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User Guide for the Survey of Household Spending, 2012

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User Guide for the Survey of Household Spending, 2012

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Symbols

The following standard symbols are used in Statistics Canada publications:

- . not available for any reference period
- .. not available for a specific reference period
- ... not applicable
- 0 true zero or a value rounded to zero
- 0^s value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
- p preliminary
- r revised
- x suppressed to meet the confidentiality requirements of the *Statistics Act*
- E use with caution
- F too unreliable to be published
- * significantly different from reference category ($p < 0.05$)

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User Guide for the Survey of Household Spending, 2012

1 Introduction

This guide presents information of interest to users of data from the 2012 Survey of Household Spending (SHS). It includes descriptions of the survey methodology and data quality, and definitions of survey terms and variables. There is also a section describing various statistics that can be drawn from the survey data. The SHS is conducted annually.

The SHS combines 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 selected households complete for two weeks following the interview. As well, data collection is continuous throughout the year.

In 2012, the sample size for the expenditure diary was reduced to 50% of the total sample, given that the baseline for diary expenditures was established during the first years of its collection. Corresponding changes have been made in the weighting method for data collected from the diary.

The 2012 SHS was conducted from January 2012 to December 2012 using a sample of 17,557 households in the 10 provinces. Detailed spending information was collected, as well as limited information on dwelling characteristics and household equipment.

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 are also available.

Data have also been collected in the territories in 2012 according to the previous model of the SHS (questionnaire with 12-month recall period only, no diary of expenditures). As such, estimates from the territories are not combined with the provincial estimates but presented separately (see section 6 of the guide).

For custom tabulations or more information on the SHS, please contact Client Services (613-951-7355, 1-888-297-7355 or income@statcan.gc.ca), Income Statistics Division.

2 Survey methodology

2.1 The target population

The target population of the 2012 SHS is the population of Canada's 10 provinces, excluding residents of institutions, members of the Canadian Forces living in military camps and people living on Indian reserves. In all, these exclusions make up about 2% of the population of the 10 provinces.

For operational reasons, people living in some remote areas where the rate of vacant dwellings is very high and where the collection cost would be exorbitant are excluded from collection. Also excluded, in addition to people living in institutions, are people living in other types of collective dwellings:

- people living in residences for dependent seniors; and
- people living permanently in school residences, hotels and motels, work camps, etc.; and
- members of religious and other communal colonies.

Collection exclusions make up less than 0.5% of the target population. However, these people are included in the population estimates to which the SHS estimates are adjusted (see section 2.6).

2.2 The survey content and reference periods

The SHS primarily collects detailed information on household expenditures. It also collects information about the annual income of household members, demographic characteristics of the household, certain dwelling characteristics (e.g., type, age and tenure) and certain information on household equipment (e.g., electronics and communications equipment).

For expenditure information collected with the questionnaire, the length of the reference period depends on the question (e.g., the past month, the past three months, or the past 12 months). The period covered also varies with the collection month (e.g., for households in the January 2012 sample, “the past 12 months” means the period from January 2011 to December 2011, while for households in the December 2012 sample, it refers to the months between December 2011 and November 2012). Expenditures collected in the daily expenditure diary are reported for a period of two weeks.

In general, longer reference periods are used for goods and services that are more expensive or purchased infrequently or irregularly. On the contrary, shorter reference periods are used for goods and services that are of less value or purchased frequently or at regular intervals.

For demographic characteristics, dwelling characteristics and household equipment, the reference period is the interview date. For income, the reference period is the calendar year preceding the survey year (i.e. 2011 for SHS 2012).

2.3 The sample design

The sample of the 2012 Survey of Household Spending consists of 17,557 households spread over the 10 provinces. A stratified, multi-stage sampling plan was used to select the sample. It is generally a two-stage plan, the first stage being a sample of geographic areas (referred to as clusters). Then a list of all the dwellings in the selected clusters is prepared, and a sample of dwellings is selected. The selected dwellings that are inhabited by members of the target population constitute the survey’s sample of households. The SHS uses a number of components of the Labour Force Survey’s (LFS) sample design to minimize operating costs, though the dwellings selected are different.

Fifty percent of sampled households are selected to receive an expenditure diary. Thus, in each selected cluster, a subsample of the previously chosen dwellings is selected in order to identify the dwellings for which the households will have to fill out a diary.

The national sample is first divided among the provinces on the basis of the variability of total household expenditures and, to a lesser extent, the number of households in each province. The goal is to obtain estimates of similar quality at the provincial level. The sample sizes for the provinces are shown in Table 1 in Section 3. The sample is then divided among the strata defined by grouping clusters with similar characteristics based on a number of socio-demographic variables. Some strata were defined to target specific subpopulations, such as the high-income household strata. To improve the quality of the estimates, the high-income household strata are allocated a larger share of the sample than the other strata, where an allocation proportional to stratum size is used.

Since data are collected monthly, the sample is divided into 12 subsamples of similar size. During that process, the SHS sample is coordinated with the samples of the LFS and, to a lesser extent, the Canadian Community Health Survey (CCHS), which use the same sampling frame and conduct personal interviews for part of their sample. Coordination means that, wherever possible, if a cluster is selected for more than one survey, collection for the surveys will take place in the same month. This will enable the interviewer to become familiar with the neighbourhood, collect the data and carry out the necessary follow-up for more than one survey at a time.

2.4 Data collection

The SHS is a voluntary survey. For the most part, the data are obtained directly from the respondent by combining two collection modes: a personal interview conducted by an interviewer using a questionnaire on a laptop, and a diary in which the household is required to report its daily expenditures over a two-week period. The data were collected on a continuous basis from January to December 2012 from a sample of households spread over 12 monthly collection cycles.

First, households in the sample are asked to complete a questionnaire that, for the most part, collects regular expenditures (such as rent and electricity) and less frequent expenditures (such as furniture and dwelling repairs) for a reference period that varies in length depending on the type of expenditure. For regular expenditures, the last-payment method is usually used. It involves collecting the amount of the last payment and the period it covered. For the other types of expenditures collected in the interview, reference periods of one month, three months or twelve months are generally used. The periods are defined in terms of months preceding the month of the interview. For example, for a household in the June sample, “the past three months” means the period from March 1 to May 31, 2012. The demographic characteristics, dwelling characteristics and household equipment, which are also collected in the interview, relate to the household’s situation at the time of the interview. In addition, respondents are asked to provide the income for the calendar year previous to the survey year for all household members aged 16 and over (at the time of the interview). However, respondents who give Statistics Canada permission to access their income tax returns are not required to answer the questions about personal income.

Fifty percent of sampled households are selected to also complete an expenditure diary. Following the interview, respondents of this subsample are asked to record the expenditures of all household members in a daily expenditure diary for a period of two weeks starting the day after the interview. Households are required to include all their spending, except a few types of expenditures, such as rent, regular utilities payments and real estate and vehicle purchases. Households have the option of providing receipts to reduce the amount of information recorded in the diary. However, they are asked to write out additional information on the receipt if the description is incomplete.

Telephone follow-up is carried out a few days after the interview to find out if the respondent has any questions about the diary and to reiterate important information about how to complete it. At the end of the two-week period, the interviewer returns to the respondent’s residence to pick up the diary and ask a few additional questions to help the respondent report expenditures that he or she might have forgotten.

The diaries and all receipts supplied by respondents are scanned and captured at Statistics Canada’s Head Office. An expenditure classification code is assigned to each item from a list of more than 650 different codes.

2.5 Data processing and quality control

The computerized questionnaire contains many features designed to maximize the quality of the data collected. Many edits are built into the questionnaire to compare the reported data with unusual values and detect logical inconsistencies. When an edit fails, the interviewer is prompted to correct the information (with the respondent’s help, if necessary). Once the data are transmitted to Head Office, a comprehensive series of processing steps is undertaken for the purpose of detailed verification of each questionnaire. Invalid responses are corrected or flagged for imputation.

A number of edits are also carried out on the diary data when the diaries are received at Head Office and throughout the capture and coding steps. For example, checks are carried out to ensure that the start and end dates of the reference period of the diary are indicated, that the reported expenditures were made during the specified reference period, and that there are no items that appear in both the data recorded in the diary and the receipts provided by the respondent. After validation, capture and coding, quality control procedures are applied. A sample of diaries is selected and completely rechecked to ensure that the diaries were captured and coded as specified in the procedures.

Then a series of detailed edits are performed on all diaries. Invalid responses are corrected or flagged for imputation. The final step is to assess whether the information reported in the diaries is of sufficient quality using parameters which differ according to the household characteristics. The reported expenditures and number of items are compared with minimum thresholds estimated for each geographic area (Atlantic Provinces, Quebec, Ontario, Prairie Provinces and British Columbia), each household income class and each household size. Diaries that satisfy the conditions are deemed usable. The other diaries are examined. They will be deemed usable if there is a note explaining their low expenditures or their small number of reported items (for example a person living alone who had few expenses to report because he/she was on a business trip during the diary recording period). Diaries that do not meet the usability criteria are treated the same as non-response diaries; they are excluded from the estimates. It should be noted that some of the usable diaries are incomplete and could have non-responded days.

To solve problems of missing or invalid information in interview questions, donor imputation by the nearest neighbour method is generally used. Data from another respondent with similar characteristics (the donor) are used to impute. The imputation is done on one group of variables at a time, with the groups formed on the basis of the relationships among the variables. The characteristics used to identify the donor are selected such that they are correlated with the variables to be imputed. Household income, dwelling type and number of adults and children are commonly used characteristics. For operational reasons, the income information from personal income tax returns is not available in time for imputation of the survey data. Consequently, the household income used for imputation is taken from an additional question on total household income that is asked during the interview exclusively for the purpose of data imputation.

Donor imputation is also used when information is missing from the daily expenditure diary. A respondent may have reported a particular expenditure item without its cost or given the total amount spent (on groceries, for example) without listing the individual items. Imputation is also used to enhance the level of detail in coding the items reported. For example, the information provided by the respondent may simply indicate that a bakery product was purchased, but a more detailed code is required to meet the survey's needs. In this case, donor imputation is used to impute the type of bakery product (bread, crackers, cookies, cakes and other pastries, etc.). Diary imputation is carried out at the reported item level, and the characteristics most often used to identify the donor are cost, available partial code, household income and household size. Imputation is done by province and quarter to control for provincial differences and seasonality of expenditures.

