Statistics Netherlands

Division of Social and Spatial Statistics
Department of Support and Development
Unit Research and Development

Heerlen
The Netherlands

Final quality report

EU-SILC 2005-2006

The Netherlands

Heerlen/The Hague, 13 February 2009

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 12 minutes) was sufficient to collect the additional EU-SILC information in 2005. Consequently, all information based on the Population Register, register data on income and the LFS was matched to 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 year 4 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. Thus, sample persons in three rotational groups of the initial sample in 2005 were asked to take part in the follow-up interview in 2006 and one rotational sample in 2006 consisted of new sample persons who were drawn from the Labour Force Study similar to EU-SILC 2005.

1. Common Longitudinal EU Indicators

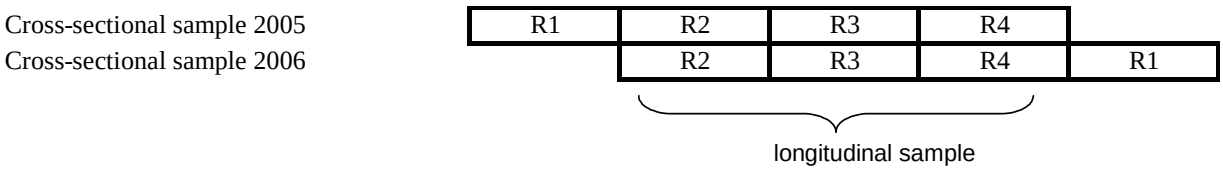
Not aplicable at this second wave of the EU-SILC operation.

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 2006 consists of three "old" rotational groups (group 2,3,4) which took part in SILC 2005 and one new group (group 1).

Figure 2.1. Rotational design EU-SILC



2.1.1 Type of sampling

Sample persons in the new rorational group 1 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 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 8,775 households and 8,775 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 is 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 2006, 7,946 households in the fifth wave of the LFS were recruited for the fist wave of the EU-SILC survey (rotational group 1). Among them 6,015 were willing to participate and 1,934 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 in the LFS-sample which were actually used for EU-SILC are registered in this register.

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

Addresses used for recruiting EU-SILC households	*7,964*
willing to participate in EU-SILC survey	6,015
not willing to participate	1,949
Willing to participate in EU-SILC	*6,015*
addresses used by the institute for EU-SILC	2,179
addresses not used by the institute for EU-SILC	3,836
Addresses used by the institute for EU-SILC	*2,179*
addresses successfully contacted for EU-SILC	2,150
addresses not successfully contacted	29
Addresses successfully contacted for EU-SILC	*2,150*
household questionnaire EU-SILC completed	1,934
refusal to co-operate	40
household temporarily away for duration of fieldwork	
unable to respond	5
other reasons	171
Household questionnaire completed	*1,934*
accepted for database	1,896
interview rejected	38

For the sample of addresses with all residents aged over 64, all of the issued 883 addresses were used. 17 of these were not successfully contacted. Of the remaining addresses 460 households completed the questionnaire. Again a small number of interviews had to be rejected, 443 households were accepted for the database. Combining both samples, the number of new accepted households in rotational group 1 is 2,339 households. The total number of 8,986 accepted household interviews for the cross-sectional component meets the requirement set forth in the first paragraph of this section.

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

Issued addresses	*883*
addresses used by the institute	883
addresses not used by the institute	0
Addresses used by the institute	*883*
addresses successfully contacted	866
addresses not successfully contacted	17
Addresses successfully contacted	*866*
household questionnaire EU-SILC completed	460
refusal to co-operate	264
household temporarily away for duration of fieldwork	
unable to respond	74
other reasons	68
Household questionnaire completed	*460*
accepted for database	443
interview rejected	17

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 2006 to 6 October 2006. Table 2.3 illustrates the sample development of sample 1, table 2.4 that of sample 2.

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

Fieldwork from .. to ..	Processed addresses	Not contacted	Non-response	Completed interviews
01/06 – 30/06	1,854	47	168	1,639
01/06 – 31/07	2,360	141	453	3,620
01/06 – 31/08	6,079	235	610	5,234
01/06 – 06/10	9,137	365	961	7,811

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

Fieldwork from .. to ..	Processed addresses	Not contacted	Non-response	Completed interviews
01/06 – 30/06	807	26	292	489
01/06 – 31/07	1,190	35	467	688
01/06 – 31/08	1,642	54	547	1,041
01/06 – 06/10	2,081	71	622	1,388

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 will participate for two years, in the third subsample for three years, and in the fourth subsample for 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 in 2006. The longitudinal sample consists of 6,647 households (rotational group 2,3,4) whose interviews were accepted for the database in 2005 and 2006.

