

62-D-64

c.1

DOMINION BUREAU OF STATISTICS

Labour and Prices Division
OTTAWA

Published by Authority of the Rt. Hon. C. D. Howe, Minister of Trade and Commerce

THE DOMINION BUREAU OF STATISTICS COST-OF-LIVING INDEX

(An explanatory statement incorporating all revisions made to January 3, 1950) *

PURPOSE:

The Dominion Bureau of Statistics cost-of-living index measures the influence of changes in retail prices of goods and services, upon the cost of a representative urban wage-earner family budget.

INTERPRETATION:

It should be clearly understood that the index is a measurement of price change. Many people use the term "living costs" to indicate the total cost of things they buy. Used in this sense, "living costs" may include different things from month to month and year to year, and likewise different amounts and qualities of the same things. A cost-of-living index based upon this idea would reflect the value of total purchases made by everyone. In normal times it would move closely in line with national income. The Bureau's index is based upon quite a different idea. It measures changes in the cost of a family budget which includes the same amounts of the same commodities and services for considerable periods of time; it is revised only to take account of important "long-run" changes in consumption. It is essentially an index which measures changes in prices.

Each index figure is a percentage which shows the relationship between the dollar cost of the index budget at a specified time, and the corresponding cost of the same budget in a reference period. The Bureau's reference period now is the five year interval 1935 to 1939, and the average cost of the index budget for this period is represented by 100.0. The comparable cost at January 3, 1950 was 161.0 per cent of its base period cost. This figure of 161.0 becomes the cost-of-living index for January 3, 1950.

THE INDEX BUDGET:

The index budget was calculated from annual purchases reported by a group of 1,439 typical wage-earner families in the following cities: Charlottetown, Halifax, Saint John, Quebec, Montreal, Ottawa, Toronto, London, Winnipeg, Saskatoon, Edmonton and Vancouver. These expenditures covered the year ending September, 1938.

The survey families averaged 4.6 persons and the majority had two or three children. Family earnings in many cases were supplemented by minor sources of income; total incomes for these families were heavily concentrated between \$1,200 and \$1,600. They ranged, however, from as low as \$600 up to about \$2,800 per annum. There were approximately two tenant families to every one home-owning family, and about one family in three operated a motor car. The general distribution of living expenditures for these families which represented all the principal racial groups in Canada was as follows:

* Inquiries concerning this release should be directed to Prices Section, Labour and Prices Division.

Urban Wage-Earner Family Annual Living Expenditures
(Year ending September 30, 1938)

Budget Group	Expenditure Averages	Percentage Distribution
	\$	p.c.
Food.....	443.0	31.3
Shelter.....	269.5	19.1
Fuel and Light.....	90.5	6.4
Clothing.....	165.8	11.7
Home Furnishings.....	125.7	8.9
Miscellaneous.....	319.4	22.6
Health.....	(60.8	(4.3
Personal Care.....	(23.9	(1.7
Transportation.....	(79.3	(5.6
Recreation.....	(82.1	(5.8
Life Insurance.....	(73.3	(5.2
TOTAL.....	1,413.9 ^x	100.0

^x Directly represented in the index. Other miscellaneous outlay brought the total family living expenditure to \$1,453.8.

RECENT CHANGES IN THE BUDGET:

Several changes were made in the index budget between January 1948 and January 1950. These were mostly of a minor nature and at the commodity level. The items revised, together with their old and new descriptions and weights, are shown below. These alterations were made because of changes in trade practice or to enlarge the price sample subsequent to improvement in the supply situation for several commodities.

Item	Former Description	New Description	Former Weight	New Weight
Peas, canned	20 ounce	15 ounce	.6	.8
Corn, canned	20 ounce	15 ounce	.3	.4
Potatoes	Peck	10 pounds	.8	1.2
Currants	Bulk	-	.1	-
Raisins	Seedless, Bulk	Seedless, Bulk	.2	.3
Hosiery	Rayon	Rayon	10.0	2.0
Hosiery	-	Nylon	-	5.8
Saucepan	Enamel	Enamel	.5	.25
Saucepan	-	Aluminum	-	.25
Cleansing Tissue	-	Medium Package	-	6.0
Sterilized Gauze	-	Five Yards	-	1.0
Shaving Soap	Stick	-	2.2	-
Shaving Cream	-	Medium Tube	-	5.0
Chloride of lime	Package	-	2.0	-
Ammonia, powdered	-	Package	-	2.0