For SHS 2012, the imputation method used to produce detailed expenditures when a respondent has only provided a total amount in the diary was refined in order to use supplementary information on the type of store where the purchases were made. This refinement takes into account the increasing amount of grocery products sold in large chain stores that do not specialize in groceries.

Expenditure imputation is performed primarily with Statistics Canada's Canadian Census Edit and Imputation System (CANCEIS).

For personal income, people who give their consent are matched to the tax data file. Missing or invalid tax data are generally donor imputed.

2.6 Estimation

The estimation of population characteristics from a sample survey is based on the premise that each sampled household represents a certain number of other households in addition to itself. This number is referred to as the survey weight, and the weighting process involves computing the weight assigned to each household. There are a number of steps in that process.

First, each household is given an initial weight equal to the inverse of its selection probability. Since only 50% of the households need to complete a diary, different weights are computed for the interview questionnaire and the diary. A few adjustments are later applied to the interview weights and the diary weights.

The interview weights are first adjusted to take into account the households that did not answer the questionnaire. They are then adjusted so that selected survey estimates agree with aggregates or estimates from independent auxiliary sources.

The first source is the number of persons by age group and the number of households by household size from population estimates produced by the Demography Division using data from the 2006 Census. Annual estimates of the number of persons in eight age groups (0–6, 7–17, 18–24, 25–34, 35–44, 45–54, 55–64 and 65+) are used at the provincial level and two age groups (0–17 and 18+) at the census metropolitan area level. For the number of households, the weights are calibrated to the annual provincial estimates for three household size categories (one, two, and three or more persons) and to quarterly provincial estimates of the total number of households. Quarterly estimates are used to ensure that each sub-annual period is adequately represented in the survey estimates.

A second source is the Statement of Remuneration Paid (T4) data from the Canada Revenue Agency, which ensure that the survey's weighted distribution of income (on the basis of wages and salaries) agree with the income distribution of the Canadian population. Interview weights are therefore calibrated to the T4 accounts of the number of persons per province in six categories of wages and salaries on the basis of provincial percentiles (0th–25th, 25th–50th, 50th–65th, 65th–75th, 75th–95th and 95th–100th).

Starting with SHS 2012, a third source of totals is the personal income tax data (T1) from the Canada Revenue Agency. The interview weights are adjusted to reflect the number of persons in each of the three highest personal income classes (based on the 95.5th, 97th, and 98.5th percentiles) for each province, except Prince Edward Island where one income class is used. This adjustment aims to compensate for the under-representation of these groups among the survey's respondents.

The diary weights are also subject to a series of adjustments. A first factor adjusts for the nonresponse to the questionnaire. A second factor compensates for households that respond to the questionnaire but refuse to complete the diary. The weights are also adjusted to demographic estimates in a manner similar to that used for the interview weights. Indeed, the demographic estimates of the number of persons at the provincial level are the same, but at the census metropolitan area level, the distinction between the two age groups (0 to 17 and 18 and over) is retained only for Montreal, Toronto and Vancouver. As for the number of households, the weights are adjusted to annual provincial estimates for the three household size categories as done for the interview, but no quarterly adjustments are made.

The diary weights are also calibrated to the estimated number of households per income group by province calculated from the interview data. Specifically, the estimated number of households for each provincial quintile of total household income is used. The adjustment to the interview estimates ensures that the weighted income distribution of diary-respondent households is consistent with the weighted income distribution of interview-respondent households. The diary weights are also adjusted for the number of high income individuals according to personal income tax data, similarly to the interview, but a single income class based on the 95.5th percentile is used. This personal income diary adjustment is not applied to Prince Edward Island, however.

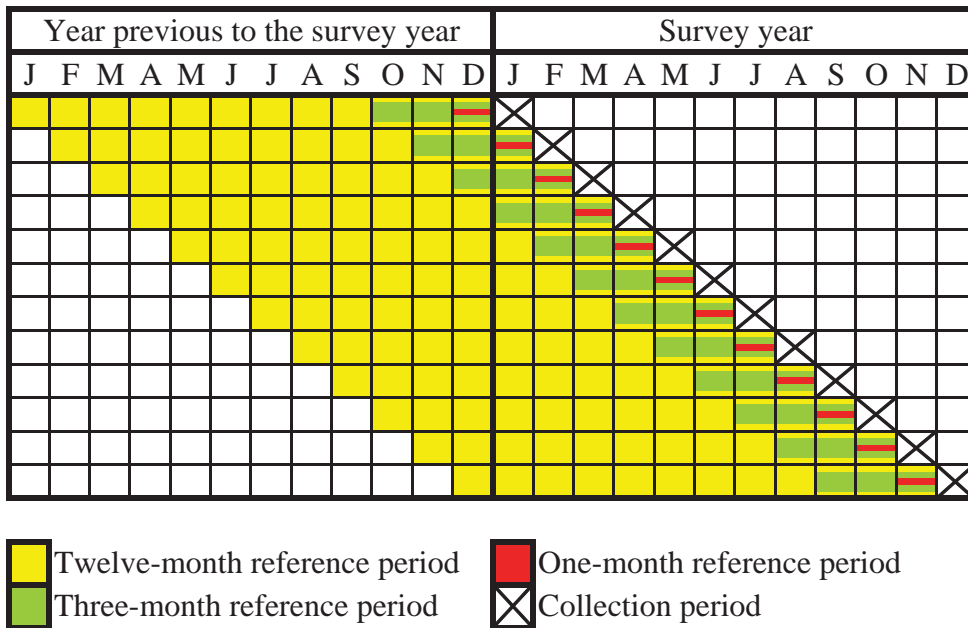
All expenditure variables in the interview and diary are annualized by multiplying them by a factor appropriate for the reference period. For the diary, this factor includes as well an adjustment for the non-responded days. The estimates for a given expenditure category collected from the interview are therefore the weighted sums (using interview weights) of the annualized amounts. The estimates of an expenditure category derived from diary data are calculated in a similar manner using diary weights. Lastly, summary expenditure category estimates that include components from both collection methods are produced by taking the sum of the estimates of the diary and the interview components. This approach is used not only for aggregate spending estimates, but also for average expenditure per household (see section 5.2).

2.7 Reference period of the estimates

With continuous monthly collection, the reference period of the data differs from one month to the other, as illustrated in Figure 1. For example, for an expenditure item with a three-month reference period, the data from the July sample covers expenditures made between April 1 and June 30, whereas the data from the December sample covers expenditures made between September 1 and November 30.

Figure 1

Monthly sample reference periods of three different lengths



SHS estimates are produced by combining the data from the 12 monthly collection cycles and by annualizing the expenditures collected over various reference periods in order to standardize them. The period covered by the estimates is therefore a function of the length of reference period and of the collection months considered.

When combining the data of the 12 collection cycles to generate estimates for expenditure items with short reference periods (e.g., one month), the expenditures that are covered occur mostly in the survey year. That is also true for all expenditure data collected with the diary. As for expenditure items with a 12-month reference period, the data collected include expenses occurring between January of the year before the survey year and November of the survey year, depending on the collection month.

The hypothesis that the estimates produced from the SHS cover a single period when the data from 12 collection cycles has been combined assumes that expenditures made during the survey year and during the previous year are similar for items collected using a 12 month reference period. Thus, the validity of this hypothesis affects the interpretation of comparisons between expenditures collected over short periods and expenditures collected over a 12 month period.

The “limits” of the collection model in producing expenditure estimates covering the same period (or the same year) are known since the majority of countries use this methodology. Despite any limitations, continuous collection with reference periods adapted to the ability of the respondent to provide the information is considered preferable in order to obtain data that reflects households’ true expenditures.

2.8 Historical revisions

The 2012 SHS estimates were computed with weights adjusted to 2012 population estimates. These population estimates were based on 2006 Census data and more recent information from administrative sources such as birth, death and migration registers.

SHS estimates prior to 2010 (2001-2009) are based on weights calibrated to population estimates produced using data from the 2001 Census. There is no plan to revise these estimates (based on the 2006 Census data) due to the break in the data series starting with the 2010 SHS (see section 2.9).

2.9 Comparability over time

The SHS has been conducted each year since 1997. This survey includes most of the content of its predecessors, the periodic Family Expenditure Survey and the Household Facilities and Equipment Survey. Some changes to the methodology and definitions were made between 1997 and 2009, but the SHS was primarily based on an interview during the first quarter of the year in which households reported expenditures incurred in the preceding calendar year.

A new methodology which combines a questionnaire and a diary to collect the household expenditures was introduced for the 2010 survey. The reference periods have been reduced for many expenditure items and collection is continuous throughout the year. Although the expenditure data collected since 2010 are similar to those of previous years, the 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 SHS data since 2010 with previous years, unless otherwise noted.

Since 2010, the SHS incorporates a significant amount of content from the Food Expenditure Survey (FES), last conducted in 2001. Although there are some differences between the SHS and FES methodologies, food expenditure data in both surveys have been collected using a daily expenditure diary that households are asked to fill in for a period of two weeks. The content of the SHS diary is slightly less detailed than that of the FES diary (e.g., the weight and quantity of foods are not collected) to limit the SHS respondent's burden.

The content of the SHS has also been reviewed in 2010 to reduce the time required for the interview. A number of components regarding household equipment and dwelling characteristics and most of the questions regarding changes in household assets and liabilities have been dropped. Some definitions have also been changed. As well, starting with the 2010 survey, the data related to household income and income tax come mainly from an administrative data source.

Finally, the estimates from 2010 to 2012 are based on weights calibrated to population estimates produced using data from the 2006 Census. Estimates in previous years (2001-2009) are based on weights calibrated to population estimates produced using data from the 2001 Census.

3 Data quality

Like all surveys, the SHS is subject to error, despite all the precautions taken in each step of the survey to prevent them or reduce their impact. There are two types of error: sampling and non-sampling.

