	4,511
Rp 1)	1	1	1	1	1
Individual non response rate (%)	0	0	0	0	0
Overall individual non-response (%)	18,3%	14,0%	17,6%	23,7%	12,6%

1) proportion of complete interviews within the households accepted for the database

Table 2.14: Household response rates: Comparison of results codes between wave 2 (2006) and wave 3 (2007)

<b>Sample outcome in 2008 (wave 4)</b>									
	DB135=1	DB135=2	DB120=22	DB130=23	DB130=24	DB130=21	NC	DB120=23	Total
<b>Sample outcome 2007</b>									
<b>R1'</b>									
DB135=1	1552	4	4	15	39	106	7	1	1728
DB135=2	0	2				1			3
<b>Total</b>	<b>1552</b>	<b>6</b>	<b>4</b>	<b>15</b>	<b>39</b>	<b>107</b>	<b>7</b>	<b>1</b>	<b>1731</b>
<b>R2'</b>									
DB135=1	2893	5	6	38	95	311	13	1	3362
DB135=2	0	47		3	2	4			56
DB120=22									
DB130=22									
DB130=23									
DB130=24									
<b>Total</b>	<b>2893</b>	<b>52</b>	<b>6</b>	<b>41</b>	<b>97</b>	<b>315</b>	<b>13</b>	<b>1</b>	<b>3418</b>
<b>R4</b>									
DB135=1	2271	5	3	12	66	110	13	5	2485
DB135=2		6	3		1	2		5	17
DB120=22									
DB130=22									
DB130=23									
DB130=24									
<b>Total</b>	<b>2271</b>	<b>11</b>	<b>6</b>	<b>12</b>	<b>67</b>	<b>112</b>	<b>13</b>	<b>10</b>	<b>2502</b>
<b>New HH 2008 (R3')</b>									
DB110=8									
DB110=9	3621	60	189	117	240	519		2	4748
	A	B	C	E	F	G	I	K	T
<b>Total</b>	<b>10337</b>	<b>129</b>	<b>205</b>	<b>185</b>	<b>443</b>	<b>1053</b>	<b>33</b>	<b>14</b>	<b>12399</b>

Table 2.15: Wave response rates and achieved sample size ratio by rotational group, EU-SILC 2008

	<b>R1'</b>	<b>R2'</b>	<b>R3'</b>	<b>R4</b>
Wave response rate (%) (A/T-K)	90%	85%	76%	91%
Refusal rate (%) (G/T-K)	6%	9%	11%	4%
No contacted and others (%)	3%	4%	10%	4%
Longitudinal follow-up rate (%)	93%	89%		94%
Achieved sample size ratio (%)	90%	86%		91%

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

Table 2.16: Distribution of DB120, DB130 and DB135, cross-sectional 2008

	<b>Total</b>	<b>R1</b>	<b>R2</b>	<b>R3</b>	<b>R4</b>
<i>DB120 –Contact at address</i>					
Address contacted	11,962	1,703	3,259	4,557	2,443
Address unable to access	696	101	251	189	155
Address does not exist	87	24	35	2	26
<b>Total</b>	<b>12,745</b>	<b>1,828</b>	<b>3,545</b>	<b>4,748</b>	<b>2,624</b>
<i>DB130- Household questionnaire result</i>					
Household questionnaire completed	10,493	1578	2945	3681	2289
Refusal to cooperate	839	69	176	519	75
Entire household temporary away					
Household unable to respond	186	16	41	117	12
Other reasons	444	40	97	240	67
<b>Total</b>	<b>11,962</b>	<b>1,703</b>	<b>3,259</b>	<b>4,557</b>	<b>2,443</b>
<i>DB135- Household interview acceptance</i>					
Interview accepted for database	10,337	1,552	2,893	3,621	2,271
Interview rejected	156	26	52	60	18

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

Table 2.17 shows the distribution of persons by membership status for each rotational group

Table: 2.17 Distribution of persons by membership status (RB110), 2008

Rotational group	Current household members				No current household members		
	RB110=1	RB110=2	RB110=3	RB110=4	RB120=2 to 4	RB110=6	RB110=7
R1'	3,698	0	30	47	61	0	0
R2'	6,977	0	63	81	97	8	0
R4	5,935	0	51	49	125	0	0

### 2.3.3.5 Item non-response

As income data are based on register information, the income variables do not consist item non-response. However, some income components are not available in the tax registers because they are not taxable. This concerns the inter-household transfers and the income from rental of a property or land. These amounts are asked for in the EU-SILC questionnaire.

