62-D-64 1942

THE DOMINION BUREAU OF STATISTICS COST OF LIVING INDEX

In September 1940, the Dominion Bureau of Statistics commenced publication of a new cost of living index which replaced the Bureau's former index established in 1927, and also the cost of living index of the Dominion Department of Labour. The Bureau received the active assistance and co-operation of the Wartime Prices and Trade Board and the Dominion Department of Labour in this project. The following statement upon the new index is, in part, an amplification of an earlier bulletin entitled "An Official Cost of Living Index for Canada".

PURPOSE OF THE INDEX

This new index of living costs has been designed to provide an official record of movements in the general cost of living of urban wage-earner families in Canada. The budget upon which it is based remains unchanged from month to month and year to year, taking no account of fluctuations in income levels due to changes in wages and direct taxation. However, it reflects movements in sales taxes which affect the cost of items in the budget. It is the purpose of the index to measure changes in the cost of maintaining a constant budget over a considerable period of time.

PROCEDURE IN ESTABLISHING THE INDEX BUDGET

The cost of living index budget has been established from expenditure records secured especially for this purpose in 1938. The Bureau made every effort to ensure that the family expenditure records collected in 1938 came from families which were typical. Before the records were obtained a careful study of 1931 census data was made to discover the main characteristics of typical urban families. The results of that study led the Bureau to concentrate upon securing expenditure records from families satisfying the following conditions:

- 1. Husband and wife living in the home as joint heads, with from one to five children.
- 2. Self-supporting during the survey year, with family earnings ranging from \$450 to \$2,500 during that period.
- 3. Living in self-contained dwelling units, not sharing either kitchen or bath-room facilities with other families.

A special preliminary canvass of 12 cities chosen for the 1938 survey was made to locate families meeting the above requirements. Approximately 50,000 homes were visited in this preliminary stage of the survey, and from the returns sent in by the field staff, the Bureau sorted out the families which were satisfactory according to the criteria noted above. From this list a random group of families was approached for complete annual records of income and expenditure. Each family provided a detailed account of expenditures in the year ending September 1938, and in addition kept a journal of individual food purchases in three separate weeks, the first in October - November 1938, the second in February 1939, and the final one in June 1939. The food index budget quantities were computed from these weekly records. The cities included in the 1938 survey were Charlottetown, Halifax, Saint John, Quebec, Montreal, Ottawa, Toronto, London, Winnipeg, Saskatoon, Edmonton and Vancouver.

The 1,439 families for which records were collected, averaged 4.6 persons, and the majority had two or three children. Family earnings in many cases were supplemented by other small sources of income, and total family incomes between \$1,200 and \$1,600 were the most common. There were approximately two tenant families to every 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:

URBAN WAGE EARNER FAMILY ANNUAL LIVING EXPENDITURES

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

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

BASE PERIOD, 1935-1939=100

In selecting a new period to replace 1926, the Dominion Bureau of Statistics had to consider many types of indexes other than those for prices. Employment, industrial production, and car loadings were some of the series involved, and it was difficult to find a recent 12-month period which would provide a generally satisfactory reference level. For both prices and industrial production the years 1935-9 offered a period of rise and fall which tended to minimize differences in the base levels of various series relative to earlier periods. Although prices in the last four months of 1939 were affected by the outbreak of war, neither prices nor industrial activity reacted sufficiently in that interval to affect a five-year average materially. The years 1935-9 provide a base which is representative of pre-war conditions, and at the same time give a reference level for comparison with average conditions obtaining subsequent to recovery from the depression from 1929 to 1933. The 1935-1939 period had previously been selected by the United States central statistical Board for the calculation of revised index numbers for the United States.