3.1 Sampling errors

Sampling errors occur because inferences about the entire population are based on information obtained from only a sample of the population. The sample design, estimation method, sample size and data variability determine the size of the sampling error. The data variability for an expenditure item is the difference between members of the population in spending on that item. In general, the greater the differences between households, the larger the sampling error will be.

A common measure of sampling error is the standard error (SE). The SE is the degree of variation in the estimates as a result of selecting one particular sample over another. The SE expressed as a percentage of the estimate is called the coefficient of variation (CV). The CV is used to indicate the degree of uncertainty associated with an estimate. For example, if the estimated number of households having a given dwelling characteristic is 10,000 with a CV of 5%, then the actual number is between 9,500 and 10,500 households 68% of the time, and between 9,000 and 11,000 households 95% of the time.

The standard errors for the SHS are estimated using the bootstrap method (see reference [1] in section 8). CVs are available for the national and provincial estimates as well as for the estimates by household type, age of reference person, household income quintile, household tenure and size of area of residence.

3.2 Data suppression

To ensure accuracy, we want to suppress the estimates for which the CVs have been estimated at more than 33%. However, from an operational standpoint, when tables are created, the suppression rule is based on the number of households that declare an expense for an item. Indeed, there is a relationship between the CV and the number of reporting households, and analyses carried out on a very large number of SHS estimates show that a threshold of 30 reporting households generally allows for a CV of at most 33% for the expenditure estimates.

However, data for suppressed items do contribute to summary level variables. For example, the expenditure estimate for a particular item of clothing might be suppressed but this amount is included in the total estimate for clothing expenditure.

3.3 Non-sampling errors

Non-sampling errors occur because certain factors make it difficult to obtain accurate responses or responses that retain their accuracy throughout processing. Unlike sampling errors, non-sampling errors are not readily quantified. Four sources of non-sampling error can be identified: coverage error, response error, non-response error and processing error.

3.3.1 Coverage error

Coverage error arises when sampling frame units do not adequately represent the target population. This error may occur during sample design or selection, or during data collection or processing.

3.3.2 Response error

Response error occurs when respondents provide inaccurate information. This error may be due to many factors, including faulty design of the questionnaire, misinterpretation of questions by interviewers or respondents, or faulty reporting by respondents.

In general, the accuracy of SHS data depends largely on respondents' ability to remember (recall) household expenditures and their willingness to consult records. Response error is the most difficult aspect of data quality to measure.

3.3.3 Non-response error

Errors due to non-response occur when potential respondents do not provide the required information or the information they provide is unusable. The main impact of non-response on data quality is that it can cause a bias in the estimates if the characteristics of respondents and non-respondents differ and the difference has an impact on the expenditures studied. While non-response rates can be calculated, they provide only an indication of data quality, since they do not measure the bias associated with the estimates. The magnitude of non-response can be considered a simple indicator of the risks of bias in the estimates.

For the 2012 SHS, the interview response rate is 64.8%, and provincial response rates are shown in Table 1. The table also shows the number of non-responding households by reason for non-response. Reasons include the inability to contact the household, the household's refusal to participate in the survey and the inability to hold an interview because of special circumstances (e.g., the respondent speaks neither official language or has a physical condition that precludes an interview).

Text table 1
Interview's response rates, Canada and provinces, 2012

	Eligible sampled households	No contacts	Refusals	Residual non-respondents	Respondents	Response rate ¹
						number
Canada	17,557	1,630	3,983	563	11,381	64.8
Atlantic provinces	5,437	448	1,163	198	3,628	66.7
Newfoundland and Labrador	1,453	143	277	49	984	67.7
Prince Edward Island	752	58	189	30	475	63.2
Nova Scotia	1,592	106	354	60	1,072	67.3
New Brunswick	1,640	141	343	59	1,097	66.9
Quebec	2,443	165	595	57	1,626	66.6
Ontario	2,583	243	607	117	1,616	62.6
Prairie provinces	5,028	546	1,138	124	3,220	64.0
Manitoba	1,717	202	388	67	1,060	61.7
Saskatchewan	1,412	137	300	22	953	67.5
Alberta	1,899	207	450	35	1,207	63.6
British Columbia	2,066	228	480	67	1,291	62.5

1. (Respondent households/Eligible sampled households) x 100.

Some of the households selected to fill out a diary refused to complete it or provided a diary that was considered unusable under the criteria set out in section 2.5. For the 2012 SHS, the diary response rate among the households selected to fill out a diary having completed the interview is 67.0%, and provincial rates are given in Appendix I. The final diary response rate is 43.3% nationally, and provincial rates are shown in Table 2.

Text table 2
Diary's response rates, Canada and provinces, 2012

	Eligible sampled households ¹	Interview non-respondents ²	Diaries ³			Response rate ⁴
			Refusal	Unusable	Usable	percentage
Canada	8,836	3,126	1,762	120	3,828	43.3
Atlantic provinces	2,738	912	500	36	1,290	47.1
Newfoundland and Labrador	729	234	130	11	354	48.6
Prince Edward Island	392	140	71	2	179	45.7
Nova Scotia	803	259	181	11	352	43.8
New Brunswick	814	279	118	12	405	49.8
Quebec	1,236	437	233	17	549	44.4
Ontario	1,306	487	313	17	489	37.4
Prairie provinces	2,521	913	483	36	1,089	43.2
Manitoba	863	344	144	10	365	42.3
Saskatchewan	705	235	158	9	303	43.0
Alberta	953	334	181	17	421	44.2
British Columbia	1,035	377	233	14	411	39.7

1. The eligible sampled households are those selected to fill out the diary.

2. Includes interview "No contacts", "Refusals" and "Residual non-respondents" from households selected to fill out the diary.

3. The definition of usable and unusable diaries is given in the "Data processing and quality control" Section.

4. (Usable diaries/Eligible sampled households)x100.

The response rate varies from month to month. Monthly response rates for the interview and diary can be found in Appendix II. Interview and diary response rates by size of area of residence and dwelling type can be found in Appendix III.

The diary response rate of interview respondents can be found in Appendix IV, broken down by various households' characteristics, including household type, household tenure, age of the reference person and before-tax income quintile.

Cases in which the respondent fails to answer some of the questions are referred to as partial non-response. Imputing missing values compensates for this partial non-response. Imputation rates are described in section 3.3.5.

There are also cases in which a household fails to complete the diary for all 14 days as required, leaving days with no data. Adjustment factors were thus calculated to take into consideration these days with no data.

3.3.4 Processing error

Processing errors may occur in any of the data processing stages, including data entry, coding, editing, imputation of partial non-response, weighting and tabulation. Steps taken to reduce processing error are described in section 2.5.

3.3.5 Imputation of partial non-response

The residual bias remaining after the imputation of partial non-response is difficult to measure. It depends on the imputation method's ability to produce unbiased estimates. The imputation rates provide an indication of the magnitude of partial non-response.

Partial interview non-response may result from a lack of information or an invalid response to a question. The national and provincial percentages of households for which certain categories of expenditures had to be imputed because of partial interview non-response is shown in Table 3, by number of imputed expenditure variables per household (out of all consumer expenditure data collected during the interview). The table contains two series of results, including and excluding expenditures on communications services (telephone, cell phone and Internet), and cablevision, satellite distribution and security system services. This distinction has been made because those services are increasingly being purchased as a package. Households are often billed for bundled services, making it difficult or impossible to provide separate expenditure data for each service. Therefore, the total amount paid for the package is allocated to individual services through imputation, which significantly increases the number of households for which expenditures must be imputed.

Text table 3

Percentage of households requiring imputation for consumer expenses collected during the interview, Canada and provinces, 2012

	Number of variables imputed ¹ (out of 180)				Number of variables imputed ² (out of 186)			
	1	2 to 9	10 or more	Total	1	2 to 9	10 or more	Total
	percentage							
Canada	21.8	36.6	2.5	61.0	11.1	63.7	4.6	79.3
Newfoundland and Labrador	19.5	32.1	0.8	52.4	8.5	68.6	2.0	79.2
Prince Edward Island	25.1	32.0	2.1	59.2	8.8	69.1	3.4	81.3
Nova Scotia	23.7	33.1	2.7	59.5	8.9	69.7	5.1	83.7
New Brunswick	22.3	29.8	1.6	53.8	11.7	58.4	3.4	73.5
Quebec	26.1	33.8	2.3	62.2	12.7	63.8	4.7	81.2
Ontario	24.5	32.5	2.5	59.5	15.5	55.8	4.0	75.2
Manitoba	17.8	37.7	5.9	61.5	11.7	56.7	9.1	77.5
Saskatchewan ³	21.2	41.1	2.5	64.8	10.4	66.3	4.4	81.1
Alberta	22.0	37.1	2.2	61.3	11.9	60.2	4.6	76.8
British Columbia ³	15.1	54.8	2.2	72.1	6.6	74.1	4.6	85.3

1. Excluding expenditures related to communications services, and services for cablevision, satellite distribution and security systems.
2. Including expenditures related to communications services, and services for cablevision, satellite distribution and security systems.
3. The higher imputation rates observed in Saskatchewan and British Columbia in 2012 are for the most part due to a change made in the imputation methodology for vehicle insurance premiums and registration fees. As a result of a change in the questionnaire, vehicle insurance premiums are now asked before registration fees. This change resulted in less households reporting registration fees in these two provinces since many households provided a combined total. For the purpose of splitting the total reported amount between the two questions, both questions were set for imputation for households in these two provinces with vehicles, but which reported \$0 in registration fees.

Users of expenditure estimates relating to communications services, and cablevision, satellite television and security system services should therefore take into account the high level of imputation of the expenditure data if they are examining individual services rather than the combined totals. A measure of the impact of imputation on each individual service has been produced and is discussed in Appendix V. This measure represents the proportion of the total value of the estimate obtained from imputed data.

The percentages of households that responded to the interview and for which dwelling characteristics or household equipment had to be imputed can be found in Appendix VI.