Table 2.5a: size of rotational groups EU-SILC 2005

	Total	**R1**	**R2**	**R3**	**R4**
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 2.5b: size of rotational groups EU-SILC 2006

	Total	**R1**	**R2**	**R3**	**R4**
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

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 listed in table 2.6 (see section 2.2.1). 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 is 1.24.

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 6,647/1.24 = 5,360 for the longitudinal component. This figure meets the requirement by the EU-SILC Regulation, which stipulates a minimum effective sample size of 5000 households.

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.

2.1.8.3 Adjustments to external data: base weights (RB060)

For each rotational group adjustments to external data 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 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 are based on the cross-sectional weights (RB050) from the cross-sectional personal files. For the first year of the panel the base weight is equal to RB050 expanded with a scale factor. In 2006, the sum of the weights is equal to the size of the longitudinal population in scope in 2005 and 2006. The longitudinal population 2005-2006 consisted of 15,885,803 persons. 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.

Calculation Base weights (RB060): 2005	R2	R3	R4
Sum of cross-sectional weights 2005	2,620,910	5,752,266	7,923,117
Number of persons in population	16,092,324	16,092,324	16,092,324
Scale factor	6.14	2.80	2.03

2.1.8.4 longitudinal weights

Every year, three sets of longitudinal weights are 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). For the 2006-operation, the second wave of EU-SILC, only RB062 is applicable. In addtion, the longitudinal weight (DB090) is calculated on the household level.

2.1.8.5 Non-response Adjustments

For the rotational groups that started in 2005 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 file from the first year of the longitudinal period. However, in the longitudinal file DB090 is only calculated for the 6,647 households in three rotational groups (R2,R3 and R4). These weights are now summing to at total less than the household population and had to be expanded with a scale factor. With this scale factor the sum of the weights for the rotational groups 2, 3 and 4 together is equal to the cross-sectional household population size.

	2005	2006
Accepted household interviews (R2, R3, R4)	8,399	6,647
Sum of cross-sectional weights	6,364,011	5,409,968
Number of households in population	7,090,965	7,146,088
Scale factor	1.11	1.32

Concerning the two-year duration longitudinal weight (RB062), there are no values for 2005 as this doesn't correspond to the last wave in the file; For 2006, the sum of the weights, all rotational groups together, is equal to the size of the longitudinal population of individuals in scope in 2005 and 2006 Individuals in scope in 2005 and 2006 are the ones with RB110 = 1 or 2 in 2006. 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, following the procedure already implemented on the cross sectional sample of 2005. 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 in 2004.

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 thru 84 and 85 years and over,
- age in classifications: age1 (under 16, 16 to 19, 5 year age groups between 20 and 74, and over 74)
- household level: six categories (1, 2, 3, 4, 5 and 6 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
- 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 IPS (Income Panel Survey)

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 (tenure1)
- low income category.

weighting model terms at personal level:

- sex x age,
- equivalized income (decile group),
- age2 x sex, ,
- source of income
- At-risk of poverty-rate IPS (Income Panel Survey)

The household cross-sectional weight db090 and the personal cross-sectional weight rb050 are the direct result of the linear consistent weighting procedure that is described in paragraph 2.1.8.3. Children who were born in a sample household in the course of 2006 receive the weight db090 of the household they belong to, and this equals their personal cross-sectional weight rb050.
The personal cross-sectional weight pb040 equals the weight rb050 for persons of 16 years and older. For persons younger than 16 years this weight equals 0.
Finally the cross-sectional weights for the selected respondent are determined by adjusting the weight pb040 for the probability with which the respondent is chosen within the household. For the rotational groups that started in 2005, these probabalities are equal to those in EU-SILC 2005. For the new rotational group persons that are older than 16 have the same probability of being selected. This probability is four times as large for persons that are exactly 16 years. Children's weights (childcare data) were adjusted to the population of 1-year age bands originating from the Population Register (GBA).

2.1.9 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 2006 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 2.6: Mean, Number of Observations, and Standard Errors for household income components EU-SILC cross-sectional 2005-2006

