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**UPDATING THE CANADIAN CPI EXPENDITURE WEIGHTS: PAST EXPERIENCES,
CURRENT PRACTICES, AND FUTURE PROSPECTS***

Invited paper submitted by Statistics Canada**

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** Prepared by Mr. Marc Prud'Homme, Economist, Prices Division and Industry Measures and Analysis Division, Statistics Canada.

“It should be obvious that one cannot have an accurate CPI without having accurate weights.

One cannot, as well, estimate the substitution bias in a fixed-weight index without having accurate weights. For example, most recent estimates of the bias in a Laspeyres index number do it by comparing the Laspeyres index to a superlative index number, such as the Fisher index (which is the geometric average of Laspeyres and Paasche indexes). How much of the difference between these two indexes is statistical noise arising out of inaccurately estimated weights?” (Jack E. Triplett)¹

I. Introduction

1. The Consumer Price Index (CPI) should reflect the most current consumption patterns of a well-defined target population. Otherwise, the index would risk irrelevancy, hence compromising its credibility and use. Most national CPIs however, are by definition and in practice almost always fixed-basket indexes. This presents a challenge to the compilers of the index because, as is well known, consumers will adjust their purchases for a number of reasons, namely changing tastes, and shifting relative prices. In the absence of any action by the authorities, the CPI will therefore suffer from measurement error.

2. To alleviate this problem, it is common practice for price statisticians to update the CPI basket by renewing its expenditure weights. It is generally agreed that the updating exercise should be done as often as possible. In the end however, it is usually the issue of resource availability that will dictate the frequency of the updates. Thus explaining in large part the diverse strategies that have been adopted by various countries. Some countries such as France and the United Kingdom, update their basket on an annual basis. By contrast, other countries, such as the United States, used to update decennially. Canada, by renewing its basket on a four- to five-year cycle, lies between both extremes.

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3. The purpose of the paper is to present how the practice of constructing the expenditure weights used for the Canadian CPI basket has evolved from past experience to current practice. As a for concluding remarks, we offer some insights as to what lies ahead with regards to future basket updates in Canada. The paper is divided as follows: Section two will briefly describe the purpose of expenditure weights in the CPI; section three presents the structure and scope of the Canadian CPI; section four goes through the various steps involved with updating the Canadian CPI basket; section five covers the source(s) of the expenditure weights for the Canadian CPI; and section six concludes the paper by offering some insights about the future prospects for the Canadian CPI.

II. Purpose of the expenditure weights in the Canadian CPI

4. According to the Canadian CPI Reference Paper, indexes relating to a given (CPI) aggregate, whether for Canada or a province, can be interpreted and computed as weighted arithmetic average of the corresponding indexes for the basic classes contained in this aggregate. The expenditure weight assigned to a given basic class indicates the relative importance of the class in a given basket and determines the degree of influence exerted by the price change of that basic class on the composite index.² Therefore, for an equal price change, the product class that has the greater expenditure weight will also have the greater influence on the overall movement of the CPI compared to a product class with a smaller one.

III. Structure and scope of the Canadian CPI

5. Further insight into the structure of the Canadian CPI is important to fully appreciate the approach used when conceiving the weights of the CPI.

6. Prior to 1992, the CPI targeted families and individuals living only in cities with a population of 30,000 or more.³ Prices were thus collected from 82 cities (urban centres) for which 18 cities had detailed CPIs that were deemed at the time to be of sufficiently reliable quality that the results were published and analyzed on a monthly basis. The national CPI was an aggregation of these 82 city indexes.⁴

7. Because the sample size of the family expenditure survey was not deemed sufficiently reliable to support accurate city detailed indexes and also because the price sample was

disproportionately allocated in favour of some larger provinces, a major overhaul of the CPI was implemented with the 1992 basket update.⁵ The geographical emphasis at the sub-national level hence shifted away from the larger urban centres towards the provinces, which affected the sampling of household expenditures. Concurrently, the reference population of the CPI became more comprehensive by including all persons living in rural and urban private households.⁶

8. It is certainly worth emphasizing that the broadening of the CPI target population has had less effect on the collection of price information. Price collection continues to be concentrated in large- to medium-sized urban areas. This approach to price collection reduces the exercises' financial burden on the organization and is deemed acceptable for the purpose of sampling representative price change for two reasons. First, although the price levels for many products may differ among geographic zones, we put forward that their price movements remain nevertheless highly correlated. Second, a significant proportion of items purchased by rural inhabitants are completed in urban centres. Prices in smaller centres are nevertheless collected for items for which price movements are deemed sensitive to local market conditions.⁷

9. The visible foundations or the building blocks of the Canadian CPI are its basic classes. Each basic class has an assigned weight that defines its relative importance in the basket and by consequence its influence on the overall CPI following a price change. In discussions about basket updates, it is in fact these weights that are subject to change.

10. In terms of presentation and commodity stratification, the Canadian CPI is produced in full detail (i.e. all basic classes are publicly available). Because of issues with data quality, the level of detail is reduced somewhat at the provincial level with 32 basic classes made available. An all-items CPI and its shelter component is also publicly available for 16 Canadian cities. Shelter prices are the only city-specific price information used in the production of the all-items CPI city indexes; the remaining components of the city CPIs use imputed price information derived from information obtained at the provincial (or sub-provincial strata) level.⁸

11. Prior to 1992, the Canadian CPI consisted of 618 “basic classes” (elementary price indexes) for most of the larger cities and the national CPI.⁹ The resulting number of sampled price observations per basic class was judged insufficiently large with at the most 12 observations per basic class and in many instances the sample was even smaller, with less than 5 representative prices. In an attempt to remedy this problem, the 1992 major revision redefined the aggregation structure of the CPI into broader strata.¹⁰ Hence, the number of basic classes at the national level was collapsed into 182. It was thought that the broader basic classes would result in a more heterogeneous product mix and therefore more price volatility within the basic class. It was therefore decided that the price relatives of the representative products of a basic class or its sub-groups if any, would be aggregated using an equi-weighted geometric mean formula (or Jevons index). The resulting index is less sensitive to extreme price values because of the mathematical properties of the geometric mean formula.

13. As a result of the 2001 basket update, the number of basic classes was further reduced to 169. It is the belief of Statistics Canada that this is about the maximum number of statistically viable basic classes that can concurrently support the current geographical strata given the 60,000 available price observations per month. Most of the change occurred in the clothing category. Henceforth, the Clothing category, a sub-grouping to the major component grouping Clothing and Footwear, have as its representative basic classes Women’s clothing, Men’s clothing, and Children’s clothing. With the previous classification, there were for example, six basic classes for Men’s clothing ranging from Men’s coats and jackets to Men’s pants; the current CPI classification collapses these six basic classes into a single one, Men’s Clothing, which now becomes a basic class. Similar changes occurred to Women’s clothing and Children’s clothing. This particular adjustment to the structure resulted from some fundamental changes to the 2001 Survey of Household Spending (SHS), which will be discussed later.

14. Two new products, defined as basic classes, were introduced into the CPI with the 2001 update, Internet Access Services and Financial Services. Table 2 provides a summary of the current commodity structure of the Canadian CPI.