Table: 2.18 Item non-response household income components, cross-sectional 2008

	households having received an amount		With full information		With non or partial information	
	count	%	count	%	count	%
HY010 Total household gross income	10,337	100	10,210	99	127	1
HY020 Total disposable household income	10,337	100	10,115	98	222	2
HY022 HY020 before transfers (except pensions)	10,337	100	10,115	98	222	2
HY023 HY020 before transfers including pensions	10,336	100	10,114	98	222	2
HY030G Imputed rent	7,163	69	7,163	69	-	-
HY040G Income from rental of a property or land	368	4	303	3	65	1
HY050G Family/Children related allowances	3,476	34	3,476	34	-	-
HY060G Social exclusion not elsewhere classified	674	7	674	7	-	-
HY070G Housing allowances	982	9	982	9	-	-
HY080G Regular inter-household cash transfer received	618	6	556	5	62	1
HY090G Interest, dividends, profit from capital gain	9,140	88	9,140	88	-	-
HY100G Interest repayments on mortgage	6,515	63	6,515	63	-	-
HY110G Income received by people under 16	193	2	193	2	-	-
HY130G Regular inter-household cash transfer paid	1,162	11	1,065	10	97	1
HY140G Tax on income and social contributions	10,337	100	10,337	100	-	-

Table: 2.19 Item non-response personal income components

	Persons (16+) having received an amount		With full information		With non or partial information	
	count	%	count	%	count	%
PY010G Employee cash or near cash income	13,182	68	13,182	68	-	-
PY020G Non-Cash employee income	-	-	-	-	-	-
PY021G Company car	1077	6	1077	6	-	-
PY030G Employer's social insurance contribution	13,530	69	13,530	69	-	-
PY035G Contributions to individual private pension plans	2,942	15	2,942	15	-	-
PY050G Cash benefits/losses from self-employment	2,088	11	2,088	11	-	-
PY080G Pension from individual private plans	79	0	79	0	-	-
PY090G Unemployment benefits	682	3	682	3	-	-
PY100G Old-age benefits	4,274	25	4,274	25	-	-
PY110G Survivor' benefits	159	1	159	1	-	-
PY120G Sickness benefits	291	1	291	1	-	-
PY130G Disability benefits	893	5	893	5	-	-
PY140G Education-related allowances	1,013	5	1,013	5	-	-

## 2.4 Mode of data collection

The response part of Labour Force Survey has been used as the sampling frame for EU-SILC. The income target variables have been derived from Registers. As a result, a substantial reduction of the questionnaire has been achieved. This enabled Statistics Netherlands to use Computer Assisted Telephone Interview (CATI) as interview mode.

Table 2.20: Distribution of RB245, RB250 and RB260 by rotational group

	Total	R1'	R2'	R3'	R4
<i>RB245-Respondent Status</i>					
Household member aged 16 and over	19,519	2,957	5,437	6,614	4,511
- selected respondent	10,337	1,552	2,893	3,621	2,271
-not selected respondent	9,182	1,405	2,544	2,993	2,240
<i>RB250- data Status</i>					
Information completed only from registers (11)	48	7	14	13	14
Information completed from both interview and registers (13)	19,471	2,950	5,423	6,601	4,497
Total	19,519	2,957	5,437	6,614	4,511
<i>RB260 – Type of interview (selected respondent)</i>					
CATI (3)	10,191	1,536	2,866	3,531	2,258
Proxy interview (5)	146	16	27	90	13

One point of concern is the number of proxy-interviews with respect to the detailed variables (selected respondent). In 2005, this proxy rate was quite high (27%). For the 2006 and 2007 operation, specific measures have been taken to substantially reduce the number of proxy-interviews for the selected

respondent, such as interview-training and specific instructions how to approach the selected person in the household. This resulted in a very low proxy rate for the 2008 operation.

