

## **Documentation of statistics for Household Budget Survey 2023**

## **1 Introduction**

The Household Budget Survey describes in detail the Danish households' expenditure on goods and services and the economic condition of the households. The statistics are used to compile weightings in the Consumer Price Index and for calculation of the private consumption in the National Accounts. The statistics were first compiled in 1897 and annually since 1994.

## **2 Statistical presentation**

The Household budget survey is an annual statement of the detailed private consumption at household level for private households in Denmark. The survey covers private households in Denmark. The household budget survey provides a detailed breakdown of consumption. In the most detailed breakdown, consumption is divided into approx. 1,200 different consumption types.

### **2.1 Data description**

The Household Budget Survey is an annual statement of consumption in private households. A private household is defined as an economic unit, ie a group of people who live together and have a high degree of common economy, ie share income and expenses. Persons in various types of joint households (prisons, long-term hospitalizations, certain institutions, etc.) are not covered, as it will often be impossible to separate the private economy from the institution's finances. For some of the information in the study, it is necessary to be aware of this omission, eg when analyzing hospital use (as more permanent hospital admissions are not covered). It is the private economy that alone is highlighted. Goods consumed in production (operating assets, etc.) and other business expenses are not included.

The results of the Household Budget Survey are published in nine annual tables describing consumption per. household for a given year and background information about the households such as income levels, housing conditions, geography, type of household etc. The average consumption for all Danish households as a whole (not by type) is distributed on a detailed item level (COICOP2018 at 5-digit level), which includes almost 300 items and is shown in both current and fixed prices. In six tables, consumption is calculated at a less detailed level, namely at almost 50 items (calculated at a 3-digit level in COICOP2018). On the other hand, consumption is broken down by type of household, socio-economic status, total income, type of housing, region or age. The last table shows income and consumption by income type. Consumption here is not divided into product groups.

## 2.2 Classification system

Consumption covers expenditure on goods and services, used for the direct satisfaction of individual needs. Consumption is grouped by purpose in the international standard *Classification of Individual Consumption according to Purpose*, also known as [COICOP].

The international recommendations only give instructions on the division of consumption at an overall level, but Statistics Denmark makes a further division in order to meet specific needs.

Total consumption can in the statement immediately be grouped as follows:

- Level 1 13 groups
- Level 2 49 groups
- Level 3 137 groups
- Level 4 271 groups
- Level 5 680 groups
- Level 8 approx . 1,212 individual items

see the variable list at: <https://www.dst.dk/forbrug>

For fundamental reasons, Statistics Denmark does not conduct a breakdown of the consumption of certain brands.

In addition, a large number of other groups which are documented on the website of Statistics Denmark: [Nomenklaturer](#). This is for example; region and education.

## 2.3 Sector coverage

Not relevant for these statistics.

## 2.4 Statistical concepts and definitions

Household (Household budget survey): A group of individuals who live together and share a high degree of financial interdependence, meaning they are economically dependent on one another.

Head of household (Household Budget Survey): The person in the household with the highest total income.

## 2.5 Statistical unit

Households.

## 2.6 Statistical population

All private households in Denmark.

## 2.7 Reference area

Denmark

## **2.8 Time coverage**

2015-2023.

## **2.9 Base period**

The base period for constant price calculations are at present year 2015.

## **2.10 Unit of measure**

Consumption is measured as DKK per household per year. All amounts include VAT.

In addition, a number of characteristics are calculated, on average, for the persons in the households. These are; persons per household (including the number of children and adults), age of head of household, share of homeowners in the household and share of households with a female head of household.

Furthermore, characteristics are calculated, on average, for the dwelling itself, including size of dwelling in square meters and year of construction.

## **2.11 Reference period**

Consumption is calculated as an annual average for the year.

## **2.12 Frequency of dissemination**

The figures are published annually.

## **2.13 Legal acts and other agreements**

Up to and including 2024, the Household Budget Survey is based on a “Gentlemen's Agreement”, which means that it is voluntary for the individual member states to provide Household Budget Survey data to the EU. In 2019, it was decided that the Household Budget Survey with effect from 2024 will be based on the IESS Regulation, see [Regulation \(EU\) 2019/1700 of the European Parliament and of the Council 2019/1700 of 10 October 2019](#)).

## **2.14 Cost and burden**

No response burden has been estimated since participation in the survey is voluntary.

## **2.15 Comment**

Further information can be found at the [subject page](#) or can be obtained by contacting the Section for the Household Budget Survey.

