REPORT OF THE ROYAL COMMISSION ON PRICE SPREADS OF FOOD PRODUCTS

VOLUME III

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FOREWORD

The Report of the Royal Commission on Price Spreads of Food Products, signed by the Commissioners, was released on November 30, 1959. The Report consisted of Volumes I and II. In the Introduction to Volume I reference was made to a supplementary volume (Volume III) which would consist of research documents, statistical data, and more extended studies of the marketing of particular commodities. The preparation of Volume III has now been completed.

The research papers, on which the material presented in Volume III is based, were available to Commissioners during the conduct of their inquiry and in connection with the preparation of Volumes I and II comprising the signed report of the Commission. Subsequently a number of these papers have been revised and edited for publication. Although the preparation of Volume III proceeded on instructions from the Commissioners, they have not reviewed the revised and edited documents contained in this volume. The volume is not signed by the Commissioners.

The original research papers were prepared by members of the Staff of the Commission, either individually or co-operatively. The editing of the papers for publication in Volume III has been done by Dr. J. A. Dawson, Secretary, and Mr. J. B. Rutherford, Director of Research. In the acknowledgments in Volume I, reference was made to the contribution of members of the research staff to the program of the Commission. Because of the extent of joint effort involved in the preparation of the original papers and the substantial revision in preparing the papers for publication, it would not be appropriate to attribute them to particular members of the staff. Reference may be made to contribution of Dr. W. M. Drummond, a member of the Commission, in the preparation of two of the papers included in this volume: The Role of Co-operatives in Canadian Food Marketing; and The Role of Marketing Boards in Canadian Food Marketing. The agricultural commodity studies which form a substantial part of this volume were carried out under the direction of Dr. W. E. Haviland. A complete list of the research staff follows.

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GENERAL STUDIES

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THE ROLE OF CO-OPERATIVES IN CANADIAN FOOD MARKETING

For all practical purposes it may be said that organization and operation along co-operative lines have been an integral part of Canadian agricultural development. By far the larger part of the co-operative activity has been undertaken by farmers, with fishermen being responsible for a good deal of the remainder. While quite a number of co-operatives have been formed by consumers and particularly in more recent years, co-operation undertaken exclusively by and for consumers, has always constituted a relatively minor part of the total picture.[1] In this respect the Canadian experience has been in marked contrast to that of such food-importing countries as England and Germany where the first co-operatives were formed by consumers and where consumer co-operation has always been the main consideration.

If co-operation in Canada has been primarily agricultural co-operation, it is also true that the major part of the agricultural co-operation has been mainly concerned with the marketing of farm products. Indeed, until comparatively recent years, agricultural co-operation and co-operative marketing were virtually synonymous. As the number and economic significance of farm cost items has increased, however, the co-operative purchase and distribution of farm production goods and general farm supplies have assumed steadily increasing significance. Much of the growth of this type of co-operation has occurred within the last twenty years. In many cases co-operatives already engaged in marketing have expanded their activities to include the purchasing of supplies as well. Finally, there are co-operatives which are designed to provide various kinds of services. Of these, the ones which supply short-term credit have much the longest history and are the most numerous. Other service co-operatives provide various kinds of insurance, electric power and telephone service, housing and a few even undertake to conduct funeral homes.

The development of the co-operative movement has been accompanied by a lot of experimentation. A natural result of this is that co-operative associations do not conform to any standardized pattern in their forms of organization or in respect of their operating practices. Diversification in these respects has been further added to inasmuch as different types of economic activity and different sections of the country have given rise to different problems. There is variation from area to area and industry to industry in respect of such things as the methods of financing, the extent and legal basis of operation and even in the terminology used to describe the organization and operation. Moreover, the terminology and the co-operative practices are both subject to more or less continuous change.

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1 It may be noted, however, that there have been at least a few exceptions to this general rule. For example, The British Canadian Co-operative Society at Sydney, N.S., which is a consumer co-operative and which now has a membership of 9,000, has been operating continuously since 1906.

Despite this wide measure of variation, however, a general attempt has been made to ensure that co-operative organizations, regardless of their specific purpose or scale of operation, adhere to certain general principles which are ordinarily referred to as the recognized principles of the co-operative form of business organization. One of these is the concept of open membership, that is, the idea that membership in the organization should be open to all who wish to join and that no prospective member should be barred from membership because of his financial status.

A second principle aims at securing democratic control by requiring that no member can have more than one vote, no matter how many shares he may own. This is sometimes referred to as the one-member one-vote plan. Another principle is that which states that the rate of interest paid on any capital invested in the enterprise by the members shall be kept within definite limits. Another very important principle is that which provides that any surplus remaining after the costs of doing business have been met shall be distributed among the members in proportion to the extent of their patronage, i.e., in proportion to the use which they have made of the co-operative's services. In addition to these general principles there are some basic rules which co-operatives try to follow. One such rule, which is almost universally applied in Canada, provides that co-operatives will sell or buy any goods handled at regular market prices.[1] Other rules which tend to be somewhat less strictly adhered to include the provision that trading is to be done on a cash rather than a credit basis and the arrangement which makes financial provision for co-operative educational or promotional activities.

Those who have undertaken to provide a satisfactory definition of a co-operative have really been attempting to incorporate the foregoing principles in a single, concise general statement. One of the best of the many definitions which have been offered is found in Chapter 3 of the "Report of the Enquiry on Co-operative Enterprise in Europe, 1937" issued by the Government of the U.S.A. It is also the definition which appeared in the brief presented to the Commission by the Co-operative Union of Canada. It reads as follows:

> "A co-operative enterprise is one which belongs to the people who use its services, the control of which rests equally with all the members, and the gains of which are distributed to the members in proportion to the use they make of its services."

To this one might add that those who join or patronize a co-operative do so purely voluntarily. In a co-operative both membership and patronage are intended to be entirely voluntary.

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1 In some countries such as Sweden, where co-operatives are more firmly established than in Canada, this rule does not apply. In such cases the aim of co-ops is to offer real price competition.

The General Nature of Co-operative Development

As already indicated, interest in co-operation during the earlier stages of development centred mainly in the marketing sphere. Co-operative marketing was introduced gradually in all parts of Canada and in respect of almost all farm products. The movement first took concrete form in the 1870's when farmers began organizing and operating cheese factories and creameries. While these represented joint action for mutual benefit, they were rather loosely formed and unincorporated. Gradually, however, as organization became more permanent in nature, efforts were made to have the newly formed organizations incorporated under the general company laws of the provinces. From about 1890 to 1910 many co-operatives were incorporated in this way. But since the ordinary company laws made no provision for payment of patronage dividends, limitation of returns to capital and restriction of voting privileges, they were not too suitable for the incorporation of associations which were intended to operate in accordance with co-operative principles.

There was also the fact that many small groups of farmers could not afford the cost of incorporating under a companies act. These limitations gradually resulted in the enactment of special co-operative legislation by the various provinces. Such legislation, which has permitted incorporation at purely nominal cost has existed in all the provinces for many years. In fact some of the provinces have several co-operative acts. On the other hand there is still no special federal statute under which co-operatives may be incorporated despite repeated representations urging such legislation.

While the great majority of co-operatives are still relatively small and local in character, a great many of them have federated to form regional or provincial associations and thereby obtain the benefits which result from large-scale operations. In certain cases, where specialized production has been largely concentrated in particular areas, co-operative organization has tended to develop on a regional rather than a provincial basis. In a few important instances, also, the desire to secure additional economies of scale or additional ability to bargain or influence price has resulted in interprovincial or even nationwide organization.

Proportion of Food Marketing Performed by Co-operatives

In order to determine the degree of importance that should be attached to the part played by co-operatives in food marketing, it is necessary to find out how much of the marketing is being done by the co-operatives and whether their proportion of the total is changing. The fact, however, that marketing involves a series of steps or turnovers, that the number and nature of these vary greatly from product to product and that the marketing channels are generally complex, makes it extremely difficult if not virtually impossible to obtain data which

measure, with any degree of exactitude, the total extent of the marketing performed either co-operatively or non-co-operatively. For complete and accurate information one would need such data for the country as a whole and the products as a group as well as for each region or province and commodity group. Since such information is not available it is necessary to reach conclusions based on the much more limited data which are available.

Some conception of the actual situation may be obtained by examining information relating to the performance of particular marketing functions. Table 1 indicates the manner in which the assembling function was shared by the different forms of business organization, including the co-operative form, in 1951.

TABLE 1 - ASSEMBLERS OF PRIMARY PRODUCTS, CANADA, 1951

	Total Number of Establishments		Sales	
		%	($ thousand)	%
Total Reporting[a]	1,894	100.0	876,471	100.0
Individual Proprietorship	945	49.9	132,473	15.1
Partnership	237	12.5	103,398	11.8
Incorporated Companies	336	17.8	320,682	36.6
Co-operative Associations	370	19.5	318,198	36.3
Miscellaneous	6	0.3	1,720	0.2

a Of the total number of 7,179 assemblers of primary products, 6,779 dealt in products with which the Commission is concerned. Of these 5,285 grain elevators did not provide the above breakdown. Thus the 1,894 establishments which are included in the table do not include these elevators. On the other hand 400 assemblers which handle products with which the Commission is not concerned, are included.

Source: 1951 Census of Distribution, Wholesale Trade, Table 13.

According to the table 36.3% of the sales value of these primary products was assembled by co-operatives. It is obvious, however, that this figure should be raised considerably to allow for the assembling done by the grain elevators.

In order to make the required adjustment it is necessary to refer to Table 2 which shows the number and kind of assemblers to-

TABLE 2 - NUMBER AND KIND OF ASSEMBLERS AND VALUE OF PRIMARY FOOD PRODUCTS ASSEMBLED IN CANADA IN 1951

Kind of Business	Buyers of Primary Products	Co-operative Selling Organizations	Grain Elevators	Packers and Shippers	Total	Total Sales
	Number of Establishments					($ thousand)
Grain	28	1	5,285	-	5,314	679,863
Livestock other than horses	321	89	-	-	410	380,166
Food products (except groceries & tobacco)	820	228	-	7	1,055	302,046
Totals	1,169	318	5,285	7	6,779	1,362,075

Source: 1951 Census of Distribution, Tables 3 and 14

gether with the value of the assembled products.

According to the table, grain accounted for almost exactly half of the total sales value in 1951. This fact, when combined with the assumption that approximately half of the grain was assembled by co-operative elevators,[1] leads to the conclusion that co-operative assembling of grain constituted 25% of the sales value of all products assembled. Since, as already noted, co-operatives assembled 36.3% of the products other than grain, and since these latter products represented half the value of all products assembled, it follows that the co-operative assembling of products other than grain constituted half of 36.3% or 18.2% of the sales value of all products assembled.

Since co-operative assembling of grain accounted for 25% of all assembling and since co-operative assembling of products other than grain accounted for a further 18.2%, a total co-operative assembling figure of 43% is arrived at.[2] This figure, of course, is for one year only and includes all food products and all sections of the country.

The extent of co-operative participation in the processing of food products is shown in Table 3. The table indicates that, during the 1949-57 period, the percentage of all processing establishments which were co-operative varied from slightly less than 11% to slightly less than 12%. It also indicates that, during the nine years, these co-operative establishments did about 6% of the total processing.

Since the percentage of establishments which are co-operative is significantly larger than the percentage of processing which is done co-operatively, one may reasonably conclude that the average size of the co-operative processing plants has been considerably smaller than that of the non-co-operative plants. The explanation for this becomes apparent when it is realized that no less than 538 of the 855 co-operative establishments in 1956 were engaged in processing dairy products and that the great majority of them were purely local cheese factories and creameries. The fact, however, that the number of co-operative plants and the co-operative percentage of all plants have both shown a steady if gradual decline while

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1 At December 1,1957 some 2,622 or slightly over 49% of the grain elevators in Western Canada were co-operatives, being owned by the three provincial pools and the United Grain Growers Limited. These co-operative elevators represented approximately 55% of the licensed country-elevator capacity.