The imputation rates for all expenditures reported in the expenditure diary are shown in tables 4 and 5. Table 4 deals with expenditures reported in the first section of the diary, for food from stores and other goods and services. Table 5 shows the imputation rates for the second section of the diary, on expenses from restaurants.

For expenditure data from the diaries, imputation is used primarily to assign a value when the amount of a reported expenditure is missing, to assign a list of expenditure items (with individual costs) when only the total cost was provided (e.g., to assign grocery items and their individual cost when the respondent has provided only the total amount of the bill) or to assign an expenditure code that is more detailed than the one that could be assigned using the information from the respondent (e.g., the type of bakery product). The imputation rate for each of these three types of imputation is shown in Table 4. Each rate represents the proportion of imputed items out of all the expenditure items from the diaries.

Text table 4**Imputation rates by type of imputation for the section of the diary on Goods and services including food from stores, Canada, 2012**

Type of imputation	Imputation rate
	percentage
Imputation of a missing cost for a reported expense	
Food from stores	1.3
Other goods and services	2.2
All expenditures	1.6
Imputation of expenditure items (and their individual cost) from a total expense	
Food from stores	18.8
Other goods and services	11.9
All expenditures	16.4
Imputation of detailed expenditure code	
Food from stores	4.9
Other goods and services	5.1
All expenditures	5.0

The risks of bias associated with the imputed data depend largely on the level of detail at which the SHS data are used. For example, food expenditure data in the SHS are produced at a high level of detail to meet the needs of the Food Expenditure Survey users (last conducted in 2001). Food expenditures are categorized using a hierarchical system of more than 200 expenditure codes. For some reported expenditure items, the food product may have been known (e.g., dairy products or even milk), but the level of detail required (e.g., skim milk, 1% milk or 2% milk) had to be imputed. This type of imputation gives rise to a risk of bias only in expenditure estimates at a very detailed level. In other cases, however, almost no information on the type of expenditure was available before imputation (e.g., it was known only that the expenditure was for a good). When so little information is available, the risks of bias in the estimates of the expenditure categories are more significant. Additional results regarding the imputation of expenditure codes that are more detailed can be found in Appendix VII, which contains a breakdown of the imputed expenditure codes by the initial level of the information from the respondent.

Restaurant expenditures are reported using a slightly different format in the second section of the diary. Imputation is used primarily to assign a value when the total amount of the restaurant expenditure or the cost of alcoholic beverages is missing, or when the type of meal (breakfast, lunch, dinner or snack and beverage) has not been specified. The imputation rate for each of these three types of imputation is shown in Table 5.

Text table 5**Imputation rates by type of imputation for the section of the diary on Snacks, beverages and meals purchased from restaurants or fast-food outlets, Canada, 2012**

Type of imputation	Imputation rate
	percentage
Imputation of total cost	0.57
Imputation of costs for alcoholic beverages	3.14
Imputation of meal type (breakfast, lunch, dinner or snack and beverages)	7.90

Lastly, households have the option of providing receipts or recording their expenditure information in the diary. Table 6 shows the percentage of expenditures reported using each method, for food expenditures, restaurant expenditures and other goods and services.

Text table 6
Methods for recording expenses in the diary, Canada, 2012

Expenditure category	Transcriptions	Receipts
	percentage	
Food	21.9	78.1
Restaurant	85.7	14.3
Other goods and services	45.3	54.7

Imputation rates vary depending on the expenditure reporting method. The rates in tables 4 and 5 are shown by the expenditure reporting method in Appendix VIII.

3.4 The effect of large values

For any sample, estimates of totals, averages and standard errors can be affected by the presence or absence of large values in the sample. Large values are more likely to arise from positively skewed populations. Such values are found in the SHS and are taken into account when the final estimates are generated.

4 Definitions

4.1 General concepts

4.1.1 Reference year of the survey

Corresponds to the data collection year, from January 1st to December 31st, 2012.

4.1.2 Household

A person or group of persons occupying one dwelling unit is defined as a "household". The number of households, therefore, equals the number of occupied dwellings.

4.1.3 Household member

A person usually residing in the dwelling unit at the time of the interview.

4.1.4 Reference person

The household member being interviewed chooses which household member should be listed as the reference person after hearing the following definition: "The household reference person is the member of the household mainly responsible for its financial maintenance (e.g., pays the rent, mortgage, property taxes, and electricity). When members of the household share the responsibility equally, choose one of these members to be shown as the reference person". This person must be a member of the household at the time of the interview.

4.1.5 Expenditures

The net cost of all goods and services received for private use within a given period (for example, 1, 3 or 12 months), whether or not the goods or services were paid for during that period, and regardless of whether these expenditures were made in Canada or abroad. Business expenditures are excluded.

4.1.6 Taxes included

All expenditures include the Goods and Services Tax, provincial retail sales taxes, tips, customs, duties and any other additional charges or taxes.

4.1.7 Gifts

Any expenditure may include gifts given to persons outside the household. Only the value of gifts of clothing is reported separately.

4.1.8 Insurance settlements

Where an insurance settlement was used to repair or replace property, the survey includes only the deductible amount paid for an item.

4.1.9 Trade-ins

Where a trade-in is used to lower the price of an item, most commonly a vehicle, the expenditure amount is the total cost after the trade-in. Real estate transactions are excepted.

4.2 Household characteristics

4.2.1 Number of households in sample

Corresponds to the number of eligible sample households minus households that interviewers were unable to contact, households that refused to participate and households whose interview questionnaire were rejected for lacking too much information.

4.2.2 Estimated number of households

Estimation of the average number of households during the reference year.

4.2.3 Household size

Number of persons in the household at the time of the interview.

4.2.4 Age of reference person

Corresponds to the age of the reference person at the time of the interview.

4.2.5 Household income before tax

Corresponds to the total income before tax received by the household the year prior to the reference year of the survey. It refers to income from all sources including government transfers: scholarships, bursaries and fellowships, wages and salaries before deductions, farm self-employment net income, non-farm self-employment net income, universal child care tax benefit, Old Age Security pension, CPP and QPP benefits, Employment Insurance benefits, social assistance, workers' compensation benefits, Federal GST/HST Credit, provincial tax credits, other government transfers, private retirement pensions, support payments received, other taxable income and income from a RDSP and investment income.

4.2.6 Homeowner

Household living in a dwelling owned (with or without a mortgage) by a member of the household at the time of the interview.

4.3 Selected household expenditures

4.3.1 Total expenditure

The sum of total current consumption, income taxes, personal insurance payments and pension contributions, and gifts of money, alimony and contributions to charity.

4.3.2 Total current consumption

Sum of the expenditures for food, shelter, household operations, household furnishings and equipment, clothing and accessories, transportation, health care, personal care, recreation, education, reading materials and other printed matter, tobacco products and alcoholic beverages, games of chance, and miscellaneous expenditures.

4.3.3 Food purchased from stores

“Stores” includes all establishments where food can be bought, such as grocery stores, specialty food stores, department stores, warehouse-type stores and convenience stores, but also frozen food suppliers, outdoor farmers’ markets and stands, and all other non service establishments. The expenditures are net of cash premium vouchers or rebates at the cash register and include deposits paid for at the time of purchase. These deposits are excluded from the expenditures when reimbursed and are shown as negative expenditures (flow of money in) in the “Miscellaneous expenditures” section.

4.3.4 Food purchased from restaurants

“Restaurants” includes full service restaurants, fast-food outlets, cafeterias, but also refreshments stands, snack bars, vending machines, mobile canteens, caterers and chip wagons. Includes tips. Does not include expenditures for alcoholic beverages.

4.3.5 Shelter

Principal accommodation (either owned or rented) and other accommodation such as vacation homes or accommodation while travelling.

4.3.6 Rent

Net rent, excluding rent paid for business, or rooms rented out. Includes additional amounts paid to landlord.

4.3.7 Tenants’/Homeowners’ insurance premiums

Premiums paid for fire and comprehensive policies.

4.3.8 Repairs and maintenance (owned living quarters)

Covers expenditures for labor and materials for all types of repairs and maintenance, including expenditures to repair and maintain built-in equipment, appliances and fixtures. Expenditures related to alterations and improvements are excluded as they are considered as an increase in assets (investment) rather than an expense.

4.3.9 Water, fuel and electricity (for principal accommodation)

Expenditures for services related to water and sewage, electricity, and natural gas and other fuel for the principal accommodation, whether rented or owned.

4.3.10 Property taxes and sewage charges (for owned vacation homes and other secondary residences)

Refers to the amount billed, excluding any rebates. Special service charges (e.g., garbage, sewage), local improvements, and water charges are included if these are part of the property tax bill.

4.3.11 Accommodation away from home

Includes all expenses for accommodation while travelling. Excludes expenditures for accommodation that were part of a package trip.

4.3.12 Household appliances

Refers to the net purchase price after deducting trade-in allowance and any discount. Excludes appliances included in the purchase of a home.

4.3.13 Purchase of automobiles, vans and trucks

Refers to the net purchase price, including extra equipment, accessories, and warranties bought when the vehicle was purchased, after deducting any trade-in allowance or separate sales. Separate sales occur when a vehicle is sold independently by the owner, e.g., not traded in when purchasing or leasing another vehicle.

4.3.14 Health care

Includes direct costs to household (out-of-pocket) net of the expenditures reimbursed, and health insurance premiums.

4.3.15 Package trips

Includes at least two components such as transportation and accommodation, or accommodation with food and beverages.

4.3.16 Tobacco products and smokers' supplies

Includes cigarettes, tobacco, cigars, matches, pipes, lighters, ashtrays, cigarette papers and tubes, and other smokers' supplies.

4.3.17 Alcoholic beverages

Includes alcoholic beverages purchased from stores and restaurants. Expenditures on supplies and fees for self-made beer, wine or liquor are also included.

4.3.18 Games of chance

Expenditures on all types of games of chance. The expenditures are not net of the winnings from these games.

4.3.19 Discounts and refunds

Presented in the data tables as "negative expenditures" since they represent a flow of money into the household instead of out of it.