COMMENTS ON GROUP INDEX NUMBERS:

The index budget is divided into six expenditure groups for which separate indexes are calculated; these are foods, fuel and light, rent, clothing, homefurnishings and services, and miscellaneous items. Each group contains a list of items sufficiently large to make it representative of the merchandise field covered. It would be possible to add many more minor items without affecting the movements of the composite cost-of-living index by any significant amount. These additions would lengthen the time required to calculate the index and impose a greater burden upon firms making price reports, without improving the accuracy of the index. In many cases accuracy might be reduced, as comparisons on a quality basis are not possible over a long period. This would be true of style merchandise such as women's hats. The cost of all these omitted items is included in group weights, which represent all expenditures falling within the six groups noted above. The base period food weight of 31 per cent, for example, was calculated from total food costs reported by survey families, although the food index includes only 46 items which represent about 75 per cent of a representative family's food expenditure.

FOODS: Prices used in calculating food indexes are collected on the first business day of each month from approximately 1,600 stores covering independent and chain grocers and butchers. Quotations for each of the 46 budget items are averaged and then multiplied by the budget quantity for each individual item to find the cost for that item. These individual cost figures are added together to find the total cost of the food budget; this figure is then expressed as a percentage of the corresponding reference period cost to produce the food index.

FUEL AND LIGHT: Separate indexes are calculated for coal, coke, gas and electricity. The two last mentioned are reckoned from monthly bills for quantities which are typical of consumption in the cities represented. The bill for each city is weighted by the number of domestic consumers in order to calculate Dominion indexes. The coal index also takes account of typical amounts consumed in different areas and of the population of each city represented in the index. Price changes for coal are related to kinds used in the greatest quantity in each area.

SHELTER: Changes in shelter costs are determined by movements of rents. Since 1948 changes in shelter costs have been determined by data obtained from rent surveys inaugurated by the Special Surveys Division of the Dominion Bureau of Statistics. The surveys are taken four times a year in March, June, August and November. The rent index is calculated from a matched sample of households. That is, the aggregate rent paid by a group of households at a given point in time is compared with the aggregate rent paid by the same group of households for the same living quarters at the next point in time. By using a matched sample for each survey period, variations due to changes in the sample and to non-response are eliminated. The index is, therefore, a measure of the change of rent paid for the same accommodation. Rent reported is the cash rent paid in all cases regardless of minor changes in the services provided. Serious difficulties are involved in attempting to assess the money value of services, such as those provided by janitors, and it is not practical to attempt to adjust the index for variations in the amenities or services provided by the landlord. However, when there are changes in the amount of accommodation or space rented, the cases are eliminated from the comparison. Rent for commercial premises is specifically excluded from the calculation of the index. Thus, cases in which the rent covers both living quarters and commercial space are excluded from the aggregates from which the index is calculated. Usually, the rent index is not adjusted until one month after each survey period.

CLOTHING: The clothing index has been based upon a carefully selected list of men's and women's apparel. It includes no children's clothing, and omits some items of adult clothing which are of considerable importance, such as women's dresses for afternoon and evening wear, women's hats, men's hats and gloves. Unusual difficulties in maintaining continuous price series on the same quality of goods occur in clothing due to style and seasonal changes which must be excluded from price comparisons based upon quality. The items in the clothing index have been selected to represent the basic materials entering into clothing in approximately the same proportions as they would be found in a complete clothing budget. Some of the items chosen to represent basic materials form a comparatively small portion of a complete budget, but are useful in measuring clothing price trends because of their standard construction. Women's woollen hose afford an example of such items. The index contains 35 items of clothing, piece goods and footwear, and price series for these have been examined individually over a period of years to test their reliability. Most apparel now is composed of six basic materials, cotton, wool, rayon, nylon, leather and rubber. The Bureau uses a clothing list of 35 items with the knowledge that a limited but accurate price series will measure the trend of clothing prices better than a large list including items which fluctuate widely in price due to style and seasonal factors. Department stores are the source of Bureau clothing prices. These distributors handle approximately one-third of the Dominion's clothing trade, and make monthly price returns to the Bureau, especially designed for the cost-of-living index.

