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APPENDIX - PRICES AND PRICE INDEXES, JANUARY, 1945.

THE DOMINION BUREAU OF STATISTICS COST-OF-LIVING INDEX

(An explanatory statement<sup>x</sup> incorporating all revisions made to the end of 1944)

PURPOSE:

The Dominion Bureau of Statistics cost-of-living index measures the influence of changes in retail prices and services upon the cost of a representative urban wage-earner family budget. It served as a basis of cost-of living bonus adjustments from December, 1940 to October, 1943 under terms of Orders-in-Council P.C. 7440 and P.C. 5963. The cost-of-living bonus to industrial workers was then incorporated into the wage structure.

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 estimates of 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 value of the index budget for a specified period, and the corresponding dollar value of the same budget in a reference period. The Bureau's standard reference period includes the five years 1935 to 1939. The average value of the index budget for this period is represented by 100.0. The value of the same budget in August, 1939 was 100.8 per cent of the reference budget, and the corresponding value for December, 1944 was 118.5 per cent. These figures become the cost-of-living index numbers for August, 1939 and December, 1944.

Because August, 1939, the last pre-war month, provided the basis for cost-of-living bonus adjustments, it is used frequently as a reference period. The procedure in this case is essentially the same as that described above. The value of the index budget in August, 1939 is considered as 100.0, and budget values for other months are computed as percentages of the August, 1939 value. The December, 1944 index then becomes 117.6. Indexes related to the August, 1939 budget value have become widely known as the "adjusted" indexes. They may be computed by dividing the original August, 1939 index of 100.8 into the comparable index for any other period, e.g., the December, 1944 index of 118.5 divided by 100.8 gives 117.6.

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.

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<sup>x</sup>Specific questions concerning the index have been answered in a printed pamphlet "Cost-of-Living Quiz". Copies can be obtained upon request from the Dominion Bureau of Statistics, Ottawa.

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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 <sup>x</sup>	100.0	

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

WARTIME CHANGES IN THE BUDGET:

Adjustments have been made in the index budget to take account of wartime changes in consumption. These have left substantially unchanged the level of living which the budget represents.

The first set of adjustments was made in January, 1943. The index budget after revisions made at that time measured percentage changes in prices from January, 1943 forward, but did not show increases or decreases reflecting weight differences. In other words, the value of the January, 1943 adjusted budget was exactly the same as the value of the budget it replaced. The same procedure was followed in September, 1943 when further adjustments were made.

Changes in January, 1943 involved removal of the following items from the index budget; coke, automobile tires and tubes, steel frying pans and bananas. These were all items which had ceased to be available in quantity to the general public. Downward weighting adjustments were made for tea, sugar and motor operating costs. Weight removed from motor operating costs was transferred to the recreation sub-group, and to the budget allowance for street car fares. The weights of deleted food items and reductions for tea and sugar were pro-rated among other items in the food index. No change has been made in weights for coffee and butter. Such changes are not of sufficient importance to warrant weight adjustments. The steel frying pan weight has been added to the weight for cast iron frying pans.



The main feature of the September, 1943 adjustment was the addition of carrots, cabbage and turnips to the food budget because of the growing scarcity of canned vegetables. Originally, most fresh vegetables had been omitted, because of pricing difficulties mentioned in the next section, but the disappearance of canned stocks left no alternative to a representation of staple fresh vegetables. Fresh fish was also included at this time to replace canned salmon, and the weight for dried beans was increased to compensate for the removal of canned baked beans which were in very short supply. In 1944 the weight of tea was increased from 2 to 8 pounds to take account of the removal of rationing restrictions. Coke having become available for domestic use has been restored to its original position in the index.

Weight adjustments are under constant consideration and other changes may be made and announced from time to time to keep the index budget in line with changing consumption.

Commencing July, 1942, a change was made in the treatment of taxes on cigarettes and tobacco. Prior to that time changes in all indirect taxes affecting consumer prices had been reflected in the index. By Order-in-Council P.C. 6219 as amended, the tax imposed on June 24, 1942, on cigarettes and tobacco was excluded from indexes calculated for the purpose of reckoning cost-of-living bonuses. The Bureau continues to publish in the monthly bulletin "Prices and Price Indexes", a cost-of-living index which reflects all indirect taxation.

#### 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, home-furnishings 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 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 including 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 find the food index.

FUEL AND LIGHT: From January, 1943, the fuel and light index has been based upon changes in prices for coal and domestic rates for electricity and gas. Coke prices formerly were included for Quebec and Ontario cities. Separate indexes are calculated for coal, 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.

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 two sub-group indexes being reckoned first for houses, and 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.

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 five basic materials, cotton, wool, rayon, 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 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.