### **3 Statistical processing**

The survey is based on a sample where the number of households accounts for about 2,200 out of Denmark's total of approximately 2.8 million households.

The survey included data from three different data sources: Accounting booklets, CAPI interviews and data from registers. In this way the sample can give results which are good approximations for all private households. The data from the 3 different sources are validated. We are constantly looking at how we can improve and compile the statistic in a more efficient way.

Data is collected annually from approximately 1,100 households and the sample for one years household budget survey is based on the sample from two years. All expenses, income, etc. are converted to the price and volume level of the end year.

#### **3.1 Source data**

The Household Budget Survey is calculated at household level, and is based on a combination of interviews and accounting of the participating households. All households are simply randomly selected. In areas where data are already known through registers, data are taken from those registers. The survey used records from: - Income Register - CPR register - BBR register - Training Register and The Employment Classification Module  
- Hospital Utilisation statistics

#### **3.2 Frequency of data collection**

Data are collected annually. Households participate continuously throughout the year in the survey. In this way we ensure that seasonal consumption are represented in the survey.

#### **3.3 Data collection**

An external service provider takes care of the data collection for the Household Budget Survey. Households that are randomly selected are sent a letter about participation in the survey via E-box and are subsequently contacted by telephone. If the household agrees to participate, the household must keep a 14-day account of their consumption and subsequently be visited by an interviewer who asks questions about the household's fixed expenses and major expenditure items a year back in time. The 14-day account is digital, but can also be completed on paper. The interview is conducted in CAPI (a computer-based personal in

Data for 2022 and 2023 has been collected via Computer Assisted Telephone Interviews (CATI) and Computer Assisted Web Interviews (CAWI).

Data from administrative registers is retrieved per 31 December in the reference year, or the latest year available. If data is obtained from an earlier year than the reference year, price and quantity data are converted to the price level for the reference year.

### **3.4 Data validation**

Interview data is validated both during and immediately after the visit interview. The validation during the interview consists partly of logical and partly of probable checks, while the validation after the interview is done manually. A logical check could be, for example, whether the household has a TV, but has not reported expenses for a license or antenna association, or that the household has a car, but does not report expenses for weight tax, car insurance, etc. A likely check could be, for example, that very high or low amounts are investigated directly in the program used for the interview and that the household is confronted with this and must deal with whether it is correct.

When data is received in Statistics Denmark, it goes through a validation which, for example, involves assessing the household's consumption in relation to its size. If, for example, there is only one person and a very high water consumption, or there are, for example, two adults with children, where it has not been reported how many months have been used for daycare and school, the household will be contacted to clarify the accuracy of the information. Some corrections are made without contacting the household, where the description of the purchase and the amount seem contradictory. It could be, for example, that a liter of milk is registered with an amount of DKK 1,000. This will be corrected to DKK 10.00.

The 14-day accounts are validated continuously when they are received, and collectively when the collection of accounts for a year has been completed. In the overall validation, it will be checked, for example, whether all purchases are coded correctly according to the classification, COICOP2018.

### **3.5 Data compilation**

When we have finished the validation of the interviews and accounts booklets the registry variable are linked in the data set. Sometimes it's difficult to find the household in the sample in the register data, this kind of difficulties can often be attributed to differences in the calculation date. When this happens we make manual imputation of for example, an individual's level of education.

After finishing the processing of Micro-data the enumeration process of making the data representative for the entire country begins. The figures in all tables are weighted this is done in order to partially resolve the gaps, as different dropout and pure random coincidences leads. Those types of Household where the risk for not participating in the survey is relatively large, which therefore results in too few households in the survey are assigned a relatively large weight, while household types, as there are too many of, is assigned a relatively small weight.

Information about both the enumerated number of households in Denmark after the weighting and on the actual number of households in the survey can be found in most tables. This last statement is relevant to assessing the sampling uncertainty, since a small number of households results in a relatively large uncertainties.

The weights are calculated using a regression estimate. The focus is on each characteristics of the relationship between sample and population. The advantage of this method is that many more features are considered than in the former method were post-stratification was used. Following characteristics are involved in the estimation:

- Household size and composition
- Income
- Main Income Recipient's socio-economic status
- The household owns or rents the dwelling
- What type of urban household lives in
- Education
- Gender
- Geography

### **3.6 Adjustment**

We do not make other corrections of data besides those corrections described during data validation and data processing.

