

# **Final Quality Report**

**relating to the**

# **EU-SILC 2007 Operation**

**Version 3**

## **Denmark**

Copenhagen 2010

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## **1. COMMON LONGITUDINAL EUROPEAN UNION INDICATORS**

The micro data transmitted to Eurostat includes all longitudinal indicators as stipulated in the regulation.

## **2. ACCURACY**

### **2.1 Sample design**

#### **2.1.1 Type of sampling design (stratified, multi-stage, clustered)**

Denmark has adopted the 4-year rotational integrated design recommended by Eurostat. The sample is drawn as a sample of persons. The sub-samples are sampled by simple random sampling.

#### **2.1.2 Sampling units (one stage, two stages)**

The sample is a one stage sample. The sampling unit is the individual person (the selected person). The current household of the selected person is defined as the household of which the selected person is member at the beginning of the survey year (1 January). The sampling frame is all persons aged 13+ living in private households. Only households, where selected person are 16 or more at the beginning of the survey year, are surveyed.

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

Not applicable, the sample was drawn in a simple random sampling procedure.

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

Longitudinal Component 2007 is based on 4 subsamples (rotational groups) selected in 2004, 2005, 2006 and 2007 respectively. For each sub-sample up to 2006 2.500 households have been selected. The 2007-subsample was enlarged to 3.500 households. Not all of them are eligible cf. chapter 2.1.2

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

Not applicable, since Denmark use simple random sampling.

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

The sample is not distributed over time.

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

Longitudinal Component 2007 consisted of 3 sequences ending in 2007. One sequence covering 2004-2007, one sequence covering 2005-2007 and one sequence covering 2006-2007.

Table 2.1.7.a shows the composition of the 2007 cross-sectional sample, which is the basis of the longitudinal component. See also chapter 2.3.1.

**Table 2: Renewal of the 2007 cross-sectional**

	<i>Selected 2004</i>	<i>Selected 2005</i>	<i>Selected 2006</i>	<i>Selected 2007</i>	<i>Total</i>
Number initially selected	2.500	2.500	2.500	3.500	10.000
- selected person out of scope	131	96	44	0	271
- selected person not 16+	0	39	76	143	258
Number in the sample	2.369	2.365	2.368	2.875	9.971

Notes:

Out of scope includes

- selected persons, who have moved to a collective household or institution within the country,
- selected persons, who have moved outside the country and
- selected persons, who have died

Selected persons not 16+ includes

- persons below 16 selected for the survey but not yet included cf. section 2.1.2

## 2.1.8 Weightings

### 2.1.8.1 Design Factor

The design effect (or design factor) compares the variance of two different estimators. That is the actual estimator in use and a simple estimator exploiting no auxiliary information in the estimation. Thus the design effect indicates the loss/gain in precision as a consequence of the choice of estimator. A design effect below 1 indicates an improved estimator, whereas a design effect above 1 indicates a decrease in precision. In this case the actual estimator is the regression estimator and the auxiliary information in use is strongly correlated with variables in the survey. The design factor is 1.

### 2.1.8.2 Non-response Adjustments

Calibration using external data.

### 2.1.8.3 Adjustments to external data

The following variables have been used in the calibration:

- Sex
- Age
- Equivalised income group of household to which person belongs (3 classes: below 'at risk of poverty threshold', between 'at risk of poverty threshold' and median, above median), where the 'at risk of poverty threshold' is defined as 60% of the median of the equivalised income of all persons in the population.
- Poverty: Indication whether the household is below or above the 'at risk of poverty threshold'.
- Net family income in household to which person belongs
- Type of family
- Highest level of education of person
- Highest education obtained (according to the register) of the person with the highest education in the household
- Economic status of person

- Economic status of person with highest education in the household

#### 2.1.8.4 Final longitudinal weights

Since the longitudinal sample consists only of households participating in the entire longitudinal period (2, 3 or 4 years) the weights are summing to a total less than the population. Hence the weights have been rescaled, that is adjusted to external population data.

#### 2.1.9 Substitutions

No substitution.

##### 2.1.9.1 Method of selection of substitutes

No substitution.

##### 2.1.9.2 Main characteristics of substituted units.

No substitution

##### 2.1.9.3 Distribution of substituted units by record of contact at address etc.

No substitution

#### 2.2 Sampling errors

Standard errors for the longitudinal part are not calculated.

As figures on imputed rent until 2005 is not comparable with figures from 2006 and onwards the values is declared not applicable (na).

