

Household Surveys Integration: Household Budget Survey Methodology in Czechia

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Abstract

The article aims at mapping the history of the Czech version of the Household Budget Survey (HBS), i.e. *Statistika rodinných účtů (SRÚ)*, and on the historical changes in its methodology. *Statistika rodinných účtů* is a survey focused mainly on private household expenditure in all the regions of the Czech Republic. The first official SRÚ survey was conducted in 1920 by the Statistical office of the former Czechoslovak Republic. This article offers a brief overview of the more than 100 years of the survey, which have been shaped significantly throughout the different eras it had underwent, both by the socio-political contexts and by the gradual technological progress. Last but not least, methodological changes which occurred in 2017 are discussed, as well as some important aspects of the present-day form of the survey.

Keywords

Household Budget Survey (HBS), Statistika rodinných účtů (SRÚ), Czech Statistical Office (CZSO), household survey methodology, household consumption expenditure

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INTRODUCTION

Household Budget Survey (HBS) is a survey carried out in all EU countries, which is focused primarily on private household expenditure. In the Czech Republic, the national survey is conducted under the name “*Statistika rodinných účtů*” (hereinafter referred to as SRÚ) in all Czech regions. It is aimed mainly at mapping the expenditure’s value, as well as its structure, based on the information acquired from the households directly. In the Czech context, the survey has been first conducted in 1920, therefore it has a long tradition of over 100 years. Since 1957, the survey has been carried out systematically and annually (CZSO, 2023a). Until 2016, the SRÚ had been based on quota sampling (CZSO, 2023b). Since 2017, the survey has been newly integrated into the EU-SILC (Living Conditions – “*Životní podmínky*”) survey – only the households previously selected for the EU-SILC can be chosen for the SRÚ survey (CZSO, 2023a).

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The survey unit consists of a private household previously successfully interviewed during the EU-SILC survey. The main objective is the expenditure of all members of the interviewed household supplemented by data regarding the composition of the household, data on the housing and furnishings, and on the potential household farming. Surveyed households record information on their members' expenditure for eight successive weeks in a special Diary which they receive from the CZSO interviewer. The interviewer visits each household three times in total, explains how to record the information in the Diary and, if needed, completes additional information about the household (first obtained from the EU-SILC survey).

The results of the SRÚ survey on household consumption expenditure are unique and cannot be obtained in any other way than by interviewing and by keeping expenditure diaries in the households. The survey results serve primarily as a basis for assessing the social and economic situation of households in the Czech Republic. They are also crucial for creation of the so-called consumer basket, which the Czech Statistical Office (CZSO) uses in order to calculate the consumer price index (inflation). The data are also one of the sources in the compilation of national accounts estimates for the household sector (CZSO, 2023a). The results of the SRÚ survey are published annually and can be freely accessed on the CZSO website.

1 HISTORY OF SRÚ SINCE 1920

The SRÚ survey has a long tradition in the Czech Republic dating back to the establishment of the National Statistical Office (Státní úřad statistický).³ The first similar survey focused on household consumption was carried out by Professor Karel Engliš, at the time a prominent Czech economist and politician, in 1913/1914 on a sample of 65 teacher families in Moravia, which was aimed at mapping living conditions of Moravian teachers at the beginning of the First World War (Engliš, 1917).

The SRÚ itself, incorporated into the state survey system, was introduced in 1920 (CZSO, 2023a). During the first years of the survey, following the war and inter-war period, only households with a low standard of living were included in the sample, i.e. households whose head was a labourer, a clerk or a teacher. The SRÚ of that time therefore did not provide a fully representative picture of Czech households' social situation, nevertheless it offered important insights into the living conditions of lower-income families (Bezouška and Vytlačil, 1958).

Data obtained from working-class households during years 1931 and 1932 indicate that a significant proportion of household consumption expenditure went to the purchase of food and non-alcoholic beverages. In 46.1% of the labourers' households, more than 2 persons lived in one room, while by "rooms" were meant not only bedrooms or living rooms, but also kitchens (Státní úřad statistický, 1937).

In the inter-war period, the SRÚ survey was carried out until 1937, when it was discontinued, mainly due to financial and other reasons related to war (Bezouška and Vytlačil, 1958). After the Second World War, the survey was reestablished in 1947. A purposive sampling of non-agricultural households was carried out, again with a general focus on the lower-class households (Statistická ročenka republiky Československé, 1948).

In 1953, the sample was newly extended to other population groups, i.e. socially stronger households of professional or technical employees, and there was an effort to keep the representative sample stably at a minimum of 2 000 households. However, the survey faced a high percentage of declining households, mainly due to low remuneration (Bezouška and Vytlačil, 1958).