The Bureau of Statistics is concerned not only with the accuracy of prices reported, but also with the comparative quality of goods priced from month to month. It considers a decline in quality to have the same effect upon living costs as a rise in price. Field representatives have been given special instructions and training regarding this matter, and price schedules for clothing (and homefurnishings) have been specially designed for the reporting of quality changes in addition to the recording of comparative prices.

HOMEFURNISHINGS AND SERVICES: The homefurnishings and services index is a composite of nine sub-groups, including two sets of service costs in addition to actual furnishings. The nine sub-groups are: furniture, electrical equipment, floor coverings, textile furnishings, hardware, dishes and glassware, cleaning supplies, laundry and telephone. The complete group accounted for 9 per cent of the base period index budget cost, placing it next to clothing in importance. It is similar to clothing also in many details of construction. The data for furniture, electrical equipment, floor coverings, textile furnishings, hardware, dishes and glassware are obtained from department stores and the same principle of the representation of basic materials by a comparatively small number of items is used. There are 8 items of furniture, 3 of electrical equipment, 3 of floor coverings, 4 of textile furnishings, 6 of hardware, 2 of dishes and glassware, 4 of cleaning supplies, 3 laundry rates, and one type of telephone service.

MISCELLANEOUS: Five sub-groups, health maintenance, personal care, transportation, recreation and life insurance comprise the miscellaneous index. This list does not exhaust all remaining family living expenditures, but most of those which are left, such as church contributions, support of dependents, etc., cannot be treated in the same way as items which are bought and sold. The index takes no account of these items which amounted to only 3 per cent of average wage-earner family living expenditures reported in the Bureau's 1938 survey.

The health section is based upon prices for 6 items of household medical supplies, 2 kinds of hospital service, 3 types of doctors' fees, and rates for 6 types of dental service. In view of the stability of fees for doctors, dentists and hospitals, these records are collected only at annual intervals, while medical supplies are priced quarterly. Records of practically all miscellaneous sub-indexes are collected from 23 of the larger cities, chosen to give adequate regional representation.

Personal care costs are represented by 9 items of toilet requirements plus fees for men's haircuts and shaves.

Three kinds of transportations are represented in the transportation sub-group: motor car, street car and railway. The two latter present no special problems, but motor car operating costs are more difficult to measure. The Bureau's record is based upon service station prices of gasoline, license fees, tires and wage rates for garage mechanics. It is assumed that depreciation is 35 per cent of operating costs, and that for car owners as a group it remains constant from year to year.

The recreation section includes records of motion picture theatre admissions, and newspaper, magazine and tobacco costs.

The life insurance index is based upon premiums for ordinary non-participating life policies, since these appear to give the closest possible approximation to the cost of pure risk. Averages of premiums for ages 20, 35 and 50 years have been used covering the records of 11 large companies.

THE COST-OF-LIVING INDEX WEIGHTING SYSTEM

There are two stages in the calculation of each of the six principal group indexes from which the composite number is calculated. In the first stage, the general procedure is to multiply current price averages by budget quantities. These products are added together and the resultant aggregate divided by a corresponding base period aggregate. This number is multiplied by 100.0 to secure a sub-group index for the current period. The index is then multiplied by a sub-group weight indicative of the cost of goods in this sub-group relative to all goods in the group. When all sub-groups have been weighted similarly, the group index is found by adding up this second set of products and dividing by 100.0. This routine is repeated to secure the final composite cost-of-living index. The second and third stages of weighting are made necessary by the fact that it is not feasible to include all items in the family budget.

The complete list of items and weights is shown following:

WEIGHTING SYSTEM OF THE DOMINION BUREAU OF STATISTICS

COST-OF-LIVING INDEX

(As at January 3, 1950)

