

# Methodology

Household Budget Survey (HBS) monitors and provides information on expenditure and structure of consumption expenditure of private households, differences in consumption expenditure patterns of households classified by various aspects, or on impacts of certain factors (e.g. price movements, situation on the market) on expenditure structure. There is no similar source of information on consumption behaviour of households, which makes this survey unique.

Primarily, results of HBS help social and economic research, internal use by the CZSO (composition of the consumer basket during periodical consumer price index revisions, an auxiliary data source for the account of the household sector within the national accounts statistics, etc.) and also facilitate international comparisons.

The HBS survey has been carried out utilizing a new survey design since 2017. HBS has been integrated into European Union – Statistics on Income and Living Conditions (SILC) using a subfile of households randomly selected from SILC (till 2016, the survey had been based on quota sampling).

## 1. Organization of the survey

### 1.1 Sampling

The sample of HBS is derived from the four-year panel survey SILC. The sampling unit is a dwelling.

During the first-wave visit all households and all the persons who have the dwelling as their main place of residence are surveyed. During the waves 2-4 only those households are surveyed which include a panel person (the persons interviewed in the 1st wave).

Household Budget Survey (HBS) is carried out in all regions of the Czech Republic over the whole year. The sampling unit is a household which was successfully interviewed in SILC. If a flat was occupied by more than one household in SILC, each of the households is surveyed separately in HBS. All households from the 3rd wave of SILC were interviewed in the 1st wave of HBS. Households which had not refused to participate in HBS were reinterviewed in the following year (2nd wave of HBS) in another reference period.

### 1.2 Fieldwork, data entering

As a preliminary step, each household was assigned an 8-week reference period (two 4-week diaries) by setting the date on which to start the first diary (the day has to be Monday). This rotation scheme was designed to distribute the given types of household evenly throughout the course of a year.

The aim of the survey was to get information on expenditures of all household members of each selected household, supplemented by data on household composition, durables and other household characteristics. During the personal interview on the first visit the CZSO interviewer filled out the opening questionnaire. He updated specific information obtained from SILC and added further data about the household. Each household collected receipts of their expenditures, bus tickets, theatre tickets etc. for a period of 8 consecutive calendar weeks. As an alternative, households could write down purchased items in a paper Diary. The interviewer visited the household again after roughly a month (2nd and 3rd visit). He picked up the completed Diary with receipts and resolved ambiguities, if there were any.

The opening HBS interview was done by CAPI (the interviewer used an electronic questionnaire on his notebook) or PAPI method (interviewer used a paper questionnaire for recording answers which was then entered into an electronic questionnaire). Specialized staff then entered individual items from receipts and Diaries into the computer and every item of expenditure obtained its COICOP code. Fieldwork specialists sent data to the headquarters and checked their correctness. Regional data from questionnaires and Diaries were merged at the headquarters, and final checks and calculations followed.

### 1.3 Number of households in HBS

Published results are calculated based on the total number of 3 552 households which were successfully interviewed in 2018 and 2019. The response can be found in the following table:

	2018			2019		
	Total	HBS 1st wave	HBS 2nd wave	Total	HBS 1st wave	HBS 2nd wave
<b>Number of successfully interviewed households</b>	1 662	984	678	1 890	986	904
<b>Share of successfully interviewed households (%)</b>	53,4	41,9	88,9	60,0	45,8	90,5

Source: CZSO

The length of reference period for data collection of expenditures in each household has been 8 consecutive calendar weeks since 2017. As successfully interviewed a household was regarded which submitted at least one completed Diary for the period of 4 weeks. The significant shortening of reference period (from former 12 months to current 8 weeks) has to be taken into account for comparisons of counts of currently selected households with the numbers of households interviewed till 2016.

### 1.4 Grossing up and weighting

The HBS sample was a sub-sample of households from SILC, thus the SILC data were used as a basis for grossing-up. The significant non-response rate on the 1st wave of HBS, influenced additionally by the SILC non-response during the previous years, disrupted the composition of the final dataset from which HBS results were calculated. The limiting factor for the method of grossing-up (or, rather, calculation of weights coefficients) was the relatively small size of the sample when combined with the lowered length of the reference period for collecting expenditure data.

The grossing-up included:

1. Elimination of complete non-response, ie assignment of correction coefficients to individual households reflecting their occurrence in the HBS sample in relation to population estimates obtained from SILC. A method combining post-stratification with subsequent calibration to the SILC estimates of number of households, persons, working members and dependent children was used to get the weights.