Gross income components at household level	**Mean (euro)**	**N**	**Standard Error**	**Mean (euro)**	**N**	**Standard Error**
			2005			2006
Total household gross income (hy010)	44,149	9,356	221	45,259	8,986	311
Total disposable household income (hy020)	29,681	9,356	93	30,310	8,986	179
Total disposable household income before social transfers other than old age and survivors' benefits (hy022)	26,857	9,356	98	27,387	8,986	176
Total disposable household income before social transfers including old age and survivors' benefits (hy023)	21,472	9,356	118	21,961	8,986	163
Gross income components at household level						
Imputed Rent (hy030g)	2,425	6,137	16	2,346	6,105	15
Income from rental of property or land (hy040g)	5,801	5	-	2,641	2	-
Family/child related allowances (hy050g)	1,671	3,309	13	1,686	3,219	12
Social exclusion not elsewhere classified (hy060g)	8,556	650	197	9,206	599	1,078
Housing allowances (hy070g)	1,568	1,014	28	1,553	876	36
Regular inter-household cash transfer received (hy080g)	3,772	646	234	3,374	552	238
Interest, dividends, profit from capital investments (hy090g)	874	8,171	48	1,333	7,922	70
Interest repayments on mortgage (hy100g)	7,278	5,426	87	7,413	5,572	100
Income received by people aged under 16 (hy110g)	1,578	168	370	590	172	57
Regular taxes on wealth (hy120g)	-	-	-	-	-	-
Regular inter-household cash transfer paid (hy130g)	3,814	1,083	176	3,779	1,051	169
Tax on income and social contributions (hy140g)	14,045	9,355	154	14,543	8,985	153

Table 2.7: Mean, Number of Observations, and Standard Errors for personal income components, EU-SILC cross-sectional 2005-2006

Gross income components at personal level	**Mean (euro)**	**N**	**Standard Error**	**Mean (euro)**	**N**	**Standard Error**
			2005			2006[1)]
Employee cash or near cash income (py010g)	26,038	11,865	209	26,340	11,833	231
Non-cash employee income (py020g)	4,799	822	128	4,939	851	114
Contributions to individual private pension plans (py035g)	2,378	2,708	265	2,016	2,677	141
Cash benefits or losses from self-employment (py050g)	17,291	1,535	1,875	14,523	1,649	860
Value of goods produced for own-consumption (py070g)	-	-	-	-	-	-
Pension from individual private plans (py080g)	20,260	82	9,226	7,516	77	1254
Unemployment benefits (py090g)	8,075	747	256	8,152	789	272
Old-age benefits (py100g)	16,748	3,761	247	16,632	3,506	274
Survivor's benefits (py110g)	9,548	180	454	9,540	160	385
Sickness benefits (py120g)	3,900	257	379	4,074	247	407
Disability benefits (py130g)	11,850	816	288	12,075	913	286
Education-related allowances (py140g)	2,211	854	65	2,379	899	72

1) Persons aged 15 or less with income component are included

Table 2.8: Mean, Number of Observations, and Standard Error for the Equivalized Disposable Income (breakdown by household size, age groups and sex) (entire sample [1)], cross-sectional 2005).

Equivalized disposable income	Mean	Number of Observations	Standard Error
Population by household size			
1 household member	18,160	2,297	463
2 household members	21,301	6,634	250
3 household members	19,686	3,894	296
4 and more household members	16,825	10,734	140
Population by age groups			
<25	16,583	7,751	88
25-34	19,632	2,881	187
35-44	19,010	4,037	183
45-54	20,966	3,584	299
55-64	21,266	2,698	347
65+	18,277	2,608	462
Population by sex			
Male	19,128	11,608	95
Female	18,479	11,951	77
Total	18,801	23,559	44

1) People aged -1 are not taken into account

Table 2.9: Mean, Number of Observations, and Standard Error for the Equivalized Disposable Income (breakdown by household size, age groups and sex) (entire sample [1)], cross-sectional 2006).

Equivalized disposable income	Mean	Number of Observations	Standard Error
Population by household size			
1 household member	17,727	2,091	441
2 household members	21,586	6,299	226
3 household members	20,778	3,594	342
4 and more household members	17,845	10,964	230
Population by age groups			
<25	17,263	7,540	171
25-34	20,313	2,543	242
35-44	19,805	3,982	234
45-54	21,718	3,607	338
55-64	21,384	2,922	338
65+	18,331	2,354	464
Population by sex			
Male	19,748	11,608	151
Female	18,985	11,951	114
Total	19,363	22,948	104

1) People aged -1 are not taken into account

Table 2.10: Mean, Number of Observations, and Standard Errors for household income components EU-SILC longitudinal 2005-2006 (R2, R3, R4)

