Intermediate
Quality Report

relating to the

EU-SILC 2009 Operation

Denmark

Copenhagen 2011

1. COMMON CROSS-SECTIONAL EUROPEAN UNION INDICATORS

1.1. Common cross-sectional EU indicators based on the cross-sectional component of EU-SILC

The indicators are calculated using Eurostat´s SAS-program available at the CIRCA-website

Table 1.1 At-risk-of-poverty rate after social transfers, by age and gender

age	sex	2009
TOTAL	T	13.1
	M	13
	F	13.3
Y18-64	T	12.3
	M	12.5
	F	12.1
Y_GE65	T	19.4
	M	18.3
	F	20.3
Y_LT18	T	11.1

Table 1.2 At-risk-of-poverty rate after social transfers by most frequent activity status and by gender

wstatus	sex	2009
EMP (Employment)	T	5.9
	M	7.1
	F	4.4
NOT_EMP (Non employment)	T	24.3
	M	24
	F	24.5
UNE (Unemployment)	T	41.1
	M	52.9
	F	29.3
RETIR (Retired)	T	18.6
	M	16.6
	F	20
INACT_OTH (Inactive population - Other)	T	31.1

wstatus	sex	2009
	M	31.7
	F	30.7

Table 1.3 At-risk-of-poverty rate after social transfers, by household type

hhtyp	2009
TOTAL	13.2
HH_NDCH (Households without dependent children)	16.6
A1_LT65 (One adult younger than 65 years)	28
A1_GE65 (One adult 65 years or older)	23.2
A1F (Single female)	27.2
A1M (Single male)	25.8
A2_2LT65 (Two adults younger than 65 years)	5.5
A2_GE1_GE65 (Two adults, at least one aged 65 years and over)	14.7
A_GE3 (Three or more adults)	2.1
HH_DCH (Households with dependent children)	9.4
A1_DCH (Single parent with dependent children)	20.3
A2_1DCH (Two adults with one dependent child)	5.6
A2_2DCH (Two adults with two dependent children)	5.2
A2_GE3DCH (Two adults with three or more dependent children)	14.5
A2	9
A_GE2_DCH	7.6
A_GE2_NDCH	8.6
A_GE3_DCH (Three or more adults with dependent children)	7.7

Table 1.4 At-risk-of-poverty rate after social transfers, by accommodation tenure status, gender and age

age	sex	tenstatu	2009
TOTAL	T	OWNER	9.3
		RENT	20.8
	M	OWNER	9
		RENT	21.9
	F	OWNER	9.5
		RENT	20
Y18-64	T	OWNER	6
		RENT	23.8
	M	OWNER	6.6
		RENT	24.2
	F	OWNER	5.5
		RENT	23.4
Y_GE65	T	OWNER	25.3
		RENT	10.8
	M	OWNER	20.5
		RENT	13.5
	F	OWNER	30.4
		RENT	9.4
Y_LT18	T	OWNER	7.9
		RENT	21

Table 1.5 At-risk-of-poverty threshold after social transfers (illustrative values)

hhtyp	currency	2009
A1 (Single person)	EUR	14959.6
	NAC	111538.8

hhtyp	currency	2009
	PPS	10595.4
A2_2CH_LT14 (Two adults with two children younger than 14 years)	EUR	31415.2
	NAC	234231.5
	PPS	22250.3

Table 1.6 Inequality of income distribution S80/S20 income quintile share ratio

indic_il	2009
S80_S20	4.6

Table 1.7 Relative median at-risk-of-poverty gap (by age and gender)

age	sex	2009
TOTAL	T	19.1
	M	21.5
	F	17.4
Y18-64	T	29.2
	M	29.4
	F	27
Y_GE65	T	9.3
	M	10.2
	F	9.1
Y_LT18	T	20

Table 1.8 Dispersion around the at-risk-of-poverty threshold after social transfers by gender and selected age group

indic_il	age	sex	2009
LI_R_MD40	TOTAL	T	4.2
		M	4.4
		F	4
	Y18-64	T	5.3
		M	5.4
		F	5.2
	Y_GE65	T	1
		M	1.5
		F	0.6
	Y_LT18	T	3.6
LI_R_MD50	TOTAL	T	7.1
		M	7.5
		F	6.8
	Y18-64	T	8.1
		M	8.5
		F	7.7
	Y_GE65	T	4.3
		M	5.1
		F	3.7
	Y_LT18	T	6.4
LI_R_MD70	TOTAL	T	20.5
		M	19.8
		F	21.2
	Y18-64	T	16.8
		M	17.3
		F	16.3
	Y_GE65	T	40.3
		M	36.8

indic_il	age	sex	2009
		F	43
	Y_LT18	T	16.6

Table 1.9 At-risk-of-poverty rate before social transfers, by gender and selected age groups (except pensions)

age	sex	2009
TOTAL	T	31.2
	M	29.7
	F	32.7
Y18-64	T	29.8
	M	28.8
	F	30.7
Y_GE65	T	45.6
	M	41.7
	F	48.6
Y_LT18	T	24.8

Table 1.10 Inequality of income distribution Gini coefficient

indic_il	2009
GINI	27

1.2. Other indicators

1.2.1. Equivalised disposable income

Mean equivalised disposable income: 23,591 EURO

1.2.2. The unadjusted gender pay gap

The gender pay gap is not computed on the basis of EU-SILC.