	<u>Commodity Weights</u> (Weekly Quantities)	<u>Sub-Group Weight</u>	<u>Group Weight</u>
A. <u>FOOD</u>			31
1. <u>CHAIN STORES</u>		1	
2. <u>INDEPENDENT STORES</u>		2	
<u>Dairy Products</u>			
Milk	10.5 qts.		
Butter	2.8 lbs.		
Cheese, $\frac{1}{2}$ -lb. pkg.	.8 pkgs.		
<u>Eggs</u>	1.4 doz.		
<u>Meats and Fish</u>			
Sirloin Steak	.5 lbs.		
Round Steak	.9 "		
Rolled Rib Roast	.7 "		
Blade Roast	1.1 "		
Stewing Beef	1.0 "		
Veal	1.0 "		
Lamb	.3 "		
Pork, fresh loins	1.5 "		
Pork, fresh shoulder	1.0 "		
Bacon, rind-off	.7 "		
Fish	.8 "		
Vegetable Shortening	.8 "		
Lard	.2 "		
<u>Cereals</u>			
Bread	12.1 lbs.		
Flour	2.9 "		
Rice	.3 "		
Rolled Oats	.5 "		
Corn Flakes, 8-oz. pkg.	1.3 pkgs.		
<u>Dry Groceries</u>			
Granulated Sugar	4.2 lbs.		
Yellow Sugar	.6 "		
Tea, $\frac{1}{2}$ -lb. pkg.	.8 pkgs.		
Coffee	.2 lbs.		
Cocoa, $\frac{1}{2}$ -lb. tin	.2 tins		
Salt	.5 lbs.		
<u>Vegetables</u>			
Beans, dried	.4 lbs.		
Onions	.8 "		
Potatoes	12.0 "		
Canned Tomatoes, 2 $\frac{1}{2}$'s	.6 tins		
Canned Peas, 15 oz.	.8 "		

	Commodity Weights (Weekly Quantities)	Sub-Group Weight	Group Weight
A. <u>FOOD</u> - Concl'd			
<u>Vegetables</u> (Concl'd)			
Canned Corn, 15 oz.	.4 tins		
Cabbage	1.0 lbs.		
Carrots	1.5 "		
Turnips	1.0 "		
<u>Fruits</u>			
Raisins	.3 lbs.		
Prunes	.1 "		
Strawberry Jam	.6 "		
Marmalade	.1 "		
Canned Peaches, 20 oz.	.1 tins		
Corn Syrup, 2-lb. tin	.25 "		
Lemons	.1 doz.		
Oranges	.7 "		
Bananas	1.2 lbs.		
B. <u>RENTALS</u>			19
C. <u>FUEL AND LIGHT</u>			6
Coal		42	
Coke		11	
Gas		14	
Electricity		33	
	(Annual Replacement <u>Allowances</u>)		
D. <u>CLOTHING</u>			12
<u>Men's Wear</u>		41	
Overcoats	.2		
Top Coats	.2		
Suits	.8		
Sweaters	.4		
Overalls	1.0 pairs		
Socks	9.0 "		
Underwear, Athletic	1.5 sets		
Balbriggan Combinations	1.0 "		
Underwear, Winter	1.0 "		
Pyjamas	1.0 pairs		
Shirts, Work	1.0		
Shirts, Broadcloth	2.5		
Trousers, Work	.7		
<u>Women's Wear</u>		36	
Top Coats, Fall and Winter	.3		
Top Coats, Spring	.2		
House Dress	1.5		
Slips, Rayon	2.5		
Hosiery, Rayon	2.0 pairs		
Hosiery, Woollen Mixture	3.0 "		
Hosiery, Nylon	5.8 "		

	<u>Commodity Weights</u> (Annual Replacement Allowances)	<u>Sub-Group Weight</u>	<u>Group Weight</u>
D. <u>CLOTHING</u> -Concl'd			
<u>Women's Wear</u> - Concl'd			
Pantie, Rayon	5.0 pairs		
Pantie, Woollen Mixture	1.0 "		
Nightgown, Cotton	.7		
Nightgown, Rayon	1.6		
<u>Piece Goods</u>		4	
Cotton Dress Print	3.0 yards		
Wool Cloth	.3 "		
Flannel	.2 "		
Celanese or Rayon Material	.7 "		
Flannelette	2.0 "		
<u>Footwear</u>		19	
Men's Work Boots	2.0 pairs		
Men's Oxfords	.7 "		
Men's Rubbers	3.5 "		
Women's Shoes	2.0 "		
E. <u>HOME FURNISHINGS AND SERVICES</u>			9
<u>Furniture</u>		25	
Dining Room Suite	.06		
Bedroom Suite	.06		
Kitchen Table	.08		
Kitchen Chairs	.20		
Studio Couch	.05		
Bed Springs	.05		
Mattress	.16		
Chesterfield Suite	.05		
<u>Floor Coverings</u>		7	
Axminster Rug	.04		
Congoleum Rug	.15		
Linoleum	1.70		
<u>Furnishings</u>		11	
Sheets	1.0		
Towels, Cotton Terry	3.0		
Blankets, All Wool	.5		
Table Oil Cloth	.4		
<u>Electrical Equipment</u>		24	
Washing Machine	.03		
Radio	.15		
Refrigerator	.02		
<u>Hardware</u>		3	
Frying Pan	.2		
Saucepan, Enamel	.25		
Saucepan, Aluminum	.25		
Garbage Can, Galvanized	.25		
Kitchen Broom	1.0		
Kitchen Pail	.2		