Gross income components at household level	**Mean (euro)**	**N.**	**Standard Error**	**Mean (euro)**	**N**	**Standard Error**
			2005			2006
Total household gross income (hy010)	44,206	8,399		44,907	6,647	
Total disposable household income (hy020)	29,689	8,399		30,178	6,647	
Total disposable household income before social transfers other than old age and survivors' benefits (hy022)	26,770	8,399		27,138	6,647	
Total disposable household income before social transfers including old age and survivors' benefits (hy023)	21,761	8,399		21,764	6,647	
Gross income components at household level						
Imputed Rent (hy030g)	2,420	5,524		2,348	4,545	
Income from rental of property or land (hy040g)						
Family/child related allowances (hy050g)	1,679	3,059		1,679	2,499	
Social exclusion not elsewhere classified (hy060g)	8,595	610		9,787	447	
Housing allowances (hy070g)	1,570	887		1,565	635	
Regular inter-household cash transfer received (hy080g)	3,760	597		3,197	409	
Interest, dividends, profit from capital investments (hy090g)	858	7,323		1,741	5,876	
Interest repayments on mortgage (hy100g)	7,311	4,918		7,464	4,156	
Income received by people aged under 16 (hy110g)	1,648	158		530	133	
Regular taxes on wealth (hy120g)	-	-		-	-	
Regular inter-household cash transfer paid (hy130g)	3,695	973		3,714	748	
Tax on income and social contributions (hy140g)	14,108	8,398		14,353	6,646	

Table 2.11: Mean, Number of Observations, and Standard Errors for personal income components EU-SILC longitudinal 2005-2006 (R2, R3, R4)

Gross income components at personal level	**Mean (euro)**	**N**	**Standard Error**	**Mean (euro)**	**N**	**Standard Error**
			2005			2006
Employee cash or near cash income (py010g)	25,557	10,945		26,996	8,830	
Non-cash employee income (py020g)	4,675	758		5,020	613	
Contributions to individual private pension plans (py035g)	2,337	2,487		2,119	2,059	
Cash benefits or losses from self-employment (py050g)	15,181	1,375		17,085	1,214	
Value of goods produced for own-consumption (py070g)	-	-		-	-	
Pension from individual private plans (py080g)	16,949	76		8,021	55	
Unemployment benefits (py090g)	8,302	682		8,473	584	
Old-age benefits (py100g)	16,450	3,159		16,773	2,499	
Survivor's benefits (py110g)	9,592	169		9,356	120	
Sickness benefits (py120g)	4,031	242		4,038	185	
Disability benefits (py130g)	11,696	754		12,652	689	
Education-related allowances (py140g)	2,255	808		2,456	670	

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 compliancy 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).

In June 2004, a pilot was conducted among 266 people. It was demonstrated that the response was rather high: 237 out of the 266 selected people were willing to cooperate in an EU-SILC survey. Among them, a total of 222 – which equals 94% – actually participated in the survey. Also the duration of the interview, the sequence of the questions and respondents' attitude toward the questionnaire were tested. The overall opinion about the questionnaire was positive. The first impression of the respondent about the questionnaire was 'pleasant', 'not difficult to answer', and 'comprehensible'. Only minor changes in a few questions (such as about the consultation of the dentist) were necessary. In addition, a logistical test was conducted to test the processing of the data. All this information was used to improve the design and to minimize the non-sampling errors.

Statistics Netherlands used the CATI–method for the EU-SILC interview. Two seperate questionnaires for the 65- and 65plus households (see chapter 3) were programmed in Blaise with several data entry and coding controls to reduce processing errors. Finally the EU-SILC files were transformed into Eurostats' standard format and tested using the checking program 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 2.12a 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 (tabel 2.12b).

Table 2.12a: Sample Size and accepted Interviews EU-SILC 2005

	Total	**R1**	**R2**	**R3**	**R4**
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 2.12b: Sample Size and accepted Interviews EU-SILC 2006

	Total	**R1'**	**R2**	**R3**	**R4**
Persons 16 years and older	17,392	4,395	2,082	4,522	6,393
Number of sample persons	8,986	2399	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	2339	1,051	2,311	3,285

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 19%. 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 the EU-SILC part 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. This 99 percent linked cases is a very good result, though we should not exclude a danger of selectivity in the micro-linking process. The other persons and their household members have been rejected from the database. This is acceptable because this number is very low and the developing of imputation methods for these households is high. Consequently, there's no partial unit non-response with respect to income in the EU-SILC database. 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

	Total	**R1'**	**R2**	**R3**	**R4**
Addresses successfully contacted	10,782	3,016	1,220	2,715	3,831
Valid addresses selected	11,076	3,053	1,256	2,816	3,951
RA address contact rate	0,97	0,99	0,97	0,96	0,97
Number of household interviews accepted	8,986	2,399	1,051	2,311	3,285
RH (proportion of completed household interviews accepted)	0,83	0,80	0,86	0,85	0,86
NRh (Household non-response rate) %	19.2	21.3	16.4	18.3	16.8
Personal interviews completed	17,392	4,395	2,082	4,522	6,393
Number of eligible individuals	17,392	4,395	2,082	4,522	6,393
Rp 1)	1	1	1	1	1
Individual non response rate (%)	0	0	0	0	0
Overall individual non-response (%)	19.2	21.3	16.4	18.3	16.8