2. ACCURACY

2.1. Sample design

Denmark has adopted the 4-year rotational integrated design recommended by Eurostat. The sample is drawn as a sample of persons.

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

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 household 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+. Only households, where selected person are 16 or more at the beginning of the survey year, are included in statistics of this year.

2.1.3. Stratification and substratification criteria

No stratification.

2.1.4. Sample size and allocation criteria

Total number of persons aged 16+ living in private households...............4,399,586
Number of addresses in the sampling frame...2,768,477
Size of the sample (selected persons/households).......................................11,500

About 0.5 % of the total number of households in Denmark are represented in the sample

2.1.5. Sample selection schemes

Not applicable, since Denmark uses simple random sampling.

2.1.6. Sample distribution over time

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2.1.7. Renewal of sample: rotational groups

The sample of the cross-sectional component of EU-SILC 2009 in Denmark consists of 4 sub-samples. one selected in 2006, one selected in 2007, one selected in 2008 and one selected in 2009. 2500 persons/households were selected for the subsample of 2006. 3000 persons/households were selected for the subsamples of 2007-2009.

Table 2: Renewal of the 2009 cross-sectional

	Selected 2006	Selected 2007	Selected 2008	Selected 2009	Total
Number initially selected	2500	3000	3000	3000	11500

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

Calibration using external data.

2.1.8.3. Adjustments to external data (level, variables used and sources)

Adjustment are based on a calibration using external data on the household level. All external data are based on variables in administrative registers. Exactly the same variables are found in the sampled households.
The following external variables have been used:
- Total net household income
- The size of the household
- Education level of the person with the highest professional status

In addition to correcting for bias due to non-response on the household level, the SILC cross-sectional weights should reproduce certain demographic and poverty distributions on the personal level.
Therefore some data on the personal level have been integrated in the calibration, that is:
- Age (5 year age groups 0-15, 16-19, 20-24, …, 70-74, 75+) and sex.
- Economic status and poverty.
- Professional status and poverty.
- Age (5 classes 0-15, 16-24, 25-49, 50-64, 65+), sex and poverty.
- Family type and poverty.
- Education.
- Equivalised income group.

2.1.8.4. Final cross-sectional weight

Computed via calibration using external data, see above.

2.1.9. Substitutions

No substitution.

2.1.9.1 Methods of selection of substitutes

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2.1.9.2 Main characteristics of substituted units

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2.1.9.3 Distribution of substituted units

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2.2. Sampling errors

2.2.1. Standard error and effective sample size

2.2.1.A
Total:

Age	standarderr	Sample size (persons)
Total	0.47	15025
0-15 years	0.87	3212
16-24 years	2.22	1699
25-49 years	0.80	4764
50-64 years	0.73	3376
65+ years	1.07	1974
16-64 years	0.64	9839
16+ years	0.55	11813
0-64 years	0.53	13051

Female:

Age	standarderr	Sample size (persons)
Total	0.65	7599
0-15 years	1.23	1594
16-24 years	3.16	820
25-49 years	1.03	2535
50-64 years	0.93	1680
65+ years	1.55	970
16-64 years	0.87	5035
16+ years	0.75	6005
0-64 years	0.73	6629

Male:

Age	standarderr	Sample size (persons)
Total	0.69	7426
0-15 years	1.24	1618
16-24 years	3.12	879
25-49 years	1.21	2229
50-64 years	1.12	1696
65+ years	1.43	1004
16-64 years	0.93	4804
16+ years	0.80	5808
0-64 years	0.77	6422

2.2.1.B
Total:

ACTSTA	standarderr	Sample size (persons)
At work	0.51	7221
Unemployed	6.51	131
Retired	1.03	2259
Other inactive	1.81	1952
Not at work: Total	1.02	4342

Female:

ACTSTA	standarderr	Sample size (persons)
At work	0.58	3512
Unemployed	8.79	73
Retired	1.50	1155
Other inactive	2.33	1129
Not at work: Total	1.34	2357

Male:

ACTSTA	standarderr	Sample size (persons)
At work	0.82	3709
Unemployed	9.00	58
Retired	1.35	1104
Other inactive	2.85	823
Not at work: Total	1.55	1985

2.2.1.C
Total:

HT	standarderr	Sample size (persons)
Single, total	1.52	1172
2 adults, no dependent children, both < 65	0.67	2656
2 adults, no dependent children, at least one 65+	0.95	1754
Other households without dependent children	2.98	160
Single parent with children	2.92	308
2 adults, one child	1.00	1119
2 adults, 2 children	0.65	2288
2 adults, more than 2 children	1.41	1174
Other households with children	0.25	186
Other	0.67	4208
Single, 0-64 years	1.99	733
Single, 65+ years	2.01	439

