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For any question on data and metadata, please contact: EUROPEAN STATISTICAL DATA SUPPORT

1. Contact
Top

1.1. Contact organisation	Statistics Denmark
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2. Introduction
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The SILC survey provides Statistics on Income and Living conditions. In Denmark the primary sources for statistics on incomes, housing and labour market statistics is administrative registers with full population coverage. Where it is possible Statistics Denmark recommend using complete Danish register data on these subjects instead of SILC. Note however that the SILC data in most areas, that it covers, is the recommended source for cross-country comparisons within Europe. The survey has been conducted in Denmark since 2003.

The production of quality reports is part of the implementation of the EU-SILC instrument. In order to assess the quality of data at national level and to make a comparison among countries, the National Statistics Institutes are asked to report detailed information mainly on: the entire statistical process, sampling and non-sampling errors, and potential deviations from standard definition and concepts.

This document follows the ESS standard for quality reports structure (ESQRS), which is the main report structure for reference metadata related to data quality in the European Statistical System. It is a metadata template, based on 13 main concepts, which can be used across several statistical domains with the purpose of a better harmonisation of the quality reporting requirements in the ESS.

For that reason the template of this document differs from that one stated in the Commission Reg. 28/2004.

Finally it is the combination of the previous intermediate and final quality reports therefore it refers to both the cross sectional and the longitudinal data.

3. Quality management - assessment
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EU-SILC is survey based and the results is thus subject to some statistical uncearainty. The uncearainty of the cross-sectional indicators on the full population is quite low. However the statstical uncearainty becomes significant, when looking at small sub-population due to the relatively small sample size and high variation in the sample weights.

Provided that your are not looking to do cross-country comparisons, Statistics Denmark recommend the usage of register data covering the full population as opposed to EU-SILC data.

4. Relevance
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4.1. Relevance - User Needs

The main purpose of the SILC is too produce comparable data on living conditions within european countries. The primary users of the SILC-data are the European Commisions and researchers. De-identified micro data is always made available for researchers within the social sciences and the National Statistics Agencies. Fianlly a set of indicators based on the EU-SILC data is published in the EUROSTAT database and made available for the public and the media.

4.2. Relevance - User Satisfaction

No data on user satisfaction have been collected in Denmark.

4.3. Completeness

Data for respondents in the SILC-survey is mostly complete and in accordance with the SILC-guidelines. As the more complex data on incomes, education and housing stems from full population registers, the item non-response is very low in Denmark. The interview on mainly labour market affiliation and subjective well-being is mainly conducted on the web and by phone. for most questions non-response is not an option for the respondent. About 2.2 pct. of the respondents have answered via paper-questionaries, here item non-response is accepted, in case questions have not been filled. Overall item non-response rates is very low.

4.3.1. Data completeness - rate

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5. Accuracy and reliability

The concept of accuracy refers to the precision of estimates computed from a sample rather than from the entire population. Accuracy depends on sample size, sampling design effects and structure of the population under study. In addition to that, sampling errors and non sampling errors need to be taken into account. Sampling error refers to the variability that occurs at random because of the use of a sample rather than a census and non-sampling errors are errors that occur in all phases of the data collection and production process.

5.1. Accuracy - overall

In terms of precision requirements, the EU-SILC framework regulation as well the Commission Regulation on sampling and tracing rules refers respectively, to the effective sample size to be achieved and to representativeness of the sample. The effective sample size combines sample size and sampling design effect which depends on sampling design, population structure and non-response rate.

The Danish SILC has somewhat high variations in weights. To comabt this issue a revison has been carried out in the autumn of 2015. The rivision has been carried out for SILC-2013 and 2014 and will during 2016 be implemented back to 2008.

Read about the revision, at Statisitics Denmark webpage

5.2. Sampling error

EU-SILC is a complex survey involving different sampling design in different countries. In order to harmonize and make sampling errors comparable among countries, Eurostat (with the substantial methodological support of Net-SILC2) has chosen to apply the "linearization" technique coupled with the "ultimate cluster" approach for variance estimation. Linearization is a technique based on the use of linear approximation to reduce non-linear statistics to a linear form, justified by asymptotic properties of the estimator. This technique can encompass a wide variety of indicators, including EU-SILC indicators. The "ultimate cluster" approach is a simplification consisting in calculating the variance taking into account only variation among Primary Sampling Unit (PSU) totals. This method requires first stage sampling fractions to be small which is nearly always the case. This method allows a great flexibility and simplifies the calculations of variances. It can also be generalized to calculate variance of the differences of one year to another .