## **2.5 Imputation procedure**

As income data are based on register information – except for the some questions concerning the inter-household transfers (paid and received) and the income from rental of a property or land– the income variables do not consist of partial unit non-reponse or item non-response. If the household respondent refused to answer or did not know the amount of the inter-household transfers or the income from rental mean value imputation was used..

## **2.6 Imputed rent**

For estimating the equivalent market rents in EU-SILC, the parameter estimates have been calculated based on another survey, the Survey on Household Expenditures. A regression model was applied on the estimates of market rents of owner-occupiers by real estate agents. This model includes the market value of the dwelling, region, level of urbanisation and household type. The total market rent is calculated by the National Account Statistics. Next the distribution of the market rent over the households is based on the results of the regression model.

## **2.7 Company car**

The estimation of the value of ‘company car’ has been specified by the amount of benefit for which the recipient is assessed for tax purposes. The calculation of the employee income component ‘company car’ follows the rules of the tax authorities. As a general rule one has to add 22% of the value of the car to the income. Important are the original price of the company car and the intensity (kilometres) of private use.

### 3. Comparability

This chapter reports on the differences between Eurostat definitions and the definitions Statistics Netherlands applied in EU-SILC 2008. It also reports in the impact of these differences on the comparability.

#### 3.1 Basic concepts and definitions

##### (a) Reference population

The reference population of EU-SILC is all private households and their current members residing in the Netherlands at the time of data collection. The West Frisian Islands with the exception of Texel were excluded from the target population. This is also true for persons living in collective households and in institutions.

##### (b) Private household

No difference to the common definition.

##### (c) Household membership

There are some minor differences in the treatment of special categories like lodgers or people temporarily away (e.g. students). These people are only included as a household member if they are registered at the households' address. According to the EU-definitions resident boarders, lodgers and tenants should be included if they share expenses, have no private address elsewhere or their actual/intended duration of stay must be six months or more. Statistics Netherlands does not apply this limit of six months.

##### (d) Income reference period(s)

The income data of EU-SILC 2008 refer to the calendar year 2007. The income data were mainly collected from registers.

##### (e) The period for taxes on income and social insurance contributions

Taxes on income and social contributions are based on the 'income received' in the income reference year (accrual basis) and do not refer to the amounts actually paid in the income reference year.

##### (f) The reference period for taxes on wealth

There are no taxes on wealth in the Netherlands.

##### (g) The lag between the income reference period and current variables

The EU-SILC fieldwork period started in June 2008 and ended at 30 September 2009. Therefore the lag is at minimum 5 months and at maximum 9 months.

(h) The total duration of the data collection of the sample

The total duration of the data collection was approximately 4 months.

(i) Basic information on activity status during the income reference period

The monthly activity status during the income reference period is mainly based on register data on the main income source. The distinction between full-time and part-time work is based on the survey part of EU-SILC and the LFS.

### 3.2 Components of income

There are some differences in the definition of total gross income and disposable income based on the national definition and the SILC definition.

According to the Commission Regulation:

- *Interest paid on consumer debts is not considered as part of income definition in EU-SILC. In Statistics Netherlands' statistics on disposable household income interest payments on consumer debts are deducted to calculate the disposable income.*
- *Contributions to individual private pension plans (PY035) are classified under items which are not to be considered as income. In Statistics Netherlands' statistics on disposable household income, regular contributions to and benefits from private insurance schemes covering the risk of income loss are treated similarly as regular contributions to and benefits from (mandatory) social insurance and pension insurance schemes. This implies that contributions are deducted from and benefits are added to disposable income.*

#### 3.2.1 Differences in definitions of the income target variables

Income variables with no differences from standard EU-SILC definitions are not mentioned.

##### Total household gross income and disposable income (HY010 and HY020):

The total household income (gross/disposable) has been computed without taking account the interest paid on mortgage, the imputed rent, the contributions to and benefits from individual private pension plans. Subsequently the payable tax on income and social insurance contributions have been corrected to get the fictitious amounts that should have been paid if these components were not received/paid.