15. In Canada, an effort is made to designate as basic classes a commodity grouping that is based on the following principles: 1) they must have a clear and meaningful content; 2) they must be important in terms of their share of consumption and because of the economic interest that their price changes evoke; 3) they must make possible the production of consumer price indexes of acceptable statistical quality given the availability of limited resources; 4) when possible, they should be defined in such a way as to facilitate the production of analytical indexes (e.g. “Goods” or “Services”). Uniformity of retail price movements is not used as the main criterion when defining a basic class.

16. In those cases where information is available, it is common practice by Statistics Canada to use expenditure weights below the level of basic class if there is reason to believe that the statistical quality of the index can be improved by doing so. This particular expenditure weight information is often obtained through a variety of sources such as trade information and market research; in other cases, the expenditure weights are obtained directly from the SHS. By including the sub-class categories, there are in fact a little over 400 separately designed indexes that could loosely be defined as elementary indexes in the Canadian CPI.

17. Currently, 71 (41 percent) of the 169 basic classes in the Canadian CPI use 328 sub-class expenditure weights. For 54 of these sub-classes, the expenditure weights are derived from the SHS or Foodex surveys, while 18 sub-classes have expenditure weights originating from retail sales data. Table 2 shows which basic classes use sub-class expenditure weights in their computation. Because these sub-class expenditure weights are not subject to the fixed-basket restriction of their basic class counterparts, these expenditure weights can vary according to the discretion of Prices Division staff to reflect changing market conditions if and when new information becomes available. This flexibility provides a mechanism to minimize the substitution bias.

18. Clothing provides a good example of the use of sub-class expenditure weights. As previously mentioned, with the 2001 basket update, the number of basic classes for clothing was reduced because of changes to the expenditure survey. Details pertaining to this

modification are found in Table 1. In an attempt to maintain the statistical quality of the sample for the three newly formed basic classes of clothing, sub-basic class expenditure weight data were obtained from proprietary sources.

IV. Updating the CPI expenditure weights

19. Prior to the 1974 basket update, there was no formal or explicit policy with regards to the frequency of the basket update. For instance, the expenditure weights of the Canadian CPI were updated in 1952 using consumer expenditure survey information from 1947-1948.¹¹ Subsequently, a series of smaller decennial expenditure surveys were conducted for the purpose of monitoring shifts in consumption patterns and if proven sufficiently important, a more comprehensive survey would then be conducted. As a result, new baskets were introduced in 1961, 1973, and 1978 using family expenditure information from 1957, 1967, and 1974 respectively. After the introduction of the 1974 basket in October 1978, Statistics Canada decided in *principle* that future baskets would be updated on a four-year cycle. This practice was applied without exception for the three successive baskets (1978, 1982, 1986).¹²

20. In 1991, the Federal government implemented the Goods and Services Tax (GST).¹³ Because of Statistics Canada's concerns about its possible long-term effects on consumption habits, the next basket update, normally due in 1990, was delayed two years beyond the typical four-year cycle. Therefore, the 1992 basket introduced in January 1995 would reflect any impact on consumption that the new tax may have had.

21. The next basket update marked a return to the 4-year cycle when the 1996 basket was incorporated into the CPI in January 1998.

22. The latest basket is based on 2001 expenditures and because of the five-year lag since the last basket, also marks an exception to Statistics Canada four-year rule. In this case, budget constraints and concerns about the effects of the Y2K bug explain in large part why the latest update was delayed by a year.

23. Efficiency gains in data processing in the last 50 years or so have gradually but significantly reduced the time lag between the compilation of the expenditure weights (the

reference period) and their introduction in the CPI. For instance, the lag has gone from 65, 46, and 40 months for the 1967, 1974, and 1978 baskets to 24 months for the respective 1982, 1986, and 1992 baskets. Noteworthy are the last two basket updates, when the 1996 and 2001 baskets were respectively introduced in January 1998 and January 2003, a lag of only 12 months.

24. The expenditure weights in the CPI are price updated to the last December prices prior to their introduction in the CPI. For example, the 2001 basket was updated to December 2002 using prices from that period and the new basket introduced in January 2003. The price updating occurs at the basic class level.

25. Not all expenditures reported in the family expenditure surveys are used to derive the CPI expenditure weights. This is the case for instance of expenditures such as public goods financed with the taxes (except property taxes), products that present conceptual difficulties (e.g. life insurance, and used goods), and many health services (public health care in Canada). Moreover, the construction of the Canadian CPI is based on a “net-purchase” approach, which excludes transactions within the population; for example, payments received from the private sales of automobiles are subtracted from reported gross expenditures on automobiles.

26. Initial *a priori* inferences supported by subsequent empirical studies show that regular basket updates can effectively mitigate (not eliminate) the substitution bias in a fixed-basket index such as the CPI. A study conducted by the Central Research Section of Prices Division by Généreux (1982), covering the 1957 to 1978 period, concludes that the basket updates during this period were sufficiently frequent to limit the upward “substitution” bias of the CPI to an annual average of 0.1 percent.¹⁴

27. Internal research by Lowe, and Islam, using the same approach as Généreux, respectively compare the substitution bias for the 1992 to 1996 and 1996 to 2001 periods.¹⁵ Lowe concludes that the annual substitution bias at about 0.1 percent in the 1992-1996 period is almost identical to that of previous years. Islam, by contrast, calculates an annual bias of 0,25 percent during the 1996 to 2001 period. The more dynamic nature of the economy seems to be contributing to the increased bias. As will be discussed further, most

of the reason for the additional bias in the latter period can however be explained by one group of products.

28. The divergence between the Laspeyres price index in 2001 (109.76) compared to the Paasche index (107.09) provides a metric of the bias (1996 = 100). In this case, the measured spread is 2.67 index points or 2.44 percent. Further analysis reveals that many items in the basket do not significantly contribute to the divergence (i.e. the degree of substitution was very close to zero for the majority of items). A mix of items however manifested a counter (positive) substitution effect while some others showed a negative (or expected) substitution effect.¹⁶ Applying the Bortkiewicz decomposition technique measures the contribution of each basic class to the divergence between both indexes. Among the larger contributors to the difference between the Laspeyres and Paasche indexes are computers (1.11 percent) mortgage interest costs (0.4892 percent), and piped gas (0.3361 percent).¹⁷ By contrast, auto insurance (0,0157 percent), rent (0,0374 percent), and tuition fees (0,0236 percent) recorded the largest simultaneous increases in price and consumption.

V. Source of expenditure weight information

29. Prior to the 1974 basket update, Prices Division used to be responsible for conducting its own survey of family expenditures. Since 1974 however the Income Statistics Division has assumed the role of conducting the survey.¹⁸

30. Except for the replacement cost index, which is a component of “Owned accommodation”, all expenditure weights for the basic classes of the Canadian CPI are derived from family expenditure surveys.