2 In arriving at the figure of 18.2%, it was assumed that when the total sales figure of $876,471 thousand in Table 1 is reduced to $682,212 thousand (the non-grain part of the total sales figure in Table 2) the co-operative sales figure of $318,198 thousand in Table 1 should be reduced by a corresponding percentage. In other words it was assumed that some of the 400 assemblers included in Table 1 which handle products which are not of interest to the Commission were co-operative assemblers.

the co-operative plants have continued to do about the same percentage of the total processing suggests that, on the average, the co-operative plants have been getting larger. The fact is that co-operative processing plants have been getting fewer and larger for several reasons. For one thing recent increases in farm production per unit of area have made for a larger scale operation by increasing the amount of product which had to be processed in a given area. In some cases the replacement of two or more small co-operatives by a larger one has become possible as plants have been destroyed or become worn out or obsolete. More important is the fact that many local co-operatives have found it physically and financially possible (partly because of transportation improvements), and technically as well as economically necessary to enlarge their scale of operations either through merger or otherwise. In many instances the newer and more expensive equipment required to perform additional kinds of processing in multi-purpose plants cannot be used efficiently except in conjunction with the volume resulting from the merger of two or more co-operatives. The wholesale reduction in the number of co-operative cheese factories and creameries in recent years has been due mainly to factors such as these.[1]

The most significant conclusion to be drawn from the data contained in this table, however, is that the share of the processing which is done co-operatively has been barely holding its own. This revelation may come as somewhat of a surprise to many people who realize that recent years have witnessed a steady if gradual increase in both the dollar value and the absolute amount of processing done by co-operatives. Indeed the figures in Table 3 bear witness to this fact. However, parallel increases have occurred in the total amount of processing. Since total processing and co-operative processing have increased at roughly similar rates, the co-operative share of the processing has remained relatively unchanged. In connection with this share, however, there is reason to believe that it is at least slightly larger than the figures in the last column of Table 3 suggest. It must be noted that this table relates to beverages as well as foods. And since there is no record of any co-operative processing in the beverages industries, the value of the beverage products should be subtracted from the total value figures in Table 3 before calculating the co-operative share. If this adjustment were made, the share of co-operatives would be between 7% and 8%.

While such a figure may give a fair indication of the relative importance of co-operative processing for Canada as a whole and food products as a group, the fact is that this importance varies greatly from area to area and product to product. Some conception of the nature and extent of these variations may be obtained by examining the data in Tables 4, 5 and 6 which relate to the situation in 1956, the latest year for which information was available.

From these tables several conclusions can be drawn. For one thing, it is evident that the proportion of Canada's livestock and

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1 In 1949 there were 680 co-operative cheese factories and creameries or 37% of the total of 1,862. By 1956 the total number had been reduced to 1,369; of these 532 or 39% were co-operatives.

TABLE 3 - CO-OPERATIVES IN THE FOODS AND BEVERAGES INDUSTRY, CANADA, 1949-57

Year	Number of Establishments			Gross Value of Products Sold		
	Total	Co-operatives	Per Cent of Total	Total	Co-operatives	Per Cent of Total
				($ thousand)		
1949	8,558	942	11.0	2,882,582	178,134	6.2
1951	8,388	988	11.8	3,450,031	200,658	5.8
1952	8,263	952	11.5	3,472,517	202,759	5.8
1953	8,129	907	11.2	3,491,962	200,928	5.8
1954	8,090	886	11.0	3,562,547	206,726	5.8
1955	8,134	883	10.9	3,614,316	218,865	6.1
1956	8,023	855	10.7	3,826,702	232,366	6.1
1957	8,536	889	10.4	4,171,971	256,279	6.1

Source: Annual Summary Reports on the Foods and Beverages Industry, D.B.S.

TABLE 4 - CO-OPERATIVE PROCESSING OF LIVESTOCK BY AREAS IN 1956

Area	Total No. of Establishments	No. of Co-operative Establishments	Gross Selling Value of all Factory Shipments ($ thousand)	Gross Selling Value of Co-operative Factory shipments ($ thousand)	Per Cent Processed by Co-ops
Atlantic Provinces	11	0	20,466	0	0
Quebec	40	2	172,597	16,999	3.4
Ontario	55	2	332,271		
Manitoba	13	0	101,466	0	0
Saskatchewan	8	0	31,334	0	0
Alberta	15	0	132,087	0	0
British Columbia	12	0	54,667	0	0
Canada	154	4	844,889	16,999	2.0

Source: Foods and Beverages Industry Reports, D.B.S.

TABLE 5 - CO-OPERATIVE PROCESSING OF DAIRY PRODUCTS BY AREAS IN 1956

Area	Total No. of Establishments	No. of Co-operative Establishments	Gross Selling Value of all Factory Shipments ($ thousand)	Gross Selling Value of Co-operative Factory Shipments ($ thousand)	Per Cent Processed by Co-operatives
Newfoundland	2	0	6,426	1,826	28.4
Prince Edward Island	17	7			
Nova Scotia	30	6	12,993	1,206	9.2
New Brunswick	30	7	9,819	3,180	32.4
Quebec	640	306	182,394	51,895	28.4
Ontario	478	90	202,221	21,962	18.5
Manitoba	70	17	28,042	6,421	22.9
Saskatchewan	57	38	28,017	19,279	68.8
Alberta	102	54	41,932	20,168	48.1
British Columbia	42	13	39,940	25,425	63.6
Canada	1,468	538	551,783	151,361	27.4

Source: Foods and Beverages Industry Reports, D.B.S.

TABLE 6 - CO-OPERATIVE PROCESSING OF FRUITS AND VEGETABLES BY AREA IN 1956.

Area	Total No. of Establish-ments	No. of Co-operative Establishments	Gross Selling Value of all Factory Shipments	Gross Selling Value of Co-operative Factory Shipments	Per Cent Processed by Co-operatives
			($ thousand)	($ thousand)	
Newfoundland	6	0	233	0	0
Saskatchewan	1	0		0	0
Prince Edward Island	10	3	1,050	342	32.6
Nova Scotia	16	3	4,236	267	5.5
New Brunswick	11	2	641		
Quebec	124	9	39,614	1,473	3.7
Ontario	196	3	168,449	139	.1
Manitoba	9	0	2,739	0	0
Alberta	7	0	4,471	0	0
British Columbia	66	12	28,452	3,601	12.6
Canada	446	32	249,884	5,822	2.3

Source: Foods and Beverages Industry Reports, D.B.S.

fruits and vegetables which is processed co-operatively is extremely small, being just over 2% in the case of livestock and 2.3% in that of fruits and vegetables. These percentages are, therefore, very much smaller than the corresponding one for all products considered as a group. In the second place it is obvious that the part of the livestock and fruit and vegetable processing which is done by co-operatives is very unevenly distributed throughout the country. Co-operative livestock processing takes place only in Quebec and Ontario.[1] In the case of fruits and vegetables, co-operative processing is confined almost entirely to British Columbia, Quebec and the three Maritime provinces. Examination of the gross selling values also makes it evident that by far the greater part of it takes place in British Columbia. Only a small fraction of the processing in Nova Scotia, New Brunswick and Quebec is done co-operatively while the co-operative percentage in Prince Edward Island is nearly a third of the provincial total but only an insignificant part of the all-Canadian total.

A third conclusion and one which is especially significant is that most of the co-operative food processing in Canada actually consists of the co-operative processing of dairy products. No less than 27.4% of all dairy product processing in Canada is done co-operatively. Equally noteworthy is the fact that co-operatives do a really significant proportion of the processing of dairy products in all parts of the country. The proportions are particularly large in Saskatchewan, Alberta and British Columbia, being nearly half in Alberta and around two-thirds in the other two provinces.

Some further interesting conclusions result from an examination of the data in Table 5. It may be noted, for example, that the relationship between the percentage of product handled co-operatively and the percentage of all establishments which are co-operative varies widely from province to province. Whereas in Nova Scotia 20% of the plants were required to do 9% of the processing, in New Brunswick almost one-third of the processing was done by 23% of the plants. Likewise 48% of the Quebec plants were required to process the co-operative share of 28%, whereas Ontario's share of 18% was processed by 18% of the plants in that province. In each of the Prairie Provinces the percentage of plants which were co-operative was approximately the same as the percentage of product processed by co-operatives. In contrast, we find that in British Columbia the co-operative plants which formed considerably less than one-third of the total number did close to two-thirds of the processing. These figures suggest that the co-operative establishments were a good deal smaller than the non-co-operative ones in Nova Scotia and Quebec, that both kinds were about the same size in Ontario and the Prairie Provinces, that co-operative establishments were somewhat larger than the others in New Brunswick and, finally, that in British Columbia the co-operative plants were distinctly larger than the non-co-operative ones.

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1 A co-operative packing plant is being developed in Halifax but has yet to commence operations.

As mentioned earlier the number of co-operatives organized by and for consumers has been distinctly limited to date. In addition, however, to the food that is retailed by the consumer co-operatives that do exist, a significant and steadily increasing amount is purchased by those consumers who buy through co-operatives which handle farm producer goods and general household supplies. Table 7 gives a general indication of the part which co-operatives have played in food retailing during the past decade.

There are two main conclusions to be drawn from this table. The first is that only a small part of the retail marketing of food in Canada is done by co-operative associations. The actual proportion is in the neighbourhood of 2%. Almost equally significant is the fact that this percentage shows no signs of becoming any larger. On the contrary there would appear to be a slight tendency in the other direction. Even though the actual volume of co-operative retail sales has increased both steadily and fairly markedly, the fact is that these gains have been paralleled by corresponding increases in total retail food sales. As a result the relative importance of co-operatives in retail-marketing has remained substantially unchanged.

In order to reconcile the small percentage of food retailing done by the co-operatives with the relatively large number of co-operative associations which participated in retail marketing it is necessary to remember that the great majority of the associations indicated in the last column of Table 7 are general farm purchasing co-operatives which have been primarily concerned with the handling of commodities other than food. Indeed in many cases the food part of the business has been a relatively minor if not an incidental part of the total.

While co-operatives play a fairly minor role in the all-Canadian food retailing program, it should be stated that they perform quite a substantial part of the retailing in several urban centres in the western provinces and in a few limited areas in other parts of the country. Generally speaking, co-operative participation is important only in those relatively few places where sizeable consumer co-operatives have been organized.

General Summary Regarding Degree of Co-operative Participation

From the foregoing discussion the following general conclusions appear to be warranted. In the first place it is evident that by far the larger part of co-operative marketing activity has thus far taken place at the local-assembly level, i.e., at the first of the several stages which constitute the total marketing undertaking. The evidence shows that only 7 or 8% of all farm food products are processed co-operatively and that it is only in the case of dairy products that co-operative processing has made any significant headway and that even here there has been no tendency for the co-operative percentage to rise. When it comes to the retailing stage it is quite apparent that co-operatives have not played any significant part in the total picture. Despite notable successes in a few isolated instances, development of a few fairly large-scale co-operative retail stores, and a steady increase in the absolute volume of retail sales in recent years, the co-

TABLE 7 - CO-OPERATIVE RETAILING OF FOOD IN CANADA, 1949 - 1957

Year	Food Purchased at Retail			Number of Co-operative Associations Reporting Sales of Food Products
	Total[a]	Through Co-operatives[b]	Per Cent of Total	
	($ million)	($ million)		
1949	2,346	49.6	2.1	799
1950	2,584	56.5	2.2	857
1951	2,980	57.8	1.9	852
1952	3,127	58.5	1.9	790
1953	3,232	70.1	2.2	928
1954	3,404	63.9	1.9	802
1955	3,589	61.5	1.7	823
1956	3,843	68.2	1.8	798
1957	4,137	75.0	1.8	792

Sources: a Personal expenditures on food from National Accounts, Income and Expenditure, less food consumed on farms, other food eaten "in kind", and food consumed in restaurants.

b Annual Summaries of Co-operation in Canada for years ending July 31, prepared by Economics Division, Department of Agriculture. (While the completeness of the reporting may and does vary from year to year the Economics Division believes that 90% or over of the business of marketing and purchasing co-operatives is included. Comments on this point are made in the 1948 and 1957 reports.)

operative percentage of the total retail business has hardly been able to hold its own. Indeed it has shown a slight downward tendency in recent years.

Specific Functions Performed by Marketing Co-operatives

In the preceding section it was stated that most of the co-operative marketing activity has been undertaken at the local-assembly level, that co-operative processing has accounted for a much smaller part of it, and that co-operative retailing has been relatively insignificant. In other words, it has been suggested that co-operative marketing activity has tended to become much less pronounced as one proceeds from the initial to the final stages of the total marketing process. While such statements give a correct general picture of the actual situation, it is necessary to explain in somewhat greater detail the specific nature of the tasks or functions which the co-operatives actually perform in order to get a really clear understanding of the part played by co-operatives in marketing.