## **4 Relevance**

In addition to the general public the Household Budget Survey has a wide application. Internally in Statistics Denmark during the compilation of national accounts and price indexation. Public authorities' planning and feasibility studies, etc. Internationally, where especially EUROSTAT is very active in order to establish comparable figures between countries. Research in a number of areas, as well as for marketing purposes.

#### **4.1 User Needs**

In addition to serving the general public interests the survey has a broad group of users:

- It is used internally at Statistics Denmark in compiling price indices and national accounts statistics.
- Government bodies use the survey for purposes of planning and for conducting analyses of the consequences of new legislation, etc.
- The survey is used for researches purposes within several fields.
- The survey can be used for marketing purposes, etc.
- Internationally, the survey is widely used. Especially, Eurostat is very active in enabling comparability of the survey results among the EU Member States.

The statistics are very rich in detail and have a relatively long production time.

#### **4.2 User Satisfaction**

A user satisfaction survey has not been conducted.

#### **4.3 Data completeness rate**

The Household Budget Survey is indirectly subject to the Council Regulation (EC) No. 2494/95 ( 1 ) of 23 October 1995 concerning harmonised indices of consumer prices. The Household Budget Survey provides data to Eurostat every 5 years and meets in this respect the guidelines sent out by Eurostat.

### **5 Accuracy and reliability**

With only 12 pct. of the households who have been contacted participating in the Household Budget Survey. This creates uncertainty, not least for detailed consumer groups. For total consumption, this means that there is an uncertainty margin of +/- 1.8 per cent. while that for that for bread is 2 per cent. and 24 per cent. for a rarely purchased item such as offal. There is underreporting in a number of areas such as alcohol, tobacco, prostitution and undeclared work. The uncertainty is greater when data is based on accounting rather than interviews, and it will be greater if one looks at smaller subgroups of households.

#### **5.1 Overall accuracy**

Only 2,326 households out of 19,599 selected households chose to participate in the Household Budget Survey 2023. For the total consumption for the entire population, there is an uncertainty margin of +/- 1.8 per cent, so that the total consumption, which is estimated at DKK 374.247 with 95 percent certainty, it is expected to lie between DKK 361,022 and DKK 387,471 For individual groupings in the population and product groups that are rarely traded, the uncertainty is greater. The consumption is thus more precisely calculated for, for example, households with higher incomes or where the main income recipient is of Danish origin, is in work, is over 60 or has education beyond primary school, as there are relatively more of these groupings who participated in the survey.



## 5.2 Sampling error

The total sample for the Household Budget Survey 2023 consisted of a total of 19,599 households drawn in respectively 2022 (7,182) and 2023 (12,417).. In 2022, 1,178 households participated, while 1,148 households participated in 2023 a total of 2,326 for FU2023. The participation rate for the Household Budget Survey 2023 was thus 12 per cent. Sample uncertainty is calculated for the individual consumer product groups based on the households that have chosen to participate in the survey. In the Household Budget Survey 2022, the sample uncertainty is based on the responses from 2,326 participating households. The sampling uncertainty is quantified by the coefficient of variance (the relative standard error).

The coefficient of variance for the total consumption per household in the Household Budget Survey was 1.8 per cent. This means that at 95per cent the confidence interval for the total consumption per household is DKK 374,247 +/- 13.225.

There is great variation in the sampling uncertainty between total consumption and specific consumptions categories. Consumables that are bought often have a lower sample uncertainty than consumables that are seldom bought.

Bread, for example, is a product group that most households often buy during the week-long accounting they have had in connection with participation in the survey. The coefficient of variance on bread for an inspection household is 2 per cent, while that for offal eg is 24 percent.

Similarly, the coefficient of variance is 3,9 percent in the region of the capital, while it is 5,0 percent in the region of Zealand. Tables on <http://www.dst.dk/consumption.dk> shows the detailed coefficients of variation.

## 5.3 Non-sampling error

The sample basis for the study is inhabited private household addresses in Denmark for a given year. The pull-out frame contains not only private households, but also common households. Attempts are made to avoid this in the Household Budget Survey, by only extracting households with a maximum of 8 inhabitants. This may give rise to a bias in that we do not extract large private households (households with more than 8 people), but this problem is estimated to be minimal.

The framework population is based on two calendar year populations and must affect the target population in one given year. The target population is thus represented by a framework population from 2022 merged with one from 2023. In general, the framework population, which is based on 2022, largely covers 2023. However, some households may change character from 2022 to 2023.