31. The replacement cost index (with a 3 percent share of the 2001 basket) is part of the owned accommodation index.¹⁹ Its estimate is imputed because it represents the notional money value of the capital consumption of the dwelling (depreciation) during the reference year, which obviously cannot be obtained from an expenditure survey.²⁰

32. It has been a long standing tradition at Statistics Canada to use two complementary surveys to collect the expenditure information used to produce the expenditure weights in the CPI for a given reference year and for the CPI target population.²¹ These now “voluntary” surveys are the Food Expenditure Survey (FoodEX) and the Survey of Household Spending (SHS) and are (were) conducted in such a way that the reference years coincide.²²

33. The SHS is an interview-type recall survey where the respondent is queried about his or her purchases in the months of January to February in the year subsequent to the reference year. Because of the frequency of food purchases, a diary-type survey is used for the FoodEx survey, thus providing better statistical results than if a recall survey was used because of the telescoping effect. For the purpose of minimising seasonal consumption effects, the sample is drawn for the entire reference year and then evenly divided into monthly sub-samples to distribute data collection over the year. Food expenditures that are surveyed include store bought food items (groceries), food from fast food outlets and cafeterias, and restaurant meals. Additional socio-economic questions are also part of the FoodEX survey.

34. In spite of the voluntary nature of the SHS, its response rate is quite high. For instance, the 2001 edition of the survey had a response rate of 76 percent. Of the 22,172 eligible households that were initially drawn for the sample, 16,901 households produced usable records while 3,377 opted not to participate.²³ The typical interview time for the SHS is about two hours.

35. The Canadian experience offers, we believe, a unique case for approximating how the quality of the expenditure estimates (and the CPI weights) is sensitive to the sample size of the survey. About six years ago, Statistics Canada was provided the opportunity to improve its provincial statistics.²⁴ As a result, the sample size of the SHS increased by 62 percent when the number of sampled households went from 10,417 in 1996 to 16,583 in 1997 and has remained at about that level for every annual update. Table 2 provides a summary of the comparisons between the coefficients of variation (CV) for some of the categories of products between the 1996 Family Expenditure Survey and the 2001 SHS at the national

level. Not surprisingly, in most cases the CVs have improved with the increase in sample size but the magnitudes have not shown any marked differences. In a few isolated cases (e.g. household appliances, and tobacco products and smokers' supplies), the CVs have deteriorated meaning that other factors such as non-sampling error affect the quality of the estimate. It is worth emphasizing that these estimates are at the national level and that for a number of provinces, the quality of the expenditure estimates has certainly improved quite remarkably.²⁵

36. The collection of the data for the FoodEx survey is a two-step exercise. First, there is a personal interview between the respondent and a Statistics Canada official where initial information is gathered about the socio-economic characteristics of the household. During the second phase, the respondent must record on a daily basis and over a two-week period all of his or her relevant food purchases including store bough food and food purchased from restaurants. More specifically, respondents must provide detailed information about type of packaging (e.g. frozen or fresh), units purchased, weight or volume per unit, the cost of the purchase, and the type of outlet (e.g. speciality store or supermarket). Starting with the 2001 survey, surveyed households were asked to also provide their store receipts with their diaries for editing and quality control purposes. At the end of each one-week period, interviewers return to the household for the purpose of not only collecting the diary but also to verify the accuracy and completeness of the information.²⁶

37. The experience with the data collection exercise for the Foodex survey is somewhat different than its SHS cousin. While the sample size of the SHS has increased since 1996 that of the FoodEx has decreased. In 2001, the usable sample size of FoodEx was 5,643 households with a 71.3% response rate. The previous FoodEx survey was conducted in 1996. At that time the sample size was 10,924 households, which is consistent with the sample sizes of previous Foodex surveys going back to 1982. Historically, response rates in the 70 percent range are typically the norm for these surveys.

38. A need to reduce data collection and processing costs largely explain the contraction of the sample size between the FoodEx survey years. The effects of the sample reduction exercise on the quality of the estimates can partially be obtained by comparing the

coefficients of variation of various food categories at the national level between the 1996 and 2001 FoodEx surveys.²⁷ (See Table 2.) One consequence (not shown) of the reduction in sample size was a drop in the quality of the estimates for the smaller provinces. It should be emphasized that Statistics Canada's broader-than-most definition of a basic class might potentially be a blessing with regards to the indicator used for evaluating the quality of the expenditure estimates. A broader basic class size means that there are more observations per class thus potentially lessening the effects of a sample size reduction. If, on the other hand, the basic classes were more narrowly defined, the smaller sample size may indeed prove to have some effect on the quality of the estimates.

39. Contrary to the practices of many countries, Statistics Canada does not since 1992 make any explicit adjustments for cases where other "more" reliable sources of data exist that will support a case of underreporting of expenditures from official surveys.²⁸ This often occurs for products such as alcoholic beverages and tobacco. It is Statistics Canada's belief that making such adjustments may bias the position of the relative importance of the product *vis-à-vis* the other products in the basket. It is well known that recall surveys are notorious for their telescoping effect, which we may add, extends beyond the typically targeted products such as alcoholic beverages, tobacco products, and public transportation fares. Having reliable data to support a case for underreporting advantages this latter group of products and as a result many a statistical agency will use this information to adjust their expenditure data accordingly. Other products are however subject to the same problem but because of the absence of a reliable alternative data source, no adjustment is made. Therefore, the unequal treatment of underreported products may indeed exacerbate the error instead of reducing it by distorting the relative importance of the expenditure weights.²⁹

VI. Future Prospects

40. The following provides a brief sketch of the future directions contemplated by Statistics Canada that will affect or potentially affect the construction of the Canadian CPI expenditure weights.

41. Some interest has been expressed within Statistics Canada for producing a Canadian COICOP version of the CPI. Although not intended as a substitute for the current classification structure of the Canadian CPI, an ancillary CPI using the COICOP commodity structure would certainly enhance our possibilities with regards to international comparability. At the moment however, there are no firm commitments for doing so because of operational constraints. For instance, such an endeavour would require some modifications to the expenditure surveys for the purpose of providing improved harmony with the COICOP classification system.³⁰ Moreover, no prices are currently collected in the Canadian CPI for a number albeit small of COICOP categories.

42. As previously mentioned, since 1997 the SHS is produced on an annual basis. This raises the possibility of updating the Canadian CPI expenditure weights on an annual basis. At present we are exploring the possibility of doing so. If such a plan were adopted, the favoured approach seems to be the use of a two- to three-year moving average of family expenditure information as the basis for the expenditure weights in the CPI. As is well known, such a strategy has the advantage of smoothing the expenditures during years of extraordinary consumption behaviour caused by such factors as changes to the tax system or a recession. There is however a caveat; such a move could not produce updated expenditure weights for all basic classes of the CPI. There are two editions of the SHS. One version is conducted annually but its purpose is not for the CPI; its level of detail is somewhat limited compared to the version of the SHS that is conducted every four years and is geared more towards the needs of the CPI. Therefore, some basic class expenditure weights could not be updated using the annual version of the SHS. Cost is also one more issue that could prevent Statistics Canada from adopting annual weights. Updating expenditure weights is an intense exercise in terms of human resources and systems requirements. Even if all the information were available from the annual spending surveys, we would still have to weight the benefits against the costs of such an exercise. It is the view of some that the Canadian CPI can probably best be served by investing our time and funds in decreasing the lag associated with the introduction of new goods, for example.