4.3.20 Income taxes

The sum of federal and provincial income taxes payable for the taxation year prior to the reference year of the survey. Income taxes include taxes on income, capital gains and RRSP withdrawals, after taking into account exemptions, deductions, non-refundable tax credits, and the refundable Quebec abatement.

4.4 Dwelling characteristics

4.4.1 Type of dwelling

Type of dwelling in which the household resided at the time of interview. A dwelling is a structurally separate set of living premises with a private entrance from outside the building or from a common hall or stairway.

- A **single detached** dwelling contains only one dwelling unit and is completely separated by open space on all sides from any other structure, except its own garage or shed.
- A **single attached** dwelling is a double or semi-detached unit (side-by-side) or a row or terrace unit.
- **Apartment** includes duplexes (two dwellings, situated one above the other), triplexes, quadruplexes and apartment buildings.
- **Other** dwellings include mobile homes, motor homes, tents, railroad cars or houseboats, which are used as permanent residences and are capable of being moved on short notice.

4.4.2 Repairs needed

Indicates the respondent's perception of the repairs the dwelling needed at the time of the interview to restore it to its original condition. Remodelling, additions, conversions, or energy improvements that would upgrade the dwelling over and above its original condition are not included.

- **Major repairs** include serious deficiencies in the structural condition of the dwelling, as well as the plumbing, electrical and heating systems. Examples include corroded pipes, damaged electrical wiring, sagging floors, bulging walls, damp walls and ceilings, and crumbling foundation.
- **Minor repairs** include deficiencies in the surface or covering materials of the dwelling and less serious deficiencies in the plumbing, electrical and heating systems. Examples include small cracks in interior walls and ceilings, broken light fixtures and switches, cracked or broken panes, leaking sinks, missing shingles or siding, and peeling paint.

4.4.3 Tenure

Housing status of the household at the time of the interview.

- **Owned with mortgage** indicates that the dwelling was owned by a household member and that there was a mortgage at the time of the interview.
- **Owned without mortgage** indicates that the dwelling was owned by a household member and that there was no mortgage at the time of the interview.
- **Rented** indicates that the dwelling was rented by the household or occupied rent-free at the time of the interview.

4.4.4 Number of bathrooms (for dwelling occupied at the time of the interview)

Number of rooms in the dwelling with an installed bathtub and/or shower.

4.5 Household equipment

4.5.1 Telephone (includes business use)

Includes telephones used for business if the business is conducted in the dwelling. Cordless phones are also included.

4.5.2 Cellular telephone

Includes cellular telephones and handheld text messaging devices with cell phone capability.

4.5.3 Compact disc player

A compact disc player may be a separate unit, part of a component or built in (as in a receiver/cassette recorder/compact disc combination unit).

4.5.4 Home computer

Excludes computers used exclusively for business purposes.

4.5.5 Internet use from home

Indicates whether the household has access to the Internet at home.

4.5.6 Owned vehicles

Number of vehicles (automobiles, vans and trucks) owned by members of the household at the end of the month prior to the time of the interview.

4.6 Classification categories

4.6.1 Canada

Canada-level data for 2012 include the 10 provinces only.

4.6.2 Province/territory

Data have been collected in the territories in 2012 according to the previous model of the SHS (questionnaire with 12-month recall period only, no diary of expenditures). As such, estimates from the territories are not combined with the provincial estimates but presented separately (see section 6 of the guide).

4.6.3 Before-tax household income quintile (national)

Income groupings are obtained by ranking the households responding to the interview in ascending order by the total income before tax of the households, then partitioning the households into five groups of similar size. The estimated number of households in each group should be the same in principle but differences may occur due to the weight of the household at the boundary of two quintiles, since this household must lie in either one or the other of these quintiles. Moreover, the specific methodology of the survey (with a series of weights for the interview and another series for the diary) ensures that the same estimate of the number of households for the interview and the diary will occur only if the quintiles are defined at the provincial level. For the national quintiles, there may be a difference between the estimate of the number of households based on either the interview weights or the diary weights. (See section 5 "Derivation of data tables".)

4.6.4 Housing tenure

Whether a household member owned or rented the dwelling in which the household lived at the time of the interview.

- **Owners** refers to all households living in a dwelling owned (with or without mortgage) by a household member at the time of the interview.
- **Owners with mortgage** owned the dwelling with a mortgage at the time of the interview.
- **Owners without mortgage** owned the dwelling without a mortgage at the time of the interview.
- **Renters** rented a dwelling at the time of the interview (as a regular tenant, rent free, or with reduced rent)

4.6.5 Household type

Households are divided according to the following types:

- **One person households** are the households where the dwelling is occupied by only one person at the time of the interview.
- **Couple households** are households where the married or common law spouse of the reference person is a member of the household at the time of the interview. This household type may be further broken down into couple households without children (without additional persons), with children (without additional persons), and with additional persons. “Children” are never-married sons, daughters, or foster children of the reference person and may be any age. “Additional persons” include sons, daughters and foster children whose marital status is other than “single, never-married”, other relatives by birth or marriage, and unrelated persons.
- **Lone-parent households** are households where the reference person has no spouse at the time of the interview and there is at least one child (never-married son, daughter, or foster child of the reference person). The lone-parent households for which data are presented do not include any additional persons.
- **Other households** are households composed of relatives only or households having at least one household member who is unrelated to the reference person (e.g., lodger, roommate, employee). Relatives may include:
 - son, daughter, or foster child of the reference person whose marital status is other than single, never-married;
 - relatives of the reference person by birth or marriage (not spouse, son, daughter or foster child).

4.6.6 Size of area of residence

Sampled dwellings are assigned to the following groups depending on the area in which they are located according to the 2006 Census boundaries and population size.

Population centres

1,000,000 and over
500,000 to 999,999
250,000 to 499,999
100,000 to 249,999
30,000 to 99,999
1,000 to 29,999

Rural

4.6.7 Population centre

Area with a population of at least 1,000 or more and a density of 400 or more people per square kilometre. Population centres are classified as either small, medium, or large as defined below:

- Small population centre: 1,000 to 29,999
- Medium population centre: 30,000 to 99,999
- Large urban population centre: 100,000 and over

4.6.8 Rural area

All areas outside population centres are considered rural. Taken together, population centres and rural areas cover all of Canada.

4.6.9 Age of reference person

Households are grouped according to the age the reference person as the following:

- Less than 30 years
- 30 to 39 years
- 40 to 54 years
- 55 to 64 years
- 65 years and over

5 Derivation of data tables

This section explains how the SHS data tables have been derived. It then explains the calculations used most frequently to manipulate the data. Users are advised to refer to this section before doing their data analysis.

As stated above, only a subsample of the households have to fill out a diary. Therefore, different weights are calculated for the interview questionnaire and the diary, which makes using the data more complicated.

5.1 Estimates of number of households

Estimates are generated using two sets of weights, one for the interview and the other for the diary. Adjustments made during weighting ensure that the estimate of the number of households at the provincial level using either set of weights is equivalent for the following domains:

- household sizes of one, two, or three or more persons; and
- household income groups defined according to provincial quintiles.

By default, the estimate of the number of households for any aggregation of these domains also results in equivalent estimates.

For any other domain, an estimate of the number of households may differ somewhat depending on the reliability of these estimates. The estimate of the number of households in the SHS tables has been produced using interview weights, as opposed to diary weights. The average household size is also produced from the interview weights.

The estimated number of households and the average household size of the various domains for which estimates are produced in CANSIM tables are available in Appendix IX.

5.2 Estimates of average expenditure per household

Estimates using both interview and diary expenditure data are produced in two steps: estimates are produced separately from the interview and the diary, and then they are added together.

For average expenditure per household, the interview average expenditure per household is calculated using the weighted sum of expenditure data obtained from the interview divided by the sum of the interview weights. Similarly, the diary average expenditure per household is estimated using the weighted sum of expenditure data obtained from the diary divided by the sum of the diary weights. The two components are then added to obtain the average expenditure per household. With this approach, the combined interview and diary average expenditure per household does not exactly match the combined interview and diary weighted sum of expenditure divided by the estimated number of households (produced using the interview weights) for domains in which the interview and diary estimates do not match. Nevertheless, the approach ensures that the sum of the average expenditure per household for all categories equals the total average expenditure per household.

5.3 Examples of expenditure estimates

The tables in this section contain examples of expenditure estimates produced separately from interview and from diary data, as well as an example of expenditure estimates where interview and diary data have to be combined.

5.3.1 Examples of expenditure estimates obtained from interview data

The CANSIM tables include estimates of average expenditure per household. For technical reasons, the estimated number of households and the average household size are not included in these tables but are provided in Appendix IX. In this document, we present an example of the estimated number of households in Table 7 associated with estimates of average expenditure per household from Table 8 in order to help in the understanding of the subsequent examples.

Text table 7

Estimated number of households based on interview weights, by household tenure

	All households	Owner with mortgage	Owner without mortgage	Renter
	number			
Estimated number of households	13,514,009	4,812,813	4,219,949	4,481,247

Text table 8

Average household expenditures obtained from interview data, by household tenure

	All households	Owner with mortgage	Owner without mortgage	Renter
	dollars			
Shelter	15,210	23,712	9,643	11,320
Household furnishing and equipment	2,027	2,699	2,235	1,115
Clothing and accessories	3,360	4,289	3,268	2,448
Transportation	11,229	14,505	12,389	6,638

5.3.2 Examples of expenditure estimates obtained from diary data

Text table 9

Estimated number of households based on diary weights, by household tenure

	All households	Owner with mortgage	Owner without mortgage	Renter
	number			
Estimated number of households	13,514,009	4,785,857	4,214,778	4,513,374

Text table 10

Average household expenditures obtained from diary data, by household tenure

	All households	Owner with mortgage	Owner without mortgage	Renter
	dollars			
Food expenditures	7,795	9,234	8,465	5,642
Food purchased from stores	5,588	6,583	6,053	4,098
Food purchased from restaurant	2,207	2,652	2,412	1,544

5.3.3 Examples of estimates obtained from both interview and diary expenditure data

In Table 11, we present the estimated number of households and the average household size as provided in Appendix IX, while Table 12 represents a typical example of an average household expenditures table available to users.