##### Total disposable household income before social transfers except old-age and survivor's benefits (HY022):

In order to calculate HY022 Statistics Netherlands calculated the taxable income without the income components:

PY090G + PY120G + PY130G + PY140G + HY050G + HY060G + HY070G.

Subsequently the payable tax on income and social insurance contributions have been corrected. The reason for this adaptation – the exclusion of these income components – is to calculate the fictitious amounts that should have been paid if such social transfers were not received.

Total disposable household income before social transfers including old-age and survivor's benefits (HY023):

Like HY022, but the income components PY100G and PY110G were also excluded.

Family/children-related allowances (HY050):

Maternity and parental leave benefits are not included in HY050 as those benefits cannot be separated from wages. These components are included in variable PY010.

Regular inter-household cash transfers received - (HY080):

Alimonies received from former spouse are available in the Tax Administration. Other transfers like payments received from parents living in a separate household (e.g. students) and child alimony are collected in the EU-SILC- interview.

Regular taxes on wealth (HY120):

There are no taxes on wealth in the Netherlands.

Regular inter-household cash transfers paid (HY130):

Maintenance allowances to former spouse were collected from the Tax Administration. Other transfers like child alimony are collected in the EU-SILC interview.

Total tax on income and social contribution (HY140):

When calculating disposable income some components were excluded (interest repayments on mortgage, imputed rent). Therefore, this variable refers to the fictitious amounts that have to be paid as if there were no (tax deductible) interest repayments on mortgage.

Gross employee cash income (PY010G):

Allowances for transport to or from work are not included in PY010. Severance and termination payments to compensate employees and redundancy payments (including lump-sum payments) are also included in PY010G. They are not included in PY090G (unemployment benefits).

Unemployment benefits (PY090G):

PY090 includes the vocational training allowance, i.e. payment by social security funds or public agencies to targeted groups of persons in the labour force who take part in training schemes intended to develop their potential for employment. Statistics Netherlands has no information available on benefit (in-kind) related to vocational training.

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

The variables concerning income, wealth and taxes were almost entirely collected from registers. The most important source is the Tax Administration. Student grants were obtained from the student loan company. Some components were imputed on the basis of information given in the questionnaire. For example, child benefits were calculated on the basis of the information about the number and age of children in the household.

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

All income data derived from registers are recorded gross at component level. All income data are collected at the individual level (i.e. the person registered as the receiver of the income). This also concerns typically 'household' related incomes such as housing benefits and social assistance.

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

Not applicable

*3.3 Tracing rules*

Statistics Netherlands followed the standard EU-SILC tracing rules.

## 4. Coherence

Coherence refers to the comparison of target variables with external sources.

### 4.1 Description of data sources

#### *The Income Panel Survey (IPS)*

The main aim of the Income Panel Survey (IPS) is to provide a detailed description of the composition and distribution of income of persons and households in the Netherlands. The IPS-panel started in 1989. A simple random sample of individuals of 0.61% of the population was selected. This is the nuclear sample. These individuals are followed in the panel. Each year 0.61% of all new-born children and immigrants is added to the sample to counterbalance the effect of attrition. The complete sample consists of everyone belonging to the households of the individuals who belong to the nuclear sample. This extension to all household members results in a total sample of about 250.000 persons. However, only those persons belonging to the nuclear sample are followed in the panel. Other household members will only be followed when they remain with the reference person. The reference population is the population at the end of the year. The IPS is mainly based on information from the tax department and the Population Register. The IPS contains information on income of the person and of the other members of the household, a limited set of personal characteristics (age, sex and marital status) and some household characteristics (household composition). The household income is calculated by aggregating the income of all the members of the household.

### 4.2 Comparison of indicators with IPS

The result of the comparison between IPS 2007 (preliminary) and EU-SILC 2008 is shown in Table 4.1. Both sources are compared using the national definition of income. Equivalised income has been computed using the CBS-equivalence scale.