43. If the Canadian CPI moved to annual updates or a moving average of expenditures, such changes would not apply at the detail food product category; there are no plans at present to expand the frequency of FoodEx. Rather due to costs, Statistics Canada is contemplating the reduction of the frequency of updating the FoodEX survey to a six-year cycle. This might not be as serious an issue as it first appears. Our preliminary research reveals that only a few items, notably beef, chicken, pork, and fish, are behind changes to the expenditure weights within the Food category. In fact, changes in the relative importance of these particular food items seem to be mostly explained by changing long-term trends in the consumption of these items as opposed to changing relative prices for which the spreads have been smaller than for many other groups of products. This opens the door to the possibility of applying to high quality imputation techniques to these items to estimate their relative importance in the basket in the intervening years between Foodex surveys.

44. There may be the possibility of obtaining expenditure data through alternative data sources. For instance, scanner data may have potential as an alternative source. The following issues must be resolved however before we can proceed with any initiative to use scanner data as a source of expenditure weights. Data access, data volume, aggregation and classification, coverage, quality, data errors, and target population are just a few of the issues that must be dealt with when considering the use of scanner data. Given the formidable number and seriousness of these issues, scanner data are unlikely to be a feasible source of expenditure weights data for the near future and this only after a considerable investment of time and effort.

45. Another potential source of information are data from the national accounts. The level of detail available from the Canadian System of National Accounts (CSNA) are not sufficient for CPI purposes and this is especially so for food categories. Moreover, the classification system of the CSNA diverges from that of the CPI. For these reasons, it is difficult to use the CSNA for the purpose of obtaining expenditure weight information that agrees with the current structure of the CPI. Furthermore, accounts data do not currently provide regional or provincial consumption expenditures and are also subject to revision

well beyond the date that the information would be used for the CPI (a non-revisable series). Thus, a number of issues would have to be resolved and considerable adjustments made for this option to be practical. In other words, the national accounts data are currently viewed as an inadequate alternative compared to the present source of expenditure weights used.

46. Although Canada no longer employs monthly weighting patterns for any seasonal commodities in its CPI, it was one of the first countries to do so. For the period 1949 to April 1973, the CPI incorporated seasonal baskets for certain food categories: fats and oils, fruits and vegetables, and meat and fish. From 1961 to April 1973, for the seasonal food group aggregate, the price index formula used was the Rothwell formula. For lower level sub-aggregates however, a different formula was used that caused this series to have much more volatility than if the Rothwell formula has been used. With switch to the 1967 basket in 1973, it was indeed recommended to use the Rothwell formula for all seasonal food groups, but this recommendation was not accepted and the Canadian CPI has not made any subsequent use of seasonal weighting pattern.³¹

Table 1. A comparison of the previous and new CPI clothing structure.	
Current: From 2001	Previous: Prior to 2001
Women's Clothing 1996: 2.27% 2001: 1.49%	Coats and jackets
	Dresses
	Suits, skirts, and pants
	Blouses, sweaters, and other tops
	Active sportswear
	Underwear, sleepwear, and hosiery
Men's Clothing 1996: 1.47% 2001: 1.15%	Coats and jackets
	Suits and sport jackets
	Pants
	Sweaters and shirts
	Underwear, sleepwear, and hosiery
Children's Clothing 1996: 0.45% 2001: 0.38%	Outerwear
	Pants and dresses
	Sweaters, Skirts, and blouses
	Active sportswear
	Underwear, sleepwear, and hosiery

Table 2. Weights for Canada Associated with the 2001 Basket, Primary Classification

Pondérations pour le Canada associées au panier de 2001, classification primaire

Commodity categories	1996 basket at December 1997 prices	2001 basket at December 2002 prices	Sub-Class weights		Coefficient of Variation for average expenditure per household (FAMEX), 1996	Coefficient of Variation for average expenditure per household (FoodEx), 1996	Coefficient of Variation for average expenditure per household (SHS), 2001	Coefficient of Variation for average expenditure per household (FoodEx), 2001
Catégories de produits	Panier de 1996 au prix de d'c.1997	Panier de 2001 au prix de d'cembre 2002	Number of Basic Classes	Source	Coefficient de variation des dépenses hebdomadaires moyennes par ménage (EDM), 1996	Coefficient de variation des dépenses hebdomadaires moyennes par ménage (EDA), 1996	Coefficient de variation des dépenses hebdomadaires moyennes par ménage (EDM), 2001	Coefficient de variation des dépenses hebdomadaires moyennes par ménage (EDA), 2001
ALL ITEMS - ENSEMBLE	100,00	100,00			N = 10,417	N = 10,924	N = 16,901	N = 5,643
FOOD - ALIMENTS	17,89	16,44			0,61		0,54	
Food purchased from stores - Aliments achetés au magasin	12,91	11,42			0,60	0,81	0,52	1,04
Meat - Viande	2,90	2,24				1,45		1,48
Fresh or frozen meat (excluding poultry) - Viande fraîche ou congelée (sauf la volaille)	1,32	1,01				2,25		2,10
Fresh or frozen beef - Boeuf frais ou congelé	0,88	0,70	7	FoodEx		2,79		2,49
Fresh or frozen pork - Porc frais ou congelé	0,34	0,24	3	FoodEx		3,14		3,23
Other fresh or frozen meat (excluding poultry) - Autres viandes fraîches ou congelées (sauf la volaille)	0,10	0,07				5,75		6,80
Fresh or frozen poultry meat - Volaille fraîche ou congelée	0,67	0,55				2,10		2,52
Fresh or frozen chicken - Poulet frais ou congelé	0,56	0,48						
Other fresh or frozen poultry meat - Autre volaille fraîche ou congelée	0,12	0,07						
Processed meat - Viande traitée	0,91	0,69						
Ham and bacon - Jambon ou bacon	0,32	0,21	2	FoodEx				
Other processed meat - Autres viandes traitées	0,59	0,48	3	FoodEx				
Fish and other seafood - Poisson et autres produits de la mer	0,41	0,36				3,05		3,47
Fish - Poisson	0,30	0,27						
Fresh or frozen fish (including portions and fish sticks) - Poisson frais ou congelé (incluant les portions et les bâtonnets de poisson)	0,19	0,18						
Canned and other preserved fish - Poisson en boîte ou autrement conservé	0,10	0,08				3,27		4,40
Other seafood - Autres produits de la mer	0,12	0,10						
Dairy products and eggs - Produits laitiers et oeufs	2,08	1,69				0,95		1,19
Dairy products - Produits laitiers	1,90	1,56						
Fresh milk - Lait frais	0,74	0,51	2	FoodEx				
Butter - Beurre	0,12	0,10						
Cheese - Fromage	0,61	0,55				1,57		1,86
Ice cream and related products - Crème glacée et produits connexes	0,14	0,12						
Other dairy products - Autres produits laitiers	0,29	0,28	2	FoodEx		2,75		3,12
Eggs - Oeufs	0,18	0,13				1,52		2,07