Table 2.2.a.1: Mean, total number of observations (before and after imputation) and the standard error. Income variables reported at household level. The cross-sectional component 2007.				
	Weighted mean (Weight=DB090)	Number of observations		Standard error
		Before imputations	After imputations	
HY010: TOTAL HOUSEHOLD GROSS INCOME	404.571	5783	5783	na
HY020: TOTAL DISPOSABLE HOUSEHOLD INCOME	263.804	5783	5783	na
HY022: TOTAL DISPOSABLE HOUSEHOLD INCOME BEFORE SOCIAL TRANSFERS OTHER THAN OLDAGE AND SURVIVOR'S BENEFITS	224.494	5783	5783	na
HY023: TOTAL DISPOSABLE HOUSEHOLD INCOME BEFORE SOCIAL	193.001	5783	5783	na

TRANSFERS INCLUDING OLDAGE AND SURVIVOR'S BENEFITS				
HY025: WITHIN-HOUSEHOLD NON-RESPONSE INFLATION FACTOR	na	na	na	na
HY030G: IMPUTED RENT	na	na	na	na
HY040G: INCOME FROM RENTAL OF A PROPERTY OR LAND	303	5783	5783	na
HY050G: FAMILY/CHILDREN RELATED ALLOWANCES	5.648	5783	5783	na
HY060G: SOCIAL EXCLUSION NOT ELSEWHERE CLASSIFIED	na	na	na	na
HY070G: HOUSING ALLOWANCES	3.684	5783	5783	na
HY080G: REGULAR INTER-HOUSEHOLD CASH TRANSFER RECEIVED	1.134	5783	5783	na
HY090G: INTEREST, DIVIDENDS, PROFIT FROM CAPITAL INVESTMENTS IN UNINCORPORATED BUSINESS	7.796	5783	5783	na
HY100G: INTEREST REPAYMENTS ON MORTGAGE	17.640	5783	5783	na
HY110G: INCOME RECEIVED BY PEOPLE AGED UNDER 16	549	5783	5783	na
HY120G/HY120N: REGULAR TAXES ON WEALTH	4.295	5783	5783	na
HY130G: REGULAR INTER-HOUSEHOLD CASH TRANSFER PAID	736	5783	5783	na
HY140G: TAX ON INCOME AND SOCIAL CONTRIBUTIONS	135.735	5783	5783	na
HY145N: REPAYMENTS/RECEIPTS FOR TAX ADJUSTMENT	na	na	na	na

Table 2.2.a.2: Mean, total number of observations (before and after imputation) and the standard error. Income variables reported at personal level. The cross-sectional component 2007

	Weighted mean weight=pb050	Number of observations		Standard error
		Before imputations	After imputations	
PY010G: EMPLOYEE CASH OR NEAR CASH INCOME	168.089	11.610	11.610	na
PY020G: NON-CASH EMPLOYEE INCOME	1.018	11.610	11.610	na
PY030G: EMPLOYER'S SOCIAL INSURANCE CONTRIBUTION	19.333	na	na	na
PY035G: CONTRIBUTIONS TO INDIVIDUAL PRIVATE PENSION PLANS	na	na	na	na
PY050G: CASH BENEFITS OR LOSSES FROM SELF-EMPLOYMENT	14.218	11.610	11.610	na
PY070G: VALUE OF GOODS PRODUCED BY OWN-CONSUMPTION	na	na	na	na
PY080G: PENSION FROM INDIVIDUAL PRIVATE PLANS	na	na	na	na
PY090G/PY090N: UNEMPLOYMENT BENEFITS	12.516	11.610	11.610	na
PY100G/PY100N: OLD-AGE BENEFITS	26.862	11.610	11.610	na
PY110G: SURVIVOR' BENEFITS	381	11.610	11.610	na
PY120G: SICKNESS BENEFITS	3.135	11.610	11.610	na
PY130G: DISABILITY BENEFITS	9.994	11.610	11.610	na
PY140G: EDUCATION-RELATED ALLOWANCES	3.008	11.610	11.610	na
PY200G: GROSS MONTHLY EARNINGS FOR EMPLOYEES	na	na	na	na

Table 2.2.b.1: Mean, total number of observations (before and after imputation) and the standard error. Income variables reported at household level. The longitudinal component 2006

	Weighted mean (Weight=DB090)	Number of observations		Standard error
		Before imputations	After imputations	
HY010: TOTAL HOUSEHOLD GROSS INCOME	390.570	3.714	3.714	na
HY020: TOTAL DISPOSABLE HOUSEHOLD INCOME	255.586	3.714	3.714	na
HY022: TOTAL DISPOSABLE HOUSEHOLD INCOME BEFORE SOCIAL TRANSFERS OTHER THAN OLDAGE AND SURVIVOR'S BENEFITS	214.315	3.714	3.714	na
HY023: TOTAL DISPOSABLE HOUSEHOLD INCOME BEFORE SOCIAL TRANSFERS INCLUDING OLDAGE AND SURVIVOR'S BENEFITS	184.362	3.714	3.714	na
HY025: WITHIN-HOUSEHOLD NON-RESPONSE INFLATION FACTOR	na	na	na	na
HY030G: IMPUTED RENT	na	na	na	na
HY040G: INCOME FROM RENTAL OF A PROPERTY OR LAND	324	3.714	3.714	na
HY050G: FAMILY/CHILDREN RELATED ALLOWANCES	5.646	3.714	3.714	na
HY060G: SOCIAL EXCLUSION NOT ELSEWHERE CLASSIFIED	na	na	na	na
HY070G: HOUSING ALLOWANCES	3.475	3.714	3.714	na
HY080G: REGULAR INTER-HOUSEHOLD CASH TRANSFER RECEIVED	916	3.714	3.714	na
HY090G: INTEREST, DIVIDENDS, PROFIT FROM CAPITAL INVESTMENTS IN UNINCORPORATED BUSINESS	3.771	3.714	3.714	na
HY100G: REST REPAYMENTS ON MORTGAGE	16.520	3.714	3.714	na
HY110G: INCOME RECEIVED BY PEOPLE AGED UNDER 16	554	3.714	3.714	na
HY120G/HY120N: REGULAR TAXES ON WEALTH	4.395	3.714	3.714	na

