

# **FINAL QUALITY REPORT**

**EU-SILC-2006**

**Norway**

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# **1.0 Common longitudinal EU indicators based on the longitudinal component of EU-SILC**

Not applicable

## **2.0 Accuracy**

### **2.1 Sampling design**

#### **2.1.1 Type of sampling**

The sample for EU-SILC in Norway is composed of the sample for an existing longitudinal survey established in 1997, using a specific sampling design, and a new sample with a different design in 2003. Hence two different types of sampling are used in the Norwegian EU-SILC 2005. The sample in 2003 was divided in eight rotational groups, mainly five groups in the old longitudinal sample and three groups in the new sample in 2003. In 2006 one of the eight rotational groups from the 2005-sample (from the old longitudinal survey) were deleted and one new rotational groups were included in the 2006-sample.

The old sample used systematically random sampling in two stages. In the first stage primary sample areas were drawn to establish a sampling frame for face-to-face interviews (Statistics Norway's standard sampling frame). Sample areas were stratified (see 2.1.3). In the second stage, respondents were drawn with a probability designed to make the sample self-weighting, i.e. all persons in the in the sampling frame have the same probability of selection (see also 2.1.5). The primary sampling units are not clustered.

When drawing the new samples in 2003, 2004, 2005 and 2006, systematically random sampling in one stage was used. The systematic element stems from the stratification (see 2.1.3) and arrangement of the population register.

#### **2.1.2 Sampling units**

In the new part of the sample, the sample units are persons aged 16 years or more registered in the central population register (inhabitants). In the old part of the sample, primary sampling units are municipalities or groups of municipalities from the different strata in the sampling frame (see also 2.1.3.). Secondary sampling units are persons aged 16 years or more registered in the central population register.

#### **2.1.3 Stratification and sub-stratification criteria**

The old part of the sample the standard sampling frame for face-to-face interviews has been used. In this the country is first divided into a number of primary sampling areas and these again are divided into 109 subpopulations, called strata. The criteria for stratification of primary sampling areas are economic classification<sup>1</sup>, population density, centrality and a prognoses classification<sup>2</sup>. The aim is to create strata, which are as homogenous as possible, but still geographically concentrated. The primary sampling units are municipalities or

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<sup>1</sup> Classification of municipalities following the Population and housing census in 1990 (FoB90). Based on the nature of industry in each municipality.

<sup>2</sup> This classification is based on data on commutation, newspaper coverage, communications, commerce and districts for unemployment offices (Statistics Norway 1984).

aggregates of municipalities. Municipalities with few inhabitants are grouped together with other municipalities to ensure that each sampling area consists of at least 7 per cent of the total number of inhabitants in the stratum the unit belongs to. In some cases small municipalities close to highly populated municipalities are put together with the large one in that region. All municipalities with more than 30 000 inhabitants and some with 25 000 to 30 000 inhabitants make separate strata. In the first stage, one primary sampling area from each stratum was selected. In the second stage, the respondents were drawn from a population register. The units in the population register were arranged by family number and personal code within the family. This was done to avoid that two or more persons within the same household were selected to the sample.

The primary stratification criterion for the new part of the sample is age. The design chosen implicates that age is the central criterion for representativity. The sample is drawn as a proportion  $p$  of the population within one-year groups. In addition, the population register was arranged to ensure geographical representativity. This was done by municipality and postal codes. As in the old part of the sample, the register was arranged by family number and personal code within the family before the actual selection of units.

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

The selected sample size set to meet demands for minimum effective sample size of both the cross-sectional and the longitudinal survey over time is 8 500 persons, each representing one separate household.

In 2003 8 500 persons constituted a proportion  $p \approx 0,0024$  of the total population (inhabitants aged 16 years or more). This proportion is meant to be identical each year of the survey, and thus the size of the gross sample will change according to changes in the population. The 2006 sample consists of 8 688 persons 16 years and over. During the field period, 265 of these proved to be non-eligible (either dead or emigrated), thus giving a gross sample of 8 424 persons. We succeeded in interviewing 5 768 of these (net sample), a response rate of 68,5 percent. 5 765 interviews were accepted.

In all households interviewed there were 11 917 persons aged 16 years or more. The minimum sample size set by Eurostat for the cross sectional components was 3 750 households and 6 250 persons. The effective sample size is: Net sample / design effect for equivalent income. The design effect for equivalent income is estimated to be 1,039. In the Norwegian 2006 survey this gives an achieved effective sample size of 5 584 households and 11 470 persons.

The selected sample size by rotational groups, referring to selected respondent (household), can be seen in table 2.1 below.

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

As mentioned the sample for the Norwegian EU-SILC 2006 consists of an existing sample for a longitudinal survey on Living conditions started in 1997, and of a new part drawn to implement the sampling plan for EU-SILC.

When establishing the sample for the longitudinal survey on living conditions in 1997, one main goal was to establish a link to the Population and housing census in 1990 (FoB90), and to prior population and housing censuses. This link was established by drawing a "supersample" from FoB90, using this as the basis for drawing units for the sample. From this "supersample", a self-weighting stratified sample of 5 000 persons aged 16-79 was drawn,

using Statistics Norway's general sample plan for face-to-face interviews. In the following years, this sample was supplemented with 16-years olds, and new immigrants to maintain the cross sectional qualities of the sample. This "old sample" was a systematically random sample, drawn in two steps, but in such a way that all persons had the same probability of selection (self-weighting sample).

In EU-SILC, the link to FoB90 was no longer of importance, neither was the use of Statistics Norway's sample plan important, since EU-SILC is conducted by telephone interviewing. The new sample plan for EU-SILC meant systematically random sampling in one step, and no upper age limit. The age-representativity criterion implicates unequal probabilities, but this should not be a problem as long as representativity is ensured. The new sample is drawn in one step from the database BEBAS, which is a monthly updated copy of the Norwegian population register.

Before adding the new part of the sample, drawn in accordance with the new sample plan, the old sample was supplemented with persons aged 80 or more in 1997, using the old two-step sampling and the FoB90 "supersample". The old sample then consisted of 5 309 persons, and on the basis of the number of persons in each one-year age group, the number needed in the new sample, drawn in accordance to the new sample plan, was estimated. The number in each age group was estimated by  $p^*$  number in population and then subtracting the number in the old sample. A total of 3 199 persons were selected and added to the existing 5 309, giving a total of 8 508 in 2003. Deleting rotational groups and adding new rotational groups and supplementing the sample resulted in a sample in 2006 of 8 688 persons.

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

To make the data collection effective, and to ensure a highest possible response rate among the new respondents in the sample, the sample was divided into four periodical groups with different start of the interviewing but similar end of interviewing. The periodical groups were based on rotational groups. Referring to table 2.1, periodical group 1 with start of interviewing 6 February was made up of rotational groups 7 and 8. Periodical group 2 with start of interviewing 20 February was made up of rotational groups 5 and 6. Periodical group 3 with start of interviewing 6 March was made up of rotational groups 3 and 4, and finally; periodical group 4 with start of interviewing 20 March was made up of rotational groups 1 and 2. Interviewing of all groups ended 11 July.

#### **2.1.7 Renewal of sample: Rotational groups**

In the Norwegian design, each respondent (sample unit) is part of the sample in eight years. Each year 1/8 of the sample will be replaced. In a period of transition from the old to the new design, some respondents in the old sample will belong to the sample for eleven years, while some will belong for only six years.