Bakery and other cereal products - Produits de boulangerie et autres produits c�r�liers	2,04	1,72				0,89		1,15
Bakery products - Produits de boulangerie	1,28	1,13						
Bread, rolls and buns - Pains et petits pains	0,65	0,54						
Biscuits - Biscuits	0,28	0,26	2	FoodEx				
Other bakery products - Autres produits de boulangerie	0,34	0,33						
Other cereal grains and cereal products - Autres grains c�r�liers et produits c�r�liers	0,77	0,60						
Rice (including mixes) - Riz (y compris les m�langes)	0,09	0,06				4,92		5,31
Breakfast cereal and other cereal products - C�r�ales de table et autres produits c�r�liers	0,31	0,33				1,96		2,31
Pasta products - P�tes alimentaires	0,17	0,14	3	FoodEx		2,17		2,83
Flour and flour based mixes - Farine et autres m�langes � base de farine	0,20	0,06						
Fruit, fruit preparations and nuts - Fruits, pr�parations � base de fruits et noix	1,40	1,31				1,21		1,37
Fresh fruit - Fruits frais	0,81	0,78				1,20		1,71
Apples - Pommes	0,17	0,14				2,27		2,47
Oranges - Oranges	0,14	0,12				2,84		3,41
Bananas - Bananes	0,13	0,10				1,64		1,95
Other fresh fruit - Autres fruits frais	0,37	0,43	10	FoodEx				
Preserved fruit and fruit preparations - Fruits en conserve et pr�parations � base de fruits	0,51	0,46						
Fruit juices - Jus de fruits	0,36	0,33	3	FoodEx				
Other preserved fruit and fruit preparations - Autres fruits en conserve et pr�parations � base de fruits	0,15	0,13	3	FoodEx				
Nuts - Noix	0,07	0,07						
Vegetables and vegetable preparations - L�gumes et pr�parations � base de l�gumes	1,25	1,20				1,14		1,45
Fresh vegetables - L�gumes frais	0,92	0,93				1,24		1,57
Potatoes - Pommes de terre	0,14	0,11				2,48		2,85
Tomatoes - Tomates	0,13	0,18				2,31		2,74
Lettuce - Laitue	0,11	0,08				1,94		2,52
Other fresh vegetables - Autres l�gumes frais	0,55	0,56						
Preserved vegetables and vegetable preparations - L�gumes en conserve et pr�parations � base de l�gumes	0,33	0,27						
Frozen and dried vegetables - L�gumes congel�s et d�shydrat�s	0,11	0,11						
Canned vegetables and other vegetable preparations - L�gumes en conserve et autres pr�parations � base de l�gumes	0,21	0,16	3	FoodEx				
Other food products - Autres produits alimentaires	2,82	2,89	3	FoodEx				
Sugar and confectionery - Sucre et confiserie	0,43	0,40				2,07		2,26
Sugar and syrup - Sucre et sirop	0,11	0,06						
Confectionery - Confiserie	0,33	0,33						
Fats and oils - Mati�res grasses et huiles	0,19	0,14				2,61		2,70
Margarine - Margarine	0,11	0,08						
Other edible fats and oils - Autres huiles et mati�res grasses comestibles	0,08	0,06						
Coffee and tea - Caf� et th�	0,25	0,17				2,15		2,89
Coffee - Caf�	0,19	0,13				2,60		3,38
Tea - Th�	0,06	0,04				3,57		4,51
Condiments, spices and vinegars - Condiments, �pices et vinaigres	0,36	0,34	4	FoodEx		1,72		1,90
Other food preparations - Autres pr�parations alimentaires	1,09	1,15				1,44		1,72
Soup - Soupe	0,16	0,16						
Infant and junior foods - Aliments pour b�b� et enfants	0,05	0,05						
Pre-cooked frozen food preparations - Pr�parations alimentaires pr�cuits et congel�es	0,27	0,36	2	FoodEx				
All other food preparations - Toutes autres pr�parations alimentaires	0,60	0,58						
Non-alcoholic beverages - Boissons non alcoolis�es	0,50	0,69	4	FoodEx		1,66		2,03

Food purchased from restaurants - Aliments achetés au restaurant	4,98	5,03			1,41	1,77	1,46	2,24
Food purchased from table-service restaurants - Aliments achetés de restaurants □ service aux tables	2,85	2,98						
Food purchased from fast food and take-out restaurants - Aliments achetés de restaurants □ service rapide ou de comptoirs de mets □ emporter	1,42	1,27						
Food purchased from cafeterias and other restaurants - Aliments achetés de cafés/rias ou d'autres restaurants	0,72	0,79						
SHELTER - LOGEMENT	26,75	28,40			0,83		0,76	
Rented accommodation - Logement en location	7,17	6,10						
Rent - Loyer	6,98	5,93			2,23		2,13	
Tenants' insurance premiums - Primes d'assurance de locataire	0,11	0,09						
Tenants' maintenance, repairs and other expenses - Entretien, réparations et autres dépenses de locataire	0,09	0,08						
Owned accommodation - Logement en propriété	14,95	18,37						
Mortgage interest cost - Coût d'intérêt hypothécaire	4,91	8,37			2,90			
Replacement cost - Coût de remplacement	2,68	3,03						
Property taxes (including special charges) - Impôts fonciers (incluant les frais spéciaux)	3,55	3,09			1,45		1,19	
Homeowners' insurance premiums - Primes d'assurance de propriétaire	1,05	1,01	2	SHS	1,89		1,36	
Homeowners' maintenance and repairs - Entretien et réparations par le propriétaire	1,69	1,76	7	CAPEX	3,93		3,42	
Other owned accommodation expenses - Autres dépenses pour le logement en propriété	1,07	1,10	4	SHS				
Water, fuel and electricity - Eau, combustible et électricité	4,64	3,92			0,92		0,90	
Electricity - Électricité	2,65	2,13			1,19		1,02	
Water - Eau	0,39	0,48			2,76		2,71	
Piped gas - Gaz	1,02	0,88			2,15		1,52	
Fuel oil and other fuel - Mazout et autres combustibles	0,58	0,43			4,46			
HOUSEHOLD OPERATIONS AND FURNISHINGS - DÉPENSES ET ÉQUIPEMENT DU MÉNAGE	10,76	10,59						
Household operations - Dépenses du ménage	6,90	6,77			1,09		0,89	
Communications - Communications	2,79	2,65			1,02		0,81	
Telephone services - Services téléphoniques	2,62	2,22	6	Retail	1,02		0,82	
Postal services and other communications services - Services postaux et autres services de communication	0,17	0,12	3	Retail			1,80	
Internet Access Services - Services d'accès Internet		0,30			5,99		1,88	
Child care and domestic services - Soins pour enfants et services d'aide familiale	1,11	0,98						
Child care - Soins pour enfants	0,85	0,68	2	SHS	4,70		4,60	
Domestic services - Services d'aide familiale	0,26	0,30	2	SHS			6,29	
Household chemical products - Produits chimiques ménagers	0,74	0,52			0,90		1,28	
Detergent and soap - Détergers et savons	0,36	0,25	2	SHS				
Other household chemical products - Autres produits chimiques ménagers	0,37	0,27	3	SHS				