HY130G: REGULAR INTER-HOUSEHOLD CASH TRANSFER PAID	776	3.714	3.714	na
HY140G: TAX ON INCOME AND SOCIAL CONTRIBUTIONS	129.813	3.714	3.714	na
HY145N: REPAYMENTS/RECEIPTS FOR TAX ADJUSTMENT	na	na	na	na

Table 2.2.b.2: Mean, total number of observations (before and after imputation) and the standard error. Income variables reported at personal level. The longitudinal component 2006

	Weighted mean (Weight=PB050)	Number of observations		Standard error
		Before imputations	After imputations	
PY010G: EMPLOYEE CASH OR NEAR CASH INCOME	162.380	7.375	7.375	na
PY020G: NON-CASH EMPLOYEE INCOME	1.003	7.375	7.375	na
PY030G: EMPLOYER'S SOCIAL INSURANCE CONTRIBUTION	na	7.375	7.375	na
PY035G: CONTRIBUTIONS TO INDIVIDUAL PRIVATE PENSION PLANS	na	na	na	na
PY050G: CASH BENEFITS OR LOSSES FROM SELF-EMPLOYMENT	12.846	7.375	7.375	na
PY070G: VALUE OF GOODS PRODUCED BY OWN-CONSUMPTION	na	na	na	na
PY080G: PENSION FROM INDIVIDUAL PRIVATE PLANS	na	na	na	na
PY090G/PY090N: UNEMPLOYMENT BENEFITS	14.227	7.375	7.375	na
PY100G/PY100N: OLD-AGE BENEFITS	25.377	7.375	7.375	na
PY110G: SURVIVOR' BENEFITS	379	7.375	7.375	na
PY120G: SICKNESS BENEFITS	3.578	7.375	7.375	na
PY130G: DISABILITY BENEFITS	9.776	7.375	7.375	na
PY140G: EDUCATION-RELATED ALLOWANCES	2.756	7.375	7.375	na
PY200G: GROSS MONTHLY EARNINGS FOR EMPLOYEES	na	na	na	na

Table 2.2.c.1: Mean, total number of observations (before and after imputation) and the standard error. Income variables reported at household level. The longitudinal component 2005

	Weighted mean (Weight=DB090)	Number of observations		Standard error
		Before imputations	After imputations	
HY010: TOTAL HOUSEHOLD GROSS INCOME	384.311	2.688	2.688	na
HY020: TOTAL DISPOSABLE HOUSEHOLD INCOME	251.016	2.688	2.688	na
HY022: TOTAL DISPOSABLE HOUSEHOLD INCOME BEFORE SOCIAL TRANSFERS OTHER THAN OLDAGE AND SURVIVOR'S BENEFITS	208.982	2.688	2.688	na
HY023: TOTAL DISPOSABLE HOUSEHOLD INCOME BEFORE SOCIAL TRANSFERS INCLUDING OLDAGE AND SURVIVOR'S BENEFITS	184.245	2.688	2.688	na
HY025: WITHIN-HOUSEHOLD NON-RESPONSE INFLATION FACTOR	na	na	na	na
HY030G: IMPUTED RENT	na	na	na	na
HY040G: INCOME FROM RENTAL OF A PROPERTY OR LAND	517	2.688	2.688	na
HY050G: FAMILY/CHILDREN RELATED ALLOWANCES	5.612	2.688	2.688	na
HY060G: SOCIAL EXCLUSION NOT ELSEWHERE CLASSIFIED	na	na	na	na
HY070G: HOUSING ALLOWANCES	2.739	2.688	2.688	na
HY080G: REGULAR INTER-HOUSEHOLD CASH TRANSFER RECEIVED	855	2.688	2.688	na
HY090G: INTEREST, DIVIDENDS, PROFIT FROM CAPITAL INVESTMENTS IN UNINCORPORATED BUSINESS	2.538	2.688	2.688	na
HY100G: INTEREST REPAYMENTS ON MORTGAGE	17.715	2.688	2.688	na
HY110G: INCOME RECEIVED BY PEOPLE AGED UNDER 16	667	2.688	2.688	na
HY120G/HY120N: REGULAR	4.276	2.688	2.688	na

TAXES ON WEALTH				
HY130G: REGULAR INTER-HOUSEHOLD CASH TRANSFER PAID	674	2.688	2.688	na
HY140G: TAX ON INCOME AND SOCIAL CONTRIBUTIONS	128.346	2.688	2.688	na
HY145N: REPAYMENTS/RECEIPTS FOR TAX ADJUSTMENT	na	na	na	na

Table 2.2.c.2: Mean, total number of observations (before and after imputation) and the standard error. Income variables reported at personal level. The longitudinal component 2005