PRICE COVERAGE

The character of price movements for commodities and services differs widely, For some, including certain foods, rentals and car fare, local conditions may be a governing factor, while for others, such as tobacco and periodicals, a single price may be Dominion-wide. Some commodities fluctuate considerably in price, while others are characteristically stable. These considerations have led to differences in the number of cities covered and in the number of reports received to build up satisfactory Dominion urban averages. One report on car fare for each city gives perfect coverage, whereas many reports are required for foods in large cities such as Montreal and Toronto. Interest in local differences in particular budget groups has resulted in a more complete representation of cities than would be required for Dominion averages alone. This is true of foods, fuel, rents, and certain services. On the other hand, comparative uniformity in clothing price trends over considerable areas, and a high proportion of sales by large selling organizations made it necessary to obtain a much smaller number of reports for items in this budget group. The following summary of reports received and the number of cities represented should be judged in the light of the foregoing remarks.

PRICE REPORTING BASIS OF THE NEW DOMINION BUREAU OF STATISTICS COST OF LIVING INDEX

Budget Groups and Sub-Groups	Frequen cy of Reports	Number of Cities Represented	Approximate Number of Reports Received
Food	Monthly	6 9 .	1,600
Rentals	May and October	. 61	200
Fuel - Coal	Monthly "" ""	58 26 16 109	330 200 16 109
Clothing and Home Furnishings	Monthly	11	24
Miscellaneous -			
Medicines Car Fare Theatre Admissions Insurance Tobacco Newspapers Periodicals Doctor Dentist Hospital Laundry Cleaning Supplies Barbers! Fees Toilet Articles Telephones Motor Operating Costs	Annually When prices change Monthly Annually "" "" "" Monthly Vuarterly Monthly Monthly	23 18 23 All Canada All Canada 22 All Canada 22 37 23 23 23 23 23 23 23 23	82 18 1 11 43 6 103 61 57 76 347 85 82 23 15

NOTES ON THE COMPOSITION AND CONSTRUCTION OF GROUP INDEXES

The Bureau's new index follows the usual pattern of such series in dividing living costs into principal expenditure groups and calculating price indexes for separate groups, as follows: foods, fuel and light, rent, home furnishings and services, and miscellaneous items. Comments upon the items included in these groups and the sources of prices for them are given in the following paragraphs.

FOODS

The food index includes 46 price series which is the same number as in the old. There are now 14 items of meats and fish, milk, butter, cheese, eggs, 5 cereals, 6 dry groceries including sugar, tea, and coffee, 7 vegetables, and 10 items classed as fruits.

The revised selection of foods made necessary a new set of forms for the collection of price records. In drafting these a special effort was made to concentrate on representative qualities and sale units. Regional differences make this difficult; in some areas jam with pectin predominates, in others pure jam is preferred; some stores sell bananas by the dozen, others by the pound; in one large area it is difficult to get quotations on rolled oats. The record of food price changes is computed from returns received at the beginning of each month from approximately 1,600 grocers and butchers representing both chain and independent stores. Besides Dominion averages, separate averages for 69 cities are also computed. Dominion average prices for the 46 index foods are multiplied by budget quantities reported by the 1938 survey families and the aggregate of these products is divided by a corresponding aggregate for the base period 1935-1939 to get a Dominion index each month. Foods are allotted 31 p.c. of family living expenditure in the new index as compared with 30 p.c. in the old.

FUEL AND LIGHT

The fuel and light index is computed from four sub-indexes for coal, coke, gas, and electricity. There are four quite different coal consuming areas, the Maritime Provinces burning chiefly Nova Scotia coal, Quebec and Ontario using predominantly British and American anthracite, the Prairies covered mainly by Alberta domestic, and British Columbia with its own bituminious coal. This means four separate sets of coal reporting cards to be sent to these areas each month, and the calculation of city averages based upon types predominant in that area.

In computing fuel and lighting sub-group indexes account is taken of the amount of coal, coke, gas and electricity which is typical of consumption in each area. In the case of gas and electricity, city data are available for this purpose, but for coal and coke regional records are used. The coal index includes data from 58 cities; the coke index, 26 cities in Quebec and Ontario; the gas index, 16 cities in all parts of the Dominion; while the electricity index includes all urban communities in Canada. Wood was removed from the new index, although it is still an important fuel in some centres. Tests computing the fuel index with and without wood showed only slight differences. The weight for fuel and lighting remained unchanged at 6 p.c. of the family budget in the new index.