According to the D.B.S. Census of Distribution, establishments which are officially listed as assemblers may vary considerably in type but must all possess one distinguishing feature. Whatever their other characteristics or functions, they are not regarded as assemblers for statistical purposes unless they engage in the direct purchase of primary products for subsequent marketing either on their own account or on a commission basis. This means that, among other things, they buy the products from the farmers or other primary producers and, in so doing, they participate in the creation of a market and the establishment of the initial or farm price. In addition to this, however, assemblers are normally responsible for performing one or more additional tasks. The actual nature and number depends on various factors such as the type of commodity or commodities being handled, the market area being covered, the scale of operation, etc.

A few examples will serve to indicate the variety of situations which actually exist. As already noted, a large proportion of all co-operative assembling establishments consists of the country elevators which constitute an important link in the marketing of Western Canadian grain. In the marketing of this commodity the farm producer hauls the grain to the door of the elevator. There it is received by an elevator employee who weighs, grades and deposits it in a bin and then gives the farmer what is called an initial payment. The amount of the payment will be directly related to the recorded weight, the determined grade, the distance of the elevator from Fort William and the size of the initial payment which is established annually by the Canadian Wheat Board. In addition to his cheque and documents indicating the weight and grade, the farmer is given a participation certificate which entitles him to receive one or more additional smaller payments at later dates following the sale of the grain and the determination of the extent of the supplemental payments by the Wheat Board. On being placed in the elevator the grain is insured and stored there until such time as it becomes possible and desirable to transport it further east or west to a

terminal elevator. When that time comes the country elevator employees transfer the grain from the elevator bin to a box car and make whatever additional shipping arrangements may be necessary. In performing these several functions the elevator is acting as the agent of the Canadian Wheat Board. For its services it receives so much per bushel depending upon the kind of grain handled and the length of the storage period. The permitted rates are set and periodically revised by the Board of Grain Commissioners. It should also be noted that each local elevator is simply one link in a very long chain operated by one of the three Western pools or the United Grain-Growers Co-operative Company.

A case somewhat similar to the foregoing is that relating to the marketing of apples in British Columbia. In the Okanagan Valley there is a relatively numerous group of establishments commonly referred to as packing plants. While some of them are owned by private individuals or companies, a larger percentage are co-operative in character. When a grower harvests his apples he trucks them to one of these plants. The co-operative packing plant then undertakes to pack, grade, store and (later) load the apples into a railway car and ship them when asked to do so by B.C. Tree Fruits Limited, the central selling agency of the B.C. Fruit Board. The grower's choice of packing plant is normally made in the spring or beginning of the cropping season rather than at harvest time. In fact the growers are actually under contract with the packing houses to deliver their fruit to them. What happens is that the grower secures his supplies such as fertilizer, spray materials and containers from a packing house as needed and agrees to deliver his apples to that particular establishment when harvest time comes. It is important to note that the packing houses are in the supply business and that in addition to apples, they handle other kinds of fruit and vegetables in most cases.

The packing houses are required to keep the central selling agency informed regarding the supplies which they have on hand. By this means the central selling agency is kept constantly aware of exactly how many apples of each grade and variety are available and the particular plant or plants in which they are stored and from which they can be shipped. Whenever the selling agency (B.C. Tree Fruits Limited) receives an order from a broker it immediately confirms the order and telephones a packing house asking it to load a car and have it ready for shipment by a specific time, usually the next day. When the car is loaded the packing house notifies the selling agency's office giving particulars concerning the contents of the car, the car number, and the type of heating equipment.

In this particular marketing set-up the same price is paid by the selling agency for all apples of the same grade or quality. That is, it is a pooled average price. From this price the packing houses deduct their charges for performing the various functions mentioned above and return the balance to their grower patrons. It is this balance which constitutes the farm or producer price. Since different packing houses have different efficiencies and charge different amounts for their services, this price tends to vary somewhat from producer to producer.

It will thus be seen that a co-operative fruit packing plant occupies a position roughly comparable to that of a co-operative grain elevator. While neither the plant nor the elevator has any bargaining or price-setting authority in the strict sense, both reduce the price received by producers to the extent of the amount charged for their services. Likewise, so far as participation in buying is concerned, both operate as agents of a single price-determining authority. In both cases, also, any co-operative net earnings obtained are derived from charges made for performing specific services and not from buying and selling operations. A major difference, however, is that, whereas an elevator is but one link in a very long chain, most co-operative packing plants in the Okanagan are separate units.

In the marketing of Nova Scotia apples the assemblers, whether co-operative or other, are known as dealers. Generally speaking, they perform much the same functions as are undertaken by the packing houses in British Columbia. They normally pack, grade, store and ship the fruit. But, unlike the B.C. packing houses, a co-operative dealer in Nova Scotia actually buys the apples and takes possession of them in its own right and undertakes to sell the apples on behalf of its farmer-members. The amount obtained minus the co-operatives' operating costs constitutes the producer price. Since, however, the co-operative usually ships and sells to wholesalers and, sometimes, directly to chain or larger independent retailers, the producer price tends to approach the processor or wholesale price as well.

Where a co-operative assembling firm operates on a large scale as happens in the case of Scotian Gold which handles a large percentage of the total crop, the functions performed include a very considerable amount of processing. To this extent such a firm may be looked upon as a processor even though it is primarily concerned with the functions usually included under the general heading of assembling.

What has been said here in respect to the Nova Scotian situation applies also, generally speaking, to co-operative apple marketing in Ontario and Quebec. The actual number of functions varies somewhat with the size of the co-operative and the area served by it. The larger co-operatives are better equipped with storage and grading facilities, are more likely to undertake a certain amount of processing, and certainly are better able to deal directly with large retailers.

The functions performed by co-operatives handling dairy products differ in some important respects from those already mentioned. Regardless of what else they may do, dairy co-operatives almost invariably engage in some degree of processing. In view of this they are naturally classified as processors even though they usually perform other functions in addition to the processing. Moreover, inasmuch as the initial or producer price of the farmer's milk or cream is received from them, they may be thought of as assemblers as well as processors. Apart from this, however, the fact is that the number and nature of their functions varies considerably depending mainly on the scale of operation. Where the co-operative is a relatively small local establishment which operates as an independent unit it will be primarily concerned with obtaining raw material in the form of milk or cream, processing

it and disposing of the processed products. Indeed, apart from a certain amount of storing, curing and packaging, it is unlikely to have any other interests. On the other hand, where the co-operative is sufficiently large as, for example, in the case of the Fraser Valley Milk Producers' Association, the Northern or Central Alberta Dairy Pools, the Saskatchewan Cooperative Creamery Association, the recently constituted United Dairy and Poultry Cooperative in Ontario or the Cooperative Agricole de Granby in Quebec, several activities apart from processing proper are likely to form part of the total operating program. Such larger co-operatives often transport the milk or cream from the farms to the processing plants. In most cases they do the wholesaling while those selling liquid milk and cream do the retailing as well.

To a considerable extent the storage plants of the Saskatchewan Cooperative Creamery are used to provide a public cold storage service. This co-operative also acts as sales agent on a consignment basis for Delnor Frozen Foods and undertakes to obtain supplies for private ice cream dealers. Moreover, whereas many smaller co-operatives tend to concentrate on processing a single product such as cheese or butter, the larger ones are usually equipped to turn out a fairly wide range of dairy products. Indeed they commonly combine the handling of other commodities such as poultry and eggs with the dairy business.

Along with the processing proper most dairy co-operatives do a considerable amount of packaging. This is particularly true in respect of butter, a large part of which is made into pound or half-pound prints and wrapped before leaving the creamery. It is also true in the case of those co-operatives which retail fluid milk and cream. In such cases the pasteurizing process is naturally followed by the bottling and actual delivery of the product to the consumer.

From what has just been said it will be evident that, while all dairy co-operatives undertake at least some degree of processing, most of them act as assemblers and wholesalers as well. And, in particular cases, as where the distribution of milk and cream is undertaken, they even perform the retail functions.

Co-operatives engaged in livestock marketing are of three types. One type consists of local livestock shipping clubs or associations. Such an organization simply represents joint action on the part of a group of farmers in a local area to the end that the margin taken by independent drovers may be eliminated. Such associations are generally unincorporated and somewhat loosely organized and operated. Some farmer or other person in the area orders a livestock car or otherwise arranges for the loading and shipment of livestock on a specific date. He either visits or telephones farmers to ensure that sufficient livestock are forthcoming to fill the car and thereby keep the shipping costs per unit at a minimum. He also assumes responsibility for weighing and loading at the shipping point. For these services he receives a moderate payment from the association. When loaded the livestock are consigned to a central livestock market where they are sold by either a co-operative or private commission agency. In some cases they are sent directly to co-operative packing plants where such exist. In many instances the association is affiliated with the co-operative commission

agency or packing plant which disposes of the livestock. Thus co-operative shipping associations in Alberta operate in conjunction with the Alberta Livestock Co-operative Limited which acts as a central selling organization with selling agencies at the Edmonton and Calgary yards. Similarly the livestock commission department of the Saskatchewan Wheat Pool acts as the sales agency for shipping associations in Saskatchewan. Likewise in Ontario the few remaining shipping associations ordinarily sell through United Co-operatives of Ontario which sells livestock on commission on the Toronto livestock yards. When sales are completed the selling commission, yardage charges and transportation costs are deducted from the selling receipts and a cheque for the balance together with an itemized statement is mailed directly to the individual members of the shipping association.

While most livestock co-operatives are either local shipping associations or central commission selling agencies, there are also a few in Ontario and Quebec which take the form of packing plants. The Cooperative Federee in Quebec operates three such plants while the Copaco plant at Barrie, Ontario with about 1,500 farmer members in that general area has been operating for nearly 30 years. While primarily processing establishments, these plants also act as assemblers and wholesalers. For the most part their processed products are sold to retailers and, to some extent at least, are taken to the retail stores in the co-operatives' trucks. The prices received for these products less the co-operative's costs of operation are returned to the farmers and thus form the producer price. This price may, of course, be supplemented later by the amount of any patronage dividend which may be paid at the end of the co-operative's financial year.

Effects of Co-operatives on Prices and Price Spreads

It would seem that there are only three possible ways in which a co-operative might bring about higher producer or lower consumer prices. If it was larger, stronger or for any reason more efficient than its private competitors, it could presumably demonstrate this superiority by paying higher prices to producers or accepting lower prices from consumers. If, on the other hand, it was not capable of doing this, its co-operative competition might still be strong enough to cause market prices generally to be more completely competitive and therefore more favourable to producers and consumers. And, finally, even though a co-operative might not be able to force competitors to raise or lower prices, it might at least find it possible to equal the less satisfactory price treatment being meted out by them. In other words, even though it might not be able to bring about <u>better</u> prices, it might be able to pay or charge prices that are <u>just as good</u>. In the first two cases the improved prices resulting from co-operative action would benefit producers and consumers generally. In the third case, on the other hand, any price benefits would go to members of the co-operative only and then only to the extent that the co-operative managed to supplement the price paid or charged by paying a patronage dividend.

While it is possible to find illustrations of all three types

of situation just indicated, there are certainly very few cases where Canadian co-operatives have deliberately set out to pay more or charge less than their private competitors. An outstanding exception in this regard is the British-Canadian Co-operative Society in Cape Breton, a consumers' co-operative which has been operating continuously since 1906. While it now handles almost all consumer goods, its business for many years was mainly in foods including the operation of a fluid milk distributing service and a bakery. It is significant that for years it has sold bread for 1¢ a loaf below the price regularly charged by competitors and has paid farmers 20¢ per 100 pounds more than the price set by the Provincial Milk Board. Moreover, because its dairy operations have shown a surplus, it has been able to return a patronage dividend to members and thereby give them the benefit of a lower consumer price.[1] By thus raising the producer price and lowering the consumer price, this co-operative has obviously managed to narrow the marketing spread so far as its own membership is concerned.