The main hypothesis on which the calculations are based is that the "at risk of poverty" threshold is fixed. According to the characteristics and availability of data for different countries we have used different variables to specify strata and cluster information. In particular, countries have been split into four groups:

1)BE, BG, CZ, IE, EL, ES, FR, IT, LV, HU, NL, PL, PT, RO, SI, UK and HR whose sampling design could be assimilated to a two stage stratified type we used DB050 (primary strata) for strata specification and DB060 (Primary Sampling Unit) for cluster specification;

2) DE, EE, CY, LT, LU, AT, SK, FI, CH whose sampling design could be assimilated to a one stage stratified type we used DB050 for strata specification and DB030 (household ID) for cluster specification;

3) DK, MT, SE, IS, NO, whose sampling design could be assimilated to a simple random sampling, we used DB030 for cluster specification and no strata;

Note that for Denmark, table 5.2.1 the numbers indicated have been calculated by Eurostat. This is an overestimation of the actual standard errors for some Danish indicators. The Danish sample is calibrated to match registers on several factors such as demography, socio-ecomomical status, income mass and risk of poverty, i.e. the standard error for the total risk of poverty close to 0 at the aggregated level. However on subgroups, as the sample gets smaller, large uncertainties may be present due to relatively large variations in the danish sample weights. Even though standard errors for some indicators are very low, there is still a possibility of biases. The standard error for indicators that are strongly correlated with income and socio-economical status, such as material deprivation and low work intensity and AROPE is also presumed overestimated in the following. However note that large variation in the dansih sample weights may lead to large statistical errors on sub-populations.

5.2.1. Sampling error - indicators

	AROPE			At risk of poverty (60%)			Severe Material Deprivation			Very low work intensity		
	Ind. value	Stand. errors	Half CI (95%)	Ind. value	Stand. errors	Half CI (95%)	Ind. value	Stand. errors	Half CI (95%)	Ind. value	Stand. errors	Half CI (95%)
Total	17.8	0.8	1.7	11.9	0.8	1.6	3.2	0.4	0.8	12,0	0.8	1..6
Male	17.6	1.0	2.1	12.2	1.0	2.0	3.2	0.5	1.0	11.7	1.0	2.0
Female	18.1	1.0	2.0	11.7	0.9	1.8	3.2	0.5	1.0	12.6	1.0	2.0
Age0-17	14.5	1.6	3.2	9.2	1.5	2.9	3.1	0.9	1.8	7.5	1.2	2.1
Age18-64	21.3	1.0	2.0	13.7	1.0	1.9	4.0	0.5	1.0	14.0	0.9	1.7
Age 65+	10.4	1.1	2.1	9.5	1.1	2.1	10.9	0.3	0.5	Na	NA	NA

5.3. Non-sampling error

Non-sampling errors are basically of 4 types:
- Coverage errors: errors due to divergences existing between the target population and the sampling frame.
- Measurement errors: errors that occur at the time of data collection. There are a number of sources for these errors such as the survey instrument, the information system, the interviewer and the mode of collection
- Processing errors: errors in post-data-collection processes such as data entry, keying, editing and weighting
- Non-response errors: errors due to an unsuccessful attempt to obtain the desired information from an eligible unit. Two main types of non-response errors are considered:
1. – Unit non-response: refers to absence of information of the whole units (households and/or persons) selected into the sample
1. – Item non-response: refers to the situation where a sample unit has been successfully enumerated, but not all required information has been obtained

5.3.1. Coverage error

Coverage errors include over-coverage, under-coverage and misclassification:
- Over-coverage: relates either to wrongly classified units that are in fact out of scope, or to units that do not exist in practice
- Under-coverage: refers to units not included in the sampling frame
- Misclassification: refers to incorrect classification of units that belong to the target population

The sample frame is persons aged 13+ living in private household according to the Register of Population Statistics of Statistics Denmark (From 31st of December 2013). The register is based on Central Population Register (CPR) under the *Ministry of Economic affairs and the Interior*. CPR is updated by the municipalities. The register is continuously updated.

Persons, who after the sample were selected(31st of December) but before the time of the interview(March/April), moved into a private Danish household from abroad. This group will be under-covered in the sample.

In theory, this group 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.

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 negliaible.