Paper, plastic and foil supplies - Articles mˆnagers en papier, en plastique et en papier d'aluminium	0,79	0,68					
Paper supplies - Articles en papier	0,63	0,52	2	SHS			
Plastic and foil supplies - Articles en plastique et en papier d'aluminium	0,16	0,17	2	SHS			
Other household goods and services - Autres produits et services mˆnagers	1,48	1,94					
Pet food and supplies - Nourriture et articles pour animaux domestiques	0,49	0,49					
Seeds, plants and cut flowers - Semences, plantes et fleurs coupˆes	0,34	0,30	2	SHS			
Other horticultural goods - Autres produits horticoles	0,09	0,08					
Other household supplies - Autres articles mˆnagers	0,16	0,14					
Other household services - Autres services mˆnagers	0,40	0,41	2	SHS			
Financial Services - Services financiers		0,51					
Household furnishings - ˆquipement du mˆnage	3,86	3,81			1,81		2,35
Furniture and household textiles - Articles d'ameublement	1,89	1,92					
Furniture - Meubles	1,37	1,50			3,25		3,64
Upholstered furniture - Meubles rembourrˆs	0,41	0,51					
Wooden furniture - Meubles en bois	0,51	0,58	3	SHS			
Other furniture - Autres meubles	0,45	0,41	3	SHS			
Household textiles - Articles mˆnagers en matiˆre textile	0,52	0,42					
Window coverings - Cache-fenˆtres	0,17	0,13	3	SHS			
Bedding and other household textiles - Literie et autres articles mˆnagers en matiˆre textile	0,29	0,20	3	SHS			
Area rugs and mats - Tapis et carpettes	0,06	0,08					
Household equipment - ˆquipement mˆnager	1,64	1,63			1,89		1,93
Household appliances - Appareils mˆnagers	0,80	0,78			2,61		2,77
Cooking appliances - Appareils pour cuire les aliments	0,16	0,18	3	SHS			
Refrigeration and air conditioning appliances - Articles de climatisation et de rˆfrigˆration	0,24	0,21					
Laundry and dishwashing appliances - Appareils de blanchissage et lave-vaisselle	0,19	0,16					
Other household appliances - Autres appareils mˆnagers	0,22	0,23	2	SHS			
Kitchen utensils, tableware and flatware - Ustensiles de cuisine, couverts et articles de table	0,21	0,15					
Kitchen utensils - Ustensiles de cuisine	0,09	0,10	3	SHS			
Tableware and flatware - Couverts et articles de table	0,12	0,05	4	SHS			
Tools and other household equipment - Outils et autre ˆquipement mˆnager	0,62	0,71					
House and yard tools - Outils mˆnagers et de jardinage	0,40	0,45	5	SHS			
Other household equipment - Autre ˆquipement mˆnager	0,23	0,26					
Services related to household furnishings - Services relatifs ˆ l'ˆquipement du mˆnage	0,33	0,27	2	SHS			
CLOTHING AND FOOTWEAR - HABILLEMENT ET CHAUSSURES	6,25	5,44					
Clothing - Habillement	4,17	3,60			1,24		1,20
Women's clothing - Vˆtements pour femmes	2,27	1,49	22	Retail	1,57		1,43
Men's clothing - Vˆtements pour hommes	1,47	1,15	14	Retail	1,61		1,36
Children's clothing - Vˆtements pour enfants	0,45	0,38	5	Retail	5,40		3,48
Footwear - Chaussures	0,94	0,86					
Women's footwear (excluding athletic) - Chaussures pour femmes (excluant celles d'athlˆtisme)	0,36	0,29	3	Retail			
Men's footwear (excluding athletic) - Chaussures pour hommes (excluant celles d'athlˆtisme)	0,25	0,20	2	Retail			
Children's footwear (excluding athletic) - Chaussures pour enfants (excluant celles d'athlˆtisme)	0,08	0,05					
Athletic footwear - Chaussures d'athlˆtisme	0,25	0,32					

Clothing accessories and jewellery - Accessoires vestimentaires et bijoux	0,56	0,55				
Leather accessories - Accessoires de cuir	0,14	0,08	4	Retail		
Watches - Montres	0,07	0,08				
Jewellery - Bijoux	0,20	0,29				
Other accessories - Autres accessoires	0,16	0,09				
Clothing material, notions and services - Tissus pour vêtements, menus articles et services vestimentaires	0,59	0,44				
Clothing material and notions - Tissus pour vêtements et menus articles	0,12	0,08	7	Retail		
Laundry service - Services de blanchissage	0,14	0,12				
Dry cleaning services - Services de nettoyage à sec	0,21	0,17				
Other clothing services - Autres services vestimentaires	0,12	0,07				
TRANSPORTATION - TRANSPORTS	18,96	19,03			1,48	1,44
Private transportation - Transport privé	17,34	17,41			1,60	1,57
Purchase, leasing and rental of automotive vehicles - Achat, location et location à bail de véhicules automobiles	7,13	8,49				
Purchase and leasing of automotive vehicles - Achat et location à bail de véhicules automobiles	7,03	8,37				
Purchase of automotive vehicles - Achat de véhicules automobiles	6,30	7,07			3,96	3,52
Leasing of automobiles - Location à bail d'automobiles	0,73	1,30				
Rental of automotive vehicles - Location de véhicules automobiles	0,10	0,11				
Operation of automotive vehicles - Utilisation de véhicules automobiles	10,21	8,92			1,04	0,82
Gasoline - Essence	3,93	3,70	2	Retail	1,13	0,99
Automotive vehicle parts, maintenance and repairs - Pièces, entretien et réparation de véhicules automobiles	2,30	1,82				
Automotive vehicle parts and supplies - Pièces et matériel pour véhicules automobiles	0,75	0,61	7	SHS		
Automotive vehicle maintenance and repair services - Services de réparation et d'entretien pour véhicules automobiles	1,55	1,21	5	SHS	2,01	2,09
Other automotive vehicle operating expenses - Autres dépenses d'utilisation des véhicules automobiles	3,98	3,40				
Automotive vehicle insurance premiums - Primes d'assurance de véhicules automobiles	3,35	2,70			1,48	1,06
Automotive vehicle registration fees - Frais d'immatriculation de véhicules automobiles	0,25	0,34				
Drivers' licences - Permis de conduire	0,10	0,08				
Parking fees - Frais de stationnement	0,16	0,15				
All other automotive vehicle operating expenses - Toutes autres dépenses d'utilisation des véhicules automobiles	0,11	0,13				
Public transportation - Transport public	1,63	1,62			2,38	2,13
Local and commuter transportation - Transport local et de banlieue	0,63	0,59			2,81	2,13
City bus and subway transportation - Transport urbain en autobus et métro	0,46	0,40				
Taxi and other local and commuter transportation - Taxi et autres transports locaux et de banlieue	0,17	0,20				
Inter-city transportation - Transport interurbain	1,00	1,03			3,45	3,29
Air transportation - Transport aérien	0,88	0,85	34	Retail	3,81	3,32
Rail, bus and other inter-city transportation - Transport par train, autobus et autres transports interurbains	0,12	0,18	3	SHS		