Female:

HT	standarderr	Sample size (persons)
Single, total	2.03	660
2 adults, no dependent children, both < 65	0.86	1320
2 adults, no dependent children, at least one 65+	1.34	880
Other households without dependent children	5.54	75
Single parent with children	3.64	198
2 adults, one child	1.32	559
2 adults, 2 children	0.95	1149
2 adults, more than 2 children	1.95	580
Other households with children	0.46	92
Other	0.80	2086
Single, 0-64 years	2.95	357
Single, 65+ years	2.42	303

Male:

HT	standarderr	Sample size (persons)
Single, total	2.29	512
2 adults, no dependent children, both < 65	1.01	1336
2 adults, no dependent children, at least one 65+	1.35	874
Other households without dependent children	2.72	85
Single parent with children	4.86	110
2 adults, one child	1.51	560
2 adults, 2 children	0.89	1139
2 adults, more than 2 children	2.03	594
Other households with children	0.22	94
Other	1.06	2122
Single, 0-64 years	2.69	376
Single, 65+ years	3.60	136

2.2.1.D
Total:

TENSTA	standarderr	Sample size (persons)
Owner or rent-free	0.43	11802
Tenant	1.08	3223

Female:

TENSTA	standarderr	Sample size (persons)
Owner or rent-free	0.60	5853
Tenant	1.42	1746

Male:

TENSTA	standarderr	Sample size (persons)
Owner or rent-free	0.61	5949
Tenant	1.66	1477

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 (version 1 January 2009). The register is based on Central Population Register (CPR) run by the *Ministry of the Interior*. 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 during its lifetime, 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 new immigrants is on a yearly basis less than 1 pct. of the population and the number of persons living in collective 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 was

Number of households in the sample: 11,500
Number of households contacted is 8,608
Number of households for which an interview is accepted for the database: 5,866

Number of persons of 16 years or older who are members of the households for which the interview is accepted for the database, and who completed a personal interview: na
If the household part of the interview and the personal interview of household representative is acceptable, all members of the household are accepted for the database also in case unit non-response for the person. The necessary information about his/hers income, activity status etc. is extracted from registers.

2.3.3.2 Unit non-response

RA address contact rate = addresses contacted/total sample = 8608/11500 = 0,75
RH Rate of accepted households = completed interviews/contacted households= 5866/8608= 0,68
NRH Household non-response rate =(1-(RA*RH))*100 = 0,49
RP proportion of completed personal interviews = 1
NRP= Individual non-response rate = (1-(RP))*100 = 0

2.3.3.3 Distribution of households by contact results, etc., and rotational group

Table 2.3.3.3.a Contact at address

Respondent	2006	2007	2008	2009	Total
Contacted	1695	2157	2321	2435	8608

Table 2.3.3.3.b Household questionnaire result

Respondent	2006	2007	2008	2009	Total
Completed	1231	1513	1527	1595	5866
Refusal	134	207	239	283	863
Household temporally away	58	78	83	87	306
Unable to response	31	42	69	75	217
Other	241	317	403	395	1356
Total	1695	2157	2321	2435	8608

Table 2.3.3.3.c Household interview acceptance

Respondent	2006	2007	2008	2009	Total
Completed	1231	1513	1527	1595	5866
Accepted	1231	1513	1527	1595	5866

2.3.3.4. Distribution of substituted units (if applicable) by 'record of contact at address'

No substitution.

2.3.3.5. Item non-response

There is no item non-response for all the income variables as these variables are extracted from registers with full coverage.

2.3.3.6 Total item non-response

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2.4. Mode of data collection

Denmark is one of the countries, which uses a sample of persons rather than a sample of addresses or households in the survey.

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 is 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, it should be attempted to arrange an appointment to conduct an interview at another time. If such an appointment appears to 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.

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

Table 2.4a Data status by rotation group

	2006	2007	2008	2008	All
Information completed from both: interview and registers	2461	3092	3030	3230	11813

Table 2.4b Type of interview by rotation group

	2006	2007	2008	2008	All
Total	2461	3092	3030	3230	11813
CATI with selected person	1167	1452	1452	1532	5603
CATI with proxy	1198	1547	1450	1594	5789
Self-administered (mail)	96	93	128	104	421

2.5. Interview duration

The average household interview duration for the CATI part was 10.6 minutes.

3. COMPARABILITY

3.1. Basic concepts and definitions

Reference population:
Private households residing in Denmark 1 January 2009 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 2008

Period for taxes on income and social insurance contributions:
Calendar year 2008

Reference period for taxes on wealth:
Calendar year 2008

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 2008

3.2. Components of income

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

HY090G can be negative.

Apart from these facts only insignificant deviations from EU-SILC 065 occur.

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

The variables concerning income, wealth and taxes are based on 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.

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. Statistics Denmark get information on these kind of income from the municipalities.

Of course real black incomes including incomes from crime, etc. are not recorded in the registers.

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.

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 (i.e. as gross values)

They were collected gross.

4. COHERENCE

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

All income target variables are based on and monitored using external sources.