Danish law prohibted Statistics Denmark from contacting roughly 12 pct. of the population, as members of the household have indicated that they do not wish to be contacted for statistical or research purposes. These households are included in the sample however, but are counted as non-response in this report. This law has been repealed effective of the 1. April 2014. This does not affect response rates in 2014 - but they are expected to improve due to this from 2015.

5.3.1.1. Over-coverage - rate

	Main problems	Size of error
Cross sectional data	• Immigrants • Research protected (covered, but counted as non-response. 2012, 2013 & 2014 waves)	• < 0,1 pct. • ~12 pct.

Main problems	Size of error

5.3.2. Measurement error

Cross sectional data

Source of measurement errors	Building process of questionnaire	Interview training	Quality control
-	3 questionnaires formed web, telephone and Paper	Telephone interviewers have a 2 hour instruction followed by test-interviews with each other and Q&A sessions	Matching with registers on compatible variables

5.3.3. Non response error

Non-response errors are errors due to an unsuccessful attempt to obtain the desired information from an eligible unit. Two main types of non-response errors are considered:

1) Unit non-response which refers to the absence of information of the whole units (households and/or persons) selected into the sample. According the Commission Regulation 28/2004:

- **Household non-response rates** (NRh) is computed as follows:

NRh=(1-(Ra * Rh)) * 100

Where Ra is the address contact rate defined as:

Ra= Number of address successfully contacted/Number of valid addresses selected

and Rh is the proportion of complete household interviews accepted for the database

Rh=Number of household interviews completed and accepted for database/Number of eligible households at contacted addresses

- **Individual non-response rates** (NRp) will be computed as follows:

NRp=(1-(Rp)) * 100

Where Rp is the proportion of complete personal interviews within the households accepted for the database

Rp= Number of personal interview completed/Number of eligible individuals in the households whose interviews were completed and accepted for the database

- **Overall individual non-response rates** (*NRp) will be computed as follows:

*NRp=(1-(Ra * Rh * Rp)) * 100

For those Members States where a sample of persons rather than a sample of households (addresses) was selected, the individual non-response rates will be calculated for 'the selected respondent', for all individuals aged 16 years or older and for the non-selected respondent.

2) Item non-response which refers to the situation where a sample unit has been successfully enumerated, but not all the required information has been obtained.

5.3.3.1. Unit non-response - rate

Cross sectional data

Address contact rate (Ra)*		Complete household interviews (Rh)*		Complete personal interviews (Rp)*		Household Non-response rate (NRh)*		Individual non-response rate (NRp)*		Overall individual non-response rate (NRp)*	
A*	B*	A*	B*	A*	B*	A*	B*	A*	B*	A*	B*
50.5**	NA	72.8	NA	NA	NA	63.2**	NA	NA	NA	NA	NA

* All the formulas are defined in the Commission Regulation 28/2004, Annex II

A* = Total sample; B = * New sub-sample

** Note that about 12 percentage points of the non response is caused by the danish law on research protection, which prohibits Statistcs Denmark to contact roughly 12 pct. of the sample.

5.3.3.2. Item non-response - rate

The computation of item non-response is essential to fulfil the precision requirements concerning publication as stated in the Commission Regulation No 1982/2003. Item non-response rate is provided for the main income variables both at household and personal level.

5.3.3.2.1. Item non-response rate by indicator

	Total hh gross income (HY010)	Total disposable hh income (HY020)	Total disposable hh income before social transfers other than old-age and survivors benefits (HY022)	Total disposable hh income before all social transfers (HY023)
% of household having received an amount	100	100	100	100
% of household with missing values (before imputation)	0	0	0	0
% of household with partial information (before imputation)	0	0	0	0

	Imputed rent (HY030)	Income from rental of property or land (HY040)	Family/ Children related allowances (HY050)	Social exclusion payments not elsewhere classified (HY060)	Housing allowances (HY070)	Regular inter-hh cash transfers received (HY080)	Interest, dividends, profit from capital investments in incorporated businesses (HY090)
% of household having received an amount	100	100	100	100	100	100	100
% of household with missing values (before imputation)	0	0	0	0	0	0	0
% of household with partial information (before imputation)	0	0	0	0	0	0	0