	<u>Commodity Weights</u> (Annual Replacement Allowances)	<u>Sub-Group Weight</u>	<u>Group Weight</u>
E. <u>HOMEFURNISHINGS AND SERVICES</u> - Concl'd			
<u>Dishes and Glassware</u>		2	
Set of Dishes	.1		
Glass Tumblers	2.0		
<u>Cleaning Supplies</u>		13	
Laundry Soap	24 bars		
Soap Flakes	24 pkgs.		
Abrasive Cleansers	9 cartons		
Ammonia, Powdered	2 pkgs.		
<u>Laundry</u>		3	
Sheets)			
Towels) Geometric			
Men's Shirts) Average			
<u>Telephone</u>		12	
	<u>Commodity Weights</u>	<u>% of Sub-Group Weight</u>	
F. <u>MISCELLANEOUS ITEMS</u>			
1. <u>HEALTH</u>		17	
(a) <u>Medicines</u>		23	
Aspirin Tablets, box of 12	1.3 boxes		
Epsom Salts	.7 lbs.		
Boracic Acid, 2 ozs.	.3 pkgs.		
Tincture of Iodine, 2 oz.	.7 bottles		
Zinc Ointment, 1 oz.	.7 tins		
Cod Liver Oil	1.3 bottles		
(b) <u>Hospital Charges</u>		17	
Semi-Private Room	1		
Public Ward Bed	1		
(c) <u>Doctors' Fees</u>		42	
Office Consultation)			
Ordinary Day Visit) Geometric			
Ordinary Confinement) Average			
(d) <u>Dentists' Fees</u>		18	
Amalgam Filling)			
Porcelain Filling)			
Gold Filling) Geometric			
Upper and Lower Dentures) Average			
Ordinary Extraction)			
Prophylaxis)			
2. <u>PERSONAL CARE</u>		9	
(a) <u>Personal Cleaning Supplies</u>		58	
Talcum Powder	1.3 tins		
Tooth Paste	21.7 tubes		

Commodity	% of Sub-Group	Sub-Group	Group
<u>Weights</u>	<u>Weight</u>	<u>Weight</u>	<u>Weight</u>
(Annual Replacement Allowances)			

F. MISCELLANEOUS ITEMS - Concl'd

2. PERSONAL CARE - Concl'd

(a) Personal Cleaning Supplies - Concl'd

Tooth Brushes	8.7
Shaving Cream	5.0 tubes
Toilet Soap	52.2 bars
Petroleum Jelly	1.3 jars
Razor Blades, pkgs. of 5	13.1 pkgs.
Cleansing Tissue, Med. pkg.	6.0 pkgs.
Sterilized Gauze, 5 yds.	1.0 rolls

(b) Barbers' Fees

Ratio

42

Haircut (Men's)

5

Shave

2

3. TRANSPORTATION

26

(a) Motor Operating Costs

67

Percentages

Gasoline	42
Repairs and Maintenance	9
Licenses	8
Depreciation	35
Tires	6

(b) Rail Fares

4

(c) Street Car Fares

29

4. RECREATION

26

(a) Theatre Admission

23

(b) Newspaper Costs

22

(c) Magazine Costs

4

(d) Tobacco Costs

51

Cigars	} Geometric Average
Cigarettes	
Cut Tobacco	

5. LIFE INSURANCE

22

STATISTICS CANADA LIBRARY
BIBLIOTHÈQUE STATISTIQUE CANADA



1010715549