Approximately 1 060 - 1 070 persons will constitute one rotational group. In 2006 the groups were constituted as shown in table 2.1

**Table 2.1 Rotational groups 2006**

<b>Rotational group</b>	<b>N*</b>	<b>Drawn according to...</b>	<b>Last year in sample</b>
Group 1	1197	New design	2011
Group 2	1206	New design	2012
Group 3	1226	New design	2013
Group 4	1022	Old design	2006

Group 5	999	Old design	2007
Group 6	1014	New design	2008
Group 7	1011	New design	2009
Group 8	1013	New design	2010

\* N includes persons coded as non-eligible during the field period.

## **2.1.8. Weightings**

### **2.1.8.1. Design factor**

In the sample persons aged 16 years and over are selected. Hence the probability of selecting a household is equal to the number of persons aged 16 and over in the household. The design factor for households and for all household members is the inverse of the number of adult household members.

### **2.1.8.2. Non-response adjustments**

PB060: Personal cross-sectional weight for selected respondent

The probability of selection is the same for all selected respondents. Weights are only calculated to take into account non-response. Results are not calibrated to external sources.

Weights are calculated by stratifying the gross sample into strata. The gross sample and net sample are stratified according to information in registers on sex, age, education and family size. There are five categories of age: 16-24 years, 25-44 years, 45-66 years 67-79 years and 80 years and over. There are five categories of education: lower secondary and lower; upper secondary; post-secondary but non-tertiary; tertiary; missing information. There are also five categories for family size: 1, 2, 3, 4 and 5 and more persons.

DB090: Household cross-sectional weight

This is constructed as the household design weight (DB080) times the personal cross-sectional weight for the selected person (PB060).

The household design weight is the inverse of the number of persons 16 years and older in the household (age is age per 31.12.2005).

RB050: Personal cross-sectional weight

RB050 is equal to DB090.

PB040: Personal cross-sectional weight for all household members aged 16 and over

PB040 is equal to DB090.

RL070: Children cross-sectional weight

The weights are calculated as the number of children in each one-year group (0-12 years) in the population divided by the number of children in one-year groups in the households interviewed.

### **2.1.8.3. Adjustments to external data**

No adjustments are made, except for children's weights where weights are adjusted according to population size as given in the population register.

### **2.1.8.4. Final longitudinal weight**

Longitudinal weights are made by using the same method as for cross sectional weights, see 2.1.8.1.

RB060: Personal base weight. Same method as for PB060 using the gross sample in scope, except that the base of the weight is rotational groups.

RB062 and RB063: Longitudinal weights

Calculated by dividing RB060 (for 2006) by the number of rotational groups included in the last two and three waves, considering individuals in scope the last two and three years (RB110 = 1 or 2)

#### **2.1.8.5. Non-response adjustments**

See 2.1.8.4

#### **2.1.8.6. Adjustments to external data**

No adjustments are made

#### **2.1.8.7. Final longitudinal weight**

See 2.1.8.4

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

Not applicable as no substitutions are allowed

#### **2.1.9. Substitutions**

There are no substitutions in EU-SILC Norway.

## **2.2 Sampling errors**

### **2.2.1. Standard errors and effective sample size**

Effective sample size is treated in 2.1.4.

Standard errors for equivalised disposable income has been calculated using simplifying assumptions. A program for more exact estimation of standard errors is still being developed.

**Table 2.2.1.A Standard errors for income components. 2006**

<b>Income component</b>	<b>Mean</b>	<b>Standard error</b>	<b>Number of observations</b>
hy010	501986	4985	5765
hy020	366285	3312	5768
hy022	309640	3372	5768
hy023	309640	3372	5768
hy040	1289	181	5765
hy050	13775	464	5768
hy060	1604	156	5765
hy070	627	59	5768
hy080	1560	115	5765
hy090	13605	1547	5765
hy100	21402	424	5765
hy130	1186	139	5765
hy140	134727	1947	5765
py010	202670	2339	11263
py020	3388	137	11220
py035	126	13	11220

py050	17829	1359	11220
py080	1025	106	11220
py090	1833	149	11220
py100	30793	916	11265
py110	571	87	11220
py120	8253	342	11265
py130	18215	551	11220
py140	1846	79	11265

**Table 2.2.1.B Standard errors for equivalised disposable income. 2006**

	Mean	Standard error	Number of observations
<b>All persons</b>	255 586	5 440	15 492
<b>Household size</b>			
1	205 711	5 929	1 043
2	279 581	10 194	3 744
3	290 528	25 096	2 789
4 and more	243 497	4 754	7 916
<b>Age</b>			
Under 25 years	237 494	5 442	5 724
25-34 years	254 576	13 505	7 586
35-44 years	250 640	4 445	2 354
45-54 years	296 463	11 966	2 379
55-64 years	326 983	16 566	1 696
65 years and over	199 784	8 023	1 439
<b>Sex</b>			
Male	259 289	4 822	7 821
Female	251 874	6 498	7 670

## 2.3 Non-sampling errors

### 2.3.1 Sampling frame and coverage errors

There are two kinds of sampling frame in this survey because the sample was made up of two separate samples (see 2.1). In the old part of the sample, the sample frame is a register of participants in the Population and housing census in 1990 (FoB90), living in the selected sample areas. This register is annually updated with information from the central population register. There are two kinds of possible coverage errors in this frame. The first is the exclusion of all those living in areas outside the sampling frame, the second is the exclusion of those not participating in FoB90. Both sources are assumed to be minimal. The first one because the selected areas are representative of their stratum, the second one because all inhabitants were obliged to participate in FoB90. To avoid under-coverage of immigrants in the years following 1997, the sample was supplemented with new immigrants each following year.

In the new part of the sample, the sampling frame is a copy of the central population register called BEBAS. This register is monthly updated with information from local population register offices. There should be no coverage errors connected to this frame, except for the extremely few cases of emigrations which are wrongly coded as non-response instead of non-



eligible because their emigration were not registered in the population register. Table 1 in section 2.3.3.3 shows that 56 persons could not be contacted because they were living at an address that was unknown. This is the maximum number of persons, which could be ineligible because they have emigrated.

Over-coverage due to deaths and emigration between updating of the sampling frame and the interview is almost always discovered during the fieldwork.

Under-coverage due to immigration between the updating of the sampling frame and interview is small. This is partly because immigration is relatively small (roughly 40 000 in 2005 , of whom about 10 000 were Norwegian citizens), and partly because the new sampling frame is updated very frequently.

### **2.3.2a Measurement errors**

In every survey there are various sources of both measurement and processing errors. Measurement errors occur in different phases and for different reasons. These reasons can be divided into five sub-groups: Information system, setting/environment, mode of data collection, the respondent, the interview and finally the instrument. We will concentrate on the sources most likely to be found in this survey, and they are classified under respondent, the interview and the instrument.

In every survey there is a chance of respondents giving an incorrect answer. The question/answer process can be seen in four different phases. First there is the understanding and interpretation of the actual question. If there are difficult terms or complicated wording, this may cause errors. In EU-SILC, the questions regarding inter-household transfers may be subject to this kind of errors because of the understanding of inter-household transfer and the term regular. Also the question on lowest monthly income to make ends meet (HS130) seems difficult to understand for many respondents.