That Canadian examples of the type just illustrated are extremely rare is perhaps best indicated by the generally declared co-operative pricing policy. In answering the Commission questions, representatives of co-operative unions and operating co-operatives at various centres were virtually unanimous in stating that the actual practice as well as the general policy was to pay or charge the going or regular market price in the area concerned. That is, they aim to abide by the widely recognized co-operative rule of buying or selling "at the market". This, however, does not mean that Canadian co-operatives have never been strong enough as competitors to help determine the level of these so-called regular market prices. On the contrary there have been a significant number of instances, and some of them affecting large numbers of producers or consumers, where market price levels have been definitely influenced by the competition supplied by co-operatives. In general, this type of influence over price making has tended to vary directly with the percentage of the product being handled by the co-operative. There can be little doubt, for example, that co-operatives such as the Saskatchewan Co-operative Creamery Association, the Fraser Valley Milk Producers Association, the Maritime Co-operative Services, Scotian Gold and several others have been able to exert a very real degree of price making influence simply because they handled relatively large percentages of certain commodities in particular market areas. In certain circumstances, however, the mere fact that these organizations were large scale and did a large percentage of the total business has not been sufficient to guarantee any pronounced degree of price-determining ability. Further reference to this point will be made later.

Since the great majority of the marketing co-operatives are small scale local enterprises and since, in many cases, they market only a small fraction of the product, it follows that they have been unable to exert any pronounced influence on prices. In most such cases they have had to be content with falling in line with price levels establish-

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1 See brief presented to Commission by Co-operative Union of Canada, Proceedings, p. 4174. Information was supplied also by this Co-operative in the answers to the Commission's questionnaire.

ed by others whether they consider such prices satisfactory or otherwise. In certain instances, however, where the percentage of a commodity handled in a particular market was reasonably large, even local co-operatives have managed to exercise a significant influence on prices paid or charged.

This does not mean, however, that local co-operatives have never been able to obtain higher prices for their producer members. The fact is, however, that where such higher prices have been secured, it has usually been due to the fact that, because of co-operative organization, it has been possible to dispose of the commodity at a more advanced level or stage in the marketing process and not because of any ability to bring about a higher price at any particular level. An illustration of such a situation is found in the operations of the Capital Co-operative of Fredericton. By adopting the policy of selling eggs directly to retailers rather than to packing houses and wholesalers, this co-operative has been able on occasion to increase the price received by its farmer members by several cents a dozen.[1]

A somewhat different example of price improvement effected by co-operation action is cited in the brief presented by Maritime Co-operative Services. During the last five months of 1951 this co-operative shipped 26 cars of cattle from the Maritimes to Montreal. By simply selling in Montreal rather than in the Maritimes, net returns to producers were increased by over $4,000 above what they could have received in the Maritimes. Moreover, the shipping of the cattle to Montreal apparently resulted in price advances in the Maritimes at a season when price declines normally occur. Because of this the action of the co-operative made it possible for all producers who sold in the Maritimes at this period to gain some price advantages. The statement just made points to something of very real importance regarding the possible effects of co-operative pricing action. Where that action causes changes in general market price levels the benefits of the higher or lower prices accrue to producers or consumers generally and not merely to those who happen to be co-operative members. On the other hand, where co-operative action is not sufficient to cause any change in general price levels, any price benefits received are likely to be due to special co-operative policies or the particular mode of operation characteristic of co-operatives and to go only to those who are co-operative members. In this connection it may be noted that one reason why many producers or consumers have not seen fit to join co-operatives is that they have been able to secure price improvements resulting from the action of co-operatives without having to share any of the burdens incidental to co-operative organization and operation.

In the case cited above where the action of Maritime Co-operative Services resulted in higher cattle prices for Maritime producers the result was obtained because the co-operative found it both possible and desirable to sell in Montreal rather than in the Maritimes. While it might be thought that this was something that could have been done

1 See brief presented to the Commission by Maritime Co-operative Services Limited, Proceedings, pp. 1762-4.

by the producers acting individually as well as by the co-operative, the fact is that it would not have been economical to ship the cattle to Montreal in less than carload lots; this was possible only because the marketing was done co-operatively. Even were this not the case, however, co-operative action would have been necessary inasmuch as many of the individual producers would not have been in a position to obtain regular and reliable information regarding prices in the different markets.

If co-operatives can sometimes influence the price obtained by controlling the place of selling, they can equally expect to influence price by controlling the time of selling. By undertaking storing operations they can reduce the supply offered at any specific time, extend the marketing period in the case of seasonally-produced commodities and thereby obtain a somewhat higher average price for the period. By performing place or time economies such as those just indicated many co-operatives have changed the supply and demand relationships and therefore the prices resulting from their interaction. It is also true that by performing certain marketing functions previously undertaken by other agencies, quite a number of co-operatives have been able to retain ownership for producers until somewhat later stages of the marketing process and to sell at the higher prices that naturally result from selling at those later stages.

As already mentioned, a co-operative which may not be strong enough to influence the level of a market price may find it quite possible to fall in line with an already established price. Where such is the case the operations of the co-operative may well result in its members receiving or paying the equivalent of a higher or lower price than producers or consumers who are not connected with co-operatives. The explanation of why this is so is somewhat as follows:

While a co-operative has to pay interest on fixed and operating capital just as private operators do, it does not have to declare a shareholder's profit. In the case of the co-operative the shareholders are the members and also the suppliers of the business. They are people who get their income from some activity such as farming and do not have to get it in the form of a profit out of their co-operative business. This means that a co-operative can actually operate at cost whereas other distributors, in addition to covering costs, must be able to provide the shareholders with a profit. In effect what this means is that, if a co-operative can operate as efficiently as other types of distributors, it will have a surplus over costs the same as the other distributors. But, whereas this surplus permits the private corporations to declare a profit which is paid to their shareholders, it (the surplus) is returned to the co-operative members who are also the patrons in the form of a patronage dividend. Those who receive such a dividend are really getting the equivalent of a higher selling or lower buying price. On the other hand, the profit declared by a corporation cannot increase the selling price or reduce the buying price because it is not paid to the same people who sell to and buy from the corporation. Since payment of a patronage dividend gives producers the equivalent of a higher price and consumers the equivalent of a lower price, it results in a narrowing of the marketing spread so far as the

co-operative members are concerned.

If it was the unfailing practice for co-operatives to pay regular and sizeable patronage dividends, their indirect effect on prices and on the width of the spread would certainly be significant. The fact is, however, that, for one reason or another, a good many co-operatives have not been able to declare patronage dividends either at all or with any degree of regularity. On the other hand, there are large numbers of co-operatives which have had long and outstanding dividend paying records. A few examples may be cited to indicate the actual accomplishments and possibilities in this connection. In the past 33 years the Saskatchewan Wheat Pool members have invested about $25 million in their co-operative mainly through elevator deductions on their grain. In the same period they have received back about $46 million in cash patronage earnings and at the same time have built up assets of nearly $60 million in the plants, elevators and equipment.[1] Between 1906 when it was organized and 1957 the British-Canadian Co-operative Society in Cape Breton returned to its members in patronage dividends over $5.3 million. Moreover its 1957 report showed assets of over $1 million of which $800,000 was owned directly as capital (not as reserve) by the members. The rate of patronage refunds for the year ending May 7, 1958 was 5½%, the actual patronage refunds amounting to $180,428.[2] The Saskatchewan Co-operative Creamery which is now the largest single handler of butter, milk and poultry products in the province returned some $3 million in patronage refunds to farmer owners between 1946 and 1956.[3] The Saskatchewan Dairy and Poultry Pool which had a membership of 40,000 and sales of $5.5 million in 1956 returned some $80,700 in patronage refunds to its members in 1957.[4] In 1956 Saskatchewan marketing co-operatives performed one or more marketing functions in respect of 42% of all eggs marketed, 56% of the poultry, 68.5% of the dairy products, 57% of the sheep, 31% of the hogs, 50% of the cattle and calves and 53.2% of the grain marketed. And over the years a total of over $100 million in patronage refunds from marketing co-operatives has been added to the income of Saskatchewan farmers.[5] Moreover, because of the large percentages of products handled co-operatively, the Saskatchewan marketing co-operatives have undoubtedly exerted a strong competitive influence on the determination of market price levels in general.

United Co-operatives of Ontario is a central co-operative wholesale owned and operated by 150 local co-operatives which in turn are owned by 60,000 Ontario farmers. During the past 10 years this co-operative has returned to members the sum of $2,892,000 in patronage

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1 Brief of Co-operative Union of Canada, Proceedings, p. 4166.

2 Reply to Commission questionnaire

3 Brief, Co-operative Union of Saskatchewan, Proceedings, p. 1501; also reply to questionnaire

4 Ibid. Proceedings, p. 1502.

5 Brief, Co-operative Union of Saskatchewan, Proceedings, p. 1503.

dividends.[1] Of this amount, however, only a limited fraction was derived from the agricultural marketing business. In the year ending September 1958, for example, total patronage returns amounted to $737,654 and, of this total, some $105,658 or about one-seventh represented savings made in connection with marketing.[2] In March 1958 there were 513 agricultural co-operatives including two provincial organizations in the province of Quebec. These co-operatives had 69,000 farmer members and transacted business to the extent of $150.7 million of which 60% related to the marketing of farm products.[3] The records show that during the last 20 years these co-operatives have paid their members at least $12 million in cash patronage dividends without counting the important part of those dividends which have been used for co-operative expansion purposes.[4]

That payment of patronage dividends has by no means been confined to the larger co-operatives can be readily seen by noting the situation in respect to any one of a large number of smaller local organizations. It may be noted, for example, that La Menagere, Rimouski, Quebec (a consumers' co-operative) paid its members a cash dividend of $4,150 in 1957 while a further patronage dividend of $4,576 was credited to the loan or share accounts of its members in 1957; that International Co-operative Stores in Port Arthur paid a patronage dividend at the rate of 1% of sales in 1957; that Co-operative Farm Services of Moncton returned to butterfat producers 1¢ per pound butterfat bonus to all suppliers plus another 2¢ per pound to shareholder members in addition to the regular price and also allotted to the consumer section of their dairy-creamery operations the regular consumer patronage dividends on any of these products sold through their store;[5] that the Consumers Co-operative Society, Timmins, has returned $338,500 to its members as patronage dividends during its 27 years of operation; that the Sudbury Producers and Consumers Co-operative Dairy Limited, in addition to paying large producer dividends, has given a rebate of 1¢ per quart to each customer who purchased one quart a day, and multiples of this amount to larger customers; that, in addition to the daily market price paid at time of delivery, the members of the First Co-operative Packers of Ontario received an additional payment in the form of a dividend of 67¢ per hog at the close of the 1957 fiscal year; that Cooperative Agriculture de Granby refunded $25,552 in cash to its members in 1957 and, in addition, credited $16,778 to their loan or share accounts;that Grand Falls Co-operative Society in Newfoundland, a consumers' co-operative handling a variety of commodities including food products, refunded $12,546 in cash to its members in 1957 besides crediting their loan

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1 Brief presented to Commission by United Co-operatives of Ontario, Proceedings, p. 2336.

2 1958 Annual Report, United Co-operatives of Ontario

3 Document of the Cooperative Federee de Quebec to the Royal Commission on Price Spreads of Food Products, p. 43.

4 Ibid.

5 Maritime Co-operative Services brief, Proceedings, p. 1761.

accounts to the extent of $12,703; that in 1957 the Harwood Co-operative Creamery, by paying a patronage dividend of $58,846, added 4.4¢ a pound to the price which its members received for butterfat; or that, the North Bay Co-operative Creamery declared a patronage dividend of $5,719 in 1957.[1]

Some Limiting Factors

While there is ample evidence to prove that co-operatives have exercised considerable influence over the prices received by producers or paid by consumers and at least some influence on the width of the spread, the fact is that there are several factors which have seriously limited the extent of this influence, especially in more recent years.

To begin with, co-operative influence on price levels and price spreads is limited simply because the extent of co-operative participation in marketing is limited. Since, as already noted, the percentage of the commodities handled co-operatively is often distinctly limited even at the lower levels of marketing and since the percentage becomes steadily and rapidly smaller as products move toward the consumers, it follows that the extent of co-operative influence will tend to correspond with this limited degree of participation. Moreover the fact that most of the co-operative marketing activity has been at the lower levels suggests that most of the influence which co-operatives have had on food prices has been exerted at the producer rather than the consumer end of the marketing chain.