	Weighted mean (Weight=PB050)	Number of observations		Standard error
		Before imputations	After imputations	
PY010G: EMPLOYEE CASH OR NEAR CASH INCOME	161.926	5.354	5.354	na
PY020G: NON-CASH EMPLOYEE INCOME	1.156	5.354	5.354	na
PY030G: EMPLOYER'S SOCIAL INSURANCE CONTRIBUTION	na	na	na	na
PY035G: CONTRIBUTIONS TO INDIVIDUAL PRIVATE PENSION PLANS	na	na	na	na
PY050G: CASH BENEFITS OR LOSSES FROM SELF-EMPLOYMENT	12.457	5.354	5.354	na
PY070G: VALUE OF GOODS PRODUCED BY OWN-CONSUMPTION	na	na	na	na
PY080G: PENSION FROM INDIVIDUAL PRIVATE PLANS	na	na	na	na
PY090G/PY090N: UNEMPLOYMENT BENEFITS	16.149	5.354	5.354	na
PY100G/PY100N: OLD-AGE BENEFITS	20.876	5.354	5.354	na
PY110G: SURVIVOR' BENEFITS	425	5.354	5.354	na
PY120G: SICKNESS BENEFITS	2.822	5.354	5.354	na
PY130G: DISABILITY BENEFITS	9.980	5.354	5.354	na
PY140G: EDUCATION-RELATED ALLOWANCES	2.578	5.354	5.354	na
PY200G: GROSS MONTHLY EARNINGS FOR EMPLOYEES	na	na	na	na

Table 2.2.d.1: Mean, total number of observations (before and after imputation) and the standard error. Income variables reported at household level. The longitudinal component 2004

	Weighted mean (Weight=DB090)	Number of observations		Standard error
		Before imputations	After imputations	
HY010: TOTAL HOUSEHOLD GROSS INCOME	392.473	1.477	1.477	na
HY020: TOTAL DISPOSABLE HOUSEHOLD INCOME	252.549	1.477	1.477	na
HY022: TOTAL DISPOSABLE HOUSEHOLD INCOME BEFORE SOCIAL TRANSFERS OTHER THAN OLDAGE AND SURVIVOR'S BENEFITS	207.221	1.477	1.477	na
HY023: TOTAL DISPOSABLE HOUSEHOLD INCOME BEFORE SOCIAL TRANSFERS INCLUDING OLDAGE AND SURVIVOR'S BENEFITS	182.373	1.477	1.477	na
HY025: WITHIN-HOUSEHOLD NON-RESPONSE INFLATION FACTOR	na	na	na	na
HY030G: IMPUTED RENT	na	na	na	na
HY040G: INCOME FROM RENTAL OF A PROPERTY OR LAND	450	1.477	1.477	na
HY050G: FAMILY/CHILDREN RELATED ALLOWANCES	6.390	1.477	1.477	na
HY060G: SOCIAL EXCLUSION NOT ELSEWHERE CLASSIFIED	na	na	na	na
HY070G: HOUSING ALLOWANCES	2.939	1.477	1.477	na
HY080G: REGULAR INTER-HOUSEHOLD CASH TRANSFER RECEIVED	1.173	1.477	1.477	na
HY090G: INTEREST, DIVIDENDS, PROFIT FROM CAPITAL INVESTMENTS IN UNINCORPORATED BUSINESS	8.254	1.477	1.477	na
HY100G: INTEREST REPAYMENTS ON MORTGAGE	20.328	1.477	1.477	na
HY110G: INCOME RECEIVED PEOPLE AGED UNDER 16	586	1.477	1.477	na
HY120G/HY120N: REGULAR	4.297	1.477	1.477	na

TAXES ON WEALTH				
HY130G: REGULAR INTER-HOUSEHOLD CASH TRANSFER PAID	1.233	1.477	1.477	na
HY140G: TAX ON INCOME AND SOCIAL CONTRIBUTIONS	134.393	1.477	1.477	na
HY145N: REPAYMENTS/RECEIPTS FOR TAX ADJUSTMENT	na	na	na	na

Table 2.2.d.2: Mean, total number of observations (before and after imputation) and the standard error. Income variables reported at personal level. The longitudinal component 2004.

	Weighted mean (Weight=PB050)	Number of observations		Standard error
		Before imputations	After imputations	
PY010G: EMPLOYEE CASH OR NEAR CASH INCOME	155.477	3.015	3.015	na
PY020G: NON-CASH EMPLOYEE INCOME	1.385	3.015	3.015	na
PY030G: EMPLOYER'S SOCIAL INSURANCE CONTRIBUTION	na	3.015	3.015	na
PY035G: CONTRIBUTIONS TO INDIVIDUAL PRIVATE PENSION PLANS	na	3.015	3.015	na
PY050G: CASH BENEFITS OR LOSSES FROM SELF-EMPLOYMENT	12.879	3.015	3.015	na
PY070G: VALUE OF GOODS PRODUCED BY OWN-CONSUMPTION	na	na	na	na
PY080G: PENSION FROM INDIVIDUAL PRIVATE PLANS	na	na	na	na
PY090G/PY090N: UNEMPLOYMENT BENEFITS	15.628	3.015	3.015	na
PY100G/PY100N: OLD-AGE BENEFITS	20.099	3.015	3.015	na
PY110G: SURVIVOR' BENEFITS	342	3.015	3.015	na
PY120G: SICKNESS BENEFITS	3.147	3.015	3.015	na
PY130G: DISABILITY BENEFITS	10.488	3.015	3.015	na
PY140G: EDUCATION-RELATED ALLOWANCES	2.893	3.015	3.015	na
PY200G: GROSS MONTHLY EARNINGS FOR EMPLOYEES	na	na	na	na