Text table 11

Estimated number of households and average household size based on interview weights, by household tenure

	All households	Owner with mortgage	Owner without mortgage	Renter
	number			
Estimated number of households	13,514,009	4,812,813	4,219,949	4,481,247
Average household size	2.48	3.03	2.30	2.05

Text table 12

Average household expenditures obtained from interview and diary data, by household tenure

	All households	Owner with mortgage	Owner without mortgage	Renter
	dollars			
Total expenditure ¹	39,621	54,439	36,000	27,163
Food expenditures	7,795	9,234	8,465	5,642
Food purchased from stores	5,588	6,583	6,053	4,098
Food purchased from restaurant	2,207	2,652	2,412	1,544
Shelter	15,210	23,712	9,643	11,320
Household furnishing and equipment	2,027	2,699	2,235	1,115
Clothing and accessories	3,360	4,289	3,268	2,448
Transportation	11,229	14,505	12,389	6,638

1. Total of expenditure for the categories used in this example.

Tables 7 to 10 above are not available to users; however, the following section provides examples on how to produce other estimates using tables such as 11 and 12 above.

5.4 Calculating various estimates using the tables

The following section explains the calculation method for some of the common SHS expenditure data manipulations.

5.4.1 How to calculate average expenditures per person

To calculate average expenditure per person for a given category, divide the average expenditure per household for that category (Table 12) by the average household size (found on the second line of Table 11).

For example, the average food expenditure per person for renter households is calculated as follows:

Figure 2

Average food expenditure per person for renter households

Average food expenditure per person for renter households =

$$\frac{\text{Average food expenditure per renter household}}{\text{Average size of renter households}}$$

$$\text{Example : } \frac{\$5,642}{2.05} = \$2,752$$

When comparing estimates of average expenditure per person, note that household composition (number of children and adults) is a significant factor in many expenditure patterns.

5.4.2 How to calculate percentages of total average household expenditure (budget shares)

To calculate the budget share of an individual expenditure category as a percentage of total average household expenditure, divide the average expenditure per household for that expenditure category by the total average expenditure per household, and then multiply by 100.

For example, using the Table 12, the percentage of total average expenditure per household represented by the average expenditures on food per household, for renter households, is calculated as follows:

Figure 3

Percentage of total average expenditure per household

Percentage of total average expenditure per household represented by the average expenditures on food per household, for renter households =

$$\frac{\text{Average expenditure on food per renter household}}{\text{Total average expenditure per renter household}} \times 100$$

$$\text{Example : } \frac{\$5,642 \times 100}{\$27,163} = 20.77\%$$

5.4.3 Combining expenditure categories into your own groupings

The average expenditure per household for different expenditure categories can be added together to make new subtotals.

For example, the average expenditure on shelter and transportation per renter household is calculated as follows:

Average expenditure on shelter per renter household + Average expenditure on transportation per renter household

Example: \$11,320 + \$6,638 = \$17,958

5.4.4 Calculating aggregate expenditures

To calculate aggregate expenditures, multiply the average expenditure per household from one column for an expenditure category (Table 12) by the estimated number of households from the same column in Table 11.

For example, the aggregate expenditure on food for renter households is calculated as follows:

Average expenditure on food per renter household x Estimated number of renter households

Example: $\$5,642 \times 4,481,247 = \$25,283,195,574$

Note: Since the estimated variable comes from diary data and the estimated number of households in the domains used differs slightly depending on whether it is calculated using interview weights or diary weights, the estimate only approximates the estimate that would have been obtained using the weighted sum of expenditures. Indeed, if we use the estimated number of households based on the diary weights from Table 9, we could derive the weighted sum of expenditures. We then get:

Average expenditure on food per renter household x Estimated number of renter households

Example: $\$5,642 \times 4,513,374 = \$25,464,456,108$

The estimates of aggregate expenditure are exact for all domains for which the sum of interview and diary weights are the same (see section 5.1) as well as for all variables coming from the interview questionnaire. All other estimates for which we have to derive aggregate expenditure are approximated by default if the aggregate expenditure is approximated.

5.4.5 Calculating aggregate expenditures by combining data columns

To calculate aggregate expenditures for multiple columns, calculate the aggregate expenditure for each of the columns for an expenditure category and add them after.

For example, aggregate expenditure on food by owner households (with or without a mortgage) is calculated as follows:

(Average expenditure on food per owner household with a mortgage x Estimated number of owner households with mortgage) + (Average expenditure on food per mortgage-free owner household x Estimated number of mortgage-free owner households)

Example: $(\$9,234 \times 4,812,813) + (\$8,465 \times 4,219,949) = \$80,163,383,527$

5.4.6 How to calculate average expenditures per household by combining data columns

To calculate the average expenditure for multiple columns, calculate the aggregate expenditure for each of the columns for an expenditure category from the average expenditure (Table 12), add them, and then divide the total by the sum of the estimated number of households in those columns in Table 11.

For example, the average expenditure on food per owner household (with or without a mortgage) is calculated as follows:

Figure 4

Average expenditure on food per owner household

Average expenditure on food per owner household (with or without a mortgage) =

$$\frac{\begin{aligned} &(\text{Average expenditure on food per owner household with a mortgage} \times \text{Estimated number of owner} \\ &\quad \text{households with mortgage}) + \\ &(\text{Average expenditure on food per mortgage-free owner household} \times \text{Estimated number of mortgage-free} \\ &\quad \text{owner households}) \end{aligned}}{\begin{aligned} &\text{Estimated number of owner households with a mortgage} + \\ &\text{Estimated number of mortgage-free owner households} \end{aligned}}$$

Example :
$$\frac{(\$9,234 \times 4,812,813) + (\$8,465 \times 4,219,949)}{4,812,813 + 4,219,949} = \$8,875$$

5.4.7 Calculating the expenditure share of a subgroup among all households

An expenditure share is the percentage of the aggregate expenditure for an expenditure category that can be attributed to a particular subgroup of households, e.g., the percentage of all food expenditures made by renter households.

It is calculated by deriving the household subgroup's aggregate expenditure for an expenditure category and dividing it by the aggregate expenditure for the expenditure category for all households and multiplying by 100.

For example, the percentage of food expenditures made by renter households is calculated as follows:

Figure 5

Percentage of food expenditures made by renter households

Percentage of food expenditures made by renter households =

$$\frac{\begin{aligned} &\text{Average expenditure on food per renter household} \times \text{Estimated number of renter} \\ &\quad \text{households} \end{aligned}}{\begin{aligned} &\text{Average expenditure on food per household for all households} \times \text{Estimated total} \\ &\quad \text{number of households} \end{aligned}} \times 100$$

Example :
$$\frac{\$5,642 \times 4,481,247 \times 100}{\$7,795 \times 13,514,009} = 24.00\%$$

6 Estimates in the territories

Data have been collected in the territories in 2012 according to the previous model of the Survey of Household Spending (questionnaire with 12-month recall period only, no diary of expenditures). As such, estimates from the territories are not combined with the provincial estimates but presented separately.

The 2012 SHS in the territories was conducted from January to March 2013 from a sample of 1 032 eligible households. The data were obtained directly from the respondent during a personal interview conducted by an interviewer using a questionnaire on a laptop. Information was gathered about the spending habits, dwelling characteristics and household equipment of Canadian households during the reference period.

The following groups were excluded from the survey:

- official representatives of foreign countries living in Canada and their families;
- members of religious and other communal colonies;
- members of the Canadian Forces living in military camps; and
- persons living full time in institutions: for example, inmates of penal institutions and chronic care patients living in hospitals and nursing homes.

People living in some remote geographic areas with very difficult access were also excluded from the survey. The 2012 SHS in the territories covers respectively 92%, 91% and 93% of the population in Yukon, the Northwest Territories and Nunavut.

The sample was selected from the Labour Force Survey frame, updated to use mainly Census 2006 geography and demographic data. The sample design in the territories uses two different types of sampling. The largest communities are always in the sample and we directly select a sample of dwellings (one-stage design). The smaller communities are grouped into strata. In each stratum, one community is selected to represent the others and a sample of dwellings is then selected (two-stage design).

The response rate of the 2012 SHS in the territories is 63.2% (text table 13).

Text table 13
Response rates, territories, 2012

	Eligible sampled households	No contacts	Refusals	Residual non-respondents	Unusable respondents ¹	Usable respondents	Response rate ²
	number						percentage
Territories	1,032	102	211	26	41	652	63.2
Yukon	367	23	79	8	6	251	68.4
Northwest Territories	419	45	101	3	24	246	58.7
Nunavut	246	34	31	15	11	155	63.0

1. Rejected at the verification stage.

2. (Usable respondent households/Eligible sampled households) x 100.

The sampling weights in the territories are adjusted so that certain estimates produced from the sample agree with existing population demographic estimates. Due to the small population in the territories, only two age groups are used: the number of persons under 18 years of age and the number of persons 18 and older. The weights are also adjusted to the number of households consisting of one, two, and three or more persons, except in Nunavut. For this territory, the adjustment was limited to the total number of households.

The 2012 SHS territorial estimates are based on weights adjusted to demographic estimates produced using the 2006 census. In terms of comparability with previous years, it is important to consider that the previous years' territorial weights were adjusted to demographic estimates produced using 2001 census data.

Cansim tables 203-0030 and 203-0031 present the 2012 territorial estimates.

For more information on the model of the SHS used in the territories in 2012, consult the *User Guide for the Survey of Household Spending, 2009* available on Statistics Canada's website.

7 Related products and services

7.1 CANSIM

CANSIM (the Canadian Socio-Economic Information Management System) is a data base consisting of multi-dimensional cross-sectional tables.

Eight tables presenting annual information from the Survey of Household Spending are available. Table 203-0021 presents household detailed level expenditure data, while tables 203-0022 to 203-0026 present data according to household income quintile, household type, household tenure, size of area of residence and age of reference person respectively. Table 203-0027 presents data on dwelling characteristics and household equipment. Finally, table 203-0028 provides detailed food expenditure data.

