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**Research Paper** 

Household expenditures research paper series

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### Introduction

The Survey of Household Spending (SHS) underwent a major redesign in 2010. One objective of the redesign was to better adapt the collection methods and the reference periods to the capacity of the respondent to provide accurate information. The redesign also sought to incorporate the content of the former Food Expenditure Survey (FES) so that there could be more frequent releases of detailed food data. Finally, the redesign enabled the spreading of data collection over the entire year in order to lighten the load of collection operations during the months of January to March. As a result of all these changes, the redesigned survey is now similar to those conducted in other countries.

Expense categories in the redesigned SHS are similar to those of previous years. However, changes to data collection, processing and estimation methods have created a break in the data series. As a result, caution should be used in comparing the 2010 SHS data with previous years, unless otherwise noted.

### Methodology changes

Several methodology changes were introduced with the SHS redesign. The main changes are briefly described below.<sup>1</sup>

#### **Collection method for expenditures**

The Survey of Household Spending (SHS) now combines two collection methods: a questionnaire with recall periods based on the type of expenditure (1, 3 or 12 months, last payment, four weeks), and a daily expenditure diary that the household completes during a two-week period following the interview. The use of a diary allows a considerable reduction in the length of the interview. With the previous SHS model, only a questionnaire was used to collect all the expenses incurred by households during a calendar year.

The collection method and the length of the reference period associated with each expenditure item are available in this table <a href="http://www23.statcan.gc.ca:81/imdb-bmdi/document/3508\_D11\_T9\_V1-eng.pdf">http://www23.statcan.gc.ca:81/imdb-bmdi/document/3508\_D11\_T9\_V1-eng.pdf</a>

#### The diary and integration of Food Expenditure Survey data

The diary is used to collect detailed food expenditures made in stores and restaurants, two important components of the Food Expenditure Survey (FES). The FES was last conducted in 2001.

Some changes were made to the Survey of Household Spending (SHS) methodology compared to what was used for the FES. First, respondents can now provide their store and restaurant receipts instead of transcribing their expenditures for the diary. Additionally, the FES had used two diaries of seven days; the SHS, only one of fourteen days. Thus, the FES follow-up visit made in person by the interviewer between the first and second weeks of the diary was replaced in the SHS by a telephone call a few days after the start of the diary data collection

<sup>1.</sup> To help users understand the impact of the new methodology on expenditure estimates, the 2009 data were collected using both the old methodology (the official estimates published on December 17, 2010) and the new one. A research paper presenting the results of the comparisons will be available a few weeks after the release of the 2010 data.

period. Also, the verifications performed by the interviewer when picking up the diary were reduced considerably for the SHS. Unlike the FES, the expenditures for food purchased from stores collected in the diary have not been adjusted to correspond to the similar expenditures collected in the questionnaire.

#### Continuous collection

Collection is now carried out on a continuous basis from January to December from a sample of households distributed over twelve monthly collection cycles. With the previous Survey of Household Spending (SHS) model, collection took place from January to March for all expenditures made during the previous calendar year.

#### Collection of income and tax data

The Survey of Household Spending (SHS) data on income and income taxes now come mainly from the T1 (Individual Tax Return) administrative data files from the Canada Revenue Agency. This approach improves the accuracy of these data while reducing response burden.

Respondents who authorize Statistics Canada to access their income tax return do not need to answer questions on personal income, income taxes nor non-discretionary expenses such as pension contributions. However, persons who refuse to give their consent for use of tax data do answer the income questions as in the previous SHS model.

The income and tax data are for the calendar year preceding the year of the survey. This timing is based on the fact that these data are generally available only nine to twelve months after the end of the calendar year. In the previous SHS model, data on income, income taxes and expenditures were collected for the same calendar year.

#### Reference period for demographic and dwelling characteristics

The data on demographic characteristics, dwelling characteristics and household equipment are collected on the basis of the household's situation at the time of the interview. This is the same approach as in the previous Survey of Household Spending (SHS) model. However, with continuous collection, the data represent an average over a 12-month period covering the calendar year, whereas under the old model, the data represented an average over the first three months of the year.