The second phase is where the respondent recalls information. Errors in this phase may rise if the information necessary is hard to retrieve because it is old, complicated or not available to the respondent. In EU-SILC some of the questions about housing costs are quite complicated even for the person responsible for the dwelling. This may affect the accuracy of the answers given. Apart from this, we have no suspicion of frequent errors caused by difficulties in information retrieval.

The third phase is evaluating and selecting the information necessary to answer the question. In this phase, the respondent may actually have the right kind of information to answer the question correctly, but still end up with a wrong answer. This type of error is most frequent when the question is complicated and requires much information. Typical questions from EU-SILC may be questions requiring the respondent to select different economic components necessary for a specific question. Again the questions regarding inter-household transfers may be mentioned, but also the subjective evaluation of how difficult it is "to make ends meet", where the respondent has to choose which components to include in income.

The fourth and final phase is the actual formulating of the answer. This may cause errors if the respondents mastering of the language in use is weak, if the answer requires use of complicated terms or if the communication between the interviewer and the respondent is not optimal.

Measurement errors under the label "interview" are first effects of the data collection mode. In EU-SILC, all interviews are conducted by telephone. The interview is quite short, and the questionnaire is composed to avoid questions requiring visual aids. We therefore believe that errors caused by mode are minimal.

Interviewer effects may also be labelled under errors caused by interview. The interviewers used in EU-SILC were among the approximately 150 of the ordinary interviewer staff assigned to Statistics Norway. These interviewers are part time employees with individual agreements ranging from 500 to 1200 hours of work per year. The interviewers are locally based, stationed in the sample areas according to the standard sampling frame. When hired, all interviewers must complete an education consisting of self-studies and written tasks in two stages. Then, all are gathered to an obligatory three-day course before they are hired for a trial period of 6 months. Before the end of the trial period and permanent hiring, all new interviewers are given a personal follow-up talk. As part of the general follow-up and education of interviewers, telephone conferences are held on occasion.

The specific training for EU-SILC consists of an obligatory interview guide following the survey. This guide contains information about the survey, description of the sample, time limits (start and end) and a mentioning and instructions for some of the questions. All interviewers are paid to read this instruction. In addition, they are paid a fixed price (estimated number of hours) for test interviewing before starting the actual work. In EU-SILC 2006, the estimated time destined to reading of instruction and training was 3,5 hours per interviewer. As a part of the follow-up and continuous training of interviewers, a telephone conference where interviewers with relatively poor results took part was arranged. The aim was to improve their results through motivation and advises.

The danger of systematic interviewer effects is reduced through training, but also by using a relatively large number of interviewers.

The questionnaire may also be the cause of measurement errors. We have tried to establish a questionnaire according to the recommendations of Eurostat. In cases where EU-SILC variables and variables which are standard in our national surveys are close, we have preferred to use the national standards which are well tested. We shall comment on these variables and other cases where there might be deviations from Eurostat standards.

#### HH010

The standard Norwegian question is much more detailed, but most categories are easily translated to Eurostat categories. To construct the Eurostat categories we added a question on number of apartments/flats in the building.

In the 2006 operation, a technical error occurred in the Blaise-programme used in the CATI interview, and this led to an increase in the number of households with missing compared to the 2005 data. The error occurred when the households where supposed to specify whether code 3 or 4 was the correct one. The increase in missing shares is then followed by a decrease in the shares given value 3 and 4.

#### HH030

Only rooms of at least 6 sqm are included. The consequences for comparability are negligible.

#### HH090

'For the sole use of the household' is not included in the Norwegian questionnaire.

HH040

We have split this question in two: Rot in windows or floor and Leaking roof, damp walls or floor.

HS160

The Norwegian question asks 'not enough **daylight**'.

HH020

The Norwegian question is more detailed. However it is quite clear how to aggregate categories to construct the Eurostat categories of owners and tenants. To distinguish between tenants paying rent at or below market price we asked whether the rent that is paid is market rent (question Husleie2). To distinguish households with a rent-free accommodation we asked whether the household pay rent (question Husleie1).

HY130G

The Norwegian question differs because it excludes alimonies to former spouse/children. Information on alimonies is taken from register. HY130 is therefore calculated as a sum of information from register and from interview.

HH070

When asking about interest on mortgage the respondents can choose whether they will report the amount per year, quarter or month. There are some cases where we suspect that period and amount do not correspond, maybe due to interviewer errors. We have tried to correct these cases. Also, where interest is missing, we estimate the value by using the total mortgage and either actual or average interest rates. Interest on mortgage is net, tax is subtracted. For tenants rent payments are net. Imputations are made for item non-response on certain components (see 2.5). Tax on dwellings is not taken into account in HH070.

HY080G

The same as for HY130G. HY080 is calculated as a sum of information from register and from interview.

PL030

The only difference is that the Norwegian question is only asked respondents working less than 32 hours a week. Persons working 32 hours or more a week are considered as 'carrying out a job or profession'. The interviewer reads the categories.

PL110

We ask for the name and address of the firm. Industry is coded from register information on the firm.

PL060

The question explicitly mentions that paid overtime and extra work at home shall be included.

PH020

In addition to chronic illness the question mentions 'any consequence of injury or any disability'.

### PH030

This variable is built on three questions to ensure that all the information needed for the variable is of good quality.

1: 'Does this (chronic illness) lead to limitations in your daily activities'

2: 'Have these limitations lasted for at least six months'

3: 'Would you say that you are strongly limited or somewhat limited'?

### PE010

This variable combines information from interview and register. A person is considered as in education if he/she is in education according to PL030 (=3) or if they are in education according to register information.

### PE020

This information is taken from register. The register information is per 1 October 2005. Some may have started in education after this date. Hence there are some missing (3 per cent of all persons with current education activity).

### PE040

This information is also taken from register per 1 October 2005. Due to changes in the coding practice of coding in the education register, there are changes in the shares with codes 2 and 3 compared to the 2005 data. To clarify and define the three levels of education is essential for evaluating the comparability of educational attainment between countries, clearer guidelines have been put forward to better define compulsory education, upper secondary education and tertiary education in Norway.

In connection with the 2003 data collection, no specific field-testing of the questionnaire was done. The questionnaire was by large the same as in the pilot survey conducted in June 2002, and our opinion was that further field testing was unnecessary. Before finalising the questionnaire it was submit to a structured interviewer test, where three experienced interviewers tested by pre-defined profiles. In cases where EU-SILC variables and standard variables in our surveys are close we have used the national standards, which are well tested. The 2006 questionnaire is similar to the 2003-2005 questionnaires, but there are a few changes.

### **2.3.2b Processing errors**

The data collection mode in the Norwegian EU-SILC is CATI, using the interview programme Blaise developed in the Netherlands. Data entry controls are built into the electronic questionnaire, and there is less need for post data control. Control of data in the programme is done in various ways.

First, all selections are done automatically by the programme, thus reducing the risk of errors in the selections done by interviewers. This also reduces the number of signals and checks necessary. Second, all numeric variables have absolute limits for data entry, for example when entering the number of hours worked per week it is impossible to enter numbers above 168. Thirdly, and similar, there are built inn checks (hard error) which it is impossible to override. An obvious example is that year and date of birth is checked against the date of the interview. Last there are signals (soft error) which gives a warning to the interviewer if the answer is either unlikely because it is extreme or because it does not correspond to answers given to questions asked earlier. These signals can be overridden if the answer in question is confirmed.