RENTS

There are two tenant wage-earner families for every home-owning wage-earner family in Canada, and the cost of living index is calculated on the assumption that housing costs generally are reflected in rental trends. Rental surveys are made by the Bureau at the May and October leasing periods. Rental agents are asked to report upon the current position of rents relative to those at the preceding lease date, as indicated by their list of rental properties. In the workmen's group of dwellings, upon which the rental index is based, records are collected for houses, flats and apartments. Before reporting blanks are sent out, rent data and property descriptions reported by each agent for the last period are copied onto the new schedule in order to maintain continuity from period to period. The calculation of the rent index is similar to that for the fuel and light series, with sub-group indexes being reckoned first for houses, flats, and apartments. Very complete weighting data have been used, recognizing the different numbers of each type of dwelling in various centres. Approximately 200 reports from 61 cities are used in making rental indexes. Rent accounts for 19 p.c. of the new index budget as compared with 20 p.c. of the old.

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 constant quality of goods occur in clothing due to style and seasonal changes which must be excluded from price comparisons based upon quality. items in the new clothing index have been selected to represent the basic materials entering into clothing in approximately the same proportions as they would form 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 new index contains 31 items of clothing, piece goods and footwear, and price series for Wase have been examined individually over a period of years to test their reliability. In the final analysis most apparel is composed of six basic materials, cotton, wool, artificial silk, real silk, leather, and rubber. The Bureau has reduced its clothing list on the assumption that 31 accurate price series will measure the trend of clothing prices better than a large list including items which fluctuate widely in price due to sayle and seasonal factors. Department stores are the principal source of Bureau clothing prices. These distributors handle approximately onethird of the Dominion's clothing trade, and make monthly price returns to the Bureau, especially designed for the cost of living index. In the new series clothing accounts for 12 p.c. of the family budget as compared with 18 p.c. in the old index.

HOME FURNISHINGS AND SERVICES

The home furnishings and services index is a composite of eight sub-groups, including the rots of service costs as well as actual furnishings. The eight sub-groups turniture, floor coverings, textile furnishings, hardware, dishes and glassware, cleaning supplies, laundry and telephone. The complete group accounts for 9 p.c. of this index budget cost, placing it next to clothing in importance. It approximates clothing also in many details of construction. The data for furniture, floor coverings, textile furnishings, hardware, dishes and glassware are obtained mainly from department stores and the same principle of the representation of basic materials by a comparatively small number of items is used. There are 7 items of furniture, 3 of floor coverings, 4 of textile furnishings, 5 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, the support of dependents, bank savings, etc., cannot be treated in the same way as items which are bought and sold. It does not seem logical to assume that they move as the whole cost of living index does, or even as the miscellaneous group does. The reverse seems just as likely to happen, i.e., if the prices of necessities move sharply upward in advance of income, residual amounts for charity and savings are bound to shrink. Therefore, the index takes no account of these items which amounted to only 3 p.c. of average wage earner family living expenditure 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 dectors! 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 manual intervals.

Records for 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 ? items of toilet requirements plus fees for men's haircuts and shaves.

Three kinds of transportation 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 gaseline, list prices of tires and tubes, license fees, and wage rates for garage mechanics. It is assumed that depreciation is 35 p.c. 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.

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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 miscellaneous index receives a weight of 23 p.c. in the new cost of living series as compared with 26 p.c. in the old one. This actually indicates an increase in importance since one-fourth of the weight for the old miscellaneous index was given to home furnishings.

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. The resultant number is multiplied by 100.0 to secure a sub-group index for the current period. This 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.