Quite different are the limiting factors which become apparent when the actual facts relating to the marketing of specific commodities are examined. In at least some cases the limiting factors are really institutional obstacles. In the case of western grains, which constitute a major part of Canadian co-operative marketing, the four co-operative marketing agencies, namely the three provincial pools and the United Grain Growers, can have had little or no influence on the selling price. The reason is that, since 1943, the selling function has been performed by the Canadian Wheat Board and not by the co-operatives. If farmers have received any additional income as a result of the activities of the co-operatives it will have been achieved indirectly due to increased operating earnings. It seems probable that the equivalent of a very small increase in price has been obtained in this way since, during the last decade, the ability to keep elevator facilities in use on a capacity basis has added significantly to earnings. In the case of butter which represents another large part of the total co-operative marketing activity, the factor primarily responsible for determining the selling price has been the Federal Government price support program and not the creameries, whether co-operative or private. Government buying and selling operations have kept butter prices from dropping below certain levels during most of the last decade. While these operations have virtually insured processors against the normal operating

1 Unless otherwise indicated the information relating to the several co-operatives referred to above has been obtained from answers to the Commission's questionnaire.

risk of suffering periodic losses, they have also made it difficult or even impossible for processors in surplus-producing areas to retain hard-won trading connections in major consuming centres.

The foregoing comments regarding butter apply also to a considerable extent to several other food products including eggs, cheese, powdered milk, poultry meat and even pork and beef. The main difference here is that, whereas butter prices have been almost continuously subject to price supporting operations, the prices of the other commodities mentioned have remained above support levels during varying parts of the last 10 years.

A further factor which has stood in the way of any direct price-determining influence which co-operatives might have had is the current practice in some areas of setting minimum prices of a significant list of products by means of negotiation. Wherever marketing boards of the negotiating type have existed, the possibility of establishing prices by the ordinary competitive process has tended to disappear. While negotiated prices have applied mainly in respect to marketing in Ontario, they have recently become increasingly common elsewhere and particularly in Quebec. In this same general category it may be stated that the price-setting actions of the various provincial milk marketing boards have placed further important limits on the ability of co-operatives to influence market price levels.

Finally, regardless of any effects of co-operatives on prices at the farm or other earlier marketing levels, the very fact that consumer co-operatives have been relatively absent has not only placed early limits on the ability of co-operatives to reduce consumer prices but has made it correspondingly difficult to reduce marketing spreads. The mere raising of the general level of producer prices through co-operative action need not result in any narrowing of the spread. Instead it is more than likely to be simply reflected in a corresponding increase at the consumer end. To the extent that this is the case it would seem that co-operatives have contributed to spread narrowing only under one or other of two sets of circumstances. On the one hand they have done so in the relatively few cases where it has been possible for them to both reduce consumer and raise producer prices. In the second place, wherever it has been possible to supplement a regular producer price by payment of a patronage dividend, the equivalent of spread narrowing has resulted even though no change has occurred in consumer price levels. In this latter case, however, the spread-reduction benefits have gone only to the members of the co-operatives concerned. But since a very large percentage of all Canadian producers are members of marketing co-operatives, these particular benefits may well be widely shared.

Co-operative Wholesaling Activities

Earlier in this discussion when fairly detailed consideration was given to the nature and extent of co-operative assembling, processing and retailing, no special attention was paid to the wholesaling activities of co-operatives. This omission was due to the lack of statist-

ical information concerning wholesaling similar to that presented in respect of the other three operating stages. In view of this omission and despite the absence of relevant statistical data there are a few general facts about co-operative wholesaling which should be stated.

For one thing quite a number of the co-operatives which are primarily engaged in and officially classified as processors actually perform wholesale functions as well. A great many of the creameries, for example, sell and deliver directly to retailers and also provide a considerable amount of storage. The same may be said of many of the larger or regional co-operatives handling apples and other fruit and poultry products. The fact is that quite a number of the larger organizations which receive goods on consignment from local co-operatives or even from individual members deal directly with the retail trade and to that extent must be recognized as playing wholesale roles. Indeed, as already noted, there are co-operatives which combine the various functions ordinarily associated with assembling, processing and wholesaling. The First Co-operative Packers provides an illustration of this.

In addition to these co-operatives which engage to a greater or lesser extent in wholesaling activities, however, there are a number of others which have been specifically set up to perform wholesale functions. During the past 10 years with which the Commission is particularly concerned, and for a considerable period prior to that, co-operative wholesale organizations have been operating in every province except Newfoundland. At present there are 10 of these organizations. All are provincial or regional federations of local co-operatives and they in turn are federated upward into Interprovincial Co-operatives Limited which was organized in 1940 to consolidate the buying of the regional and provincial co-operative wholesale organizations and to acquire and operate processing and manufacturing facilities. Significant differences exist in the functions and operations of the organizations. All of them supply merchandise including food supplies to their local co-operative members. But, whereas those in Western Canada do not engage in the marketing of farm products, those in the Eastern Provinces from Ontario to the Maritimes also act as central marketing agencies for farm products such as livestock and dairy products. Except for dairy products little processing is done by these organizations although the Cooperative Federee, one of the two co-operative wholesale organizations in Quebec, owns and operates facilities for processing livestock and poultry. In Western Canada the provincial wholesale organizations do not engage in agricultural marketing since this is essentially being looked after by other provincial or regional co-operatives such as the three provincial wheat pools, the United Grain Growers, the Northern and Central Alberta Dairy Pools, the Saskatchewan Co-operative Creamery, the Manitoba Dairy and Poultry Co-operative and other similar agencies. While these latter organizations may often be primarily concerned with processing, they normally perform wholesale functions also, as has been indicated earlier in this discussion.

While agricultural marketing is undertaken by all the eastern organizations, it forms a particularly important part of the total business in the case of the Cooperative Federee. No less than two-thirds

of its business is derived from the sale of farm products.[1] This provincial wholesale organization which is a federation of about 375 or three-quarters of all local agricultural co-operatives, with 50,000 members or 40% of the farmers of the province,[2] receives the farm products from its member co-operatives after which it grades, packages, processes (in some cases), stores and sells them.

Although there are four co-operative wholesale organizations in the Maritime Provinces, the major organization is Maritime Co-operative Services Limited at Moncton, New Brunswick. Over 200 local groups in three Maritime provinces are shareholder members of this organization. The other three wholesale organizations are, in effect, regional members of Maritime Co-operative Services.

The annual reports of the three main eastern organizations, the Maritime Co-operative Services, the Cooperative Federee and the United Co-operatives of Ontario, show a continuous and significant upward climb in the absolute volume of marketing business done in the last 10 years. Despite these absolute increases, however, their percentage of the total marketing has remained substantially unchanged.

While the greater part of the goods distributed by the wholesale organizations to their local member co-operatives consist of livestock feed, fertilizers, machinery of various kinds, household appliances and various other farm producer items, they also handle a wide variety of food products. Moreover, their food business has shown a steady if modest increase in recent years. Some indication of the progress in this direction may be obtained by noting that, whereas groceries accounted for 11.7% of the co-operative wholesale business in 1953, they made up 15.1% of a far larger total in 1957.[3] This increase has been partly due to the fact that the local co-operatives have been handling a larger volume of food products but even more to the fact that the local co-operatives have tended to obtain more of their food supplies through the co-operative wholesale organizations rather than from independent wholesale sources. Inasmuch as these local co-operatives, including those consumer co-operatives which are primarily interested in retailing food, have been unable to secure the advantages which independent food retailers get from becoming part of a voluntary chain, they have been under increasing pressure to overcome these disadvantages by securing their requirements from co-operative rather than independent wholesalers. The co-operative wholesale organizations in turn have had to expand their facilities and activities to meet the food supply needs of their local co-operative members. It was for this reason that the co-operative wholesale organizations in both Ontario and Quebec began handling groceries for the first time in 1954,[4] and that Federated Co-operatives Limited (the wholesale organization for Sask-

1 Document of the Cooperative Federee de Quebec to the Royal Commission on Price Spreads of Food Products, December 1958, p. 48.

2 Ibid.

3 Co-operation in Canada, published annually by the Economics Division, Department of Agriculture, Ottawa.

4 Co-operation in Canada, 1954, p. 23.

atchewan and Manitoba) built a $250,000 grocery warehouse in Regina in 1956. In somewhat the same way the regional and provincial co-operative wholesale organizations have found it increasingly desirable to get more of their supplies, including food supplies, from the national and international co-operative wholesale organizations. Finally these national and international co-operatives have shown an increased tendency to manufacture or process the needed supplies so as to avoid having to purchase them. Thus we find that it was not until 1947 that Interprovincial Co-operatives Limited added groceries to its list of commodities.[1] Since then it has gradually increased the number of food commodities handled. In 1949 it began distributing flour manufactured in the mill built by the Saskatchewan Wheat Pool in 1948.[2] From that time also it was able to supply products such as salmon and jams under a co-operative label. In 1950-51 it opened a new coffee processing plant at Vancouver and began selling coffee under a co-operative label. In 1952 it rented and began operating a cannery at Beamsville, Ontario.[3] In 1955 it leased a second canning plant at Dunville, Ontario.[4] But, while steps such as these have been sufficiently numerous and varied to indicate the existence of a definite trend, it cannot be said that the co-operative wholesaling which they represent constitutes any significant part of the country's food wholesaling business.

Impact of the Retail Chains on Co-operative Organization and Operation.

It is quite apparent that the rapid growth of the large retail chains has affected co-operatives in several ways. For one thing it made it necessary for those co-operatives which sell directly to the chains to undertake additional processing and packaging. Co-operative creameries, for example, have had to put much more of their butter in pound or half-pound prints in order to comply with the retailers' requirements. Similarly co-operative poultry processing plants have had to undertake additional processing in accordance with the retail buyer's specifications. In the second place the desire of the chains to feature their own brands has made it increasingly difficult to maintain specific co-operative brands in other than co-operative retail outlets. In the third place there are indications that growth of the chains has been exerting pressure on the co-operatives to increase the scale of their operations through merger or otherwise in order to meet the chain's requirements for a large and continuous supply of uniform product. It is also evident that the growth and consequent increase in bargaining power of the chains has been causing at least some co-operatives to think in terms of increasing their bargaining power as sellers by having several local organizations arrange to sell jointly or undertake to sell

1 Co-operation in Canada, 1953, p. 29.

2 Co-operation in Canada, 1953, p. 29.

3 Co-operation in Canada, 1952, p.3.

4 Co-operation in Canada, 1955, p.1.

through large central co-operatives. The most outstanding example of the type of situation just indicated which has been brought to the Commission's attention is that relating to the marketing of Ontario's dairy and poultry products.

For many years United Co-operatives of Ontario (the provincial co-operative wholesale organization) has operated a Dairy and Poultry Division. The activities of the Division have included operation of a number of creameries, three of the seven largest powdered milk plants in the province, and wholesale handling of eggs and poultry. Earnings distributed by the Division have averaged $52,000 per year for the last 10 years.[1] In 1958 arrangements were completed for the establishment of the United Dairy and Poultry Co-operative. This is a provincial dairy and poultry marketing co-operative organized on a central ownership basis. Its organization is designed to result in a merging of the dairy and poultry operations of United Co-operatives of Ontario with the local dairy and poultry marketing co-operatives of the province. The United Co-operatives of Ontario operations were transferred to the new organization on October 1, 1958 and, since then, several local dairy and poultry co-operatives have responded to the invitation to merge with the new co-operative.

The nature of the thinking on which this particular development has been based is clearly indicated in some of the statements contained in the brief presented to the Commission by the president of the new co-operative.[2] Among these the following are especially significant:

> "We recognize that developments today in agriculture indicate that plants must be large, diversified and efficient. --- The output of the total creamery plants in Ontario numbering 217 could be handled by 92 co-operative creameries. The result would be greater efficiency, a higher return to the producer, a narrower spread and an overall increase in quality. --- In the case of eggs quality control starts with the right strain of laying flock, controlled feeding, on-farm refrigeration, frequent delivery to retail outlets where product is held continuously under refrigeration. --- The producer must follow his product more closely in each successive step and enter more aggressively into processor marketing. ---There are two areas in which the competitive bargaining position of the primary producer could influence spreads between producer and consumer. I refer, first, to a situation which might appear to be developing when a single organization engaged in either processing or retailing becomes so dominant as to exercise a strong downward pressure on prices at producer level, and is big enough to set the pace for the market reflecting in reduced prices to the primary producer. In the other instance I suggest that, other than the co-operatives engaged in food processing, the only organized upward pressure on price takes place after the product is out of the

1 Brief presented to Commission by United Dairy and Poultry Co-operative, Proceedings, pp. 2332-5.

2 Ibid.

hands of the primary producer. The resultant spread that develops at this point may not be in either producer or consumer interests."