HEALTH AND PERSONAL CARE - SANTÉ ET SOINS PERSONNELS	4,60	4,45					
Health care - Soins de santé	2,11	2,18			1,58		1,33
Health care goods - Produits de soins de santé	0,85	0,93					
Medicinal and pharmaceutical products - Médicaments et produits pharmaceutiques	0,76	0,87					
Prescribed medicines - Médicaments prescrits	0,51	0,54	14	Retail			
Non-prescribed medicines - Médicaments non prescrits	0,25	0,34					
Other health care goods - Autres articles pour soins de santé	0,09	0,06					
Health care services - Services de soins de santé	1,26	1,24					
Eye care - Soins des yeux	0,36	0,33	4	SHS			
Dental care - Soins dentaires	0,67	0,67	2	SHS			
Other health care services - Autres services de soins de santé	0,23	0,24					
Personal care - Soins personnels	2,50	2,27			0,97		0,94
Personal care supplies and equipment - Articles et accessoires de soins personnels	1,55	1,31					
Personal soap - Savon pour usage personnel	0,08	0,05					
Toilet preparations and cosmetics - Produits de toilette et produits de beauté	0,92	0,87	3	SHS			
Oral-hygiene products - Produits d'hygiène buccale	0,14	0,14					
Other personal care supplies and equipment - Autres articles et accessoires de soins personnels	0,41	0,24	4	SHS			
Personal care services - Services de soins personnels	0,95	0,96	3	SHS			
RECREATION, EDUCATION AND READING - LOISIRS, FORMATION ET LECTURE	11,25	11,84					
Recreation - Loisirs	8,58	8,90			2,02		1,77
Recreational equipment and services (excluding vehicles) - Matériel et services de loisirs (excluant les véhicules)	2,06	2,12					
Sporting and athletic equipment - Matériel de sport et d'athlétisme	0,50	0,42	9	Retail	3,01		3,52
Toys, games and hobby supplies - Jouets, jeux et matériel pour passe-temps	0,40	0,47	7	SHS			
Computer equipment and supplies - Matériel et fournitures informatiques	0,65	0,64					
Photographic equipment - Matériel photographique	0,05	0,10	3	Retail			
Photographic services and supplies - Services et fournitures photographiques	0,27	0,26					
Other recreational equipment and services - Autres matériel et services de loisirs	0,19	0,21	3	SHS			
Purchase and operation of recreational vehicles - Achat et utilisation de véhicules de loisirs	1,07	1,31					
Purchase of recreational vehicles - Achat de véhicules de loisirs	0,67	0,79	5	SHS	9,33		8,97
Operation of recreational vehicles - Utilisation de véhicules de loisirs	0,41	0,52					
Fuel, parts and supplies for recreational vehicles - Carburant, pièces et fournitures pour véhicules de loisirs	0,19	0,22					
Insurance, licences and other services for recreational vehicles - Assurance, permis et autres services pour véhicules de loisirs	0,21	0,30					
Home entertainment equipment and services - Matériel et services de divertissement au foyer	1,56	1,32			1,92		2,08
Audio equipment - Matériel audio	0,27	0,20	2	SHS			
Audio discs and tapes - Bandes audio et disques audio numériques	0,36	0,24	3	SHS			
Video equipment - Matériel vidéo	0,39	0,42	6	Retail			
Rental of videotapes and videodiscs - Location de vidéocassettes et de vidéodisques	0,30	0,24					
Purchase of videotapes and videodiscs - Achat de vidéocassettes et de vidéodisques	0,14	0,13					
Other home entertainment services and equipment - Autres services et matériel de divertissement au foyer	0,10	0,08					
Travel services - Services de voyage	1,69	1,59					
Traveller accommodation - Hébergement pour voyageurs	0,99	0,78					
Travel tours - Voyages organisés	0,54	0,82					

Other recreational services - Autres services r̄cr̄atifs	2,20	2,55					
Spectator entertainment (excluding cablevision) - Spectacles (sauf la c%blodistribution)	0,59	0,63	7	Retail	1,24		0,95
Cablevision (including pay TV) - C%blodistribution (incluant la t̄l̄vision payante)	0,74	0,99			1,30		1,35
Use of recreational facilities and services - Utilisation d'installations et de services de loisirs	0,88	0,93	6	SHS	2,82		2,52
Education and reading - Formation et lecture	2,67	2,94					
Education - Formation	1,92	2,30			3,36		3,10
Tuition fees - Frais de scolarit̄	1,31	1,65			4,33		4,15
School textbooks and supplies - Manuels et fournitures scolaires	0,33	0,37	2	SHS			
Other lessons, courses and education services - Autres lēons, cours et services ũducatifs	0,28	0,27					
Reading material and other printed matter (excl. textbooks) - Mat̄riel de lecture et autres imprim̄s (sauf les manuels scolaires)	0,75	0,65					
Newspapers - Journaux	0,34	0,26					
Magazines and periodicals - Revues et p̄riodiques	0,16	0,15	2	SHS			
Books (excluding textbooks) and other printed matter - Livres (sauf les manuels scolaires) et autres imprim̄s	0,26	0,24	3	Retail			
ALCOHOLIC BEVERAGES AND TOBACCO PRODUCTS - BOISSONS ALCOOLIS̄ES ET PRODUITS DU TABAC	3,54	3,81					
Alcoholic beverages - Boissons alcoolis̄es	1,87	1,71			2,03		1,95
Served alcoholic beverages - Boissons alcoolis̄es servies dans les d̄bits de boisson	0,58	0,61			3,89		3,65
Served beer - Bīre servie dans les d̄bits de boisson	0,36	0,31					
Served wine - Vin servi dans les d̄bits de boisson	0,10	0,14					
Served liquor - Spiritueux servis dans les d̄bits de boisson	0,12	0,16					
Alcoholic beverages purchased from stores - Boissons alcoolis̄es achet̄es au magasin	1,30	1,10	6	Retail	1,93		1,90
Beer purchased from stores - Bīre achet̄e au magasin	0,65	0,56					
Wine purchased from stores - Vin achet̄ au magasin	0,32	0,26					
Liquor purchased from stores - Spiritueux achet̄s au magasin	0,33	0,28					
Tobacco products and somkers' supplies - Produits du tabac et articles pour fumeurs	1,66	2,10			1,98		2,15
Cigarettes - Cigarettes	1,39	2,07					
Other tobacco products and smokers' supplies - Autres produits du tabac et articles pour fumeurs	0,27	0,03					

NOTES

¹ Remarks presented at a panel discussion on Research in Price, Quality, and Quantity Measurement: What Agenda for the Next Twenty Years? By Jack E. Triplett of the Brookings Institution. (Date unknown)

² The Consumer Price Index Reference Paper: Update Based on 1992 Expenditures, Statistics Canada, Catalogue 62-553 Occasional, July 1995.

³ This target population accounted for approximately 75 percent of total current consumption.

⁴ Since the 1974 basket update the weighting structure of the Canadian CPI could be viewed as a rectangular matrix with commodities as rows and geographic strata as columns. One can aggregate over the geographic strata at any level of detail to get a national total.

⁵ The term “update” in the case of Canada means that it is the expenditure weights (or basket) that are being updated. The qualifying year of the update such as 1992 refers to the reference year of the basket. Usually, but not necessarily, during the basket update, Statistics Canada will also use this opportunity to review and revise its CPI methodology in certain areas. These revisions could be major or minor. For instance in 1992, the Canadian CPI changed from arithmetic mean averaging to the less biased geometric mean averaging of price relatives when calculating indexes at the micro-index level (or below the basic class.)