## 5.4 Quality management

Statistics Denmark follows the recommendations on organisation and management of quality given in the Code of Practice for European Statistics (CoP) and the implementation guidelines given in the Quality Assurance Framework of the European Statistical System (QAF). A Working Group on Quality and a central quality assurance function have been established to continuously carry through control of products and processes.

## **5.5 Quality assurance**

Statistics Denmark follows the principles in the Code of Practice for European Statistics (CoP) and uses the Quality Assurance Framework of the European Statistical System (QAF) for the implementation of the principles. This involves continuous decentralized and central control of products and processes based on documentation following international standards. The central quality assurance function reports to the Working Group on Quality. Reports include suggestions for improvement that are assessed, decided and subsequently implemented.

## **5.6 Quality assessment**

The Household Budget Survey is a sample survey, combined with a wide range of register variables. The survey is based on a simple randomly drawn sample. The survey has over a number of years been conducted by the same procedure.

The study's annual sample is not large enough to only give a reliable estimate of consumption. Therefore included sample data from the previous years also in the total charge for the year. The study has the character of a sort of "moving average".

Through several years the study has been conducted by the same procedure. This has been conducted partly to ensure a better comparison over time and partly to provide faster results and to minimise errors.

The Household Budget Survey was in the period 1994-2013 based on a three-year sample. From 2014 and onwards, the Household Budget Survey is based on a two-year sample. This is an improvement of the Household Budget Survey, since the figures brought forward by 12 months.

## **5.7 Data revision - policy**

Statistics Denmark revises published figures in accordance with the [Revision Policy for Statistics Denmark](#). The common procedures and principles of the Revision Policy are for some statistics supplemented by a specific revision practice.

## **5.8 Data revision practice**

Since the publication of the Household Budget Survey 2017, there is only an annual publication, therefore no revisions will be made in the future.

## **6 Timeliness and punctuality**

The statistics are published approximately 12 months after the end of the reference year. The statistics are usually published according to the time announced.

### **6.1 Timeliness and time lag - final results**

The statistics are published approximately 12 months after the end of the reference year.

## **6.2 Punctuality**

The statistics are usually published without delay in relation to the scheduled date.

The Household Budget Survey 2020 was four weeks delayed due to delayed income data due to COVID19.

The Household Budget Survey 2023 was four weeks delayed due to implementation of new consumer nomenclature, COICOP2018.

## **7 Comparability**

The Household Budget Survey is carried out in accordance with guidelines from the European Statistical Office, Eurostat. Comparable figures are published by Eurostat. Since 1994, the survey has been methodologically redesigned, so it is now conducted annually using the same method and on a comparable basis.

Data for the period 2014 to 2022 were based on a two-year sample and the ECOICOP nomenclature. To ensure comparability over time, data for 1994 to 2013 were recalculated according to this nomenclature in both current and constant prices.

From 2023, COICOP2018 has been implemented in the Household Budget Survey as the survey has become subject to a regulation. Therefore, data for 2015–2022 have been recalculated in current and constant prices according to COICOP2018 to ensure continuity.

### **7.1 Comparability - geographical**

The calculation of the Household Budget Survey is based on international recommendations and therefore there is a good correlation with figures from countries of the European Union. Eurostat publishes every five years each country's Household Budget Survey in their publication databases.

## 7.2 Comparability over time

The first time Danes' consumption was recorded was in 1897, when the consumption of Danish working-class families was surveyed. Up until 1994, various surveys of Danish consumption were carried out, often focusing on different population groups. For example, in 1909 household accounts were compiled for urban workers, farm workers, smallholders and farmers, and in 1916 for civil servant families. From 1971, household budget surveys have been conducted. In 1971, the focus was on the consumption of employees, and from 1976 onwards, the surveys have covered the consumption of private households.

Since 1994, annual surveys of the private consumption of Danish households have been conducted. The data collection method was based on collecting data over three consecutive years, which were combined into a sample. Data from year  $t-1$  and  $t+1$  were adjusted in terms of price and quantity to match the level of the middle year,  $t$ . A disadvantage of this model was that only the data for year  $t+1$  were updated and adjusted to the middle year, giving the survey the character of a kind of moving average. Switching to a two-year sample from 2014 did not resolve this issue, but it did accelerate the production of data, making the survey more current and relevant. The method remains based on annual data collections. The sample now consists of year  $t-1$  and  $t$ . For example, the 2023 sample consists of data from 2022 ( $t-1$ ) and 2023 ( $t$ ), which are adjusted in terms of price and quantity to the price level of 2023.

