

## **Detailed description of the estimation method for the Consumer Price Index**

### **Weights**

Estimation procedures are used to derive weights of the CPI basket. The main source of expenditure data on consumer goods and services is Statistics Canada's Survey of Household Spending. Average yearly expenditures per household are calculated for each commodity class by province or sub-provincial area. These are then applied to the estimated number of households in each geographical area giving aggregate expenditures for each commodity class. Aggregate expenditures for Canada are obtained from estimated aggregate expenditures for each basic commodity group for each geographical unit.

The CPI weights reflect goods and services purchased by the target population in the basket reference period (currently 2005). For owned accommodation however, it is not the cost of purchasing a specific set of dwellings but rather the cost of owning and using a specific fixed stock of dwellings that is reflected in the CPI. Six elements are included in the Canadian CPI as owned accommodation's costs: mortgage interest cost, replacement cost, property taxes (including special charges), homeowners' home and mortgage insurance, homeowners' maintenance and repairs, and other owned accommodation expenses (legal fees related to dwelling, real estate commission, transfer taxes and land registration fees, appraisals, etc.). Except for the replacement cost, weights for these elements are derived from the Survey of Household Spending. The weight for homeowners' replacement cost, considered equal to the annual depreciation of the stock of owner-occupied dwellings, is conceptually assumed to be 1.5% of the estimated market value of this stock at year-end of the goods and services basket reference period.

Food expenditure data below the aggregate level of 'food purchased from stores' are unavailable after 2001. To obtain 2005 basket weights for food categories under this aggregate, expenditures of 2001 for each food category were adjusted to reflect price movements to 2005. However data from the 2005 Survey of Household Spending were used to update the weight at the major component level of 'food' compare to all other components.

### **Indexes**

A step-by-step approach is used to calculate the fixed-basket consumer price indexes for any aggregate above the basic class level. First, indexes for basic classes -in which cases price movements are measured as the ratio of their prices in an observed period to their prices in the base period- are combined (averaged) into the next-level composite indexes, these in turn into higher-level indexes, up to the level of "All items".

The need to deal with changes in the quality of commodities is intrinsic to all price indexes. Several adjustment techniques for quality changes are used in the CPI. Sometimes, explicit quality adjustments are made to prices based on an assessment of the quality difference between new and replaced items. The adjustment may be based on cost

analysis of the differences in features of the items. In many cases, the prices of new and replaced items can be compared at a particular point in time and the ratio of these prices used to adjust for quality change. For some products, such as personal computers, hedonic regression methods are used to adjust the recorded prices for quality change.

For a detailed discussion of the computation of indexes in the CPI, refer to Chapter 7 of the *Consumer Price Index Reference Paper*, Catalogue 62-553, in the Documentation section. This reference paper also contains detailed discussions about the Consumer Price Indexes based on different baskets and concepts (Chapter 8) and discusses selected concepts and procedures including quality changes (Chapter 9).

Other indexes, as well as a number of average prices, are calculated based on price information collected for the production of the Consumer Price Index and sometimes supplemented with additional price information using collection design and procedures that are similar to those of the CPI survey. Regular tabulations include the average retail prices (Tables 10 and 11) and, as of the February 2001 reference period, the inter-city indexes of retail price differentials (Table 12) published in the monthly publication (The Consumer Price Index, Catalogue no. 62-001-XPB). Cost recovery tabulations include the meal allowance rate, which uses supplemental information provided by the Meal Allowances Survey for Treasury Board, and the Market Basket Measure for Human Resources Development Canada.