Due to non-response, the structure of the sample of households was distorted. It affected the level of incomes and the structure of consumption expenditures. This distortion was corrected according to the following aspects:

- 4 individual quarters – with respect to the seasonal nature of certain groups of expenditures;
- 4 groups of households by status of head of household – correction of the structure of the population as well as the level of incomes and structure of consumption expenditures;
- 2 groups by type of house / flat – with respect to different responses in cities and small municipalities and different housing costs in various locations.

2. Elimination of partial non-response – insufficient description of selected expenditure items (especially housing expenditures) did not allow their exact coding using the most detailed level of COICOP classification. The known structure of the relevant expenditure group by the selected types of households was used in these rare cases.

Data for 2019 also included data of households from the 2018 sample. Expenditures of these households were correspondingly converted using average (moving) year-on-year consumer price indices by COICOP classification.

Net money income from SILC was assigned to every household for classification of households by income level. Net money income from SILC related to the previous year and was adjusted by the year-on-year consumer price index.

## 2. Methodological notes on published tables

The publication contains the results for households. The definition of household is based on the sharing of expenditures concept, which is further based on the declaration of the persons in the dwelling that they permanently live together and pool their finances to cover their needs.

Demographic variables (marital status, education) and economic activity were collected as to the date of the opening interview. Household expenditures were reported for a period of 8 consecutive calendar weeks.

Characteristics of households present their structure according to the various classification criteria and thus supplement or explain data on expenditures.

Values in the tables were calculated from the weighted microdata and rounded. The total counts of households or persons may therefore not always exactly correspond to the sum of the counts for a given breakdown. For the same reason, the sum of percentages may not always be equal to 100.

The use of tags in tables has established rules. Zero (0) is used to indicate figures smaller than half of the selected unit of measure, a dash (-) is used if the event did not occur. The dot (.) means that the data is not available, and a cross (x) shows that the entry is not possible for logical reasons.

Whenever the term “children” is used in table headings, it always means dependent children (in accordance with the definition in part 2.1.1). The aforementioned net money income was used for the households-by-net-money-income breakdown.

It is clear from the headings of individual tables for which sets (or subsets) of households the data are calculated. The tables have 2 parts, labeled by name and letters a) and b), which have separate captions.

The time series of previously published HBS data was discontinued in 2016 as a result of a fundamental methodological shift in the entire HBS system. A new time series was begun in 2017.

### 2.1 Description of variables

#### 2.1.1 Household composition

- Size of the household – the number of household members at the time of the opening interview including persons temporarily away, if the period of actual or foreseen absence is shorter than 6 months and the person has no other private address. For persons studying away from home, the period of absence may be longer than 6 months, provided that the person has no private address and retains financial ties to other household members. Persons with a period of absence longer than 6 months, persons without financial ties to the household and persons temporarily present at the time of the interview who have their private address elsewhere are excluded.
- At work – the prevailing economic activity status of these persons at the time of the opening interview was employed (employees, self-employed, members of production cooperatives, unpaid family workers in family businesses). Persons drawing sickness benefits, students who apart from their study also worked (in employment, private enterprise), pensioners or persons on maternity leave with regular income from work were also included.
- Dependent children – children under 26 years of age, provided that the person is still in education despite having their own income (orphan’s pension, education-related allowances, social benefits, income from short-term work); furthermore, those children were also included who due to a mental or physical handicap had not been able to attend school or earn their own living and who had not yet received their invalidity pension.
- Pensioners (without economic activity) – persons receiving pensions from the social security system (old-age, disability, survivor’s) or persons of retirement age that were not eligible to receive pensions and they had not a job at all or their working activity had only limited extent.
- Unemployed – persons who did not have a job for a predominant part of the year but who wished to have one. Such persons did not have to comply with the strict ILO definition about actively seeking a job and readiness to start one.
- Other persons – persons on parental leave, inactive persons caring for household members, persons living on property income and others.

- *Expenditures are presented as per capita household expenditures or per household expenditures or equivalised averages – using OECD and modified OECD equivalence scale. Household expenditure is equivalised in order to reflect differences in household size and composition. The equivalised income is defined as a per-equivalent-adult figure. In other words, to obtain a person's equivalised income, the total household income is divided by its equivalent size. The OECD equivalence scale gives a weight of 1,0 to the first adult, 0,7 to any other household member aged 14 and over and 0,5 to each child below 14 years. The modified OECD equivalence scale gives a weight of 1,0 to the first adult, 0,5 to any other household member aged 14 and over and 0,3 to each child below 14 years.*
- *The published averages of household members and two versions of consumption units (CU) are a part of all tables and enable users to calculate per household or consumption unit averages using a simple algorithm.*

