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SUPPLEMENT - PRICES AND PRICE INDEXES, JANUARY, 1948.

THE DOMINION BUREAU OF STATISTICS COST-OF-LIVING INDEX

(An explanatory statement incorporating all revisions made to January 2, 1948)

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 2, 1948 was 148.3 per cent of its base period cost. This figure of 148.3 becomes the cost-of-living index for January 2, 1948.

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:

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

Budget Group	Expenditure Averages	Percentage Distribution
	\$	
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*	100.0

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

RECENT CHANGES IN THE BUDGET:

Three changes were made in the index budget during the year ending January, 1948. First, the sugar weight was increased from 3.5 to 4.8 pounds per week, after the removal of sugar rationing. Second, the ratio of houses and apartments in the rent index was changed in accordance with the proportion included in a sample of tenants surveyed in May and October of 1947 (see "Shelter" following). This sample reflected the overall distribution of types of dwelling units occupied by tenants in cities of over 30,000 population. Third, three items of electrical equipment were added to the index in November, 1947. These were radios, refrigerators, and washing machines. Their inclusion was made feasible by a steady improvement in the supply situation during 1946 and 1947, as compared to an extremely restricted supply of electrical goods during the war.

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, or specific quantity 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 are 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 47 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 47 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 find 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 measuring the movement of rents. Two methods of calculating rents were used in 1947. First, rental agents were 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, records were 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 were copied onto the new schedule in order to maintain continuity from period to period.

Second, a representative sample of tenant householders, broken down by houses and apartments, was surveyed by mail. Householders were asked to give their rent at each survey date, and at six months prior to survey date. The results were checked by a follow-up survey of personal interviews in seven cities.

For 1948, rent data will be obtained from a new series of rent surveys recently inaugurated by the Sampling Organization of the Bureau of Statistics. This material will be available for use in cost-of-living index calculations.

**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 31 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 31 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. This type of reporting form has been used since the early 1930's.

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, 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, 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 7 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 gasoline, license fees, 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 2, 1948)

	<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-on	.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.		

	Commodity Weights (Weekly Quantities)	Sub-Group Weight	Group Weight
<u>A. FOOD - Concl'd.</u>			
<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	.4 lbs.		
Onions	.8 "		
Potatoes	.8 pecks		
Canned Tomatoes, $2\frac{1}{2}$ 's	.6 tins		
Canned Peas, 20 oz.	.6 "		
Canned Corn, 20 oz.	.3 "		
Cabbage	1.0 lbs.		
Carrots	1.5 "		
Turnips	1.0 "		
<u>Fruits</u>			
Raisins	.2 lbs.		
Currants	.1 "		
Prunes	.1 "		
Strawberry jam	.6 "		
Marmalade	.1 "		
Canned Peaches, 20 oz.	.1 tins		
Corn Syrup, 2-lb. tin	.25 tins		
Lemons	.1 doz.		
Oranges	.7 "		
Bananas	1.2 lbs.		
<u>B. RENTALS</u>			19
<u>C. FUEL AND LIGHT</u>			6
Coal		42	
Coke		11	
Gas		14	
Electricity		33	
	(Annual Replacement Allowances)		
<u>D. CLOTHING</u>			12
<u>Men's Wear</u>		41	
Overcoats	.2		
Top Coats	.2		
Suits	.8		
Sweaters	.4		
Overalls	1.0 pair		
Socks	9.0 pairs		
Underwear, Athletic	1.5 sets		
Balbriggan Combinations	1.0 set		
Underwear, winter	1.0 "		
Pyjamas	1.0 pair		