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

Table 2.14: Household response rates: Comparison of results codes between wave 1 (2005) and wave 2 (2006)

	Sample outcome in 2006 (wave 2)										
	DB130=11 DB135=1	DB135 =2	DB120=22	DB130 =23	DB130 =24	DB130 =21	DB120 =21	NC	DB110 =10	DB120 =23	Total
Sample outcome 2005											
R2											
DB135=1	1,051	7	0	26	65	129		53			1,331
DB135=2	-	20									20
Total	***1,051***	***27***	***0***	***26***	***65***	***129***		***53***			***1,351***
R3											
DB135=1	2,311	15	2	27	231	227		145			2,958
DB135=2	-	30									30
Total	***2,311***	***45***	***2***	***27***	***231***	***227***		***145***			***2,988***
R4											
DB135=1	3,285	10	3	33	304	292		183			4,110
DB135=2	-	71									71
Total	***3,285***	***81***	***3***	***33***	***304***	***292***		***183***			***4,181***
Total											
DB135=1	6647	32	5	86	600	648		381			8399
DB135=2		121						-			121
Total	***6647***	***153***	***5***	***86***	***600***	***648***		***381***			***8399***
New household 2006 (R1)											
DB110=8											
DB110=9	2399	55	37	79	239	304				9	3062
	A	B	C	E	F	G	H	I	J	K	T
Total	8986	208	42	165	839	952		381		9	11582

Households with DB120=(21,22,23) or DB135=(21,22,23,24) in 2005 have been dropped form the survey in 2006.

Table 2.15: Wave response rates and achieved sample size ratio by rotational group

	Total	**R1'**	**R2**	**R3**	**R4**
Wave response rate (%) (A/T-K)	77.6	78.5	77.8	77.3	78.6
Refusal rate (%) (G/T-K)	8.2	10.0	9.5	7.6	7.0
No contacted and others	14.1	13.4	12.7	15.1	14.4
Longitudinal follow-up rate	0.87	-	0.85	0.87	0.87
Achieved sample size ratio			0.77	0.78	0.8

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 2.15: Distribution of DB120, DB130 and DB135

	Total	R1'	R2	R3	R4
DB110 –Household status					
Household from previous wave					
At the same address at last interview			1,262	2,731	3,805
Entire household moved to a private household within the country			36	112	193
Household no longer in-scope					
Entire household moved to a collective household or institution			1	0	3
Household moved outside the country			1	1	2
Entire household died					
Household does not contain sample person			3	5	14
Address non-contacted			48	139	164
New household for this wave					
Split-off household			0	0	0
New address added to the sample this wave or first wave		3,062	0	0	0
fusion			0	0	0
DB120 –Contact at address					
Address contacted	10,782	3,016	1,220	2,715	3,831
Address unable to access	294	37	36	101	120
Address does not exist	142	9	18	47	68
Total	11,218	3,062	1,274	2,863	4,019
DB130- Household questionnaire result					
Household questionnaire completed	9,199	2,394	1,073	2,362	3,370
Refusal to cooperate	555	304	52	86	113
Entire household temporary away					
Household unable to respond	170	79	27	28	36
Other reasons	858	239	68	239	312
Total	10,782	3,016	1,220	2,715	3,831
DB135- Household interview acceptance					
Interview accepted for database	8,986	2,339	1,051	2,311	3,285
Interview rejected	213	55	22	51	85

Because of the EU-SILC sampling design with the selected respondent in the Netherlands the table for personal interview response rates is not provided. Only the selected respondents, one person per household, are followed from wave t to t+1. The co-residents are not followed from wave to wave. They may belong to the household of the selected respondent in year t+1 or they may have moved to another household. The table for personal interview response rates will be quite similar to the table with the household response rates.

2.3.3.4 Distribution of persons by membership status (RB110)

Table 2.16 and 2.17 show the distribution of persons by memberschip status for each wave of the EU-SILC longitudinal component.

Table: 2.16 Distribution of persons by membership status (RB110)

		Current household members				**No current household members**		
Rotational group		RB110=1	RB110=2	RB110=3	RB110=4	RB120=2 to 4	RB110=6	RB110=7
R2		2,744	0	24	24	7	2	0
R3		6,016	0	52	72	26	7	0
R4		8,404	0	72	91	45	7	0

Table: 2.17 Distribution of persons moving out by variable RB120

	RB110=5				
	RB120=1		RB120=2	RB120=3	RB120=4
Rotational group	Person is a current household member of this wave	Person is not a current household member			
R2	0	31	0	0	7
R3	0	53	0	2	24
R4	0	97	0	2	43

2.3.3.5 Item non-response

As income data are based on register information – except for the two questions concerning the inter-household transfers (paid and received) – all income variables do not consist item non-response.