	Cash or near-cash employee income (PY010)	Other non-cash employee income (PY020)	Income from private use of company car (PY021)	Employers social insurance contributions (PY030)	Cash profits or losses from self-employment (PY050)	Value of goods produced for own consumption (PY070)	Unemployment benefits (PY090)	Old-age benefits (PY100)	Survivors benefits (PY110)	Sickness benefits (PY120)	Disability benefits (PY130)	Education-related allowances (PY140
% of household having received an amount	100	100	100	100	100	100	100	100	100	100	100	100
	0	0	0	0	0	0	0	0	0	0	0	0

	Cash or near-cash employee income (PY010)	Other non-cash employee income (PY020)	Income from private use of company car (PY021)	Employers social insurance contributions (PY030)	Cash profits or losses from self-employment (PY050)	Value of goods produced for own consumption (PY070)	Unemployment benefits (PY090)	Old-age benefits (PY100)	Survivors benefits (PY110)	Sickness benefits (PY120)	Disability benefits (PY130)	Education-related allowances (PY140
% of household with missing values (before imputation)												
% of household with partial information (before imputation)	0	0	0	0	0	0	0	0	0	0	0	0

5.3.4. Processing error

Data entry and coding Editing controls
- -

5.3.4.1. Imputation - rate

Not requested by Reg. 28/2004

5.3.4.2. Common units - proportion

Not requested by Reg. 28/2004

5.3.5. Model assumption error

In the 2014 revision a cap on negative incomes at €100.000 has been introduced into the calibration, in order to increase comparability with other European countries. Any indivduals with negative income surpassing this amount is still included in the SILC, but will have lower weights.
Negative incomes that stems from losses for self-employed, capital losses and interest expenses is fully covered in the danish SILC in the year the losses is endured. This might still lead to a slight overestimation of some indicators of inequality comparatively to countries, where extreme incomes may be capped and negative incomes may not be fully reported and in some cases is not recognised at all.

5.3.6. Data revision

During 2015 and 2016 the Danish SILC will be revised. The revision has to date(April 2016) been carried out for the years 2011 to 2014 for the cross sectional part of SILC and will be carried out all the way to 2008 during 2016.
The purpose of the revision is mainly to improve comparability over time, reduce variance in sample-weights & implement changes from national revision of income statistics in Denmark.

The main components of the revision is
- A new register household definition (All relatives, at a given adress is assumed to belong to the same household including spouses. Previous definition only allowed 2 adults pr. household)
- A cap on negative incomes, at €100.000 euros (equivalised disposable income)
- Minor changes in the definition of incomes

Furthermore sampling is from 2015 done by first sampling an adress and then selecting a sample person. Pre 2015 the selected respondent was selected directly through SRS.
Read a paper on the revision at statistics Denmark web-page (In Danish).
The revision is on-going. For the latest update or a preliminary english version contact JAQ@dst.dk

5.3.6.1. Data revision - policy

See 5.3.6

5.3.6.2. Data revision - practice

See 5.3.6

5.3.6.3. Data revision - average size

See 5.3.6

5.3.7. Seasonal adjustment

There are no seasonal adjustments in the EU-SILC

6. Timeliness and punctuality   Top

Not requested by Reg. 28/2004

6.1. Timeliness

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6.1.1. Time lag - first result

The survey was conducted in march-june 2014 The first results was available and published in september 2015

6.1.2. Time lag - final result

Not requested by Reg. 28/2004

6.2. Punctuality

Not requested by Reg. 28/2004

6.2.1. Punctuality - delivery and publication

Not requested by Reg. 28/2004

7. Accessibility and clarity   Top

The use of EU-SILC data is very limited at Statistics Denmark.
Apart from a few subjective indicators on the burden of housing costs and the ability to make ends meet, the EU-SILC data is in general not disseminated, nor is SILC-microdata made available through any other channels than Eurostat.
The primary source for labour market, housing, education and income data is the registers covering the full population. Statistics Denmark recommends the usage of these complete registers, when not looking to do cross country comparisons.