Due to a reorganization of the survey in 1956, the sample of households was increased again. Households were recruited for the survey by a combination of purposive and random sampling from business records and employment data, which was very labor demanding. A network of 'family account inspectors' was

³ Státní úřad statistický (SÚŠ; National Statistical Office) was a predecessor of the Czech Statistical Office (CZSO; Český statistický úřad).

put in place to maintain personal contact with households and to guide them methodically to complete the Diaries correctly. Today, this task is carried out by interviewers working within the interviewing network. In 1956, family account inspectors also processed the data, thus performing the role of today's compilers. In 1956, households whose head was a labourer, an employee, a pensioner, a member of a unified agricultural cooperative (in Czech "JZD"), an individual farmer, and a metalworker were surveyed (Státní úřad statistický, 1957).

2 THE BEGINNING OF THE MODERN SRÚ SURVEY

It can be argued that the modern history of the SRÚ dates back to 1957, when the survey underwent a reform and when the quota sampling was introduced. In the survey carried out in 1957, the unit of the survey was a household which consisted of a group of several persons living in a common dwelling and where its members run the household together (Bezouška and Vytlačil, 1958).

The sample size varied significantly between the 1950s and 1980s. During 1963 and 1965, it reached its highest point, with the sample size consisting of 6 600 households, when pensioners were included in the sample, too (CZSO, 1983). Even though the sample was more diverse than before, between 1957 and 1991, the only population groups that were interviewed on a stable basis were households of labourers, employees and members of JZDs; pensioner households were surveyed only occasionally. Data from this period show an increasing standard of living of households, which was reflected mainly in the changing structure of expenditures. However, it is important to note that due to the political and economic context of the period, some goods were not available, which also affected household consumption (CZSO, 1983; CZSO, 1992).

The quality and representativeness of these pre-1989 household surveys was regarded as higher in the former Czechoslovakia (and other central European countries) compared to some countries of different regions, e.g. former Soviet Union (Filer and Hanousek, 2002). Major social and economic changes after 1989 (i.e. the year of the Velvet Revolution and collapse of the communist regime) were also evident in the survey, regarding both data processing technology and changes in the consumption structure (connected to the profound socio-political changes) (CZSO, 2005).

Since 1991, households of families with children and households of non-working pensioners were newly included in the sample. Inclusion of these households made it possible to obtain data on people living near the subsistence level (CZSO, 1992). Starting in 1991, survey data have been collected on a monthly basis in a decentralised manner at the CZSO district offices on personal computers. Before that, individual items were processed manually in paper questionnaires and the data were then transferred to central processing centre (CZSO, 2005). From 1993, households of self-employed people (OSVČ) and unemployed people have been newly surveyed. Since 1993, tools for creating aggregated publication outputs have been implemented. Newly, all data were collected in a complex software in which not only income and expenditure were processed, but also the characteristics of households and their members (CZSO, 2005).

Since 1999, the coding and processing of expenditure items based on the Czech version of the international Classification of Individual Consumption by Purpose (COICOP) has been fully applied. The Czech version is named CZ-COICOP, and compared to the 14-section international classification, it had 12 sections (CZSO, 2005). Since 2006, the survey has incorporated all types of households, including households of economically active pensioners and economically inactive persons (CZSO, 2019).

In 2016, a profound methodological reform of the SRÚ survey took place. Its main goal was the transition to probability sampling of households and the saving of financial costs for the survey. The SRÚ has been newly integrated into the Living Conditions Survey (EU-SILC), meaning that the current sample of SRÚ households is based on a random sample of households for the EU-SILC.

Until 2016, the SRÚ had been based on quota sampling. The quota had determined, for example, how many households in the surveyed sample must be employees with lower education and with one child, with a net monthly income per person in a certain range (e.g. 8 001–11 000 CZK) and living in a family house in a municipality with a population of less than 50 thousand inhabitants (CZSO, 2019).

The surveyed sample of 3 000 households was constructed in such a way that its composition regarding chosen characteristics corresponded to the structure of households in the Czech Republic. The results of the so-called Micro-census (a random sample survey designed to obtain representative data on the level and structure of incomes and basic socio-demographic characteristics of Czech (and previously Czechoslovak) households) and the Census were previously used as a basis for setting the quotas. After that, the results of the Living Conditions survey (the national module of the EU-SILC) served as the basis for quota setting (CZSO, 2019).