Since the publication of the 2014 figures, the Household Budget Survey has been based on a two-year sample and the ECOICOP nomenclature instead of COICOP1999. To ensure comparability and continuity, data from 1994 to 2013 have been recalculated in both current and constant prices according to the ECOICOP nomenclature.

Since 2012, the survey has been supplemented with data in constant 2005 prices, making it possible to track volume trends over time.

From the publication of the 2023 figures, Denmark has replaced ECOICOP with COICOP2018. To ensure comparability and continuity, data from 2015 to 2022 have been recalculated according to COICOP2018. As a result, data can now only be compared back to 2015.

COICOP2018 differs in several important respects from ECOICOP. COICOP2018 is an updated version developed by the United Nations and includes new consumption categories, such as streaming services and mobile apps. Consumption group 12 'Miscellaneous goods and services' has been split into two distinct groups as part of the transition to the COICOP2018 nomenclature. This split has led to the creation of a new main group, namely group 13 'Personal care, social protection and miscellaneous goods and services,' which enables a more detailed and systematic recording of household consumption expenditures.

## 7.3 Coherence - cross domain

The classifications and definitions used are aimed to be as comparable as possible with the national accounts. But the methods, etc., in these two kinds of statistics are very different. The classification of consumption is based on the international COICOP5 classification, which is also used in compiling price indices. It is difficult to conduct comparisons with the general population statistics and other register-based statistics, as the household definition in the survey is different: In the survey the household definition is the economic unit, which is decided by the household members themselves, while in the general population statistics the household definitions are derived from the administrative registers-based information.

These statistics are also used in the experimental statistics Income and consumption distribution in the household sector.

## 7.4 Coherence - internal

The Household Budget Survey is based on three data sources, interviews, accounting and registers. A great deal of work is done to ensure that the register information used is consistent and valid in relation to linking it to the interview and the accounting information.

## 8 Accessibility and clarity

The Danish Household Budget Survey is published in a Danish press release, at the same time as the tables are updated in the StatBank. In the StatBank, these statistics can be found under [Household Budget Survey](#). For further information, go to the [subject page](#).

### 8.1 Release calendar

The publication date appears in the release calendar. The date is confirmed in the weeks before.

### 8.3 User access

Statistics are always published at 8:00 a.m. at the day announced in the release calendar. No one outside of Statistics Denmark can access the statistics before they are published.

### 8.2 Release calendar access

The Release Calendar can be accessed on our English website: [Release Calendar](#).

### 8.4 News release

These statistics are published in a Danish press release.

### 8.5 Publications

The Household Budget Survey does not feature in any [Publications](#) from Statistics Denmark.

### 8.6 On-line database

The statistics are published in the StatBank under the subject [Household budget survey](#) in the following tables:

- [FU11](#): Household budget survey by background information, group of households and time
- [FU12](#): Household average consumption by group of consumption, price unit and time
- [FU13](#): Consumption by group of consumption, households, price unit and time
- [FU14](#): Consumption by group of consumption, socioeconomic status, price unit and time
- [FU15](#): Consumption by group of consumption, total income, price unit and time
- [FU16](#): Consumption by group of consumption, type of dwelling, price unit and time
- [FU17](#): Consumption by group of consumption, region, price unit and time
- [FU18](#): Consumption by group of consumption, age, price unit and time
- [FU19](#): Average household income and consumption by type of income and time

## **8.7 Micro-data access**

Researchers and other analysts from authorized research institutions, can be granted access to the underlying Micro-data by contacting [Research Services](#).

## **8.8 Other**

Eurostat publishes internationally comparable statistics, including Danish, for the Household Budget Survey in their [database](#).

## **8.9 Confidentiality - policy**

[Data Confidentiality Policy](#) at Statistics Denmark are followed.

## **8.10 Confidentiality - data treatment**

The survey is performed under full anonymity. The publication is published so that it is not possible to identify individuals.

## **8.11 Documentation on methodology**

Documentation on methodology only exists in Danish.

## **8.12 Quality documentation**

Results from the quality evaluation of products and selected processes are available in detail for each statistics and in summary reports for the Working Group on Quality.

## **9 Contact**

The administrative placement of these statistics is in the division of Prices and Consumption, Economic Statistics. The contact person is A Solange Lohmann Rasmussen, tel.: + 45 6115 1793, and e-mail: SLR@dst.dk.