### **2.1.2 Household characteristics**

- *Head of household – for couples with or without children it is always the male, regardless of his economic activity. In lone-parent families (one parent with child / children) and in non-family households (persons not related by marriage or partnership, or parent – child relationship) the first criterion for determining the head of household was economic activity and the second criterion was income of household members. This rule was also applied in more complicated household types (for example in the case of sharing expenditures among multiple two-parent families).*
- *Household type – is based on household composition. Two-parent families are based on a couple (married or cohabitating), with or without children. The lone-parent family category contains households with one parent and at least one child. In addition to these basic structures, these households may also contain other household members. The households where all children are dependent and there are no other members except parents are labelled as nuclear families. One- or two-parent non-nuclear families comprise also other persons than just parents and their dependent children. Non-family households are entities consisting of two or more persons with other than husband-wife or parent-child relations.*
- *Education – 4 categories: primary (incl. incomplete), lower or vocational secondary, upper secondary, tertiary. Upper secondary education includes also vocational education with a secondary school-leaving exam. Post-secondary non-university education falls under the rubric of tertiary education. Besides this, tertiary education includes all tertiary programs - bachelor, graduate and post-graduate level.*
- *Information on the number of rooms in a dwelling was taken from the last SILC.*

### **2.1.3 Consumption expenditure of households**

*Since 1999 for classification of consumption expenditure in the HBS the CZ-COICOP “Classification of individual consumption by purpose” has been used. The classification is of three levels, it has 14 divisions, 58 groups and 157 classes. It was prepared in the framework of the transformation of classification system as the Czech version of international standard COICOP (Classification of Individual Consumption by Purpose) to ensure international comparability of statistical indicators and it is binding for all statistical surveys performed in compliance with Act No. 89/1995 Sb., on State Statistical Service, as amended. The subject of the classification is to classify all kinds of individual consumption (expenditure on goods and services) by purpose. For monitoring of household consumption expenditure the first 12 divisions of the classification are designed. Group 04.2 Imputed rentals has not been introduced into the HBS. Apart from water supply, sewage collection is included in group 04.4.1.*

*Expenditures in compliance with CZ-COICOP are arranged in 12 divisions:*

- 01 Food and non-alcoholic beverages*
- 02 Alcoholic beverages, tobacco*
- 03 Clothing and footwear*
- 04 Housing, water, electricity, gas and other fuels*
- 05 Furnishing, household equipment and routine maintenance of the house*
- 06 Health*
- 07 Transport*
- 08 Communication*
- 09 Recreation and culture*
- 10 Education*
- 11 Restaurants and hotels*
- 12 Miscellaneous goods and services*

Since 2017 life insurance with a savings account, supplementary pension insurance schemes and similar forms of investment have not been classified as insurance. These products have been coded as deposits, not consumption expenditure. This methodology has been implemented in accordance with the methodology recommendations of the European Statistical Office (Eurostat).

Our results no longer include expenditure that is outside the CZ-COICOP classification, such as investment expenditure related to (re)constructing a dwelling or money spent on utility gardens and livestock.

All tables end with consumption expenditure structure broken down into 12 main COICOP divisions.

## 2.2 Published breakdowns

Tab. 1 gives data for households, total and household groups by activity status of the head of household.

- **Households, total** – represent the average household in the Czech Republic;
- **Households of employees** – the household head's prevailing activity status is employee
  - Households of employees with lower education: the highest attained education level of the head of household is primary or secondary-vocational,
  - Households of employees with upper education: the highest attained education level of the head of household is complete secondary or tertiary;
- **Households of self-employed** – the household head's prevailing activity status is self-employed (in whatever field it may be, including agriculture); self-employed persons do business based on trade licenses or special regulations, participants in joint ventures based on contracts (Limited liability companies, Corporations), professionals (doctors, lawyers, tax advisers) and persons working for royalties (artists, interpreters);
- **Households of pensioners without working members** – the household head was an inactive pensioner and nobody in the household worked.

In the tab. 2 two classifying aspects allowing assessment of relations between housing costs and municipality size or type of dwelling are applied.

Tab. 3 – households total by quintiles based on net monetary income per capita. The households were ordered and divided into quintiles according to the net per capita household income. The values of quintiles are incomes of the last household in that quintile group. While grossing up the survey data, it is not possible to maintain exactly the same number of households in each quintile group. Therefore, the household counts may slightly differ.

Tab. 4 comprises information on households broken down by number of dependent children and families by type.

Tab. 5 presents a breakdown of childless households by at-work status of their members and size of the household.

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In this publication, it was possible to bring out only some results of Household Budget Survey. The data collected in the survey makes it possible to publish various other breakdowns that are not included in this output. For further information contact Information Services (+420 274 052 304 or [infoservis@czso.cz](mailto:infoservis@czso.cz)).