3 METHODOLOGY UNTIL 2016 AND METHODOLOGICAL CHANGES AFTER 2017

Between 1997 and 2003, the CZSO started contemplating and testing the possibility of introducing a random sampling method for the SRÚ survey, in an effort to improve the representativeness of the results. During this time period, there have been thorough analyses of the results of the pilot surveys and numerous discussions with experts. However, it was decided that the quota sampling will remain for the time being, with the aim to further improve the sampling method and other aspects of the survey (CZSO, 2019).

Only in 2016, a profound methodological reform of the SRÚ survey took place. The main goal of the methodological reform was the harmonisation of the national SRÚ survey with the international methodology of the HBS, as well as saving of financial costs for the survey and reducing respondent's burden. The main change was the transition to probability sampling of households. Even though Eurostat's reference period for HBS is 5 years, it has been decided that it will be more beneficial for SRÚ to be conducted as an annual survey. This ensured that the survey would deliver regular results, while maintaining stable interviewer network and more stable budget.

In addition, the SRÚ has been newly integrated into the EU-SILC/Living Conditions (Životní podmínky) survey, meaning that the sample of SRÚ households was newly based on a random sample of households previously selected for the EU-SILC. Thus, it was newly possible to contact the previously surveyed households again in the next reference period. For the first wave of SRÚ, all households from third wave of SILC are contacted. Households that did not refuse to participate in the SRÚ survey were subsequently contacted again in the following year (second wave of SRÚ, being equivalent to fourth wave of EU-SILC) in a different reference period (CZSO, 2023a).

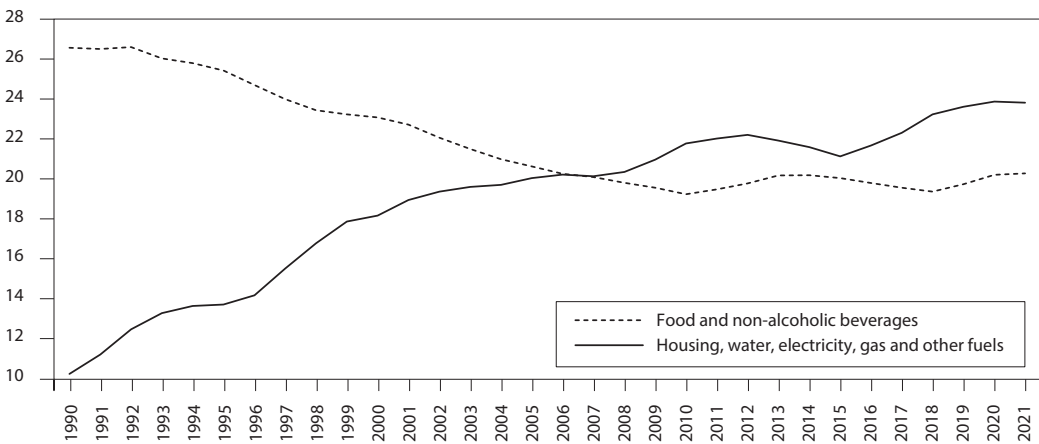
It has been decided to integrate the SRÚ survey namely into EU-SILC mainly due to a certain overlap of questions in both surveys, regarding household composition, income, expenditure on housing and energy etc. During the data collection for the SRÚ, there is a short introductory interview with the household, which partly consists of updating the household composition and other relevant information. The reference period for the survey has been shortened; households report on their expenditures for eight weeks, meaning they keep two aforementioned Diaries regarding their expenditure, each for four weeks, while the survey consists of 26 reference weeks. The households document their regular payments, concerning housing, telecommunication, transport, insurance etc. Other types of spendings are also documented via the collection of receipts. The collected receipts are then transcribed at the CZSO by trained workers, however, it is intended that in the future the receipts might be scanned and automatically coded into the COICOP classification. During the methodological reform, the Diaries have been simplified, mainly by introducing chronological recording, to ensure easier manipulation for respondents.

Since the integration of the SRÚ into the EU-SILC, the response rate on the first wave (of SRÚ) is approximately 50%, while on the second wave it reaches about 90%. The survey is conducted annually

on a sample of about 2 000 households. However, the results are published using 2-year moving averages, meaning the sample consists of approximately 4 000 households. The households receive a financial compensation for the participation in the survey and for completing the Diaries. Since 2017, it has been approximately 80 euros, which was subsequently increased to approximately 120 euros in 2023.

Due to the described major changes in methodology, the HBS time series was discontinued in 2016. Starting in 2017, a new time series ensued (CZSO, 2023c). However, the change in the SRÚ methodology between 2016 and 2017 has not caused significant differences in the time series as a whole. Figure 1 shows 3-year moving averages of shares of household expenditure on food and housing – in accordance with the updated international eCOICOP classification – in total expenditure. These expenses represented approximately 37% of total household expenditure in 1990, while in 2021 it was already almost 45%. In 1990, household expenditure on food was significantly predominant, however, the ratios were gradually changing, and since 2007 the housing and energy expenditures have started to dominate.