Table 4.1 : Comparison EU-SILC 2008 and IPS 2007

		<b>EU-SILC 2008</b>	<b>IPS 2007 <sup>1)</sup></b>
		x 1000 euro	x 1000 euro
Mean disposable income <sup>2)</sup>		38.6	38,6
Mean equivalised income		23.7	23,7
Median equivalised income		20.8	20.8
At-risk-of-poverty rate (60%)	<i>Total</i>	11	10.7
	<i>Male</i>	10.7	10.2
	<i>Female</i>	11.3	11.2
Dispersion around the threshold (%)	<i>(a) 40% of median</i>	3.4	3.5
	<i>(b) 50% of median</i>	5.6	5.7
	<i>(c) 70% of median</i>	18.8	18.9

1) Source: CBS (Income Panel Survey, preliminary)

2) personal level

### 4.3 Comparison of number of persons and households who receive income from each ‘component’

Table 4.2 and table 4.3 show the comparison between EU-SILC and IPS on income-component level. The differences on both personal and household level are quite small, with the exception of the inter-household transfers (HY080G and HY130G) and the income from rental of a property or land (HY040G) due to extra collected information in the EU-SILC interview. This information is not available in the registers, because these income components are not taxable.

Table 4.2 Personal income components, IPS 2007-EU-SILC 2008

	count	sum	median	mean
<b>EU-SILC 2008</b>	<i>x 1000</i>	<i>mln euro</i>	<i>x 1000 euro</i>	
PY010G Employee cash or near cash income	8,286	238,228	25,6	28,8
PY021G Company car	594	3,163	5,1	5,3
PY030G Employer's social insurance contribution	8,569	41,022	3,6	4,8
PY035G Contributions to individual private pension plans	1,630	4,109	1,0	2,5
PY050G Cash benefits or losses from self-employment	1,407	24,776	5,7	17,6
PY080G Pension from individual private plans	71	804	7,3	11,4
PY090G Unemployment benefits	468	3,833	4,7	8,2
PY100G Old-age benefits	3,150	56,977	14,0	18,1
PY110G Survivor' benefits	86	900	13,2	10,5
PY120G Sickness benefits	222	879	1,0	4,0
PY130G Disability benefits	605	8,411	13,1	13,9
PY140G Education-related allowances	817	2,356	3,0	2,9
<b>IPS 2007 <sup>1)</sup></b>				
PY010G Employee cash or near cash income	8,160	233,777	25,2	28,6
PY021G Company car	634	3,441	5,1	5,4
PY030G Employer's social insurance contribution	8,360	40,192	3,6	4,8
PY035G Contributions to individual private pension plans	1,405	3,886	1,0	2,8
PY050G Cash benefits or losses from self-employment	1,316	29,016	9,0	22,1
PY080G Pension from individual private plans	70	824	6,8	11,8
PY090G Unemployment benefits	471	3,682	4,6	7,8
PY100G Old-age benefits	3,141	55,281	13,6	17,6
PY110G Survivor' benefits	117	1,151	13,1	9,8
PY120G Sickness benefits	266	1,097	1,0	4,1
PY130G Disability benefits	584	7,839	13,2	13,4
PY140G Education-related allowances	1,083	3,047	2,5	2,8

1) Source: CBS (Income Panel Survey, preliminary)