WEIGHTS USED TO CALCULATE THE NEW DOMINION BUREAU OF STATISTICS COST OF LIVING INDEX

	•		Sub-group	Group
		Commodity Veigh	ts Weight	Weight
A.	FOOD	(Weekly Quantiti	es)	31
	1. CHAIN STORES		1	
	2. INDEPENDENT STORES		2	
	Dairy Products			
	Milk	10.5 qts.		
	Butter	2.8 lbs.		
	Cheese	•4 n	•	
	Eggs	1.4 dos.		
	Meats and Fish			
	Sirloin Steak	.5 lbs.		
	Round Steak	.9 "		
	Rolled Rib Roast	.7 "		
	Blade Roast	1.1		
	Stewing Beef	1.0	•	
	Veal	1.0		
	Lamb	.5		
	Pork, fresh loins	1.5		
	Pork, fresh shoulder	1.0 "		
	Bacon	.7 *		
	Canned Salmon, 1b. tin	.2 tine		
	Finnan Haddie	.1 1bs.		
	Vegetable Shortening Lard	.8 ¹¹		
	Cereals			
	Brea d	12.1 lbs.	1	
	Flour	S*8 #	•	
	Rice	•3 ⁿ		
	Rolled Oats	•5 ^{II}		

Corn Flakes, 8 oz. pkg.

1.3 pkgs.

: ,		Sub-group	Group
	Commodity Weights	Weight	Weight
A. FOOD - Contid.	(Weekly Quantities)		
Dry Groceries Granulated Sugar Yellow Sugar Tea	4.2 lbs6 " .4 "		
Coffee Cocoa, ½ lb. tin Salt	.2 " .2 tins .5 lbs.		
Vegetables Beans Onions Potatoes Canned Tomatoes, 221s Canned Peas, 16 oz.	.2 lbs8 " .8 pks6 tins		
Canned Corn, 16 oz. Canned Beans, 16 oz.	.4 .5	•	
Fruits Raisins Currants Prunes Strawberry Jam Marmalade Canned Peaches 16 oz. Corn Syrup, 5 lb. tin Bananas Lemons Oranges	.2 lbs1 " .1 " .6 " .1 " .2 tins .04 " 1.2 lbs1 doz7 "		
B. RENTALS			19
Houses Flats Apartments		70 15 15	
S. FUEL AND LIGHT			6
Coal Coke Gas Electricity		42 11 14 33	
D. <u>CLOTHING</u>	(Annual Replacement Allowances)		13
Men's Wear Top Coats Suits Sweaters Overalls Socks Underwear, Athletic Balbriggan Combinations Underwear, winter Pajamas Shirts, work Shirts, broadcloth	.8 .4 1.0 pair 9.0 pairs 1.5 sets 1.0 set 1.0 set 1.0 pair	41	
Women's Wear Top Coats House Dress Slips, rayon Hosiery, silk Hosiery, woollen Vests, rayon	.5 1.5 2.5 10.0 pairs 3.0 "	36	

WEIGHTS USED TO CALCULATE THE NEW DOMINION BUREAU OF STATISTICS COST OF LIVING INDEX-Con.