Examples of signals, checks and value limits for the target variables are given in table 2.2. For an overview of filters in the questionnaire we refer to the written questionnaire. No errors of any importance have been detected in the post data-collection process except some confusion on id for household members where we need to programme a wider range of signals and checks. This error only occurs for persons who are not members of the household according to the population register. For mother, father or spouse id is assigned automatically based on kinship from register.

**Table 2.2 Signals, checks and value limits for target variables**

Variable	Description	SIGNAL (Soft error)	CHECK (Hard error)	Value
RB070	Month of birth	AGE <= 105	DATE <= TODATE	
RB080	Year of birth	AGE <= 105	DATE <= TODATE	
RB210	Basic activity status	IF RB210=3 AND AGE < 50		
RB220	Father id		NOT RB030	
RB230	Mother id		NOT RB030	
RB240	Spouse/partner id		NOT RB030	
RL020	Education at compulsory school	NOT [10..40]		0...50
RL030/40/60	Child-care at centre-based services/day-care center/grand parents			1...50
PB130	Month of birth	AGE <= 105	DATE <= TODATE	
PB140	Year of birth	AGE <= 105	DATE <= TODATE	
PB160	Father id		NOT PB030	
PB170	Mother id		NOT PB030	
PB180	Spouse/partner id		NOT PB030	
PE030	Age completed initial education	<= 13	> AGE	12..80
PL030	Self-defined current activity status	IF PL030 = 4 AND AGE < 50 IF PL030 = 6 AND AGE > 30		
PL060	Number of hours usually worked per week in main job	>= 70		0..168
PL100	Total number of hours usually worked in second, third... jobs	>=40 PL100+PL060>=100		0..168
PY200G	Gross monthly earnings for employees	Hourly NOT [40..500] Weekly NOT [100..7000] "Fortnightly" NOT [100.20000] Monthly NOT [100..50000] Yearly NOT [10000..800000]		
HY080G	Regular inter-household cash transfer received			0..999997

HY130G	Gross regular inter-household cash transfer paid		0..999997
HH030	Number of rooms available to household		0..50
HH031	Year of contract or purchasing or installation		1900..2004
HH060	Current rent related to occupied dwelling, if any	Monthly NOT [500..10000] Quarterly NOT [1500..30000] Yearly NOT [6000..120000]	
HH061	Subjective rent related to non-tenant paying rent at market price	>= 15000	0..99997

Professional coders at Statistics Norway, who also do the coding in the Labour force survey, do coding of occupation and industry. The coding is based on information from the interview, but also with support from registers. Industry is coded from information on the name and address of workplace. This is in most cases gathered from register (for the selected respondents) in advance of the interview. If the respondent confirms this information, no post-interview coding is necessary. Income is also gathered from register, so no editing is necessary.

### 2.3.3 Non-response errors

#### 2.3.3.1 Achieved sample size

- In our database there are 5 765 households that have completed an interview that is accepted.
- In our database there are 11 917 persons who are 16 years or older and are members of households that have completed an interview that is accepted.
- In our database there are 5 765 selected respondents who are members of households that have completed an interview that is accepted.

	2003	2004	2005	2006
Number of household with accepted interview	5852	6046	5991	5765
Number of persons 16 years and older	11709	12113	11912	11917
Number of sample persons with completed interview	5852	6046	5991	5765
Number of household members with completed interview	5715	6064	5921	6152

#### 2.3.3.2 Unit non-response

RA	DB120=11	8368	0,993
	(DB120=all)-(DB120=21)	8424	
RH	DB135=1	5765	0,689
	DB130=all	8368	

RP RB250=11+12+13 11917 0,999  
RB245=1+2+3 11934

$$\text{Ra is: } \frac{8368}{8424} = 0.993$$

$$\text{Rh is: } \frac{5765}{8368} = 0.689$$

$$\text{Rp is: } \frac{11917}{11934} = 0.999$$

Individual non-response rates, NRp is:  $(1-0.993)*100 = 1$

Overall individual non-response rates (\*NRp) are:  $(1-(\text{Ra}*\text{Rh}*\text{Rp}))*100=31,7$

**Table 2.4.2.1. Household response rates. Comparison of results between wave 2004 (t) and wave 2003 (t-1)<sup>3</sup>**

		SAMPLE OUTCOME IN WAVE 2004											
		db135 =1	db135 =2	db120 =22	db130 = 22	db130 = 23	db130 = 24	db130 = 21	db120 = 21	db110 = 3-7	db110 = 10	db120 = 23	Total
SAMPLE OUTCOME IN WAVE 2003													
<b>db130 = 11</b>													
db135 = 1	3243	0	0	11	22	4	200	1	60	0	0	0	3541
db135 = 2	0	0	0	0	0	0	0	0	0	0	0	0	0
DB110 = 8	0	0	0	0	0	0	0	0	0	0	0	0	0
DB110 = 9	3243	0	0	11	22	4	200	1	60	0	0	0	3541
Total	3243	0	0	11	22	4	200	1	60	0	0	0	3541

**Table 2.4.2.2. Household response rates: Comparison of results codes between wave 2005 (t) and wave 2004 (t-1).**

		2005 (t)										
	Db130=11											
	db135 =1	db135 =2	db120 =22	db130 = 22	db130 = 23	db130 = 24	db130 = 21	db120 = 21	db110 = 3-7	db110 = 10	db120 = 23	Total
2004 (t-1)												
db130 = 11												
db135 = 1	2953	0	0	10	25	6	204	0	45	0	0	3243
db135 = 2												
db120 = 22												
NH												
NONH	0	0	0	0	0	0	0	0	0	0	0	0
db130 = 22												
NH												
NONH	8	0	0	1	0	0	1	0	1	0	0	11
db130 = 23												
NH												

<sup>3</sup> Only respondents from all four waves (2003-2006) are included in this and the following two tables

NONH	9	0	0	0	10	0	2	0	0	0	0	21
<b>db130 = 24</b>												
NH												
NONH	2	0	0	0	0	0	2	0	0	0	0	4
db130 = 21												200
db120 = 21												1
db110 = 3-7												60
db110 = 10												0
db130 = 23												22
<b>Total</b>	2972	0	0	11	35	6	209	0	46	0	0	3279
db110 = 8												0
db110 = 9												0

**Table 2.4.2.3. Household response rates: Comparison of results codes between wave 2006 (t) and wave 2006 (t-1).**

	2006 (t)											
	Db130=11											
	Db13 5=1	db135 =2	db120 =22	db130 = 22	db130 = 23	db130 = 24	db130 = 21	db120 = 21	db110 = 3-7	db110 = 10	db120 = 23	Total
<b>2005 (t-1)</b>												
<b>db130 = 11</b>												
db135 = 1	2972	0	0	0	0	0	0	0	0	0	0	2972
db135 = 2												
<b>db120 = 22</b>												
NH												
NONH	0	0	0	0	0	0	0	0	0	0	0	0
<b>db130 = 22</b>												
NH												
NONH	0	0	0	11	0	0	0	0	0	0	0	0
<b>db130 = 23</b>												
NH												
NONH	0	0	0	0	35	0	0	0	0	0	0	0
<b>db130 = 24</b>												
NH												
NONH	0	0	0	0	0	6	0	0	0	0	0	0
db130 = 21												209
db120 = 21												0
db110 = 3-7												46
db110 = 10												0
db130 = 23												35
<b>Total</b>	2972	0	0	11	35	6	0	0	0	0	0	3024
db110 = 8												0
db110 = 9												0

	2004	2005	2006
Wave response rate	0,915	0,911	1,000
Refusal rate	0,056	0,063	0,00
Non-contacted and others	0,029	0,027	0,00
Longitudinal follow-up rate 1 (03-04)	0,926		



Longitudinal follow-up rate 2 (04-05)	0,948		
Longitudinal follow-up rate 3 (05-06)	0,976		
Follow-up ratio			
Achieved sample size	0,915	0,911	1,000

#### **Table 2.3.2.4 Personal interview response rates**

The table for personal interview response rates is not given.