Table 4.3 Household income components, IPS 2007-EU-SILC 2008

	Count	sum	median	mean
<b>EU-SILC 2008</b>	<i>x 1000</i>	<i>mln euro</i>	<i>x 1000 euro</i>	
HY030G Imputed rent	3,953	9,574	2,1	2,4
HY040G Income from rental of a property or land	234	1,865	4,2	8,0
HY050G Family/Children related allowances	1,925	3,371	1,7	1,8
HY060G Social exclusion not elsewhere classified	736	5,838	7,9	7,9
HY070G Housing allowances	1,148	2,005	1,8	1,7
HY080G Regular inter-household cash transfer received	606	2,910	3,0	4,8
HY090G Interest, dividends, profit from capital gain	6,024	14,813	0,3	2,5
HY100G Interest repayments on mortgage	3,551	27,167	6,4	7,6
HY110G Income received by people under 16	97	70	0,3	0,7
HY120G Regular taxes on wealth	-	-	-	-
HY130G Regular inter-household cash transfer paid	757	3,859	2,4	5,1
<b>IPS 2007 <sup>1)</sup></b>				
HY030G Imputed rent	3,975	9,656	2,1	2,4
HY040G <sup>2)</sup> Income from rental of a property or land	195	1,062	2,0	5,4
HY050G Family/Children related allowances	1,934	3,240	1,5	1,7
HY060G Social exclusion not elsewhere classified	747	5,851	6,5	7,8
HY070G Housing allowances	1,062	1,923	1,9	1,8
HY080G Regular inter-household cash transfer received	60	645	5,7	10,8
HY090G Interest, dividends, profit from capital gain	5,581	17,658	0,4	3,2
HY100G Interest repayments on mortgage	3,533	27,958	6,6	7,9
HY110G Income received by people under 16	109	86	0,4	0,8
HY120G Regular taxes on wealth	-	-	-	-
HY130G Regular inter-household cash transfer paid	95	746	4,4	7,8

1) Source: CBS (Income Panel Survey, preliminary)

2) ) From EU-SILC 2007 onwards questions about the income from rental of a property or land have been added to the EU-SILC questionnaire.

#### 4.4 Comparison with EU-SILC 2006 -2007

Table 4.4 and table 4.5 show the comparison between EU-SILC 2008 and previous operations on income-component level.

Table 4.4 Personal income components, EU-SILC 2006- 2008

	count	sum	median	mean
<b>EU-SILC 2006</b>	<i>x 1000</i>	<i>mln euro</i>	<i>x 1000 euro</i>	
PY010G Employee cash or near cash income	7,916	211,092	23,5	26,7
PY021G Company car	512	2,522	4,6	4,9
PY035G Contributions to individual private pension plans	1,685	3,440	0,9	2,0
PY050G Cash benefits or losses from self-employment	1,259	18,479	5,4	14,7
PY080G Pension from individual private plans	64	474	3,7	7,4
PY090G Unemployment benefits	619	5,029	5,9	8,1
PY100G Old-age benefits	3,001	49,855	12,9	16,6
PY110G Survivor' benefits	107	1 031	12,3	9,6
PY120G Sickness benefits	211	855	1,0	4,1
PY130G Disability benefits	712	8,531	11,5	12,0
PY140G Education-related allowances	775	1,844	2,5	2,4
<b>EU-SILC 2007</b>				
PY010G Employee cash or near cash income	8,016	216,320	23,8	27,0
PY021G Company car	558	2,873	4,7	5,2
PY030G Employer's social insurance contribution <sup>1</sup>	9,141	49,548	4,1	5,4
PY035G Contributions to individual private pension plans	1,623	3,676	1,0	2,3
PY050G Cash benefits or losses from self-employment	1,269	20,467	5,7	16,1
PY080G Pension from individual private plans	60	626	7,3	10,5
PY090G Unemployment benefits	560	4,469	5,1	8,0
PY100G Old-age benefits	3,052	52,151	13,2	17,1
PY110G Survivor' benefits	108	1,072	12,8	9,9
PY120G Sickness benefits	218	642	1,0	2,9
PY130G Disability benefits	666	7,893	10,9	11,9
PY140G Education-related allowances	801	2,374	3,0	3,0
<b>EU-SILC 2008</b>				
PY010G Employee cash or near cash income	8,286	238,228	25,6	28,8
PY021G Company car	594	3,163	5,1	5,3
PY030G Employer's social insurance contribution <sup>1</sup>	8,569	41,022	3,6	4,8
PY035G Contributions to individual private pension plans	1,630	4,109	1,0	2,5
PY050G Cash benefits or losses from self-employment	1,407	24,776	5,7	17,6
PY080G Pension from individual private plans	71	804	7,3	11,4
PY090G Unemployment benefits	468	3,833	4,7	8,2
PY100G Old-age benefits	3,150	56,977	14,0	18,1
PY110G Survivor' benefits	86	900	13,2	10,5
PY120G Sickness benefits	222	879	1,0	4,0
PY130G Disability benefits	605	8,411	13,1	13,9
PY140G Education-related allowances	817	2,356	3,0	2,9