Table: 2.18 Item non-response household income components, EU-SILC longitudinal (R2, R3, R4), 2005

	households having received an amount		With full information		With non or partial information	
	count	%	count	%	count	%
HY010 Total household gross income	8,399	100	8,329	99	70	1
HY020 Total disposable household income	8,399	100	8,229	98	170	2
HY022 HY020 before transfers (except pensions)	8,399	100	8,229	98	170	2
HY023 HY020 before transfers including pensions	8,399	100	8,229	98	170	2
HY040G Income from rental of a property or land	5	0	2	0	-	-
HY050G Family/Children related allowances	3,059	36	3,059	36	-	-
HY060G Social exclusion not elsewhere classified	610	7	610	7	-	-
HY070G Housing allowances	887	11	887	11	-	-
HY080G Regular inter-household cash tansfer received	597	7	527	6	70	1
HY090G Interest, dividends, profit from capital gain	7,323	87	7,323	87	-	-
HY100G Interest repayments on mortgage	4,918	59	4,918	59	-	-
HY110G Income received by people under 16	158	2	158	2	-	-
HY130G Regular inter-household cash transfer paid	973	12	853	11	120	1
HY140G Tax on income and social contibutions	8,398	100	8,390	100	-	-

Table: 2.19 Item non-response household income components, EU-SILC longitudinal (R2, R3, R4), 2006

	households having received an amount		With full information		With non or partial information	
	count	%	count	%	count	%
HY010 Total household gross income	6,647	100	6,607	99	40	1
HY020 Total disposable household income	6,647	100	6,532	98	115	2
HY022 HY020 before transfers (except pensions)	6,647	100	6,532	98	115	2
HY023 HY020 before transfers including pensions	6,647	100	6,532	98	115	2
HY040G Income from rental of a property or land	2	0	2	0	-	-
HY050G Family/Children related allowances	2,499	38	2,499	38	-	-
HY060G Social exclusion not elsewhere classified	447	7	447	7	-	-
HY070G Housing allowances	635	10	635	10	-	-
HY080G Regular inter-household cash tansfer received	409	6	369	5	40	1
HY090G Interest, dividends, profit from capital gain	5,876	88	5,876	88	-	-
HY100G Interest repayments on mortgage	4,156	63	4,156	63	-	-
HY110G Income received by people under 16	133	2	133	2	-	-
HY130G Regular inter-household cash transfer paid	748	11	673	10	75	1
HY140G Tax on income and social contibutions	6,647	100	6,647	100	-	-

Table: 2.20 Item non-response personal income components, EU-SILC longitudinal (R2, R3, R4), 2005

	Persons aged 16+ having received an amount		With full information		With non or partial information	
	count	%	count	%	count	%
PY010G Employee cash or near cash income	10,945	68	10,945	68	-	-
PY020G Non-Cash employee income	758	5	758	5	-	-
PY035G Contributions to individual private pension plans	2,478	15	2,478	15	-	-
PY050G Cash benefits or losses from self-employment	1,375	8	1,375	8	-	-
PY080G Pension from individual private plans	76	0	76	0	-	-
PY090G Unemployment benefits	682	4	682	4	-	-
PY100G Old-age benefits	3,159	20	3,159	20	-	-
PY110G Survivor' benefits	169	1	169	1	-	-
PY120G Sickness benefits	242	1	242	1	-	-
PY130G Disability benefits	754	5	754	5	-	-
PY140G Education-related allowances	808	5	808	5	-	-

Table: 2.21 Item non-response personal income components, EU-SILC longitudinal (R2, R3, R4), 2006

	Persons aged 16+ having received an amount		With full information		With non or partial information	
	Count	%	count	%	count	%
PY010G Employee cash or near cash income	8,830	68	8,830	68	-	-
PY020G Non-Cash employee income	613	5	613	5	-	-
PY035G Contributions to individual private pension plans	2,059	16	2,059	16	-	-
PY050G Cash benefits or losses from self-employment	1,214	9	1,214	9	-	-
PY080G Pension from individual private plans	55	0	55	0	-	-
PY090G Unemployment benefits	584	4	584	4	-	-
PY100G Old-age benefits	2,499	29	2,499	29	-	-
PY110G Survivor' benefits	120	1	120	1	-	-
PY120G Sickness benefits	185	1	185	1	-	-
PY130G Disability benefits	689	5	689	5	-	-
PY140G Education-related allowances	670	5	670	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 2.21: Distribution of RB245, RB250 and RB260 by rotational group