Personal response rates seem less relevant with the Norwegian sampling method and tracing. In Norway the sample persons are the selected respondents. Only the selected respondents are followed from wave t to t+1. The household members who are not selected respondents (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 household members who belong to the household of the selected respondent in the year t and t+1 will not constitute a representative sample. Hence longitudinal analysis will have to use only then sample of selected persons, the sample of all household members cannot be used.

With a household sample all persons in the households in the first wave are sample persons. Then it is relevant to ask f.i. how many from wave t-1 are interviewed in wave t. It is less relevant when the sample is a sample of persons (selected respondents), and when co-residents in the first wave are not considered sample persons that have to be followed in later waves.

Hence we consider that in the case when the sample consists only of selected sample persons the table for personal interview response rates will be similar to the table for household interview response rates.

#### **2.3.3.3 Distribution of household.**

**Table 2.4.4.1 Distribution of households by DB110, DB120, DB130 and DB135. 2006**

<b>HOUSEHOLD STATUS</b>	<b>Total</b>	<b>DB110=1</b>	<b>DB110=2</b>	<b>DB110=3</b>	<b>DB110=7</b>	<b>DB110=9</b>	<b>DB110=10</b>
Number in sample	3300	2835	416	0	46	0	0
Percent	100	85,9	12,6	0,0	1,4	0,0	0,0
<b>RECORD OF CONTACT AT ADDRESS</b>	<b>Total</b>	<b>DB120=11</b>	<b>DB120=21</b>	<b>DB120=22</b>	<b>DB120=23</b>		
Number in sample (DB110=2,8,10)	416	416	0	0	0		
Percent	100	100	0,0	0,0	0,0		
<b>HOUSEHOLDS QUESTIONNAIRE RESULT</b>	<b>Total</b>	<b>DB130=11</b>	<b>DB130=21</b>	<b>DB130=22</b>	<b>DB130=23</b>	<b>DB130=24</b>	

Number in sample (DB120=11 or DB110=1)	3254	2989	210	13	36	6	
Percent	100	91,9	6,5	0,4	1,1	0,2	
<b>HOUSEHOLD INTERVIEW ACCEPTANCE</b>	<b>Total</b>	<b>DB135=1</b>	<b>DB135=2</b>				
Number in sample (DB130=11)	2989	2989	0				
Percent	100	100					

#### 2.3.3.4 Distribution of persons by membership status

**Table 2.4.4.2. Distribution of persons by membership status (RB110). 2006.**

			<b>Current household members</b>				<b>Not current household members</b>		
		Total	RB110 =1	RB110=2	RB110=3	RB110=4	RB120=2-4	RB110=6	RB110=7
Total		7730	7102	0	172	98	351	4	3
Percent		100	91,9	0,0	2,2	1,3	4,5	0,1	0,0

#### 2.3.3.5 Item non-response

**Table 2.4.5.1 Distribution of item non-response.**

	<b>A</b>	<b>B</b>	<b>C</b>
	% of household having received an amount	% of household with missing values (before imputation) <sup>4</sup>	% of household with partial information (before imputation) <sup>3</sup>
Total household gross income		100	
Total disposable household income		100	
Total disposable household income before social transfers other than old-age and survivors benefits		100	
<b>Gross income component at household level</b>			
Gross income from rental of a property of land		2	
Family related allowances		41	
Social assistance		4	
Housing allowances		2	
Regular inter-household cash transfer received		10	
Gross interest dividends, profit from capital investments in unincorporated business		99	
Gross regular inter-household cash transfer paid		13	
Tax on income and social contributions		97	

<sup>4</sup> Since information on income is taken from register there are no missing values.

**Gross income component at personal level**

Gross employee or near cash income	76
Gross non-cash employee income	1
Contributions to individual pensions schemes	3
Gross cash benefits or losses from self-employment (including royalties)	10
Gross regular pension from private schemes (other than those covered under ESSPROS)	3
Gross unemployment benefits	4
Gross old-age benefits	16
Gross survivor benefits	1
Gross sickness benefits	13
Gross disability benefits	14
Education-related allowances	9

**Table 2.4.5.2. Number of observations and total item non-response.**

	Number of sample observation	Number of sample observation not taken into account due to item non- response	Non- response at individual level (if applicable	Non- response at household level
<b>At risk of poverty rate by gender</b>				
Males	7821			
Females	7670			
<b>At risk of poverty rate by age</b>				
Under 16	3558			
16-24	2204			
25-49	5485			
50-64	2806			
65 years and over	1439			
<b>At risk of poverty by age and gender</b>				
Under 16, males	1801			
Under 16, female	1756			
16-24, male	1173			
16-24, female	1031			
25-49, male	2679			
25-49, female	2806			
50-64, male	1448			
50-64, female	1358			
65 years and over, male	720			
65 years and over, female	719			

**At risk of poverty by gender and main activity, persons 16 and over**

Employed, male	3789
Employed, female	3304
Unemployed, male	73
Unemployed, female	93
Retired, male	655
Retired, female	661
Other inactive, male	353
Other inactive, female	705

**At risk of poverty rate by tenure status**

Owner or rent free	13656
Tenant	1760
Missing	76

**At risk of poverty rate by household type**

One person, under 65 years	751
One person, 65 years and over	293
One person, male	528
One person, female	516
One person household, total	1044
Two adults under 65 years, no dependent children	2749
Two adults, other, no dependent children	744
Other household without dependent children	1927
Single parent households with dependent children	451
Two adults, one dependent child	1360
Two adults, two dependent children	2601
Two adults, three or more dependent children	1734
Other household with dependent children	2769
Households without dependent children	6464
Households with dependent children	8915
Missing	113

## 2.4 Mode of data collection

**Table 2.4.1. Distribution of household members aged 16 and over by RB250, 2003-2006.**

<b>HOUSEHOLD MEMBERS 16+ (RB245 = 1 TO 3)</b>										
<b>2003</b>										
	Total	RB250=11	RB250=12	RB250=13	RB250=21	RB250=22	RB250=23	RB250=31	RB250=32	RB250=33
Total	7204	0	107	7089	0	0	0	0	0	8
%	100	-	1,5	98,4	-	-	-	-	-	0,1
<b>2004</b>										
	Total	RB250=11	RB250=12	RB250=13	RB250=21	RB250=22	RB250=23	RB250=31	RB250=32	RB250=33
Total	6561	0	14	6520	0	0	0	1	0	27
%	100	-	0,2	99,4	-	-	-	0	-	0,4
<b>2005</b>										
	Total	RB250=11	RB250=12	RB250=13	RB250=21	RB250=22	RB250=23	RB250=31	RB250=32	RB250=33
Total	5934	0	20	5876	0	1	19	12	0	6
%	100	-	0,3	99,0	-	0,0	0,3	0,2	-	0,1