#### **Revision of content and concepts**

To reduce response burden, some data previously collected in the Survey of Household Spending (SHS) or the Food Expenditure Survey (FES) are excluded. Removed from the SHS questionnaire are questions on household equipment. Data are no longer available on heating equipment characteristics, the number of rooms in the home and the presence of household appliances such as a dishwasher or microwave. Several variables concerning the household's assets and liabilities are also excluded.

Similarly, the content of the FES was reviewed, and information on the weight or volume of purchased foods is no longer requested.

There are also modifications to some of the expenditure categories. The main ones are listed below:

- Parking expenses of the rented living quarters are included in « Rent ». These expenses were included in "Garage rent and parking" under "Transportation" previously.
- Expenditures for "Day board and children's lunches paid to private households" are now included in "Child care". There were previously included in "Food".
- Expenditures for "Annual mortgage payment" (Owned vacation homes and other secondary residences) and for "Other owned properties" are included in "Other accommodation". These expenditures were previously included in "Miscellaneous expenditures".
- Expenditures for "Games of chance" are no longer net of the winnings
- The category "Income taxes" replaces the category "Personal taxes". "Income taxes" corresponds to the sum of federal and provincial income taxes after taking into account exemptions, deductions, non-refundable tax credits, and the refundable Quebec abatement. It does not include other personal taxes (e.g., gift taxes, Newfoundland and Labrador school tax).

#### Other methodology changes and considerations

The new collection method has necessitated a more complex data processing and estimation methodology.

The use of the diary to collect all expenditures (not just food as in the past) required the development of a more complex system of coding, editing and imputation. The use of store and restaurant receipts also makes processing methods more complex.

The weighting and estimation methods had to be adapted to the new methodology, in particular to the two collection methods and the fact that some of the respondents to the interview either do not complete the diary or provide unusable data. Thus, to make usable the data from households responding only to the interview, separate weights are calculated for households responding to the interview questionnaire and for those responding to the diary.

Data collection based on reference periods of varying lengths required the use of a factor for standardizing these periods in order to aggregate or compare the various expenditures. The approach adopted is designed to annualize expenditures.

As well, additional adjustments were made during the estimation of the diary data to account for days not filled in by the respondent.

Finally, because of the reference periods of various lengths, the significant reduction in the information collected on household's assets and liabilities, and the fact that the data on income and income tax are for the calendar year preceding the year of the survey, it is no longer possible to compare total revenues with expenditures and changes in assets and liabilities for a calendar year.

For more information on the detailed methodology of the redesigned survey, see the 2010 Survey of Household Spending User Guide.

#### **Reference period of the estimates**

The Survey of Household Spending (SHS) estimates are produced by combining twelve monthly data cycles and annualizing them so that all expenditures collected over differing reference periods are based on a standard period. Therefore, the estimates produced by combining twelve collection cycles do not represent a calendar year, as under the previous model where all households reported their expenses for the calendar year preceding collection. The total period covered by the expenditure estimates under the new model is based on the length of the reference period and the collection months considered (see Section 2.7 of the 2010 SHS User Guide).

Similarly, reducing the reference period for expenditures has an impact on the variability (i.e., coefficient of variation) of the estimates of some expenditures. This impact depends in part on the length of the reference period used for collection and the frequency of households' spending on a given expenditure item.

#### Impact on survey products

Household expenditure estimates are available for the national and provincial levels and by household tenure, age of reference person, size of area of residence, type of household and household income quintile. Detailed estimates on food expenditures similar to those of the FES are also available. New CANSIM tables have been created (203-0021 à 203-0029). There have been some changes to the standard tables (62F0031X à 62F0035X, 62F0041X, 62-203-X, 62-204-X).

Because of the new survey model, some statistics produced with the previous collection model can no longer be generated. Owing to the different reference periods and the combining of interview data and diary data, it is no longer possible to obtain the following statistics: percentages of households reporting an expense, averages per household reporting an expense, and medians.

Household expenditure estimates for selected metropolitan areas can be produced in some instances on a cost-recovery basis.