Table 2.2.f: Mean, total number of observations (before and after imputation) and the standard error for the equivalised income by sex, age groups and household size. The cross-sectional component 2007

	Weighted mean (Weight=RB060)	Number of observations		Standard error
		Before imputations	After imputations	
Subclasses by household size				
1 house hold member	191.993	699	699	na
2 house hold members	286.153	3.804	3.804	na
3 house hold members	286.484	1.987	1.987	na
4+1 house hold members	243.607	4.263	4.263	na
Population by age group				
< 25	183.663	4.560	4.560	na
25 to 34	185.928	718	718	na
35 to 44	196.764	907	907	na
45 to 54	239.568	1.340	1.340	na
55 to 64	233.332	1.672	1.672	na
Population by sex				
Male	195.706	5.359	5.359	na
Female	191.760	5.394	5.394	na

Table 2.2.g: Mean, total number of observations (before and after imputation) and the standard error for the equivalised income by sex, age groups and household size. The longitudinal component 2006

	Weighted mean (Weight=RB060)	Number of observations		Standard error
		Before imputations	After imputations	
Subclasses by household size				
1 house hold member	133.299	803	803	na
2 house hold members	206.822	3.108	3.108	na
3 house hold members	217.595	1.825	1.825	na
4+1 house hold members	195.658	4276	4276	na
Population by age group				
< 25	189.292	4.590	4.590	na
25 to 34	180.716	714	714	na
35 to 44	203.589	892	892	na
45 to 54	227.462	1.272	1.272	na
55 to 64	218.895	1.372	1.372	na
Population by sex				
Male	194.002	5.020	5.020	na
Female	189.009	4.992	4.992	na

Table 2.2.h Mean, total number of observations (before and after imputation) and the standard error for the equivalised income by sex, age groups and household size The longitudinal component 2005

	Weighted mean (Weight=RB060)	Number of observations		Standard error
		Before imputations	After imputations	
Subclasses by household size				
1 house hold member	144.648	538	538	na
2 house hold members	200.957	1.494	1.494	na
3 house hold members	206.604	956	956	na
4+1 house hold members	197.578	2.566	2.566	na
Population by age group				
< 25	192.506	2.958	2.958	na
25 to 34	175.543	410	410	na
35 to 44	185.890	467	467	na
45 to 54	214.582	579	579	na
55 to 64	199.635	637	637	na
Population by sex				
Male	188.264	2.837	2.837	na
Female	183.480	2.717	2.717	na

Table 2.2.i Mean, total number of observations (before and after imputation) and the standard error for the equivalised income by sex, age groups and household size. The longitudinal component 2004

	Weighted mean (Weight=RB060)	Number of observations		Standard error
		Before imputations	After imputations	
Subclasses by household size				
1 house hold member	132.663	261	261	na
2 house hold members	196.686	717	717	na
3 house hold members	170.641	350	350	na
4+1 house hold members	172.387	798	798	na
Population by age group				
< 25	164.566	1.177	1.177	na
25 to 34	133.520	153	153	na
35 to 44	177.858	106	106	na
45 to 54	202.940	160	160	na
55 to 64	204.872	276	276	na
Population by sex				
Male	166.474	1.097	1.097	na
Female	166.892	1.029	1.029	na

## 2.3. Non-sampling errors

### 2.3.1 Sampling frame and coverage errors

The sample frame is persons aged 13+ living in private household according to the Register of Population Statistics of Statistics Denmark. The register is based on the Central Population Register (CPR). CPR is updated by the municipalities. The register is a continuously updated register.

Main coverage problems:

- persons living in a private household but registered in the register as living in a collective household at the time of selecting the sub-sample. This group will be under-covered in the sub-sample.
- persons, who after the sub-sample were selected, moved into a private Danish household from a collective household in Denmark or from abroad. This group will likewise be under-covered in the sub-sample:

In theory, these groups should be taken into consideration like persons between 13+ and 15+ at the time of sampling, cf. above, but technically it is difficult, and the number of persons involved is small. The number of immigrant is on a yearly basis less than 1 pct. of the population and the number of persons living in collective households is about 1 pct., primarily persons living in old-age homes and homes for other people, who cannot take care of themselves.

If two persons from the same household are selected to a panel, one of them is dropped as a selected person. If a person, who belongs to a household from an earlier still active panel, is selected, the person is likewise dropped as a selected person. The situation, where a household is selected more than once, is only of theoretical interest. The practical importance is negligible.