<b>2006</b>										
	Total	RB250=11	RB250=12	RB250=13	RB250=21	RB250=22	RB250=23	RB250=31	RB250=32	RB250=33
Total	5606	0	112	5490	0	0	0	0	0	4
%	100	-	2,0	97,9	-	-	-	-	-	0,1
<b>SAMPLE PERSONS 16+ (RB245 = 1 TO 3 AND RB100 = 1)</b>										
<b>2003</b>										
	Total	RB250=11	RB250=12	RB250=13	RB250=21	RB250=22	RB250=23	RB250=31	RB250=32	RB250=33
Total	3541	0	0	3541	0	0	0	0	0	0
%	100	-	-	100,0	-	-	-	-	-	-
<b>2004</b>										
	Total	RB250=11	RB250=12	RB250=13	RB250=21	RB250=22	RB250=23	RB250=31	RB250=32	RB250=33
Total	3260	0	0	3260	0	0	0	0	0	0
%	100	-	-	100,0	-	-	-	-	-	-
<b>2005</b>										
	Total	RB250=11	RB250=12	RB250=13	RB250=21	RB250=22	RB250=23	RB250=31	RB250=32	RB250=33
Total	2989	0	0	2989	0	0	0	0	0	0
%	100	-	-	100,0	-	-	-	-	-	-
<b>2006</b>										
	Total	RB250=11	RB250=12	RB250=13	RB250=21	RB250=22	RB250=23	RB250=31	RB250=32	RB250=33
Total	2865	0	0	2865	0	0	0	0	0	0
%	100	-	-	100,0	-	-	-	-	-	-
<b>CO-RESIDENTS 16+ (RB245 = 1 TO 3 AND RB100 = 2)</b>										
<b>2003</b>										
	Total	RB250=11	RB250=12	RB250=13	RB250=21	RB250=22	RB250=23	RB250=31	RB250=32	RB250=33
Total	3663	0	107	3548	0	0	0	0	0	8
%	100	-	2,9	96,9	-	-	-	-	-	0,2
<b>2004</b>										
	Total	RB250=11	RB250=12	RB250=13	RB250=21	RB250=22	RB250=23	RB250=31	RB250=32	RB250=33
Total	3301	0	14	3260	0	0	0	0	0	27
%	100	-	0,4	98,8	-	-	-	-	-	0,8
<b>2005</b>										
	Total	RB250=11	RB250=12	RB250=13	RB250=21	RB250=22	RB250=23	RB250=31	RB250=32	RB250=33
Total	2945	0	20	2887	0	1	19	12	0	6
%	100	-	0,7	98,0	-	0,0	0,7	0,4	-	0,2
<b>2006</b>										
	Total	RB250=11	RB250=12	RB250=13	RB250=21	RB250=22	RB250=23	RB250=31	RB250=32	RB250=33
Total	2741	0	112	2625	0	0	0	0	0	4
%	100	-	4,1	95,8	-	-	-	-	-	0,2

**Table 2.4.2. Distribution of household members by RB260, 2003-2006.**

<b>HOUSEHOLD MEMBERS 16+ (RB245 = 1 TO 3) AND RB250 = 11 OR 13</b>										
<b>2003</b>										
	Total	RB260=1	RB260=2	RB260=3	RB260=4	RB260=5	MISSING			
Total	7089	0	37	4423	0	2625	4			
%	100	-	0,5	62,4	-	37,0	0,1			
<b>2004</b>										
	Total	RB260=1	RB260=2	RB260=3	RB260=4	RB260=5	MISSING			
Total	6520	0	10	4275	0	2231	4			
%	100	-	0,2	65,6	-	34,2	0,1			
<b>2005</b>										
	Total	RB260=1	RB260=2	RB260=3	RB260=4	RB260=5	MISSING			
Total	5876	0	18	4176	0	1678	4			
%	100	-	0,3	71,1	-	28,6	0,1			
<b>2006</b>										
	Total	RB260=1	RB260=2	RB260=3	RB260=4	RB260=5	MISSING			

Total	5490	0	20	3841	0	1628	1			
%	100	-	0,4	70,0	-	29,7	0,0			
<b>SAMPLE PERSONS 16+ (RB245 = 1 TO 3 AND RB100 = 1) AND RB250 = 11 OR 13</b>										
<b>2003</b>										
	Total	RB260=1	RB260=2	RB260=3	RB260=4	RB260=5	MISSING			
Total	3541	0	27	3510	0	0	4			
%	100	-	0,8	99,1	-	-	0,1			
<b>2004</b>										
	Total	RB260=1	RB260=2	RB260=3	RB260=4	RB260=5	MISSING			
Total	3260	0	6	3253	0	0	1			
%	100	-	0,2	99,8	-	-	0,0			
<b>2005</b>										
	Total	RB260=1	RB260=2	RB260=3	RB260=4	RB260=5	MISSING			
Total	2989	0	16	2970	0	0	3			
%	100	-	0,5	99,4	-	-	0,1			
<b>2006</b>										
	Total	RB260=1	RB260=2	RB260=3	RB260=4	RB260=5	MISSING			
Total	2865	0	12	2852	0	0	1			
%	100	-	0,4	99,6	-	-	0,0			
<b>CO-RESIDENTS 16+ (RB245 = 1 TO 3 AND RB100 = 2) AND RB250 = 11 OR 13</b>										
<b>2003</b>										
	Total	RB260=1	RB260=2	RB260=3	RB260=4	RB260=5	MISSING			
Total	3548	0	10	913	0	2625	0			
%	100	-	0,3	25,7	-	74,0	-			
<b>2004</b>										
	Total	RB260=1	RB260=2	RB260=3	RB260=4	RB260=5	MISSING			
Total	3260	0	4	1022	0	2231	3			
%	100	-	0,1	31,3	-	68,4	0,1			
<b>2005</b>										
	Total	RB260=1	RB260=2	RB260=3	RB260=4	RB260=5	MISSING			
Total	2887	0	2	1206	0	1678	1			
%	100	-	0,1	41,8	-	58,1	0,0			
<b>2006</b>										
	Total	RB260=1	RB260=2	RB260=3	RB260=4	RB260=5	MISSING			
Total	2625	0	8	989	0	1628	0			
%	100	-	0,3	37,7	-	52,0	-			

## 2.5 Imputation procedure

In the estimation of HH070, imputations are made on item non-response for items apart from rent and interests on mortgage:

Insurance: Average values based on dwelling size (7 groups based on sqm) are imputed for those with item non-response.

Service bills: Imputed by same method as insurance.

Utility bills: Average values based on dwelling type and size (13 groups) are imputed for those with item non-response.

Imputation for one or more items are done for approximately 40% of all households.

No other imputations are done.