7.1. Dissemination format - News release

In Danish only: http://www.dst.dk/nytudg/15160	
7.2. Dissemination format - Publications	
A chapter on SILC incomes and making ends meet is available in danish in the publication Indkomster 2013	
7.3. Dissemination format - online database	
A few tables are available here: http://www.statbank.dk/10054	
7.3.1. Data tables - consultations	
Not requested by Reg. 28/2004	
7.4. Dissemination format - microdata access	
Anonymised SILC microdata is available through Eurostat For access to Danish register data, you can read more here: http://www.dst.dk/en/TilSalg/Forskningsservice.aspx (Access to microdata) http://www.dst.dk/en/TilSalg/skraeddersyede-loesninger.aspx (Finished tables based on microdata from statistics Denmarks customer service)	
7.5. Documentation on methodology	
Not requested by Reg. 28/2004	
7.5.1. Metadata completeness - rate	
Not requested by Reg. 28/2004	
7.5.2. Metadata - consultations	
Not requested by Reg. 28/2004	
7.6. Quality management - documentation	
Not requested by Reg. 28/2004	
7.7. Dissemination format - other	
Not requested by Reg. 28/2004	

8. Comparability

According to the Regulation (EC) No 1177/2003 of the European Parliament and of the Council concerning EU-SILC: "Comparability of data between Member States shall be a fundamental objective and shall be pursued through the development of methodological studies from the outset of EU-SILC data collection, carried out in close collaboration between the Member States and Eurostat".

Although the best way for keeping the comparability of data is to apply the same methods and definitions of variables, small departures of the definitions given by Eurostat are allowed in EU-SILC. In this way, the mentioned Regulation in its article 16th says: "Small departures from common definitions, such as those relating to private household definition and income reference period, shall be allowed, provided they affect comparability only marginally. The impact of comparability shall be reported in the quality reports."

The Danish SILC is carried out relativly dogmatic, when it comes to the inclusion of negative incomes and inclusion of incomes as it is earned, not as it's paid out. For instance income from self employed is included in the year the surplus is reported, church taxes and private pension contributuions, which are paid voluntarily is not deducted from disposable income. This may lead to a sligt

8.1. Comparability - geographical

Data is generally comparable within Europe. But caution is advised, when interpreting minor differences on indicators between countries due to statistical errors and the difficulties related to cross-border income comparisons.

8.1.1. Asymmetry for mirror flow statistics - coefficient

Not requested by Reg. 28/2004

8.1.2. Reference population

Reference population	Private household definition	Household membership
People residing in private households residing in Denmark at the time of the interview (spring 2013).	The respondent is asked to define his/her own household. They are asked to do this, thinking of a household as an economic unit, where there are some sharing of income/expenditure, when it comes to the daily neccesities.	-

8.1.3. Reference Period

Period for taxes on income and social insurance contributions	Income reference periods used	Reference period for taxes on wealth	Lag between the income ref period and current variables
2013	2013	N.A	3 months from the end of the income year

8.1.4. Statistical concepts and definitions

Total hh gross income (HY010)	Total disposable hh income (HY020)	Total disposable hh income before social transfers other than old-age and survivors' benefits (HY022)	Total disposable hh income before all social transfers (HY023)
F	F	F	F

Imputed rent (HY030)	Income from rental of property or land (HY040)	Family/ Children related allowances (HY050)	Social exclusion payments not elsewhere classified (HY060)	Housing allowances (HY070)	Regular inter-hh cash transfers received (HY080)	Interest, dividends, profit from capital investments in incorporated businesses (HY090)	Interest paid on mortgage (HY100)	Income received by people aged under 16 (HY110)	Regular taxes on wealth (HY120)	Regular inter-hh transfers paid (HY130)
F	F	F	F	F	F	F	F	F	F	F

Cash or near-cash employee income (PY010)	Other non-cash employee income (PY020)	Income from private use of company car (PY021)	Employers social insurance contributions (PY030)	Cash profits or losses from self-employment (PY050)	Value of goods produced for own consumption (PY070)	Unemployment benefits (PY090)	Old-age benefits (PY100)	Survivors benefits (PY110)	Sickness benefits (PY120)	Disability benefits (PY130)	Education-related allowances (PY140)	Gross monthly earnings for employees (PY200)

Cash or near-cash employee income (PY010)	Other non-cash employee income (PY020)	Income from private use of company car (PY021)	Employers social insurance contributions (PY030)	Cash profits or losses from self-employment (PY050)	Value of goods produced for own consumption (PY070)	Unemployment benefits (PY090)	Old-age benefits (PY100)	Survivors benefits (PY110)	Sickness benefits (PY120)	Disability benefits (PY130)	Education-related allowances (PY140)	Gross monthly earnings for employees (PY200)
F	F	F	F	F	NC - assumed negliable	F	F	F	F	F	F	F

The source or procedure used for the collection of income variables	The form in which income variables at component level have been obtained	The method used for obtaining target variables in the required form
The income statistics register is the source for Danish SILC data. The income statistics register is primarily based on data from the Danish tax authoriteies on wages and transfer income(The E-income system) and the final tax assessments. Furthermore registers from municiplaities and unemployment funds provide detailed information on benefits. Imputed rent is similarly based on the property valuations of the tax authorities nominated to fit the macro level of the national accounts.	Data are imported into SILC directly from the income statistics register using the personal identification number (CPR)	Register data

8.2. Comparability - over time

Denmark has participated in the EU-SILC since 2003.