## **2.3.2 Measurement and processing errors**

### **2.3.2.1 Measurement errors**

The data comes from interviews or from registers. Income and demographic data primarily comes from registers, while social data primarily comes from interviews. The questionnaire does not include other questions than the SILC-questions. The questionnaire includes between 40 and 50 questions dependent on the type of household.

Interview-method was telephone interviewing when feasible and postal questionnaire for other households. The questionnaire was programmed in BLAISE. To obtain contact by telephone at least 5 calls was conducted. Households contacted by mail received one reminder, if they did not respond to the first letter.

The interviews were conducted by the interviewers of Statistics Denmark. In addition to their usual training and education, they got a special introduction to the SILC-questionnaire of 2 hours.

### **2.3.2.2 Processing errors**

The questionnaire is programmed in BLAISE. Several entry controls are built into the questionnaire. The system for processing, checking and editing data is programmed in SAS. Finally, the files are transformed into Eurostat's standard format and tested using the checking program developed by Eurostat.

During the checking procedure errors are corrected.

## **2.3.3 Non-response errors**

### **2.3.3.1. Achieved sample size**

Table 2.3.3.1a Achieved sample size
-------------------------------------

	Total	Rotational group 1	Rotational group 2	Rotational group 3
<b>2004-2007</b>				
Accepted household interviews = accepted interviews of selected persons	921	921	na	na
Accepted personal interviews (total)	3864	3864	na	na
- sample persons	921	921	na	na
- co-residents	2943	2943		
<b>2005-2007</b>				
Accepted household interviews= accepted interviews of selected persons	1970	921	1049	na
Accepted personal interviews	6927	3146	3781	na
- sample persons	1970	921	1049	na
- co-residents	4957	2243	2732	na
<b>2006-2007</b>				
Accepted household interviews= accepted interviews of selected persons	3163	921	1049	1193
Accepted personal interviews	9558	2688	3138	3732
- sample persons	3163	921	1049	1193
co-residents	6395	1767	1769	2539

### 2.3.3.2 Unit non-response

#### Households:

Wave response rate:

2004: 61,6

2005: 69,6

2006: 73,2

2007: 71,2

Longitudinal follow-up rate:

2004: 81,4

2005: 83,9

2006: 85,2

2007: na.

Follow-up ratio:

2005: 1,00

2006: 0,98

2007: na.

Achieved sample size ratio:

2005:1,00

2006: 0,98

2007: 0,85

**Persons:**

Wave response rate, sample persons (same as households):

2004: 61,6

2005: 69,6

2006: 73,2

2007: 71,2

Wave response rate, co-residents

Can not be calculated as we do not have all information on not-participating households.

Longitudinal follow-up rate, sample persons (same as households):

2004: 81,4

2005: 83,9

2006: 85,2

2007: na.

Longitudinal follow-up rate, co-residents:

Can not be calculated as we do not have all information on not-participating households.

Achieved sample size ratio, sample persons (same as households):

2005: 1,00

2006: 0,98

2007: 0,85

Achieved sample size ratio, co-residents:

Can not be calculated as we do not have all information on not-participating households.

**2.3.3.3 Distribution of households**

2.3.3.3.a. Distribution of households by household status (DB110)				
	wave-2004	wave-2005	wave-2006	wave-2007
1	na	1276	2385	3337
2	na	149	227	288
3	na	2	2	3
4	na	3	4	7
5	na	8	10	11
6	na	0	0	0

7	na	39	60	68
8	na	0	0	0
9	2397	2382	2385	na

2.3.3.3.b Distribution of households by contact at address (DB120) where DB110 = 1,2,9				
	wave-2004	wave-2005	wave-2006	wave-2007
Total	2397	3807	4997	6482
- 11	2163	2322	2327	2449
- 21	43	3	14	11
22	191	206	271	385

2.3.3.3.c Distribution of households by (DB130) household questionnaire result where DB110 = 1,2,9				
DB130	wave-2004	wave-2005	wave-2006	wave-2007
Total				
11	1477	2688	3714	3163
21	177	319	399	173
22	44	68	68	24
23	56	91	99	27
24	409	432	432	238

2.3.3.3.d Distribution of households by (DB135) household questionnaire result by household interview acceptance where DB130=11.				
DB135	wave-2004	wave-2005	wave-2006	wave-2007
1	1477	2688	3714	3163
2	na	na	na	na

#### 2.3.3.4 Distribution of persons

Table 2.3.3.4 Distribution of persons by membership status (RB110).				
RB110	wave-2003	wave-2004	wave-2005	wave-2006
Total	3864	6927	9558	8096
1	3864	6815	9358	7893
2	na	0	0	0
3	na	72	142	122
4	na	40	58	81

#### 2.3.3.5 Item non-response

Information about income is taken from a register. Therefore Denmark has no item non-response for income variables.