## 2.6 Imputed rent

Imputed rent was not delivered in the 2006 data. It will be included from 2007 on.

## 2.7 Company cars

The value of using a company car is reported in tax registers and included in variable PY020

## 2.8 Interview duration

The total average interview length was approximately 22,7 minutes<sup>1</sup>. This is somewhat less than the estimated interview length of 25 minutes. One reason the proportion of proxy interviewing in our survey. We aim to interview each single household member about their employment status, but only 38 per cent of the household members answered these questions themselves. The second reason for short interview length is of course the usage of information from preceding years of data collection to reduce the burden for the respondents. In a panel survey there may also be a "training effect", where repeated interviews has an effect on both respondents and interviewers.

# 3. Comparability

## 3.1 Basic concepts and definitions

### The reference population

The reference population is persons aged 16 years or more at December 31 2005 who are living outside an institution.

### The private household definition

A private household is defined as individuals that share food, meaning that they either do not pay for their food or that they share expenses for food. The definition does not require that they eat at the same times or that they are related.

### The household membership

Persons will be considered as household members if they spend most of their nights at the address of the household.

1. A spouse/cohabitant who registered at the household address but is absent from the dwelling because of work, education or conscription is still considered a member of the household. In case the spouse/cohabitant have moved from the dwelling but juridical still owns (part of) the dwelling is not considered as a member of the household.
2. Persons aged 18 years and more who are absent because of education are considered members of the household if they spend a minimum of 4 days a week at the address of the household.
3. Persons aged 17 years and younger who are absent because of education are considered as members of the household.

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<sup>1</sup> Average estimated by excluding all recorded interviews lasting less than 5 and more then 120 minutes. Recording of interview time may be disturbed if the interviewer either forgets to close the electronic questionnaire, or opens it after completing the interview to make corrections.

4. Persons temporarily absent from the dwelling for less than 6 months are not considered as permanent residents unless they do not have a private address elsewhere.

5. Persons in institutions (including children) and in private care are considered as living permanently at their place of residence if the stay exceeds 6 months. Individuals admitted to hospitals or imprisoned are considered as permanent residents where they had their last place of permanent residency.

6. Persons in conscription service are members of the household that they were members of before the conscription.

#### The income reference period

The income reference period is the calendar year n-1.

#### The period for taxes on income and social insurance contributions

The period for taxes on income and social insurance contributions is the calendar year n-1.

#### The reference period for taxes on wealth

The reference period for taxes on wealth is the calendar year n-1.

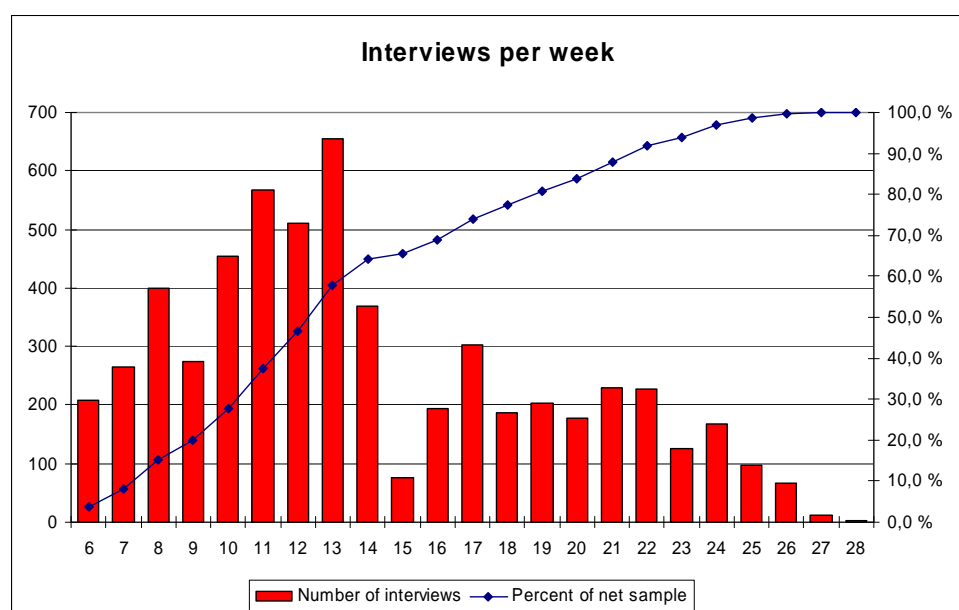
#### The lag between the income reference period and current variables

The income variables are collected from registers and the interval between the end of the income reference period and the time of interview for current variables is maximum 6 months

#### The total duration of the data collection of the sample , 2006

The interviews were carried out starting 6 February and ending 11 July. Figure 3.1 shows the number of interviews for every week of the data collection period. The line in the figure shows that by week 17, approximately 74 percent of the interviews were completed. The drop in number of interviews in week 15 can be explained by the Easter holidays.

**Figure 3.1 Number of interviews per week**



The basic concepts remain basically unchanged from 2003 to 2006.



## 3.2. Components of income

### 3.2.1 Differences between the national definitions and standard EU-SILC definitions, and an assessment of the consequences of the differences mentioned in respect to target variables.

This section gives an overview of how income data from registers have been organised in order to compare with income concepts outlined in the EU-SILC guidelines. In addition references are made to any departures from these guidelines.

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 item). This also concerns typically ‘household’ related income such as housing benefits and social assistance. Register data also includes the income of children aged 13-16 years at the individual level. The income of children aged 12 and younger are, however, included in their parent’s income (e.g. interest received).

#### Total household gross income (HY010):

The sum of all components: HY040G + HY050G + HY060G + HY070G + HY080G + HY090G + the sum for all household members of: PY010G + PY020G + PY050G + PY090G + PY100G + PY110G + PY120G + PY130G + PY140G.

Comments: HY030G (imputed rent) is not calculated. Hence HY100G (interest paid on mortgages) has not been deducted when constructing HY010.

#### Total disposable income (HY020):

Defined as Total gross income minus (HY130G + HY140G).

Note: HY120G (regular taxes on wealth) is included in HY140G and HY100G (interest on mortgage) has not been calculated.

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

Defined as HY020 minus the sum for all household members of: (PY090N + PY120N + PY130N + PY140N) + HY050N + HY060N + HY070N.

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

Defined as HY020 minus the sum for all household members of: (PY090N + PY100N + PY110N + PY120N + PY130N + PY140N) + HY050N + HY060N + HY070N.

#### Income from rental of property or land (HY040G)

Defined as net income from rentals (buildings, dwellings, land etc.)

#### Family/children-related allowances (HY050)

Includes the following components:

- child allowance
- maternity benefits (daily cash benefit for working mothers and lump sum benefit for non-working mothers)
- cash-for-care benefit
- child support for single parents (education and childcare)
- transitional benefit to single parents

Deviation from the SILC concept:

The current register data covers only roughly 50% of the total amount paid out in daily cash maternity benefit. The remaining amount is included in PY010 (Gross employee cash or near cash income).

Social assistance (HY060):

Includes the total amount received in social assistance (benefits and loans).

Housing allowance (HY070):

Includes dwelling support in cash received by renters and owner-occupiers.

Deviation from the SILC concept:

The benefit from renting a subsidised dwelling is not included in the income concept.