In 2013 a policy change on private lump-sum pensions, has lead to an increase in private pension pay-outs. The effect is temporary only. As SILC 2014 contains incomes from 2013, the SILC-2014 is the first year affected by this policy-change.
The expected effect on gini is
- SILC-2013: +0
- SILC-2014: +0.31
- SILC-2015: +0.25
- SILC-2016 and forth: ~-0.1 (Provided that we are unable to impute the lump-sum pensions).

Threshold indicators such as Risk of poverty should be virtually unaffected as most people with private lump-sum pensions have incomes above the median.

Pre-revision:
From 2010 the income mass within income groups has been included in the calibration to fit the register better. This has been done in order to obtain better consistency between our register data and the EU-SILC data and has significantly lowered the deviations between full register data and the silc data, when measuring the gini-coefficient. Furthermore between 2009 and 2010 the household definition in the callibration changed from adresses to a narrow concept of the family.
The 2014 will smooth these breaks.

For consistent data on the gini-coefficient and similar pure economic indicators pre-2010, we recommend the use of Danish register data for the entire population.
Read more in this paper (danish only). Indicators based on the income mass, I.E. Gini and the 80/20-rate, may be influenced by this change.

8.2.1. Length of comparable time series

To date 2011-2014 is comparable.
2003-2011 has some breaks in 2009, 2010 and 2011. These are mainly related to the effcts of financial crisis effects on negative incomes and changes in the household definition used in the calibration. These breaks will be gone once the revision has been carried out, in late 2016.

8.3. Comparability - domain

Not requested by Reg. 28/2004

9. Coherence   Top

The coherence of two or more statistical outputs refers to the degree to which the statistical processes, by which they were generated, used the same concepts and harmonised methods. A comparison with external sources for all income target variables and the number of persons who receive income from each 'income component' will be provided, where the Member States concerned consider such external data to be sufficiently reliable.

9.1. Coherence - cross domain

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

9.1.1. Coherence - sub annual and annual statistics

Not requested by Reg. 28/2004

9.1.2. Coherence - National Accounts

Not available

9.2. Coherence - internal

Full internal coherence where SILC and national Danish concepts match, which is the case for the vast majority of variables.
There are slight differences between aggregated SILC and the national Danish register variables on incomes. these differences is that in SILC
- imputed rent and interests payments related to the mortgage is not included
- private pension payouts are included
- Fringe...
-

10. Cost and Burden   Top

Not requested by Reg. 28/2004

11. Confidentiality   Top

Not requested by Reg. 28/2004

11.1. Confidentiality - policy

All personal identifiers has been removed from the data. De-identified microdata can be aqquired thorugh Eurostat and danish research institutions can apply for access to danish data through Statistics Denmarks research services (http://www.dst.dk/en/TilSalg/Forskningsservice.aspx)

Only aggregated data and tables are disseminated in publications and on the web. Standard discretionary measures are taken for the dissemination of data.

11.2. Confidentiality - data treatment

Not requested by Reg. 28/2004

12. Statistical processing   Top

Detailed information concerning sampling frame, sampling design, sampling units, sampling size, weightings and mode of data collection can be found in this section. Such information is mainly used for the computation of the accuracy measures.

12.1. Source data

Interview based data combined with register based information.

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 as follows.

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

• 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 and the selected person (the household respondent).

• At the interview, a "statistical household" following Eurostat's definition is defined. Only households where statistics Denmark is able to identify the personal ID (CPR) for all adult members is included in the final survey data.

Data on Incomes, housing and basic demographics is based on administrative registers. Labour market data, Material deprivations, health and subjective data primarily stems from interviews.

The questionnaire was split up into 5 different parts.

a)   Questions relating to defining households

b)   Questions about the household

c)   General questions about the household members

d)   the ad-hoc module

e)   Detailed questions about the selected person; including detailed labour information and health information

The majority of interviews is carried out on the web. If the household do not fill in the web-questionaire, they are contacted by phone by Statistics Denmarks interviewers.