These quotations clearly indicate why the new co-operative is designed to provide the most efficient facilities for receiving, processing and packaging dairy and poultry products; to act as a central selling agency and thereby improve producer bargaining power when dealing with the big retailers; and to meet the current requirements of the large retailers in respect of quantity, quality and service.

In reality those responsible for this program are merely trying to provide Ontario producers with a centralized marketing co-operative similar to the Western Canadian dairy and wheat pools which have been operating on a regional or provincial ownership plan.

In addition to all the foregoing there is still a further comment regarding the relationship between chain store development and co-operatives that should be made. In at least a number of cases the representatives of consumer co-operatives state that the increasingly keen competition of the retail chains has forced them to depart somewhat from their generally declared aim of keeping the number of brands or varieties of each commodity, the number of unit sizes and the advertising and promotional expense as low as possible.[1] They also maintain that the "loss leader" and special promotional policies followed by the chains have made it increasingly difficult for the co-operatives to compete effectively on a price basis.

Relationship Between Co-operatives and Marketing Boards

In order of development co-operative organizations have preceded marketing boards. Moreover the history of marketing boards indicates that they have normally been created with the idea of achieving certain marketing goals which producers have considered desirable but which could not be attained through co-operative organization. Organization of marketing boards has been thought of as an alternative to, a substitute for or even as an improvement upon co-operative operation. There is also the fact that, to most people, co-operatives and marketing boards have represented diametrically opposed concepts. Whereas the former stood for purely voluntary action, the essential feature of the latter was complete control achieved through legalized compulsion.

In view of this history and these attitudes it is most significant that recent years have witnessed the development of a number of situations in which co-operatives and marketing boards are combining.

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1 This point was discussed in the questionnaire replies of the following co-operatives: Consumers Co-operative Society, Timmins; Peoples' Co-op (Port Arthur); The British Canadian Co-operative Society; and "La Familiale" Cooperative de Consommation.

Instead of being considered as alternatives or substitutes they are really being used to supplement each other. We are referring here to that significant number of cases in which co-operatives are acting as the buying or selling agents of marketing boards. Co-operatives acting in this capacity include the B.C. Coast Vegetable Co-operative Association, the Island Vegetable Co-operative Association, the Ontario Cheese Producers Co-operative, the Ontario Bean Growers Co-operative, the Ontario Peach Growers Co-operative, the Ontario Hog Producers Co-operative, the Saskatchewan Honey Producers Co-operative, the Manitoba Honey Producers Co-operative, Maritime Co-operative Services and the United Co-operatives of Ontario. The three western provincial wheat pools and the United Grain Growers Limited should probably be added to this list also since they all act as agents of the Canadian Wheat Board. This latter board differs somewhat from the others, however, being much more in the nature of a public utility board. While the other boards could not have existed in the absence of special enabling legislation, their formation has always been preceded by a special vote of the producers concerned. No such vote was required in the case of the Wheat Board although the degree of popularity of the board has been tested several times during its period of operation. It may be noted also that, whereas all of the co-operatives mentioned above act as selling agents for their respective boards, the Wheat Pools and United Grain Growers are to be classed more as buying than as selling agents of the Wheat Board.

Of the co-operatives listed above, most have been created after formation of the boards they are connected with and for the specific purpose of acting as agents of those boards. On the other hand, some of them were in existence long before the creation of the boards which they serve. In the case of western grain marketing what has really happened is that some of the marketing functions formerly performed by the co-operatives have been transferred to the Canadian Wheat Board. The western grain marketing case differs from the others also in that the Wheat Board has no less than four co-operative agents whereas each of the other boards has only one. Perhaps even more significant is the fact that whereas the other boards place all the agency business in the hands of a single co-operative, the Canadian Wheat Board divides it between four co-operatives and several large private grain elevator companies.

In the case of both the Maritime Co-operative Services and the United Co-operatives of Ontario the agency business performed for marketing boards constitutes only a fraction of the total co-operative business. Along with its many other activities Maritime Co-operative Services acts as the sole marketing agent for both the Nova Scotia and New Brunswick Hog Marketing Boards. Similarly, United Co-operatives of Ontario performs a wide variety of marketing and purchasing functions apart from acting as sole marketing agent for the Ontario Wheat Marketing Board. Indeed its operations on behalf of this board are more or less incidental and of quite recent origin.

The fact that these co-operative-marketing board relationships have increased considerably in very recent years and are now fairly extensive suggests that they represent a definite agricultural marketing

trend. While it is possible to think of them as occupying an intermediate position between the traditional type of co-operative organization and the marketing board type of program, it seems more likely that they simply illustrate the kind of working arrangements that naturally result when marketing board programs are put into effect. It is obvious that a marketing board must somehow arrange to get the specific marketing functions actually performed, including the buying or selling functions. And, while there may be situations where agencies other than co-operatives could be employed to perform these functions, such instances appear likely to be rather exceptional. Nevertheless, it does seem somewhat paradoxical that two modes of operation, one of which has always depended upon voluntary action and the other of which has relied mainly on the ability to exercise compulsory adherence and control, should apparently find it both necessary and possible to combine effectively in practice.

THE ROLE OF MARKETING BOARDS IN CANADIAN FOOD MARKETING

In their attempts to secure better prices and increased marketing efficiency through co-operative action, Canadian farmers have gradually discovered that there are definite limits to what can be accomplished by the organization and operation of co-operatives. In particular, it has become increasingly apparent that the very fact that membership in a co-operative is voluntary makes it impossible to spread the burdens as well as the benefits evenly among all producers of a commodity and to exercise the degree of control which must be exercised if certain kinds of marketing activities and objectives are to be undertaken and achieved. The general situation is well illustrated by the experience of the fruit growers of the Okanagan Valley during the 1920's.

These particular producers had formed a marketing co-operative in 1913 in the hope of increasing their bargaining power and hence their selling prices. For the first few years fairly satisfactory results were achieved. By 1920, however, production had greatly expanded and satisfactory markets were becoming very difficult to find. This situation soon resulted in falling prices. As prices fell more and more growers withdrew from the co-operative and began selling independently. This process soon led to completely destructive competition and ruinously low prices. Finally, in 1923, the co-operative was reorganized and replaced by a new organization. While its membership was purely voluntary, those who joined had to sign contracts agreeing to market their produce through the organization. The hope was that, by getting control of most of the product, the new co-operative would be able to secure higher and more stable prices. These were expected to result from increased bargaining power, from balancing supply and demand more evenly throughout the year and from expanding the market by means of a program of advertising, quality improvement and product differentiation.

Although the co-operative controlled 85% of the total output at the start of its operations its ability to achieve the desired objectives declined with each succeeding year. When it stored fruit in order to market it later in the year, the co-operative thereby reduced the supplies going on the market in the early fall. The reduction in supplies caused rising prices and gave the non-co-operators an ideal opportunity to sell their product at high prices right after harvest and in nearby market centres while avoiding the cost of building cold storage facilities and storing fruit as well as the cost of developing and shipping to more distant markets. Thus, the growers who stood to gain most from the activities of the co-operative were those who didn't join it. As this became evident, and as the storage policy of the co-operative caused immediate market prices to rise, a steadily increasing number of co-operative members started selling independently thereby breaking their contracts. Since each drop in the percentage controlled,reduced the possibilities of achieving the general objectives of the organization, and since the contracts were unenforceable, the growers soon came to the conclusion that they could never achieve the desired ends through voluntary co-operation. This led to the further conclusion

that what was needed was legislation which would permit 100% control of the product. The demand for such legislation became increasingly insistent and finally, in 1927, the provincial legislature passed The Produce Marketing Act. Under this Act a Committee of Direction was set up and given power to regulate the time and place of marketing, the quantity and quality marketed and to set prices. Provision was also made for the collection of a levy to cover operating costs and to set up an equalization fund. The Committee functioned for five years and achieved considerable success in preventing flooded markets and price declines. In 1931, however, the legislation was declared ultra vires on the ground that it aimed at regulating interprovincial trade and that the levy constituted an indirect tax.

Meanwhile the dairy farmers of the Lower Mainland had been pressing for similar legislation. And, when in 1929 the report of a royal commission appointed to study the milk marketing situation recommended pooling and regulated competition, the legislature passed an Act for the Relief of Dairy Farmers. Its purpose was to spread the difference between fluid and manufactured milk prices over all producers in the Vancouver milkshed. After operating for three years this Act also was declared ultra vires on the ground that the levies collected were indirect taxes and hence outside the taxing authority of provincial governments.

Faced with these adverse legal decisions British Columbia producers sought legal assistance from the federal government. While this was happening Canadian farmers generally, having been subjected to falling incomes for several years and especially from the start of the depression in 1929, were looking for something which would prevent declines in their incomes. Furthermore, farmers were coming to believe that their low prices and incomes were due to the fact that the buyers of their products were becoming much fewer and larger. The extensive consolidation of Canadian food products industries which had occurred during the 1920's seemed to lend support to this belief. Added to all this was the knowledge that farmers in several parts of Australia had secured legal authority to control marketing and were making extensive use of this authority and also that similar legislation had been provided in Great Britain in 1931 and 1933. In the light of such developments producers from several Canadian provinces pressed for federal marketing legislation. The result was the passage of the Natural Products Marketing Act in 1934. This legislation provided for establishment of a Dominion Marketing Board with authority to exercise the powers embodied in the legislation and to delegate these powers to local boards which were to undertake the actual administration of marketing schemes. The local boards were given power to regulate the time and place at which, and to select the agency through which, a product could be marketed; to determine the method of distribution and the quantity and quality of the product to be marketed; to form pools; and to levy licence and equalization fees on farmers and processors.

During the eighteen months following passage of the Act no less than 22 marketing schemes were approved and 19 of these were actually put into operation. Toward the end of 1935 the validity of the legislation was challenged and in June 1936 it was declared ultra vires by the Supreme Court on the ground that the constitution of the country

did not give the federal government power to regulate trade within a province. This opinion was confirmed in a Privy Council decision in January 1937. In view of this and in order that schemes concerned with purely provincial trading might continue operating, several provinces passed legislation modeled on the Natural Products Marketing Act. Indeed, British Columbia, anticipating the decision of the Supreme Court, had passed a provincial Act in June 1936. Ontario and New Brunswick passed similar legislation in 1937 and, since then, all other provinces have followed suit. Provincial legislation providing for the organization of marketing boards was passed in Prince Edward Island and Manitoba in 1940, in Saskatchewan in 1945, in Nova Scotia in 1946, in Newfoundland in 1949, in Alberta in 1955 and in Quebec in 1956. Several of these provincial Acts have since been subjected to considerable amendment. To supplement this provincial legislation the federal government, after exercising extensive control over the marketing of farm products for several years under the War Measures Act, passed the Federal Agricultural Products Marketing Act in 1949. This has enabled local boards to exercise the same powers outside their respective provinces that provincial legislation authorized them to exercise within the provinces. A Supreme Court judgment in January 1952 cleared the validity of the Federal Agricultural Products Marketing Act. As for the provincial Acts several test cases have indicated that they are intra vires for the most part. There has, however, been considerable doubt concerning the ability of marketing boards established under provincial legislation to collect license fees, levies, or other charges in excess of the amount needed to cover immediate operating expenses without some approval by the federal government in its constitutional field of indirect taxation.

Objectives and Powers of Marketing Boards

Though the provincial marketing laws vary considerably in respect to the powers delegated to the provincial boards, the products eligible for control, the method of establishing local boards and the specific powers granted to the local boards, they all have the same general objective. That objective is the raising of farm prices and incomes by undertaking special types of control in connection with the marketing of farm products. The central point is that before a marketing board can exercise these special types of control it must have authority over 100% of the product. The essential feature of the board method of marketing is that where the majority of the producers of a commodity are willing and anxious to market their product collectively the minority may be compelled by law to fall in line with the wishes of the majority.