Tables 203-0030 and 203-0031 present the 2012 territorial estimates.

7.2 Household Expenditures Research Paper Series

This series provides detailed documentation on issues, concepts, methodology, data quality and other relevant research related to household expenditures from the Survey of Household Spending.

62F0026MIE Household Expenditures Research Paper Series

7.3 Custom tabulations

For clients with more specialized data needs, custom tabulations can be produced on a cost-recovery basis. Custom tabulations can be produced to your specifications on a contract basis (subject to confidentiality restrictions). Aggregate data at the detailed expenditure level are also available on a custom basis.

8 References

[1] Charlebois, J. and Dubreuil, G. 2011. Variance Estimation for the Redesigned Survey of Household Spending. Proceedings of the Survey Methods Section, Statistical Society of Canada Annual Meeting, June 2011.

Appendix I — Diary's response rates among the respondents to the interview

Text table 1

Diary's response rates among the respondents to the interview, Canada and provinces, 2012

	Interview respondents ¹	Diaries ²			Response rate ³
		Refusal	Unusable	Usable	
	number				percentage
Canada	5,710	1,762	120	3,828	67.0
Atlantic provinces	1,826	500	36	1,290	70.6
Newfoundland and Labrador	495	130	11	354	71.5
Prince Edward Island	252	71	2	179	71.0
Nova Scotia	544	181	11	352	64.7
New Brunswick	535	118	12	405	75.7
Quebec	799	233	17	549	68.7
Ontario	819	313	17	489	59.7
Prairie provinces	1,608	483	36	1,089	67.7
Manitoba	519	144	10	365	70.3
Saskatchewan	470	158	9	303	64.5
Alberta	619	181	17	421	68.0
British Columbia	658	233	14	411	62.5

1. Interview respondents from households selected to fill out the diary.

2. The definition of usable and unusable diaries is given in the "Data processing and quality control" Section.

3. (Usable diaries/Interview respondents selected for the diary) x100.

Appendix II — Response rates by collection month

Text table 1
Interview's response rates by collection month, Canada, 2012

	Eligible sampled households	No contacts	Refusals	Residual non-respondents	Respondents	Response rate ¹
	number					percentage
All months	17,557	1,630	3,983	563	11,381	64.8
January	1,486	158	348	42	938	63.1
February	1,500	152	370	45	933	62.2
March	1,532	149	345	56	982	64.1
April	1,466	165	354	47	900	61.4
May	1,435	118	337	36	944	65.8
June	1,467	134	301	46	986	67.2
July	1,417	143	342	58	874	61.7
August	1,521	161	328	52	980	64.4
September	1,452	115	311	42	984	67.8
October	1,395	97	320	46	932	66.8
November	1,450	119	307	40	984	67.9
December	1,436	119	320	53	944	65.7

1. (Respondent households/Eligible sampled households)x100.

Text table 2
Diary's response rates by collection month, Canada, 2012

	Eligible sampled households ¹	Interview non- respondents ²	Diaries ³			Response rate ⁴
			Refusal	Unusable	Usable	
	number					percentage
All months	8,836	3,126	1,762	120	3,828	43.3
January	729	261	163	13	292	40.1
February	756	281	151	4	320	42.3
March	779	271	166	11	331	42.5
April	743	292	133	10	308	41.5
May	717	245	155	9	308	43.0
June	721	235	165	13	308	42.7
July	721	282	142	16	281	39.0
August	770	286	160	10	314	40.8
September	732	239	144	13	336	45.9
October	702	233	113	4	352	50.1
November	729	244	126	7	352	48.3
December	737	257	144	10	326	44.2

1. The eligible sampled households are those selected to fill out the diary.

2. Includes interview "No contacts", "Refusals" and "Residual non-respondents" from households selected to fill out the diary.

3. The definition of usable and unusable diaries is given in the "Data processing and quality control" Section.

4. (Usable diaries/Eligible sampled households)x100.

Appendix III — Response rates by size of area of residence and by dwelling type

Text table 1

Interview's response rates by size of area of residence, Canada, 2012

	Eligible sampled households	No contacts	Refusals	Residual non-respondents	Respondents	Response rate ¹
	number					percentage
All population centres and rural area	17,557	1,630	3,983	563	11,381	64.8
Population centre 1,000,000 and over	4,843	477	1,180	133	3,053	63.0
Population centre 500,000 to 999,999	1,553	205	355	63	930	59.9
Population centre 250,000 to 499,999	1,309	99	322	53	835	63.8
Population centre 100,000 to 249,999	2,775	278	647	99	1,751	63.1
Population centre 30,000 to 99,999	2,026	168	473	67	1,318	65.1
Population centre 1,000 to 29,999	2,066	182	412	60	1,412	68.3
Rural area	2,985	221	594	88	2,082	69.7

1. (Respondent households/Eligible sampled households)x100.

Text table 2

Diary's response rates by size of area of residence, Canada, 2012

	Eligible sampled households ¹	Interview non-respondents ²	Diaries ³			Response rate ⁴
			Refusal	Unusable	Usable	
	number					percentage
All population centres and rural area	8,836	3,126	1,762	120	3,828	43.3
Population centre 1,000,000 and over	2,485	912	577	42	954	38.4
Population centre 500,000 to 999,999	782	330	120	5	327	41.8
Population centre 250,000 to 499,999	662	235	158	4	265	40.0
Population centre 100,000 to 249,999	1,428	523	291	19	595	41.7
Population centre 30,000 to 99,999	1,014	358	181	11	464	45.8
Population centre 1,000 to 29,999	1,032	323	191	15	503	48.7
Rural area	1,433	445	244	24	720	50.2

1. The eligible sampled households are those selected to fill out the diary.

2. Includes interview "No contacts", "Refusals" and "Residual non-respondents" from households selected to fill out the diary.

3. The definition of usable and unusable diaries is given in the "Data processing and quality control" Section.

4. (Usable diaries/Eligible sampled households)x100.

Text table 3
Interview's response rates by dwelling type, Canada, 2012

	Eligible sampled households	No contacts	Refusals	Residual non-respondents	Respondents	Response rate ¹
	number					percentage
All dwelling types	17,557	1,630	3,983	563	11,381	64.8
Single detached	11,156	943	2,716	315	7,182	64.4
Double or row/terrace	1,546	138	338	43	1,027	66.4
Duplex, low-rise or high-rise apartment	4,412	496	804	189	2,923	66.3
Other	408	44	103	12	249	61.0
Not available	35	9	22	4	0	0.0

1. (Respondent households/Eligible sampled households)x100.

Text table 4
Diary's response rates by dwelling type, Canada, 2012

	Eligible sampled households ¹	Interview non- respondents ²	Diaries ³			Response rate ⁴
			Refusal	Unusable	Usable	
	number					percentage
All dwelling types	8,836	3,126	1,762	120	3,828	43.3
Single detached	5,621	2,014	1,044	59	2,504	44.5
Double or row/terrace	767	264	168	7	328	42.8
Duplex, low-rise or high-rise apartment	2,241	751	523	50	917	40.9
Other	189	79	27	4	79	41.8
Not available	18	18	0	0	0	0.0

1. The eligible sampled households are those selected to fill out the diary.

2. Includes interview "No contacts", "Refusals" and "Residual non-respondents" from households selected to fill out the diary.

3. The definition of usable and unusable diaries is given in the "Data processing and quality control" Section.

4. (Usable diaries/Eligible sampled households)x100.

Appendix IV — Diary's response rates among the respondents to the interview, by various households' characteristics

Text table 1

Diary's response rates among the respondents to the interview, by household type, Canada, 2012

	Interview respondents ¹	Diaries ²			Response rate ³
		Refusal	Unusable	Usable	
	number			percentage	
All household types	5,710	1,762	120	3,828	67.0
One person household	1,550	535	46	969	62.5
Couple without children	1,751	476	23	1,252	71.5
Couple with children	1,425	418	23	984	69.1
Couple with other related or unrelated persons	208	63	1	144	69.2
Lone-parent household with no additional persons	418	137	15	266	63.6
Other household with related or unrelated persons	358	133	12	213	59.5

1. Interview respondents from households selected to fill out the diary.

2. The definition of usable and unusable diaries is given in the "Data processing and quality control" Section.

3. (Usable diaries/Interview respondents selected for the diary)x100.

Text table 2

Diary's response rates among the respondents to the interview, by household tenure, Canada, 2012

	Interview respondents ¹	Diaries ²			Response rate ³
		Refusal	Unusable	Usable	
	number			percentage	
All household tenures	5,710	1,762	120	3,828	67.0
Owner without mortgage	2,100	593	28	1,479	70.4
Owner with mortgage	1,872	546	32	1,294	69.1
Renter (with or without rent paid)	1,738	623	60	1,055	60.7

1. Interview respondents from households selected to fill out the diary.

2. The definition of usable and unusable diaries is given in the "Data processing and quality control" Section.

3. (Usable diaries/Interview respondents selected for the diary)x100.

Text table 3

Diary's response rates among the respondents to the interview, by age of the reference person, Canada, 2012

	Interview respondents ¹	Diaries ²			Response rate ³
		Refusal	Unusable	Usable	
	number			percentage	
Reference person of all ages	5,710	1,762	120	3,828	67.0
Less than 30 years	525	187	16	322	61.3
30 to 39 years	859	297	22	540	62.9
40 to 54 years	1,597	501	39	1,057	66.2
55 to 64 years	1,182	343	16	823	69.6
65 years and over	1,547	434	27	1,086	70.2

1. Interview respondents from households selected to fill out the diary.
2. The definition of usable and unusable diaries is given in the "Data processing and quality control" Section.
3. (Usable diaries/Interview respondents selected for the diary)x100.

Text table 4

Diary's response rates among the respondents to the interview, by before-tax income quintile, Canada, 2012

	Interview respondents ¹	Diaries ²			Response rate ³
		Refusal	Unusable	Usable	
	number			percentage	
Total of all income quintiles	5,710	1,762	120	3,828	67.0
Lowest quintile	1,122	418	43	661	58.9
Second quintile	1,198	351	27	820	68.4
Third quintile	1,105	337	14	754	68.2
Fourth quintile	1,194	331	26	837	70.1
Highest quintile	1,091	325	10	756	69.3

1. Interview respondents from households selected to fill out the diary.
2. The definition of usable and unusable diaries is given in the "Data processing and quality control" Section.
3. (Usable diaries/Interview respondents selected for the diary)x100.