Table 23.3.5.a: Percentage of households, who have received a specific income component				
	Wave 2004	Wave 2005	Wave 2006	Wave 2007
HY010: TOTAL HOUSEHOLD GROSS INCOME	100	100	100	100
HY020: TOTAL DISPOSABLE HOUSEHOLD INCOME	100	100	100	100
HY022: TOTAL DISPOSABLE HOUSEHOLD INCOME BEFORE SOCIAL	100	100	100	100

TRANSFERS OTHER THAN OLDAGE AND SURVIVOR'S BENEFITS				
HY023: TOTAL DISPOSABLE HOUSEHOLD INCOME BEFORE SOCIAL TRANSFERS INCLUDING OLDAGE AND SURVIVOR'S BENEFITS	100	100	100	100
HY025: WITHIN-HOUSEHOLD NON-RESPONSE INFLATION FACTOR	na	na	na	na
HY030G: IMPUTED RENT	71	71	70	75
HY040G: INCOME FROM RENTAL OF A PROPERTY OR LAND	3	3	3	3
HY050G: FAMILY/CHILDREN RELATED ALLOWANCES	41	40	39	39
HY060G: SOCIAL EXCLUSION NOT ELSEWHERE CLASSIFIED	0	0	0	0
HY070G: HOUSING ALLOWANCES	12	10	11	10
HY080G: REGULAR INTER-HOUSEHOLD CASH TRANSFER RECEIVED	6	6	6	6
HY090G: INTEREST, DIVIDENDS, PROFIT FROM CAPITAL INVESTMENTS IN UNINCORPORATED BUSINESS	99	99	99	99
HY100G: INTEREST REPAYMENTS ON MORTGAGE	63	63	60	60
HY110G: INCOME RECEIVED BY PEOPLE AGED UNDER 16	9	9	9	10
HY120G/HY120N: REGULAR TAXES ON WEALTH	72	73	74	76
HY130G: REGULAR INTER-HOUSEHOLD CASH TRANSFER PAID	5	4	4	4
HY140G: TAX ON INCOME AND SOCIAL CONTRIBUTIONS	99	100	99	100
HY145N: REPAYMENTS/RECEIPTS FOR TAX ADJUSTMENT	na	na	na	na

Table 2.3.3.5.b: Percentage of persons 16+, who have received a specific income component

	Wave 2004	Wave 2005	Wave 2006	Wave 2007
PY010G: EMPLOYEE CASH OR NEAR CASH INCOME	75	75	75	73
PY020G: NON-CASH EMPLOYEE INCOME	6	6	6	6
PY030G: EMPLOYER'S SOCIAL INSURANCE CONTRIBUTION	na	na	na	na
PY035G: CONTRIBUTIONS TO INDIVIDUAL PRIVATE PENSION PLANS	-	-	-	-
PY050G: CASH BENEFITS OR LOSSES FROM SELF-EMPLOYMENT	27	25	26	24
PY070G: VALUE OF GOODS PRODUCED BY OWN-CONSUMPTION	na	na	na	na
PY080G: PENSION FROM INDIVIDUAL PRIVATE PLANS	na	na	na	na
PY090G/PY090N: UNEMPLOYMENT BENEFITS	20	19	18	16
PY100G/PY100N: OLD-AGE BENEFITS	10	11	14	16
PY110G: SURVIVOR' BENEFITS	1	1	1	1
PY120G: SICKNESS BENEFITS	10	10	9	8

PY130G: DISABILITY BENEFITS	7	7	6	6
PY140G: EDUCATION-RELATED ALLOWANCES	7	7	7	6
PY200G: GROSS MONTHLY EARNINGS FOR EMPLOYEES	na	na	na	na

## 2.4 Mode of data collection

Denmark use a sample of persons rather than a sample of addresses or households in the survey.

Data-status = 13 (Data status is always = '13')				
	Wave-2004	Wave-2005	Wave-2006	Wave-2007
Total	3015	5354	7375	6278
Sample persons	2397	3859	5073	3714
Co-resident	618	1495	2302	2564

		Type of interview (RB260)			
		Total	3	4	5
Wave 2004	Total	3015	1458	242	1491
	Sample person	1453	1328	86	39
	Co-resident	1562	130	134	1452
Wave 2005	Total	5354	2658	198	2668
	Sample person	2462	1879	80	503
	Co-resident	2605	779	118	2165
Wave 2006	Total	7375	3674	166	3715
	Sample person	3531	2940	104	487
	Co-resident	3844	734	62	3228
Wave 2007	Total	6278	3057	163	3058
	Sample person	3013	2504	104	405
	Co-resident	3265	553	59	2853

The establishment of the sample and the delimitation of the household are undertaken in the way described below.

A sample of persons is selected from the Central Population Register (CPR).

All other persons living at the same address are identified using information in the register. In the same way, married couples, couples not married, but expected to be partners, the ID's of fathers and mothers living at the address etc. is identified. In the following, the results will be called the "register-household". The register household can be considered as a hypothesis to be checked in the survey.

As a general rule, the selected person becomes the respondent of the household questionnaire, and therefore the person to be interviewed about the composition of the household, etc. The only exception is the case, where the selected person is under 25 years and has parents living at the address. In this case, we randomly select one of the parents to represent the household (the household respondent).

After the interview, a "statistical household" following Eurostat's definition is defined. Persons in the register-household, who do not belong to the statistical household, will be excluded from the sample and persons belonging to the statistical household, who are not found in the register-household are included.

As mentioned income and demographic data, including citizenship etc. primarily comes from registers, while social data primarily comes from interviews.