According to the instructions given to the interviewers, all questions are asked to the selected respondent member of the household, this also goes for questions regarding the labour market status of other members of the household. The interviewers are told to accept partners/spouses as proxies for the interview, if strictly necessary. Other members of the household is not accepted as proxies.

12.1.1. Sampling design and procedure

Type of sampling design

SRS

Stratification and sub stratification criteria

Non

Sample selection schemes

-

Sample distribution over time

-

12.1.2. Sampling unit

The sample is a one stage sample. The sampling unit is the individual person. The household is defined as the household defined by the selected person is member at the time of the interview. 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.

12.1.3. Sampling rate and sampling size

Concerning the SILC instrument, three different sample size definitions can be applied:

- the actual sample size which is the number of sampling units selected in the sample

- the achieved sample size which is the number of observed sampling units (household or individual) with an accepted interview

- the effective sample size which is defined as the achieved sample size divided by the design effect with regards to the at-risk-of poverty rate indicator

Given that the effective sample size has been already treated in the section dealing with sampling errors, in this section the attention focuses mainly on the achieved sample size.

Number of households in the sample: 16,500

Number of households in the sample, excl. dead, children under 16 years old and non-private households: 15,727

Number of households contacted is 7,945

Number of households for which an interview is accepted for the database: 5,786

Total # of families(proxy for households) in Denmark: 2,863,774

12.2. Frequency of data collection

The data is collected annualy.

12.3. Data collection

Mode of data collection

The interview based data are collected via web interviews. If the selected respondent have not respondent have not responded within a shorter period a letter are mailed out reminding on the survey. If this does not give any reply the respondent are called by phone and the interview is conducted. If it is not possible to reach the respondent by phone a paper interview is mailed out.

1-PAPI (% of total)	2-CAPI (% of total)	3-CATI (% of total)	4-Self administrated (% of total)
0	0	29.0	71.1

Of the 71.0 pct. Self-administered, the 66.1 percentage points are web-interviews and 4.9 percentage points are Paper iquestinnaires.

The mean interview duration

The mean interview duration per household is calculated as the sum of the duration of all household interviews plus the sum of the duration of all personal interviews, divided by the number of household questionnaires completed. Only households accepted for the database have to be considered.

Average interview duration (CATI) ~ 13 minutes

12.4. Data validation

During the interviews filters ensure that only valid answers to the questions can be given. When entering amounts the respondent will recieve a warning and given the possibility to change his/her answer, if the answer is significantly outside the norms.

After the interview process a range of basic checks for consistency in fx. the family composition is carried out and the data corrected according to the checks.

12.5. Data compilation

12.5.1 weigting procedure:

Adjustments 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:

- Equivalised disposable income
- The size of the household
- Education level of the person with the highest professional status in the household
- Socio-economic status of main income holder in the household

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:

- Risk of poverty
- Age (5 classes 0-15, 16-24, 25-49, 50-64, 65+) and sex.
- Family type.
- Income mass and income groups (12 intervals: 1, 5, 10, … 90, 95, 99th percentile).

From 2010 the income mass within income groups has been weighted to fit the register better. This has been done in order to obtain better consistency between our register data and the EU-SILC data, when measuring especially the Gini coefficient.

12.5.2. Estimation and imputation

Imputed rent is imported from the income statistiscs register. Here it is imputed based on the tax departments asesements of the private home values, used for the taxation of property. Individuals imputed rent is based on the valuation of the houses(s) they own. Do they own more than one house/apartment, the one that matches their adress is used, otherwise the most expensive is picked. Half the value of Vacation-housing is furthermore added. The rental value is finally adjusted by a factor to ensure that the macro level of the national accounts match the micro level in the registers. In 2012 the imputed rent was set to 5.2 percent of the property valuations by the tax department.

12.5.1. Weighting procedure			
Design factor	Non-response adjustments	Adjustment to external data	Final cross sectional weights
-	-	-	-

12.5.2. Estimation and imputation	
Imputation procedure used	Imputed rent	Company car
-	4,7 pct. of home value acccording to tax registers. Level determined to match imputed rent in the Danish NA.	From register

12.6. Adjustment
Not requested by Reg. 28/2004

13. Comment

No comments

Related metadata

Annexes