•		Sub-group	Group
	Commodity Weights	Weight	Weight
D. CLOTHING - Contid.	(Annual Replacement		
	Allowances)		
Women's Wear	4.0		
Bloomers, rayon Bloomers, wool	1.0		•
Nightgown, cotton	.7		
Nightgown, rayon	1.6		
Smock	.2		•
Piece Goods		4	
Cotton dress print	3.0 yards		
Wool	.3 "		
Flannel	.2 "		•
Celanese or Rayon material			
Flannelette	2.0 "		
Footwear		19	
Men's Work Boots	2.0 pairs		
Men's Oxfords	,7 " 3.5 "		
Men's Rubbers	0.0		
Women's Shoes	2.0 "		
E. HOME FURNISHINGS AND SERVICES			9
<u>Furniture</u>		33	
Dining Room Suite, 9 pc.	.06 sets		
Bedroom Suite, 4 or 5 pc.	.06 "		
Kitchen Table	.08		
Kitchen Chairs Studio Couch	.20 .08		
Bed Springs	.05		
Mattress	.16		
777		9	
Floor Coverings	. 04		
Axminster Rug, 9' x 12' Congoleum Rug, 9' x 12'	.15	•	
Linoleum	1.70 square yar	ab.	
Furnishings		15	
Sheets, 81" x 100"	1.0	20	
Towels, cotton terry, 22"			
Blankets, all wool, 6-8 1		•	
72" x 90"	•5		
Table Oil Cloth	.4 yards		
<u>Hardware</u>		3	
Frying pan, steel, No. 9	2		
Frying pan, iron	•1		
Saucepan, enamel, 2 or 3	qts5		
Garbage can, galvanized	.25		
Kitchen Broom	1.0	•	
Dishes and Glassware		2	
Set of Dishes	.1		
Glass Tumblers	2.0		
Cleaning Supplies		17	
Laundry Soap	24 bars	•	
Lux (inc. other flakes)	24 packages		
Dutch Claanser	9 cartons	,	
Chloride of Lime	2 packages		
Laundry		6	
Sheets)	·	
Towels) Geometric		
Men's shirts) average		
Telephones		15	
Terebuones			

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		Per	Sub-group	Grou
MISCELLANEOUS ITEMS	Commodity Weights	Cent	Weight	Weig 23
			2.80	~0
1. HEALTH	Atomos Danis coment	97	17	
(a) <u>Medicines</u>	(Annual Replacement	23		
	Allowances)			
Aspirin Tablets, Box of 12				
Epsom Salts, 1 pound	•7			
Boracic Acid, 2 ounces	.3			
Tincture of Iodine, 1 ounc				
Zinc Ointment, 1 ounce				
Scott's Emulsion, large bot	tle 1.3			
(h) Magadaal Champag		17		
(b) Hospital Charges	•	1,		
Semi-private Room	1			
Public Ward Bed	1			
(c) Doctors! Fees		42		
Office Consultation)			
Ordinary Day Visit) Geometric			
Ordinary Confinement) Average			
(a) Doubletol Moon	-	18		
(d) Dentists Fees	•	10		
Amalgam Filling Porcelain Filling	{			
Gold Filling	Geometric			
Upper and Lower	Average			
Dentures)			
Ordinary Extraction	}			
Prophylaxis)			
2. PERSONAL CARE			9	
(a) Personal Cleaning Supplies	(Annual Replacement	58	•	
(a) rersonar oreaning supprior	Allowances)	00		
Moloum Pouden +4 no	1.3			
Talcum Powder, tins Tooth Paste, tubes	21.7			
Tooth Brushes	8.7			
Shaving Sticks	2.2			
Toilet Soap, bars	52.2			
Shaving Sticks Toilet Scap, bars Vaseline, jars Razor Blades, packages of	5 13.1			
Razor Blades, packages of	5 13,1			
(b) Barbers! Fees	•	42		
Haircut (Men's))Geometric			
Shave) Average		•	
3. TRANSPORTATION			26	
(a) Motor Operating Costs	(Percentages)	67		
Gasoline	42	•		
Tires and Tubes	6			
Repairs and Maintenance	9			
Licenses	8			
Depreciation	35			
<u>-</u>		4		
(b) Rail Fares		_		
(c) Street Car Fares		29		
			26	
4. RECREATION				
4. RECREATION		23		
		23		
4. RECREATION		23 23		
4. RECREATION (a) Theatre Admissions				
4. RECREATION (a) Theatre Admissions (b) Newspaper Costs (c) Magazine Costs		22 4		
4. RECREATION (a) Theatre Admissions (b) Newspaper Costs (c) Magazine Costs (d) Tobacco Costs		22		
4. RECREATION (a) Theatre Admissions (b) Newspaper Costs (c) Magazine Costs (d) Tobacco Costs Cigars) Geometric	22 4		
4. RECREATION (a) Theatre Admissions (b) Newspaper Costs (c) Magazine Costs (d) Tobacco Costs) Geometric) Average	22 4		

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5. LIFE INSURANCE

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