	Total	**R1'**	**R2**	**R3**	**R4**
RB245-Respondent Status					
Household member aged 16 and over	17,391	4,395	2,082	4,521	6,393
- selected respondent	8,986	2,339	1,051	2,311	3,285
-not selected respondent	8,405	2,056	1,031	2,210	3,108
RB250- data Status					
Information completed only from registers (11)	8	5	1	1	1
Information completed from both interview and registers (13)	8,978	2,334	1,050	2,310	3,284
Total	17,392	4,395	2,082	4,522	6,393
RB260 – Type of interview					
CATI (3)	7,624	1,751	917	2,061	2,895
Proxy interview (5)	1,362	588	134	250	390

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 operation, specific measures has been taken to substantially reduce the number of proxy-interviews, such as interview-training and specific instructions how to approach the selected person in the household. This resulted in a 15% proxy rate in EU-SILC 2006.

2.5 Imputation procedure

As income data are based on register information – except for the two questions concerning the inter-household transfers (paid and received) – 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 mean value imputation was used to impute these missing values.

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 cars

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 2006. 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 2006 refer to the calendar year 2005. 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 2006 and ended at 6 October 2006. Therefore the lag is at minimum 5 months and at maximum 10 months.

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

The total duration of the data collection was approximately 5 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 derive the disposable income.*

- *Contributions to individual private pension plans (PY035) and pension from individual pension plans (PY080) 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 and benefits are added to derive 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);
Non-monetary income components (with the exception of the company car) as well as interest paid on mortgage and employers social insurance contributions are not mandatory yet. For this reason the total household income (gross/disposable) has been computed without taking account the non-monetary components (with the exception of company car) as well as the employers' social insurance contributions, the interest paid on mortgage and imputed rent. 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 form 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).

In EU-SILC 2005 the so-called fiscal wages were registered in PY010G. In these fiscal wages employees' social insurance contributions were excluded and the health insurance contributions paid by the employer were included. From EU-SILC 2006 onwards the gross wages will be registered in PY010G. From then, the employees' social insurance contributions are included in gross wages and the health insurance contributions paid by the employer are excluded. This change of income concept has an impact on the distribution of both variable PY010G and HY140G (tax on income and social contributions), but does not have impact on disposable income.

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. Data on rent subsidies are obtained from the Ministry of Housing. 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

For the 2006 operation, the second wave in the Netherlands, 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 IPS is to provide a detailed description of the composition and distribution of income of persons and households. 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 based mainly on information from the tax department and the PR. 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 derived by aggregating the incomes of all the members of the household.

4.2 Comparison of income target variables with IPS

The result of the comparison between IPS 2005 (preliminary) and the incomes reported from EU-SILC 2006 is shown in Table 4.1. Both sources are compared using the national definition of income. The most important differences between national definition and the EU-SILC definition (till EU-SILC 2007) are:

- Imputed rent is included; interest on mortgage is subtracted from disposable income;
- Income from private pension plans and other income insurance plans are included, premiums are subtracted.

Equivalised income has been computed using the modified OECD-equivalence scale.

Table 4.1 : Comparison EU-SILC 2006 and IPS 2005

		EU-SILC 2006	**IPS 2005** [1)]
		x 1000 euro	x 1000 euro
Mean disposable income		33.9	34.0
Mean equivalised income		18.5	18.6
Median equivalised income		16.6	16.6
At-risk-of-poverty rate	*Total*	10.2	10.3
	Male	10.2	10.2
	Female	10.2	10.4
Dispersion around the threshold (%)	*(a) 40% of median*	3.8	3.5
	(b) 50% of median	5.7	5.9
	(c)70% of median	18.2	18.1

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

4.3 Comparison of number op 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) due to extra collected information in the EU-SILC interview (see chapter 3). Furthermore the difference is large for variable HY040G (Income from rental of a property or land) because of the lack of register information on this component. In the Income Panel Survey these amounts are imputed. Unfortunately, it is not possible to implement this imputation procedure in EU-SILC. However, this will hardly affect the results of the Laeken indicators and disposable household income as the number of households receiving this component is rather small (159 thousand out of 7,1 million). From EU-SILC 2007 onwards questions about the income from rental of a property or land have been added to the EU-SILC questionnaire.