Regular inter-household cash transfer received (HY080):

Includes alimonies and paid maintenance from former spouse (or advance payment from the government). Information on regular private cash support received by children living in separate households (e.g. students) is collected from the interview.

Interest, dividends, profit from capital investment in unincorporated business ((HY090):

Interest and dividends are taxable income. In addition some other minor income items are included, e.g. profit from life insurance and certain types of income from abroad (lottery winnings etc.).

Regular taxes on wealth (HY120):

Included in HY140: Total tax on income.

Regular inter-household cash transfer paid (HY130):

Includes paid maintenance to children and former spouse (alimony). These payments appear as deductions in the tax return. Information on regular cash support provided by parents to children living in separate households (e.g. students) is included from the interview.

Total tax on income and social contribution (HY140):

Include assessed income and wealth taxes and social contributions.

Deviation from the SILC concept:

The variable includes both taxes on income and wealth. It is difficult to identify each tax components because all taxes are recorded net, i.e. after special tax deductions (e.g. special tax deduction for residents of Finnmark, tax deduction for received dividends, tax deduction for low-income households etc.).

Gross Employee Cash income (PY010):

Defined as the sum of all wages and salaries including overtime, holiday pay, tips and bonuses.

Deviations from the SILC concept:

- payments to foster parents (included in wages, cannot be separated from wages)
- severance and termination pay ( ----- “ -----)

- sickness benefits that are not directly paid out to the employee (i.e. compensation from the Social Security Scheme to the employer)

With the exception of sickness benefits these deviations are expected to be of a minor importance.

Gross non-cash employee income (PY020);

Include the estimated value of using a company car.

Cash benefits or losses from self-employment (PY050);

Entrepreneurial income is collected net in register data. Gross cash losses thus appear as negative amounts.

Deviation from the SILC concept:

It has not been possible to identify – and thus deduct from self-employment income – interest paid on business loans.

Non-cash income from self-employment – value of own goods for own consumption (PY070);

The tax-assessed benefit from consuming own goods (estimated by the tax authorities) is included in gross cash income from self-employment (PY050).

Unemployment benefits (PY090);

Includes unemployment benefits for employees and unemployment benefits for the self-employed.

Deviation from the SILC concept:

No information available on benefits (in-kind) related to vocational training.

Old-age function (PY100);

Include old-age pension from the social security system and occupational pensions.

Deviation from the SILC concept:

It was not possible to split the different types of occupational pensions into different functions, e.g. old-age, disability or survivor's pension. Instead all types of occupational pensions have been included under the old-age function.

Survivor's benefits (PY110);

Includes survivor's pension from the National Insurance Scheme. In addition several minor income items have been included that are received mainly by survivors, e.g. tax-free wage income and holiday pay earned by the deceased.

Deviation from the SILC concept:

Not possible to include funeral grants in the income concept. This benefit is transferred directly to the firm of undertakers.

Social benefits in the sickness (PY120);

Includes sickness benefits paid by the National Insurance Scheme directly to the employee (i.e. after day 16 of sickness).

Deviation from the SILC concept:

The current register data covers only roughly 50% of the total amount paid out in daily cash sickness benefit. The remaining amount (compensation to the employer) is included in PY010 (Gross employee cash or near cash income).

Disability benefits (PY130):

Include disability pension from the National Insurance Scheme, basic and attendance benefit and rehabilitation benefits.

Deviation from the SILC concept:

Early retirement benefit is included in occupational pension, i.e. old-age function.

Education related allowances (PY140):

Include student grants from the State Educational Loan Fund.

### 3.2.2 Comparison between the national definition of income and standard EU-SILC definition

For 2003 there are only minor differences in the amount of total income and disposable (after-tax) income based on national definitions and the corresponding figures based on SILC definitions. As is shown in table 1, the difference amounted to about 5 billion NOK (or ca 0.5 per cent) for both income concepts.

The main explanation for the difference between the two income definitions is that the national definition comprises some income items that are not part of the SILC income definition. This is for example the case for certain fringe benefits other than company cars (e.g. free newspapers and telephone, low-interest loans, private insurance paid by employers etc.). In addition the SILC definition does not include *capital gains*, while this is the case in the national definition. In 2003 this income item amounted to a negative value of roughly 2 billion NOK in Norway. Finally, the national definition includes payments from a private pension scheme. Although this item is collected in SILC (PY080G), it is not included in the definition of income.

**Table 3.2.2.1 Total gross income and disposable income. Billion NOK. 2003**

	SILC definition	National definition	Difference
Total Gross income	975,0	979,8	4,8
Disposable income <sup>1</sup>	734,5	739,3	4,8

<sup>1</sup> In the national definition this income concept refers to 'After-tax income'.

In addition there are differences between national practice and SILC in income definitions at the component level, although these differences have almost no impact on total gross income and disposable income. In the definition of employee income (wages and salaries) the national definition for example includes sickness benefit and maternity allowance, while in the SILC definition these components are considered part of transfers. For self-employment income sickness benefit is again included in the national definition, but not in the SILC definition (transfer). In addition several types of pensions are specified in the SILC income concept (e.g.

old-age pension, disability pension and survivor's pension), while in the national definition these programmes are all part of 'Social security benefits'.

**Table 3.2.2.2 Comparison of income components. The national definition and EU-SILC. Billion NOK. 2003**

<b>Income component</b>	<b>SILC</b>	<b>National definition</b>
Employee income	607,5	627,3
Self-employment income	48,7	50,6
Property income	86,8	84,9
Transfers received	232,0	216,9
Total income	975,0	979,8
Taxes and negative transfers	240,5	240,5
Disposable (after-tax) income	734,5	739,3

### **3.2.3. The source used for the collection of income variables**

All income data in the EU-SILC are collected from various administrative and statistical registers. The main registers used are:

(a) The Tax Return Register

(Employee income, self-employment income, taxable pensions etc.)

(b) The Tax Register for Personal Tax Payers

(Assessed taxes, social security contributions)

(c) National Insurance Service

(Family allowances, attendance benefits, cash-for-care, child care benefits to single parents)

(d) Register for end-of-the-year Certificates

(Unemployment benefits, sickness and maternity allowance, company car),

(e) State Educational Loan Fund

(Education related benefits),

(f) The State Housing Bank

(Dwelling support)

(g) Social statistics

(Social assistance)

A comprehensive data file on income is created by linking the total resident population to all the different income registers. The key that links the individual to the registers is the Personal Identification Number.

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

The register data only report gross income at component level. Total assessed taxes and contribution to social security are collected separately from tax registers.

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

All income data recorded gross at component level.

### **3.3 Tracing rules**

In the Norwegian EU-SILC the respondent (person/selected respondent) is selected from the population register. All household members of the selected respondent are included in the survey. If the household composition changes between waves, household members are not traced. We only trace the selected respondent. Tracing is done by using updated data from the population register, data from the previous data collection and by searching for phone numbers. The interviewer can also apply different ad-hoc methods to trace respondents.

## **4. COHERENCE**

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

With the exception of inter-household transfers all the income data in SILC are from register. Hence, in our opinion, there is no point in comparing the results from SILC-Norway with external sources since the source we would compare with is the source used in SILC-Norway. In 3.2.1 we compared with national definitions. If we compare SILC-Norway with information from register using SILC-definitions we will only measure the effects of non-response that are not corrected through weighting.