⁶ In fact, residents of Indian reserves, whether aboriginal or non-aboriginal, are excluded from the target population. Also, for practical reasons, residents of the Territories outside [of] Whitehorse and Yellowknife are not represented by the index". The target population also excludes people not living in private households, including the institutionalized populations of hospitals, prisons, old age homes, people living on military barracks, people living in collective households (e.g. the residents of Hutterite colonies). See Baldwin, Andy (1990), The Appropriate Target Population for the Consumer Price Index, Statistics Canada, unpublished manuscript.

⁷ Examples are commuter transit, rents, and property taxes for which prices are collected in more than 70 cities including smaller ones in provinces characterized with large rural and small city populations.

⁸ In many cases the geographical strata used for defining the expenditure weights in the CPI is the province. To improve sampling efficiency however, the three largest provinces have two to three strata. Ontario (4), British Columbia (2), and Québec (2).

⁹ According to the Canadian nomenclature, a basic class is the lowest-level aggregate of commodities for which a set of weights is available that is consistent with the fixed-based concept of the CPI. It is also worth mentioning that not all 618 basic

classes were published or releasable to the public. Availability was based on a judgmental decision with regards to the quality of the corresponding price index.

¹⁰ In Canada, an effort is made to designate as basic classes a commodity grouping that is based on the following principles: 1) they must have a clear and meaningful content; 2) they must be important in terms of their share of consumption and because of the interest that their price changes evoke; and 3) they must make possible the production of consumer price indexes of acceptable statistical quality given the availability of limited resources. Uniformity of retail price movements is not used as the main criterion when defining a basic class.

¹¹ The year 1952 also marked the year that the Dominion Bureau of Statistics adopted the title “Consumer Price Index” to replace the previous one, “Cost-of-living” index, which everyone knows by now is a misnomer. No doubt, the Montreal Resolutions of 1947 must have influenced this decision.

¹² The three subsequent baskets, the 1978 basket was introduced into the CPI in April 1982, the 1982 basket in January 1985, and the 1986 basket in January 1989.

¹³ That year, Canada introduced the 7 percent Goods and Services Tax (GST) and replaced its 13.5% Federal Sales Tax (FST). This fundamental change to the Canadian tax structure widened the scope of taxable items by including most services which previously not subject to indirect taxation. Furthermore, the tax was to be made visible to consumers in contrast to the FST which was hidden.

¹⁴ “Impact on the Choice of Formula on the Canadian Consumer Price Index” by Pierre A. Gèneroux, in *Price Level Measurement: Proceedings from a Conference Sponsored by Statistics Canada*, edited by W.E. Diewert and C. Montmarquette, Ottawa, December 1983.

¹⁵ The authors of these Statistics Canada studies applied the following steps to generate their results. First, Laspeyres and Paasche price indices are calculated to measure the overall substitution effect. Secondly, a multi-stage decomposition technique developed by Schultz (1997) is applied to calculate the contribution of individual commodities in the overall substitution effect.

Schultz’s technique is based on the Bortkiewicz’s theorem, which shows that a divergence between the Paasche and Laspeyres price indices can be decomposed into three factors: 1) the coefficient of correlation of the corresponding price and quantity relatives; 2) the coefficient of variation of the price relatives; and 3) the coefficient of variation of the quantity relatives.

Based on the sign and magnitude of individual contribution, shifts in spending habits and hence the degree of substitutability of a commodity over time is determined. Negative individual contribution to the divergence implies that consumer’s choice is affected by the relative price change, i.e. the correlation between the price and quantity relatives is negative. Because the sum of individual contributions is equivalent to the overall divergence, the sign would reflect the direction of the

substitution effect. Positive individual contribution to the divergence of indices would imply that consumers did not react to the relative price change (price inelastic demand) or that other factors such as changes in technology, income or taste had played a more important role in consumer's choice (rightward shift in the demand schedule). The sign and magnitude of individual contribution, calculated using Schultz's technique, is critical in identifying commodities and their contribution to the substitution bias.

¹⁶ Other things being equal, substitution effect should be negative, i.e. if relative price of a commodity goes up consumer is expected to shift away from the commodity. However, if consumer's perception about a commodity changes or change in relative price takes place because of a policy change the substitution effect could be positive and that is what is defined here as counter substitution effect.

¹⁷ In other words, in the absence of the effect of computers, the divergence would have been limited to 1.33 percent.

¹⁸ Prior to being the Division of Income Statistics the division was named Household Surveys Division.

¹⁹ The other components of the owned accommodation index with their respective 1996 and 2001 weights in parentheses are: mortgage interest cost (4.91; 8.37), property taxes (3.55; 3.09), homeowners' insurance (1.05; 1.01), maintenance and repairs (1.69; 1.78), and other owned accommodation expenses (4.64; 3.92).

²⁰ Replacement cost cannot be estimated from traditional family expenditure surveys because it is a notional monetary value. It represents the sum of money that is necessary to replace that portion of a dwelling that was consumed during the reference year. Changes to the value of dollar amount consumed are tied to movements in the New House Price Index excluding land with an assumed rate of depreciation of 1.5 percent (previously 2 percent).

²¹ The first food expenditure survey was conducted in 1953.

²² The SHS was previously the Family Expenditure Survey (FAMEX). The name changed with the 1997 SHS to reflect the newly broadened scope of the survey which now included questions on income.

²³ The other categories were: Non contacted (1,142) and non-usable (752).

²⁴ The expenditure survey went through some major restructuring from 1996 to 1997. First, the SHS became an annual survey. Second, the sample size of the SHS grew to one-and-one-half the size of FAMEX, its predecessor. Third, in an attempt to lower the cost of the survey and to lessen respondent's burden, the level of detail of the SHS was reduced compared to FAMEX surveys. For instance, the 1996 FAMEX had 641 questions while the 1997 SHS had 425 questions, a 33 percent reduction.

²⁵ The provincial data is available from the author upon request.

²⁶ Using this method, 95 percent of households have two weekly records. The remainder completed only one record.

²⁷ The coefficient of variation (CV) is a measure of relative dispersion and is defined as the standard deviation divided by the mean. It is usually expressed as a percent and has the property of being dimensionless and independent of scale. For example, if the estimate of an average expenditure is \$75 and the corresponding CV is 5 percent, then the true value will be somewhere between \$71.25 and \$78.75, 68 percent of the time and between \$67.50 and \$82.50, 95 percent of the time. Typically, Statistics Canada will suppress categories for which the CV is greater than 33 percent.

²⁸ This was not always the case, prior to the 1996 basket update; the expenditure weight for alcoholic beverages was revaluated up so that the estimate could better reflect retail sales data that were known to be more accurate than the values derived from the expenditure survey.

²⁹ It is also well documented that another factor that explains this phenomenon is the fact that high consumers of alcohol intentionally underreport their consumption or are more likely to refuse to answer the question or even participate in the survey.

³⁰ Scobie (2003) estimates that of the 121 COICOP classes, 100 are part of the CPI commodity universe and that 97 percent of the expenditure shares can be directly allocated to COICOP classes.

³¹ See Baldwin, A (1990), "Seasonal Baskets in Consumer Price Indices", *Journal of Official Statistics*, Vol. 6, no. 3, pp. 251-273.