In attempting to achieve its general objective of securing higher prices and incomes a board may adopt any one or more of several different kinds of control. As might be expected there is a general tendency to fit the type of control to the particular circumstances. Much depends on the nature of the commodity, the location of the market or markets, the possibilities of product improvement and market expansion, the possibilities of achieving economics through undertaking ad-

ditional marketing functions, the extent and character of buyer competition, etc. Where it is felt that the chief cause of unsatisfactory prices has been a lack of producer bargaining power, a board may concentrate on the attempt to secure better prices through bargaining collectively.

Where, on the other hand, low prices have resulted from the virtual dumping of a whole year's supply on the market during the harvesting season or other limited period, a board may control the rate of market flow so as to balance supply and demand more evenly and thereby secure a higher average price. If the aim is to secure better prices through expanding demand, a board's control may take the form of special advertising and promotional programs. In cases where it is possible to sell the same product at different prices in different markets adoption of a two-price plan may be relied upon. In other cases a board may try to obtain a higher average price by arranging things so that different varieties or grades of a product are sold to different income groups in the same or different markets. In still other cases a higher average price may be sought by changing the proportions of a product which are sold in the fresh and processed state or through the main and by-product outlets. Or again, a board may aim to secure higher producer returns by using its complete control over supply to achieve economics of scale in the performance of marketing functions prior to the actual sale of the commodity. The actual types of control chosen together with the factors determining their selection will become evident as the boards at present in operation are examined. For our present purpose, however, the significant thing about a marketing board is its ability to exercise control. And, regardless of the specific form which the control may take, it is designed to accomplish ends which ordinary voluntary co-operatives cannot achieve either at all or with anything like the same degree of completeness. It may be noted, for example, that attempts at market differentiation, market expansion, or limitation of supplies going to market are bound to be virtually self-defeating and short-lived to voluntary co-operatives for the simple reason that they are certain to result in non-members receiving premiums at the expense of the members.

Actual Extent of Marketing Board Operations

Despite the fact that all provinces are now provided with marketing legislation which permits the will of a specified majority of producers to be exerted over the dissenting minority, most parts of the country have made comparatively little use of it to date. On several occasions in recent years specific marketing board schemes have been suggested, seriously considered or, in some cases, actually voted upon in one or more of the Prairie provinces. The fact remains, however, that the only programs so far developed in these three provinces have been those relating to the marketing of honey in Manitoba and Saskatchewan. In the entire Atlantic area there are only four marketing schemes in operation at the present time although two or three others which have become inoperative are still in existence. The Nova Scotia Apple Marketing Board which was established in 1939 under the War

Measures Act, and which was designed to cope with the particular marketing problems arising from the advent of the war, was dissolved in 1951. In Newfoundland marketing board operations have been limited to a single scheme and a single season. The Prince Edward Island experience has been confined to the operation of a potato marketing board and for a limited period only. In New Brunswick a potato marketing board operated for two years only and, even though it is still in existence, it has not attempted any market regulation since 1954. Indeed, the only boards which have operated with any continuity or for any significant period in the Atlantic provinces are the New Brunswick and Nova Scotia Hog Marketing Boards, the New Brunswick Cream Producers Board and the Nova Scotia Wool Marketing Board. In Quebec, as already indicated, it was not until 1956 that the necessary permissive legislation was enacted. And, while a very considerable number of schemes have been introduced in that province within the past year or 15 months, it is obvious that they could not have had any influence on either producer prices or marketing margins during most of the period being considered by this Commission. The fact is that outside of British Columbia and Ontario, comparatively little use has been made of marketing boards thus far. And even in these provinces they have been used mainly in connection with products which are produced in limited areas and by relatively small numbers of highly specialized producers.

From what has just been said it will be evident that the actual amount of marketing board activity in Canada has been considerably less extensive than the general interest in and discussion of the subject might lead one to expect. The fact is that marketing board operations have so far been limited to certain sections of the country and to a limited number of products within those sections. Moreover, the period of operation of the boards has in several cases been extremely limited. In some instances boards have been dissolved after only a brief period of operation while in a few other cases organization has taken place fairly recently. Finally, a majority of the boards which have existed for longer periods represent a limited degree of board marketing inasmuch as they have not seen fit to exert more than a limited degree of control. Indeed, as will be indicated shortly, most of them confine their efforts to seeking higher prices through collective bargaining. But, while these various limitations do suggest that the type of marketing activities represented by marketing boards is still more the exception than the rule in this country, this does not mean that marketing board development has been inconsequential or that its effect on market prices and margins can be ignored. The truth is that a considerable number of boards have been operating continuously for a good many years and that the total number of boards in existence has continued to show a steady increase.

Types of Boards or Kinds of Board Organization

As already mentioned Ontario and British Columbia are the two provinces in which most of the marketing board development has occurred. At the present time there are 17 marketing schemes or plans operating in Ontario under the Farm Products Marketing Act and three others, in-

cluding the cheese scheme, operating under the authority of the Ontario Milk Industry Act.[1] These schemes may be classified into three general types. Much the most numerous are those which are commonly referred to as negotiating boards since their program involves negotiating prices and contract terms with processors or other buyers. The second type of which there are only two or three may be thought of as the negotiating-agency type. As the name suggests, part of their activity involves negotiating prices and terms of sale, while another part involves the establishment of a marketing agency which may undertake a considerable variety of functions including actual sale of the product and collection of the payment. Finally, there are a few boards of the central selling agency type. The Hog Marketing Board and Fresh Peach Marketing Board are in this third category.

For the most part these three classes or types of boards really represent three different variations in the scope of board activity. Generally speaking, the sphere of activity widens and the number and variety of control measures increase as one passes from the first or negotiating type to the third or central selling agency type. It is significant that in British Columbia where the first Canadian boards were established and where the kinds of control employed have been most diversified, all the boards are of the central selling agency type. In contrast, the programs so far instituted in Quebec are primarily negotiating in nature. As already noted, all three types are found in Ontario.

While all these boards have the same general objectives, their organization and powers, and the nature and extent of the controls which they employ differ greatly. The differences are due partly to the fact that the conditions which characterize the marketing of the products concerned vary widely and partly to the length of time the boards have been operating. Where forward pricing is possible and where the necessity of revising a previously agreed upon price arises only occasionally or not at all, as in the case of fruits and vegetables for canning, the negotiating boards are quite appropriate. On the other hand, where frequent changes in prices have to be made during a marketing season, the negotiation procedure is entirely impracticable. Not only does the negotiation process occupy considerable time but a negotiated price, by its very nature, has to be applicable over a fairly extended period. Hence, in all cases where prices have to be adjusted regularly, a board of the agency type is required. Then again, it is not unusual for boards to organize and operate on a purely negotiating basis during the early years of their existence and to shift gradually to the agency basis as experience is gained and as additional kinds of control appear desirable and feasible. Since negotiating boards require far less capital and represent the minimum degree of interference with the marketing freedom of producers it is only natural that they should be used during the earlier and experimental stages at least. Furthermore, wherever it is felt that the only or major requirement is an improvement in producer

1 Annual Report of the Co-operation and Markets Branch, Ontario Department of Agriculture for the year ending March 31, 1958.

bargaining power it is natural that the emphasis will be placed on negotiation. In several cases negotiating boards have been selected and maintained simply because producers believed that they would permit the maximum of price improvement with the minimum of interference with producer freedom of action. It is because the central agency boards tend to interfere with this freedom to a much greater extent that they have encountered the greatest degree of producer opposition and become the subjects of general public controversy.

Objects and Operations of Negotiating Boards

Almost all of the Ontario schemes organized in the late thirties and early forties were designed to do nothing more than negotiate prices and terms of sales contracts on behalf of producers. And, while two of them now have selling agents, all the others have continued to confine their activities to negotiation up to the present time. Ontario schemes which today fall into the negotiating category together with the year in which they were organized include the following:

Peach Growers' Marketing-for-Processing Scheme	1937
Pear, Plum and Cherry Growers' Marketing-for-Processing Scheme	1938
Sugar Beet Growers' Marketing-for-Processing Scheme	1942
Seed-corn Growers' Marketing Scheme	1942
Berry Growers' Marketing-for-Processing Scheme	1944
Vegetable Growers' Marketing-for-Processing Scheme	1946
Grape Growers' Marketing-for-Processing Scheme	1947
Soya Bean Growers' Marketing-for-Processing Scheme	1949
Winter Celery Growers' Marketing Scheme	1949

All of these schemes are designed to secure a more favourable deal for producers by making use of the collective bargaining principle. Their operating mechanism involves setting up a committee with powers to negotiate and thereby determine minimum prices, conditions of sale and form and fulfilment of contracts. This committee, which ordinarily consists of six members, three representing the growers and three representing the processors, is called the negotiating committee. The committee normally meets in February or March well in advance of the production season and the actual negotiations continue until agreement is reached. In the event of inability to reach agreement, provision is made for submitting the matter to arbitration, the decision of the arbitrating authority being final.

The actual results of the negotiations are naturally conditioned by several factors. Most of the discussion revolves around the present and prospective supply and demand situation of the product or products concerned. Such things as the extent of the existing stocks of processed goods, the nature of recent consumer demand, the possibilities of alternative sources of supply, the situation with respect to competing products, trends in production and processing efficiency, and the general state of the country's economic health all contribute to

the nature of the views expressed and conclusions reached. Much depends on the relative completeness of the information concerning these various factors possessed by the two interests involved. And, apart from the information itself, there is the question of the relative strength of the participants in making effective use of the information, that is, their relative skill in bargaining. A few examples from actual experience may give a clearer indication of some of the problems encountered, the information that has been used, and the basis on which decisions have been reached.

In connection with the Soya Bean Board's activities it is particularly important to note that there are only a few processors and that Canada produces only about half of the soya beans needed to meet her overall edible oil and meal requirements. A further important fact is that soya beans may be imported free of duty while oil and meal may be imported at moderate tariff rates. This means that the price of soya beans to Ontario processors must always be competitive with the delivered price of imported soya beans and the various soya bean products. In view of this situation the negotiating committee on behalf of the Soya Bean Board has had to decide each year that it was simply not practical to fix a minimum price for soya beans on behalf of the 4,000 Ontario growers concerned. Having reached this decision the Committee has had to recommend that the price paid should be the day to day trading price on the open market. However, the Committee has been able to agree on a number of points apart from the price itself. In respect of the 1957 crop, for example, it was agreed that the processors could not charge producers more than 10¢ a bushel for cleaning, handling and selling the beans. It has not been necessary to apply this part of the agreement since competition between the processors has kept the amount actually charged below the 10¢ figure.[1] It was further agreed that the price paid should be reduced by 2½¢ a bushel for each ½% moisture content over 14% and up to 18% and by 5¢ a bushel for each ½% of moisture content in excess of 18%. These deductions were to cover shrink and drying expenses. Finally, it was agreed that the growers were to be paid in cash on delivery.

Another example of how a board's efforts may prove ineffective with respect to price is provided by the Winter Celery Board's 1957 experience. Because the supply of celery for storage was away below normal in that year and because there was an extremely strong demand for all the supply that was available, the Board simply decided to exempt all storage celery from the regulations of the plan and declare an open market thereby allowing each grower to sell his crop as he pleased. With the special supply and demand situation which existed in this case there was no need felt for any special Board regulations. The result was the temporary suspension of the Board's operations.

A situation somewhat similar to that just described has occurred when a price negotiated during the winter proved to be too low when it came time to market the product. This, of course, can happen if the anticipated supply is larger or demand smaller than the actual supply

1 Annual report, Cooperation and Markets Branch, Ontario Department of Agriculture, year ending March 31, 1958, p. 12.

and demand which eventuates many months later. In such cases the low negotiated price becomes ineffective because the processors bid the price up above the negotiated price level. This happened often in respect of the prices of canning crops during the war and early postwar years. It has occurred also on occasion in more recent years, either because crops proved to be smaller than expected or demand to be stronger than expected, or both. In any such instances it is obvious that the negotiation undertaken by a board does not bring about any increase in the price received by producers. The best that can be said for it is that it has provided the producers with price insurance in the form of a guaranteed minimum. On the other hand it can be argued that the net income of the producers has actually been reduced by the amount of the cost involved in carrying on the negotiation proceedings and otherwise maintaining the board in existence. What all this seems to suggest is that, in order that a negotiating board may have some price raising effect, the negotiated price must also be the price when the product is marketed. While this has tended to be the situation in the great majority of cases, the fact that it does not always happen cannot be ignored.