HOME FURNISHINGS AND SERVICES: The homefurnishings and services index is a composite of eight sub-groups, including two sets of service costs in addition to actual furnishings. The eight sub-groups are: furniture, 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 approximates clothing also in many details of construction. The data for furniture, 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 7 items of furniture, 3 of floor coverings, 4 of textile furnishings, 4 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, 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 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 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 37 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:



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WEIGHTING SYSTEM OF THE DOMINION BUREAU OF STATISTICS COST-OF-LIVING INDEX  
(As at January 1, 1945)

	<u>Commodity Weights</u> (Weekly Quantities)	<u>Sub-Group</u> <u>Weight</u>	<u>Group</u> <u>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	.4 "		
<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	.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	3.0 lbs.		
Yellow Sugar	.5 "		
Tea	.8 "		
Coffee	.2 "		
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 "		

	Commodity Weights (Weekly Quantities)	Sub-Group Weight	Group Weight
<b>A. <u>FOOD</u> - Concl'd</b>			
<u>Vegetables</u> - Concl'd			
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 "		
			19
<b>B. <u>RENTALS</u></b>			
Houses		70	
Apartments and Flats		30	
			6
<b>C. <u>FUEL AND LIGHT</u></b>			
Coal		53	
Gas		14	
Electricity		33	
(Annual Replacement Allowances)			
			12
<b>D. <u>CLOTHING</u></b>			
<u>Men's Wear</u>		41	
Top Coats	.4		
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 "		
Pajamas	1.0 pair		
Shirts, work	1.0		
Shirts, broadcloth	2.5		
<u>Women's Wear</u>		36	
Top Coats	.5		
House Dress	1.5		
Slips, rayon	2.5		
Hosiery, rayon	10.0 pairs		
Hosiery, woollen	3.0 "		
Vests, rayon	1.0		
Bloomers, rayon	4.0		
Bloomers, wool	1.0		

	Commodity Weights (Annual Replacement Allowances)	Sub-Group Weight	Group Weight
<u>D. CLOTHING - Concl'd.</u>			
<u>Women's Wear - Concl'd</u>			
Nightgown, cotton	.7		
Nightgown, rayon	1.6		
Smock	.2		
<u>Piece Goods</u>			
Cotton Dress Print	3.0 yards	4	
Wool	.3 "		
Flannel	.2 "		
Celanese or Rayon Material	.7 "		
Flannelette	2.0 "		
<u>Footwear</u>			
Men's Work Boots	2.0 pairs	19	
Men's Oxfords	.7 "		
Men's Rubbers	3.5 "		
Women's Shoes	2.0 "		
<u>E. HOMEFURNISHINGS AND SERVICES</u>			
<u>Furniture</u>			
Dining Room Suite, 9 pc.	.06 sets	33	
Bedroom Suite, 4 or 5 pc.	.06 "		
Kitchen Table	.08		
Kitchen Chairs	.20		
Studio Couch	.08		
Bed Springs	.05		
Mattress	.16		
<u>Floor Coverings</u>			
Axminster Rug, 9' x 12'	.04	9	
Congoleum Rug, 9' x 12'	.15		
Linoleum (square yards)	1.70		
<u>Furnishings</u>			
Sheets, 81" x 100"	1.0	15	
Towels, cotton terry, 22" x 44"	3.0		
Blankets, all wool, 6-8 lbs.			
72" x 90"	.5		
Table Oil Cloth	.4 yards		
<u>Hardware</u>			
Frying pan, iron	.3	3	
Saucepan, enamel, 2 $\frac{1}{2}$ or 3 qts.	.5		
Garbage can, galvanized	.25		
Kitchen Broom	1.0		
<u>Dishes and Glassware</u>			
Set of Dishes	.1	2	
Glass Tumblers	2.0		



		Commodity Weights (Annual Replacement Allowances)	Sub-Group Weight	Group Weight
<u>E. HOMEFURNISHINGS AND SERVICES - Concl'd</u>				
<u>Cleaning Supplies</u>			17	
Laundry Soap		24 bars		
Soap Flakes		24 packages		
Abrasive Cleansers		9 cartons		
Chloride of Lime		2 packages		
<u>Laundry</u>			6	
Sheets )				
Towels ) Geometric				
Men's Shirts ) Average				
Telephones			15	
		Commodity Weights	Per Cent	
<u>F. MISCELLANEOUS ITEMS</u>				
<u>I. HEALTH</u>				
<u>(a) Medicines</u>			23	17
Aspirin Tablets,				
box of 12		1.3		
Epsom Salts, 1 lb.		.7		
Boracic Acid, 2 ozs.		.3		
Tincture of Iodine,				
1 oz.		.7		
Zinc Ointment, 1 oz.		.7		
Cod Liver Oil, large				
bottle		1.3		
<u>(b) Hospital Charges</u>			17	
Semi-private Room		1		
Public Ward Bed		1		
<u>(c) Doctors' Fees</u>			42	
Office Consultation)				
Ordinary Day Visit ) Geometric				
Ordinary Confine- ) Average				
ment )				
<u>(d) Dentists' Fees</u>			18	
Amalgam Filling )				
Porcelain Filling )				
Gold Filling ) Geometric				
Upper and Lower ) Average				
Dentures )				
Ordinary Extraction)				
Prophylaxis				

	(Annual Replacement Allowances)	Per Cent	Sub-Group Weight	Group Weight
2. <u>PERSONAL CARE</u>			9	
(a) <u>Personal Cleaning</u>				
Supplies		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)		21	
(a) <u>Motor Operating Costs</u>		49		
Gasolene	44			
Repairs and Maintenance	10			
Licenses	9			
Depreciation	37			
(b) <u>Rail Fares</u>		5		
(c) <u>Street Car Fares</u>		46		
4. <u>RECREATION</u>			31	
(a) <u>Theatre Admissions</u>		23		
(b) <u>Newspaper Costs</u>		22		
(c) <u>Magazine Costs</u>		4		
(d) <u>Tobacco Costs</u>		51		
Cigars )				
Cigarettes ) Geometric				
Cut Tobacco ) Average				
5. <u>LIFE INSURANCE</u>			22	



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