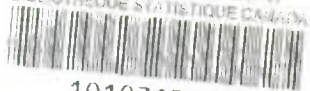
	Commodity Weights (Annual Replacement Allowances)	Sub-Group Weight	Group Weight
D. <u>CLOTHING - Concl'd</u>			
<u>Men's Wear-Concl'd</u>			
Shirts, work	1.0		
Shirts, broadcloth	2.5		
Trousers, work	.7		
<u>Women's Wear</u>		36	
Top Coats, Fall and Winter	.3		
Top Coats, Spring	.2		
House Dress	1.5		
Slips, rayon	2.5		
Hosiery, rayon	10.0 pairs		
Hosiery, woollen mixture	3.0 "		
Pantie, rayon	5.0		
Pantie, woollen mixture	1.0		
Nightgown, cotton	.7		
Nightgown, rayon	1.6		
<u>Piece Goods</u>		4	
Cotton Dress Print	3.0 yards		
Wool	.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>HOMEFURNISHINGS 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 (Square yards)	1.70		
<u>Furnishings</u>		11	
Sheets	1.0		
Towels, cotton terry	3.0		
Blankets, all wool	.5		
Table Oil Cloth (Yards)	.4		

	Commodity Weights (Annual Replacement Allowances)	Sub-Group Weight	Group Weight
<b>E. <u>HOMEFURNISHINGS AND SERVICES -</u></b>			
<u>Concl'd.</u>			
<u>Electrical Equipment</u>		24	
Washing Machine	.03		
Radio	.15		
Refrigerator	.02		
<u>Hardware</u>		3	
Frying pan	.2		
Saucepan, enamel	.5		
Garbage can, galvanized	.25		
Kitchen Broom	1.0		
Kitchen Pail	.2		
<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 <b>C</b> leansers	9 cartons		
Chloride of Lime	2 pkgs.		
<u>Laundry</u>		3	
Sheets	) Geometric Average		
Towels			
Men's Shirts			
<u>Telephones</u>		12	
	<u>Commodity Weights</u>	<u>Per Cent</u>	
<b>F. <u>MISCELLANEOUS ITEMS</u></b>			
<u>1. <u>HEALTH</u></u>		17	
(a) <u>Medicines</u>		23	
Aspirin Tablets, box of 12	1.3		
Epsom Salts, 1b.	.7		
Boracic Acid, 2 ozs.	.3		
Tincture of Iodine, 1 oz.	.7		
Zinc Ointment, 1 oz.	.7		
Cod Liver Oil, large bottle	1.3		
(b) <u>Hospital Charges</u>		17	
Semi-Private Room	1		
Public Ward Bed	1		
(c) <u>Doctors' Fees</u>		42	
Office Consultation	) Geometric Average		
Ordinary Day Visit			
Ordinary Confinement			



	<u>Commodity</u> <u>Weights</u>	<u>Per</u> <u>Cent</u>	<u>Sub-Group</u> <u>Weight</u>	<u>Group</u> <u>Weight</u>
F. <u>MISCELLANEOUS ITEMS - Concl'd</u>				
1. <u>HEALTH - Concl'd</u>				
(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, tins	1.3			
Tooth Paste, tubes	21.7			
Tooth Brushes	8.7			
Shaving Sticks	2.2			
Toilet Soap, bars	52.2			
Vaseline, jars	1.3			
Razor Blades, packages of 5	13.1			
(b) <u>Barbers' Fees</u>	Ratio	42		
Haircut (Men's)	5			
Shave	2			
3. <u>TRANSPORTATION</u>	(Percentages)		26	
(a) <u>Motor Operating Costs</u>		67		
Gasoline	42			
Repairs and Maintenance	9			
Licenses	8			
Depreciation	35			
Tires	6			
(b) <u>Rail Fares</u>		4		
(c) <u>Street Car Fares</u>		29		
4. <u>RECREATION</u>			26	
(a) <u>Theatre Admission</u>		23		
(b) <u>Newspaper Costs</u>		22		
(c) <u>Magazine Costs</u>		4		
(d) <u>Tobacco Costs</u>		51		
Cigars )	Geometric			
Cigarettes )	Average			
Cut Tobacco )				
5. <u>LIFE INSURANCE</u>			22	

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