Appendix V — Impact of expenditure imputation on communications services, cablevision, satellite distribution and security services

Text table 1

Impact of expenditure imputation on communications services, cablevision, satellite distribution and security services, Canada, 2012

	Impact of imputation ¹
	percentage
Landline telephone services	43.2
Cell phone, pager and handheld text messaging services	14.0
Rental of cablevision services	52.7
Rental of satellite TV or radio services	25.8
Internet access services	52.8
Home security services	7.1

1. The impact of imputation represents the proportion of the total value of the estimate that is obtained from imputed data.

Appendix VI — Imputation of dwelling characteristics and household equipment

Text table 1

Percentage of households requiring imputation of dwelling characteristics or household equipment, Canada and provinces, 2012

	Number of variables imputed (out of 25)			Total
	1	2	3 or more	
	percentage			
Canada	5.7	1.4	0.6	7.6
Newfoundland and Labrador	6.7	1.5	0.3	8.5
Prince Edward Island	5.5	2.9	1.1	9.5
Nova Scotia	7.6	1.4	0.4	9.3
New Brunswick	5.7	1.5	0.8	7.9
Quebec	6.3	0.9	0.6	7.7
Ontario	4.5	1.2	0.5	6.2
Manitoba	5.8	1.5	1.1	8.4
Saskatchewan	6.8	1.8	0.3	8.9
Alberta	4.1	0.8	0.4	5.3
British Columbia	5.0	1.3	0.4	6.7

Appendix VII — Breakdown of the imputed expenditure codes by the initial level of the information from the respondent

Text table 1

Distribution of imputation of detailed expenditure codes by the initial level of information collected from the section of the diary on Goods and services including food from stores, Canada, 2012

Initial collected information (initial expenditure category)	percentage
Specific food group	49.56
Food unspecified	8.94
Grocery item unspecified	6.49
Non-food grocery item unspecified	0.54
Communication equipment and services unspecified	0.24
Child care unspecified	0.04
Pet expenses - unspecified	0.43
Garden supplies unspecified	0.27
Household supplies unspecified	0.58
Furnishings and decor unspecified	0.48
Housewares - unspecified	0.43
Home and garden services - unspecified	0.02
Home and garden tools and equipment unspecified	0.35
Household equipment, parts and accessories unspecified	1.82
Apparel unspecified	1.25
Apparel services - unspecified	0.01
General repairs for automobiles, mini-vans and trucks unspecified	1.12
Parts and supplies for automobiles, mini-vans and trucks unspecified	0.40
Transportation unspecified	0.21
Medicine unspecified	1.60
Eye care goods and services unspecified	0.10
Medical services unspecified	0.06
Personal care supplies and equipment unspecified	2.28
Massage unspecified	0.22
Personal care services unspecified	0.29
Video game systems and parts unspecified	0.25
Camera and accessories unspecified	0.01
Electronics unspecified	0.06
Entertainment unspecified	0.53
Movies unspecified	0.58
Recreational goods and services unspecified	0.17
Printed matter unspecified	0.15
Tuition fees unspecified	0.01
Tobacco products unspecified	0.30
Games of chance unspecified	0.04
Services unspecified	0.20
Goods unspecified	13.30
Legal fees unspecified	0.02
Gift unspecified	2.69
Baby goods unspecified	0.20
Repairs, renovations and maintenance of home unspecified	0.43
Utilities unspecified	0.17
Taxes unspecified	0.01
Gifts of money unspecified	0.68
Gifts of money and other support payments to persons - unspecified	1.24
Donations unspecified	0.71
Insurance unspecified	0.20
Other goods and services unspecified	0.33

Appendix VIII — Imputation rates by method for recording the expenses in the diary

Text table 1

Imputation rates by type of imputation and method for recording the expenses in the section of the diary on Goods and services including food from stores, Canada, 2012

Type of imputation	Transcribed items	Items from a receipt	All items
	percentage		
Imputation of a missing cost for a reported expense			
Food from stores	3.4	0.2	1.3
Other goods and services	3.9	0.4	2.2
All expenditures	3.7	0.3	1.6
Imputation of expenditure items (and their individual cost) from a total expense			
Food from stores	52.5	1.5	18.8
Other goods and services	21.4	1.9	11.9
All expenditures	38.7	1.6	16.4
Imputation of detailed expenditure code			
Food from stores	5.0	4.9	4.9
Other goods and services	4.4	5.9	5.1
All expenditures	4.7	5.2	5.0

Text table 2

Imputation rates by type of imputation and method for recording the expenses in the section of the diary on Snacks, beverages and meals purchased from restaurants or fast-food outlets, Canada, 2012

Type of imputation	Transcribed items	Items from a receipt	All items
	percentage		
Imputation of total cost	0.63	0.22	0.57
Imputation of costs for alcoholic beverages	2.86	4.82	3.14
Imputation of meal type (breakfast, lunch, dinner or snack and beverages)	8.17	6.27	7.90

Appendix IX — Estimated number of households and average household size by domain

Text table 1

Estimated number of households and average household size by domain defined at the national level, Canada, 2012

Domain	Estimated number of households	Average household size
Canada		
All classes	13,670,179	2.48
Region		
Atlantic Region	976,018	2.35
Quebec	3,405,323	2.31
Ontario	5,096,704	2.60
Prairie Region	2,351,686	2.53
British Columbia	1,840,449	2.44
Province		
Newfoundland and Labrador	213,456	2.35
Prince Edward Island	58,040	2.47
Nova Scotia	393,409	2.33
New Brunswick	311,112	2.35
Quebec	3,405,323	2.31
Ontario	5,096,704	2.60
Manitoba	474,435	2.48
Saskatchewan	418,415	2.38
Alberta	1,458,836	2.58
British Columbia	1,840,449	2.44
Before-tax household income quintile (national)		
Lowest quintile	2,732,210	1.46
Second quintile	2,734,500	2.08
Third quintile	2,735,337	2.51
Fourth quintile	2,732,600	2.92
Highest quintile	2,735,532	3.41
Household type		
One person households	3,782,690	1.00
Couples without children	3,612,267	2.00
Couples with children	3,720,161	3.94
Couples with other related or unrelated persons	666,650	4.80
Lone-parent households with no additional persons	873,108	2.53
Other households with related or unrelated persons	1,015,304	2.75
Household tenure		
Owner	8,943,978	2.72
Owner with mortgage	4,729,272	3.11
Owner without mortgage	4,214,707	2.29
Renter	4,726,201	2.01
Size of area of residence		
Population centre 1,000,000 and over	6,195,507	2.56
Population centre 500,000 to 999,999	968,465	2.40
Population centre 250,000 to 499,999	1,207,378	2.58
Population centre 100,000 to 249,999	1,195,820	2.36
Population centre 30,000 to 99,999	1,332,846	2.35
Population centre 1,000 to 29,999	1,163,681	2.25
Rural	1,606,480	2.48
Age of reference person		
Less than 30 years	1,434,862	2.25
30 to 39 years	2,432,680	2.95
40 to 54 years	4,203,445	3.02
55 to 64 years	2,577,898	2.14
65 years and over	3,021,295	1.72
* Subtotals may not add up to the total due to rounding.		

Text table 2

Estimated number of households and average household size by domain defined at the provincial level, Canada, 2012

Domain	Estimated number of households	Average household size
Newfoundland and Labrador		
All classes	213,456	2.35
Lowest quintile	42,521	1.50
Second quintile	42,853	2.02
Third quintile	42,565	2.46
Fourth quintile	42,765	2.67
Highest quintile	42,752	3.10
Prince Edward Island		
All classes	58,040	2.47
Lowest quintile	11,606	1.40
Second quintile	11,571	2.09
Third quintile	11,413	2.55
Fourth quintile	11,721	2.92
Highest quintile	11,729	3.38
Nova Scotia		
All classes	393,409	2.33
Lowest quintile	78,486	1.50
Second quintile	78,763	2.07
Third quintile	78,662	2.18
Fourth quintile	78,193	2.84
Highest quintile	79,305	3.05
New Brunswick		
All classes	311,112	2.35
Lowest quintile	62,046	1.45
Second quintile	62,178	1.93
Third quintile	62,329	2.47
Fourth quintile	62,272	2.71
Highest quintile	62,287	3.18
Quebec		
All classes	3,405,323	2.31
Lowest quintile	675,807	1.35
Second quintile	683,372	1.86
Third quintile	682,176	2.33
Fourth quintile	681,233	2.77
Highest quintile	682,736	3.25
Ontario		
All classes	5,096,704	2.60
Lowest quintile	1,008,839	1.51
Second quintile	1,029,026	2.21
Third quintile	1,017,529	2.59
Fourth quintile	1,011,642	3.12
Highest quintile	1,029,668	3.56
Manitoba		
All classes	474,435	2.48
Lowest quintile	94,786	1.52
Second quintile	94,777	2.07
Third quintile	95,087	2.55
Fourth quintile	94,017	2.95
Highest quintile	95,767	3.32
Saskatchewan		
All classes	418,415	2.38
Lowest quintile	83,573	1.43
Second quintile	83,466	2.04
Third quintile	83,716	2.37
Fourth quintile	83,627	2.66
Highest quintile	84,034	3.42
Alberta		
All classes	1,458,836	2.58
Lowest quintile	290,224	1.60
Second quintile	292,771	2.36
Third quintile	291,649	2.60
Fourth quintile	291,475	3.02
Highest quintile	292,717	3.31
British Columbia		
All classes	1,840,449	2.44
Lowest quintile	367,881	1.35
Second quintile	367,964	2.08
Third quintile	368,215	2.49
Fourth quintile	368,042	2.95
Highest quintile	368,346	3.31

* Subtotals may not add up to the total due to rounding.