The questionnaire was split up into 4 different parts.

- a) Questions relating to defining households
- b) Questions about the household
- c) General questions about the household members
- d) Detailed questions about the selected person; including detailed labour information and health information

According to the instructions given to the interviewers, questions under a), b) and c) and if the selected person is the same as the selected household respondent also d), shall be asked the person in the household selected as household respondent if possible. If this person is unable to respond, e.g. is not at home or is busy with other things, it should be attempted to arrange an appointment to conduct an interview at another time. If such an appointment appears be difficult to obtain, it shall be attempted to achieve an interview with the spouse, if any. The interviewers are told to accept partners not married as proxies for the interview, if necessary, but that they should be very careful in doing so. Other members of the household should only be accepted as proxies in the worst case, e.g. if no other possibility is feasible.

Questions under d shall preferable be asked the selected person. If it is not feasible, because the person is not home or is busy with other things, the instruction is that a proxy interview with one of the parents is OK.

It is our experience that this procedure is the most feasible. It makes the interview more fluent and comfortable. Interviewing each household member individually instead of one household member on behalf of the others would be a troublesome process to the interviewers as well as to the interviewees.

It must be taken into account, that information on income and many other subjects is information extracted from registers, and therefore was not included in the questionnaire.

## **2.5 Imputation procedures**

No imputations. Income information is extracted from registers.

## **2.6 Imputed rent**

Until 2006 imputed rent for dwellings owned by the occupant was, in principle, calculated as 4% of the taxable value of the property in our national income statistics and in the micro-files that we transmit to Eurostat. The taxable value is a relatively good estimate of the market value. The properties are valued by the municipalities. From 2007 and onwards imputed rent is calculated using a rental equivalence method. Figures until 2006 is not comparable with figures from 2007 and onwards, where the variable became obligatory.

## **2.7 Company cars**

Information about company cars is extracted from the tax authorities registers as the taxable value.

# **3. COMPARABILITY**

## **3.1 Basic concepts and definitions**

### ***Reference population:***

Private households residing in Denmark 1 January 2007 and members of these households.  
No difference from EU-SILC concept

### ***Private household definition:***

No difference from EU-SILC concept.

### ***Household membership:***

No difference from EU-SILC concept.

### ***Income reference period(s) used:***

Calendar year 2006

### ***Period for taxes on income and social insurance contributions:***

Calendar year 2006

### ***Reference period for taxes on wealth:***

Calendar year 2006

### ***Lag between the income reference period and current variables:***

4-6 months

### ***Total duration of the data collection of the sample:***

6 months

### ***Information on activity status during the income reference period:***

Calendar year 2006

## 3.2 Components of income

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

HY090G can be negative .

The concept is calculated as a net-concept. E.g. interest received from bank accounts etc. are deducted interest paid on consumer loans etc. If interest paid exceeds capital income HY090 will be negative

HY080G/HY080N: REGULAR INTER-HOUSEHOLD CASH TRANSFER RECEIVED/

HY130G/HY130N: REGULAR INTER-HOUSEHOLD CASH TRANSFER PAID

Only information about transfers known by authorities are included. Typically obligatory transfers and transfers for which tax-deductions can be obtained. Other forms of regularly transfers are not common in Denmark. In the 2003 and 2004 survey we had some questions about voluntary transfers, but the incidences was low and data quality was bad, so we decided not to use the data.

Apart from these facts only insignificant departures from EUSILC 065.

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

*First wave:*

The variables concerning income, wealth and taxes are monitored by registers.

The most important source is the registers of the tax authorities. These registers contain information on all kinds of taxable income and on all kinds of taxes. In addition to information used for taxation purposes, the register contains specified information reported by municipalities on social assistance, housing allowances, disability benefits, sickness benefits etc. and on the originator's number in the Central Business Register.

Almost all income in Denmark is taxable. The only exceptions of any importance are child allowances, housing allowances and supplementary payments to the disabled and the like. The municipalities report information about these forms of income to the Tax Authorities or directly to Statistics Denmark that then will integrate the information in the statistical income register..

Information about the number of days for which the taxpayer received benefits according to different social, unemployment and training schemes are submitted to Statistics Denmark by municipalities and other authorities. The information is located in the so-called Labour Market Policy Measures Register and is used, when the different kinds of benefits from unemployment funds, trade unions etc. are split up into the different income components.

Income in the form of regular pension from private schemes and allowances from the State Education Fund's can be distinguished and broken down by components, using information about the kind of income in the tax authorities' registers and about the originator of the income from the Central Business Register and the age of the person.

Information about the amount of unemployment benefit payments can be extracted from a special register.

Information from these different sources makes it possible to estimate the breakdown of gross income by the components with a high degree of accuracy.

*Following waves: Unchanged*

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

Income components were collected gross.

### **3.2.4 The method used for obtaining income target variables in the required form**

They were collected gross.

### **3.3 Tracing rules**

Tracing was conducted using the personal number in the population register. In principle there is no difference from national rules and the standard EU-rules.

## **4 COHERENCE**

### **4.1 Comparison of income variables with external sources**

All income target variables are monitored using external sources.