Table 4.2 Personal income components, IPS 2005-EU-SILC 2006

	count	sum	median	mean
EU-SILC 2006	*x 1000*	*mln euro*	*x 1000 euro*	
PY010G Employee cash or near cash income	7,916	211,092	23,5	26,7
PY020G Non-Cash employee income	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
IPS 2005 [1)]				
PY010G Employee cash or near cash income	7,940	206,398	22,6	26,0
PY020G Non-Cash employee income	468	2,362	4,8	5,1
PY035G Contributions to individual private pension plans	1,402	3,541	1,0	2,5
PY050G Cash benefits or losses from self-employment	1,197	22,370	7,5	18,7
PY080G Pension from individual private plans	69	687	5,9	10,0
PY090G Unemployment benefits	624	4,941	5,3	7,9
PY100G Old-age benefits	3,002	49,153	12,7	16,4
PY110G Survivor' benefits	139	1,302	12,2	9,4
PY120G Sickness benefits	230	975	1,5	4,2
PY130G Disability benefits	653	7,769	11,8	11,9
PY140G Education-related allowances	759	1,857	2,3	2,4

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

Table 4.3 Household income components, IPS 2005-EU-SILC 2006

	count	sum	median	mean
EU-SILC 2006	*x 1000*	*mln euro*	*x 1000 euro*	
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 contibutions	7,145	103,906	10,3	14,5
IPS 2005 [1)]				
HY030G Imputed rent	3,795	8,965	2,1	2,4
HY040G Income from rental of a property or land	159	900	2,4	5,6
HY050G Family/Children related allowances	1,940	3,168	1,5	1,6
HY060G Social exclusion not elsewhere classified	769	5,810	6,6	7,6
HY070G Housing allowances	1,058	1,662	1,6	1,6
HY080G Regular inter-household cash transfer received	66	647	5,5	9,7
HY090G Interest, dividends, profit from capital gain	5,566	10,703	0,3	1,9
HY100G Interest repayments on mortgage	3,408	25,463	6,1	7,5
HY110G Income received by people under 16	110	74	0,3	0,7
HY120G Regular taxes on wealth	-	-	-	-
HY130G Regular inter-household cash transfer paid	90	642	3,9	7,1
HY140G Tax on income and social contibutions	7,059	103,369	10,2	14,6

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

4.4 Comparison with EU-SILC 2005

Table 4.4 and table 4.5 show the comparison between EU-SILC 2005 and EU-SILC 2006 on income-component level. Although the income components may differ to a certain extent, the results of 2006 are widely consistent with those of EU-SILC 2005.

Table 4.4 Personal income components, EU-SILC 2005- 2006

	count	sum	median	mean
EU-SILC 2005	*x 1000*	*mln euro*	*x 1000 euro*	
PY010G Employee cash or near cash income	7,859	204,636	23,7	26,0
PY020G Non-Cash employee income	519	2,492	4,5	4,8
PY035G Contributions to individual private pension plans	1,732	4,119	0,9	2,4
PY050G Cash benefits or losses from self-employment	1,235	21,363	6,4	17,3
PY080G Pension from individual private plans	62	1 263	5,7	20,3
PY090G Unemployment benefits	611	4 934	5,7	8,1
PY100G Old-age benefits	2,943	49,294	12,6	16,7
PY110G Survivor' benefits	111	1 058	12,5	9,5
PY120G Sickness benefits	219	856	1,7	3,9
PY130G Disability benefits	693	8 211	11,4	11,9
PY140G Education-related allowances	711	1 572	2,1	2,2
EU-SILC 2006				
PY010G Employee cash or near cash income	7,916	211,092	23,5	26,7
PY020G Non-Cash employee income	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

1) mandatory from 2007 onward

Table 4.5 Household income components, EU-SILC 2005-2006

	count	sum	median	mean
EU-SILC 2005	*x 1000*	*mln euro*	*x 1000 euro*	
HY030G Imputed rent	3,641	8,831	2,1	2,4
HY040G Income from rental of a property or land	3	17	3,6	5,8
HY050G Family/Children related allowances	1,952	3,261	1,5	1,7
HY060G Social exclusion not elsewhere classified	725	6,199	8,9	8,6
HY070G Housing allowances	1,157	1,814	1,6	1,6
HY080G Regular inter-household cash transfer received	565	2,132	2,6	3,8
HY090G Interest, dividends, profit from capital gain	5,815	5,084	0,3	0,9
HY100G Interest repayments on mortgage	3,169	23,065	6,1	7,3
HY110G Income received by people under 16	88	139	0,4	1,6
HY120G Regular taxes on wealth	-	-	-	-
HY130G Regular inter-household cash transfer paid	791	3,015	2,4	3,8
HY140G Tax on income and social contibutions	7,090	99,579	10.4	14.0
EU-SILC 2006				
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 contibutions	7,145	103,906	10,3	14,5

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).