Table 4.5 Household income components, EU-SILC 2006-2008

	count	sum	median	mean
<b>EU-SILC 2006</b>	<i>x 1000</i>	<i>mln euro</i>	<i>x 1000 euro</i>	
HY030G Imputed rent	3,796	8,905	2,1	2,3
HY040G Income from rental of a property or land	-	-	-	-
HY050G Family/Children related allowances	1,914	3,227	1,6	1,7
HY060G Social exclusion not elsewhere classified	754	6,940	9,0	9,2
HY070G Housing allowances	1,152	1,788	1,6	1,6
HY080G Regular inter-household cash transfer received	610	2,057	2,2	3,4
HY090G Interest, dividends, profit from capital gain	5,868	10,066	0,3	1,7
HY100G Interest repayments on mortgage	3,389	25,122	6,1	7,4
HY110G Income received by people under 16	99	59	0,4	0,6
HY120G Regular taxes on wealth	-	-	-	-
HY130G Regular inter-household cash transfer paid	772	2,916	2,5	3,8
HY140G Tax on income and social contributions	7,145	103,906	10,3	14,5
<b>EU-SILC 2007</b>				
HY030G Imputed rent	3,847	9,546	2,2	2,5
HY040G Income from rental of a property or land	230	1,839	4,5	8,2
HY050G Family/Children related allowances	1,917	3,283	1,6	1,7
HY060G Social exclusion not elsewhere classified	756	5,926	8,4	7,8
HY070G Housing allowances	1,092	1,963	1,9	1,8
HY080G Regular inter-household cash transfer received	596	2,406	2,9	4,0
HY090G Interest, dividends, profit from capital gain	5,834	14,481	0,3	2,5
HY100G Interest repayments on mortgage	3,467	25,991	6,2	7,5
HY110G Income received by people under 16	82	111	0,3	1,4
HY120G Regular taxes on wealth	-	-	-	-
HY130G Regular inter-household cash transfer paid	774	3,094	2,5	4,0
HY140G Tax on income and social contributions	7,191	102,663	10,0	14,3
<b>EU-SILC 2008</b>				
HY030G Imputed rent	3,953	9,574	2,1	2,4
HY040G Income from rental of a property or land	234	1,865	4,2	8,0
HY050G Family/Children related allowances	1,925	3,371	1,7	1,8
HY060G Social exclusion not elsewhere classified	736	5,838	7,9	7,9
HY070G Housing allowances	1,148	2,005	1,8	1,7
HY080G Regular inter-household cash transfer received	606	2,910	3,0	4,8
HY090G Interest, dividends, profit from capital gain	6,024	14,813	0,3	2,5
HY100G Interest repayments on mortgage	3,551	27,167	6,4	7,6
HY110G Income received by people under 16	97	70	0,3	0,7
HY120G Regular taxes on wealth	-	-	-	-
HY130G Regular inter-household cash transfer paid	757	3,859	2,4	5,1
HY140G Tax on income and social contributions	7,242	108,201	11,7	16,3

## References

Eurostat, 2001, Draft Questionnaire for the EU-SILC Pilot Experiment. (EU-SILC 55/01, Meeting of the Working Party Statistics on Income and Living Conditions, 10-11 December 2001. Eurostat, Directorate E: Social and regional statistics and geographical information system, Unit E-2: Living Conditions, Luxemburg.)

Giessen, D., D.J. Beukenhorst, H. van Kerkoerle, en R. Visschers, 2002, Questionnaire Laboratory pre-test of EU-SILC health questions: Preliminary results (Statistics Netherlands, Heerlen/Voorburg)

Snijkers, G., E. Giesen, D., Beukenhorst, DJ. And B. Huynen, 2002, Questionnaire tests of EU-SILC health questions: Laboratory pre-test and field test. CBS-report H4927-02-SOO).