Figure 1 Shares of household expenditure on food and housing in total household expenditure in Czechia (1990–2021), in %



Source: CZSO

Eurostat's reference years for the HBS are at 5-year intervals, i.e. 2010, 2015 and 2020 (Eurostat, 2003). Since 2021, Household Budget Survey (on a European level) has been implemented under the Regulation (EU) 2019/1700 of the European Parliament and of the Council of 10 October 2019 (also known as the EU regulation 2019/1700 or IESS regulation) (Regulation (EU) 2019/1700 2019). The aim of this regulation is to establish a common framework for European statistics, and thus help with better comparability of the data across the surveyed countries (Eurostat, 2023). Together with this regulation, a new international classification COICOP 2018 is being introduced. According to this new regulation, the next reference year for the HBS will be 2026.

4 CONSUMPTION VS. EXPENDITURE

The aim of the HBS should be to collect and publish data on household expenditure on consumption, regardless of who, where or when consumed it. For instance, it is problematic to track consumption regarding gifts received or given between multiple households or other goods that members of one household bought and members of other household consumed. It can be argued that relevance for collection of consumption in HBS is lower than risk to collect incomparable data without explanatory ability.

Another issue is the question of collecting quantities in HBS. The Czech Statistical Office decided not to collect the quantities of consumed goods in the SRÚ survey, for which there are several reasons. Firstly, collecting quantities of consumed goods can lead to additional respondents' burden. Furthermore, several goods can be documented in different units of measurement (e.g. fruit and vegetables in kilograms or in pieces), which makes it more challenging to accurately document household's consumption. Lastly, as stated above, in some cases it cannot be said which person from which household consumed which product.

The CZSO's Department of Household Surveys has been cooperating for several years with the National Accounts (NA) department. In this regard, it is important to note that microdata from household survey can never equal to NA macro aggregates. There are several reasons for this. Firstly, both departments base their results on a different population. In SRÚ (i.e. in EU-SILC), only private households and their members are interviewed. Therefore, the results of the survey do not account for individuals in institutional settings, such as retirement home or children's home. There are also methodological differences between social statistics and national accounts. Furthermore, imputed rent, which is a part of the NA, should not be included in social statistics – it has been collected in the EU-SILC survey before, however, the results showed poor quality and have never been published. In other words, imputed rent is relevant for the system of NA, however, not for social statistics where it can cause artificial increase in both incomes and expenditure, thus not corresponding with actual situation of the households. For similar reasons, social transfers in kind (STiKs) provided by government (e.g. on health or education), which are a part of the system of NA, should not be included in social statistics.

For these reasons, it can be argued that HBS (and thus SRÚ as well) should collect and publish data only on monetary household expenditure on consumption. This kind of data can be viewed as a feedback for the respondents, while the NA macro data are more often used by macro-economic analysts.

CONCLUSION

The main goal of the article was to map the history of the Czech version of the Household Budget Survey (HBS), i.e. Statistika rodinných účtů (SRÚ), with a special focus on the historical changes in its methodology. Even though the first official SRÚ survey was conducted more than 100 years ago, it can be argued that the modern history of the survey dates back to 1957 when the quota sampling was firstly introduced, which was then replaced in 2017 by the integration of the SRÚ into the EU-SILC based on random sampling. In addition to the transition to random sampling and reducing respondent's burden, the integration of SRÚ into EU-SILC has also enabled financial savings. It can be argued that this methodological change did not have a significant impact on the SRÚ time series. The long tradition of the survey thus provides a source of information which enables the data users to study and compare the consumption expenditures of different types of households throughout different eras.

These unique data of the SRÚ survey provide important information on household financial expenditures by different types of households (e.g. by activity status of head of household, by municipality size and by tenure of dwelling, by net money income per capita, or by number of dependent children). These outputs mainly show the structure of households' expenditure on their consumption. As this is a sample household survey, the results have certain limitations. Most importantly, household surveys do not include the richest nor the poorest households. SRÚ outputs thus report aggregate microdata of "middle class" households and serve as a mirror of consumption expenditures for the respondents. Secondly, it can be argued that households tend to undervalue some of their expenditures (such as on alcohol and tobacco products). These calculations are then supplemented at the macro-level in the National accounts within the Non-Observed Economy. Household final consumption expenditure in the balance sheet concept of the National accounts then provides data for further macroeconomic analysis.

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