The Seed Corn Board is of particular interest because of the somewhat unique basis employed for determining the negotiated price. The producer group in this case consists of some 275 hybrid and open-pollinated corn growers in south-western Ontario who specialize in producing corn for seed. In negotiating the price, a base price is established for dried commercial corn and to this a premium is added to arrive at a minimum price for corn for seed. The base price used is the Chicago May corn future daily closing price (subject to the current rate of exchange), averaged for the three months of December, January and February in each year. For example, the base price for the 1956 crop was $1.32 per bushel while that for 1957 was $1.24 per bushel.[1] To these base prices in both years a premium of 30% was added. The resulting figures constituted the delivered seed corn price in those cases where the dealer supplied the seed and detasseled the corn. It was agreed that an additional 55¢ per bushel would be paid to those growers who supplied their own seed and detasseled the corn.

A brief account of the operations of the Ontario Pear, Plum and Cherry Board will further indicate the nature of the problems encountered and methods followed by boards of the negotiating type. This board was organized in 1939 and has operated continuously ever since. The operating methods and extent of control have changed little during that period. There are six separate negotiating committees in order to provide separate treatment for two different kinds of pears and cherries, a committee for plums and a committee responsible for determining handling, transporting and selling charges for fruit handled by the dealers.[2] The membership of the latter committee, along with the three growers, consists of three dealers rather than processors. The six committees negotiate minimum prices, terms of purchase and sale, and standards of quality. During the first few years there was considerable difficulty

1 Annual Reports, Cooperation and Markets Branch, Ontario Department of Agriculture.

2 Minutes of Ontario Farm Products Marketing Board, June 3, 1958.

in agreeing on prices satisfactory to both parties with the result that many of the decisions were made by arbitration boards. Since the end of the war, however, negotiations have proceeded fairly smoothly although occasionally arbitration proceedings have been necessary.

Until 1942 the board had almost no statistical records. In 1943, however, it ordered processors to forward to the board's office the final payment to the growers together with a statement showing the quantities of pears, plums and cherries bought, grades given and payments made, and also a cheque for the licence fees deducted from growers' returns.[1] In 1952 the regulations were amended to permit the board to handle all payments made by processors.

Since the board was organized growers have increased production fairly steadily. Deliveries to processors averaged 16.4 million pounds in the three years 1939 to 1941, whereas they averaged 46.5 million pounds in the three years 1953 to 1955. Because this expansion of production has been accompanied by an increasing demand for most of the products handled it has been possible to keep prices at levels fairly satisfactory to both parties. Since the processing market is far less troublesome and expensive than the fresh market from the growers' standpoint, the growers have not tried to raise prices too much lest processors be discouraged from moving large quantities of fruit. On the other hand processors have been willing to pay prices which they felt would be high enough to encourage a desirable expansion of production. From the processors' standpoint an important factor when determining prices has been the fact that the cost of the fruit is a relatively small part of the cost of the processed product. To a considerable extent the kind of producer and processor attitudes towards pricing just mentioned have been present in respect of several of the negotiating boards.

While the Ontario Asparagus Marketing Board combines the negotiating with the agency basis of operation, its activities are actually very similar to those of the strictly negotiating boards. Before it was established in 1937 a voluntary growers' co-operative was in existence and this co-operative became the board's marketing agency. In this case the negotiating committee determines not only the minimum price but also the total quantity to be sold.[2] Once these matters are agreed upon the co-operative as the board's agency arranges for distribution of the total tonnage on an equitable basis to the various processors as well as the basis of delivery between grower and processor. It also handles all payments and other business dealings on behalf of the growers.

The Asparagus Board which represents the interests of 800 growers is only concerned with the part of the crop which goes to the processors. The fresh market is considered the premium one and the prime purpose of diverting product to the processed market is to ease the pressure on the price of fresh asparagus. In this connection it is of interest to note that, for several years the licence fee collected from the growers was used to subsidize the export of canned asparagus to the

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1 Minutes of Ontario Farm Products Marketing Board, July 23, 1943.

2 In the case of several of the other Ontario boards the processors agree to pay the negotiated prices for the amount that is produced on a specified number of acres. The production is ordinarily undertaken on an acreage contract basis between processors and the individual growers.

larger United States market.[1] A unique feature of the Asparagus Board program is an agreement by the growers to cease cutting when total orders have been filled. By this means supply is adjusted to demand.

Outside of Ontario about the only boards of the negotiating type which have operated until recently have been the Manitoba and Saskatchewan Honey Marketing Boards. While both these boards have been granted quite wide powers of control over the movement and sale of the product, their activities have so far been confined to the fixing of prices after consultation with the trade. As mentioned earlier, Quebec's legislation providing for the organization of marketing boards was not passed until 1956. The legislation differs in several respects from that of the other provinces. For one thing it is unique in providing that levies collected by and paid to a producers' marketing board cannot exceed the amount required for administrative expenses. Deductions for any other purpose are strictly forbidden. Another significant difference is that in Quebec it is possible to have separate marketing board plans for each particular market within the province and even for each separate enterprise within each market. This is in marked contrast to the situation in other provinces. In the third place the Quebec Act requires that no marketing plan can be approved unless 75% of the producers concerned, representing 75% of the product, have voted in favour of it. The corresponding percentages in the other provinces are very much lower than this. Another rather distinctive feature of the Quebec Act is the provision whereby sales made by a producer directly to a consumer or to a retailer who operates not more than three outlets shall not be subject to the regulations of any producer marketing board. Finally the Quebec Agricultural Marketing Board (the government board) retains most of the responsibilities which under the other provincial Acts are vested in the producers' boards. While regulations and penalties are similar to those found elsewhere, enforcement of them is in the hands of the government board, not the producer board, as is generally the case in other provinces. Moreover, the Quebec program differs from the others in that it specifically purports to operate in the general interest as well as in the particular interest of agricultural producers.

While the Quebec Agricultural Marketing Board has been given almost unlimited authority in respect to marketing, a major part of its program is concerned with the creation and operation of so-called joint marketing plans. At any rate this has constituted a large part of its activity to date. A joint marketing plan is the means whereby Quebec producers can require commercial buyers to negotiate with them in respect to the marketing or sale of their products. Between April 1956 when the government board was appointed and September 1, 1958 no less than 30 joint plans had been approved while the number was expected to reach 40 by the end of the year. At September 1, 1958 ten agreements in respect to minimum prices and terms of sale had been completed and 11 others were being negotiated.

Five producer boards representing 4,272 producers were negoti-

1 See article entitled "Experience with Provincial Marketing Schemes in Canada" by M.M. Farrell in Journal of Farm Economics, November 1949, p. 621.

ating with five large dairy establishments regarding the sale of milk for the manufacture of concentrated products. Some 5,760 fluid milk and cream shippers supplying 52 dairies in 12 major markets were grouped under 15 different producer boards. Four agreements regarding prices and terms of sale had been completed and eight others were being negotiated. One producers' board was negotiating with 43 canners on behalf of 2,000 tomato growers. Another board was negotiating the sale price of fresh celery. Still another board representing 2,289 maple syrup producers was negotiating with ten buyers. As the result of negotiations carried on by various producer boards over a 12-month period, it was claimed that price increases had given producers an additional $1,200,000.[1] While results of Quebec Marketing Board operations are too recent and short-lived to have had much effect on producer prices or marketing margins during the Commission's period of study, the fact that so much reliance is currently being placed on this method of raising farm prices and incomes is of special interest and importance in any study concerned with pricing and marketing arrangements.

Negotiating Boards, Producer Prices and Marketing Margins

Having noted something of the general character and mode of operation of negotiating boards the next step is to offer some appraisal of their possible effects. In doing so it is necessary to remember that these boards represent an attempt to gain price and income advantages by substituting collective for individual bargaining. Prior to the organization of the boards large numbers of small scale producers had to bargain individually with processing firms which were becoming very large and few in number. Moreover, in many cases producers had to depend on selling the larger part of their output to the processors since cost of transporting to larger consuming centres placed early limits on the proportion that could be marketed in the fresh form. In addition the highly perishable nature of many of the commodities made it difficult to postpone sale in the hope of securing a better price. Under these circumstances it is not surprising that producers felt themselves in a relatively weak bargaining position and firmly believed that their selling prices reflected this weakness. Other things being equal it would seem that the bargaining power of producers must have been strengthened considerably by using negotiating committees. For one thing adoption of the collective bargaining method meant that processors could no longer play one producer off against another. In the second place one would expect that the bargaining capacity of the producer members of negotiating commodities would be somewhat greater than that of the average individual producer. Producer members of a committee would ordinarily be selected, at least in part, on the basis of their general marketing experience and knowledge and their recognized skill as bargainers. There is little doubt also that producer members of committees have been able to add appreciably to their supply of

1 Information supplied to the Commission by officials of the Quebec Agricultural Marketing Board.

market information. Collection of statistical data relative to their particular products has undoubtedly placed them in a better position to estimate the significance of price-determining factors. In this connection it is important to note that many of the Ontario boards have been able to make use of special cost of production data in connection with their price negotiations. From 1946 cost studies of many of the products being handled by these boards have been undertaken, first by the Agricultural Economics Department of the Ontario Agricultural College and later by the Farm Economics Branch of the Provincial Department of Agriculture. The results of these studies have been used extensively for price negotiation purposes.

As for the processors it must be remembered that they only agree to buy a limited amount at the negotiated price. Normally they limit the quantity by agreeing to take only the produce of a stipulated acreage. This means that theoretically they could agree to pay a fairly high price for a small quantity with the idea of passing this higher price on to the consumer. In practice, however, they are unable to do this to any significant extent because of what would happen to the demand for the products. Specifically, there are three limitations to the possibilities of following such a policy. In the first place, if the consumer price is raised too much, other products in the same general category will be substituted. In the second place, there is the even more important fact that products which are sold at negotiated prices almost always have to compete with similar products produced and processed in other areas. Finally, in those several cases where a product has more than one outlet, the policy of paying a high negotiated price for a limited quantity may force producers to unload a much larger part of their total production on the second or alternative outlet. And, if demand in that outlet happens to be inelastic the grower's total income from both outlets may well be reduced. Such a result apparently occurred in respect of peaches a few years ago. The negotiated prices for the processing market were apparently kept at relatively high levels for several years with the result that more and more peaches had to be disposed of on the fresh peach market. This eventually caused prices in the fresh market to fall so low that processors threatened to buy their requirements for canning from the fresh market instead of agreeing to buy at negotiated prices. It was this situation which caused producers to form the fresh peach marketing board in 1954.[1] A similar situation might well develop in connection with other fruits and vegetables and this possibility will tend to place limits on producer pressure for higher prices during negotiation proceedings.

All in all the mere fact that negotiating boards have made for greater equality of bargaining power between the two parties has probably meant some improvement in producer prices. If this has been the case, and if, for reasons explained above, it has been impossible to

1 See The Development of Producer Marketing Boards in Canadian Agriculture by L.E. Poetschke and Wm. Mackenzie, page 68. Also Annual Reports, Cooperation and Markets Branch, Ontario Department of Agriculture, for years since 1954.

pass any or all of these higher prices on to consumers, operation of the boards may have indirectly narrowed the spread to some slight extent. However, it does not appear possible to determine whether or not this has, in fact, occurred. The difficulty here is that there are no means of determining what either the producer or consumer prices would have been had the boards never existed. Nor is it possible to determine what part of any changes in consumer prices of processed foods has been due to changes in the prices of the fruits or vegetables or other farm products which formed the raw material and what part has been due to changes in costs of containers, labour or processing costs in general. While the boards have probably strengthened producer bargaining power, it is unlikely that it is as strong as that of the processors. Collective bargaining in itself is not sufficient to guarantee equality of bargaining power.

Whatever their effect on producer prices and marketing margins, a detailed examination of the sales contract terms which have accompanied the various negotiated prices suggests that the boards have contributed significantly to the establishment of more distinctive and effective grades as well as the price differentials between grades. In this way they have helped to improve quality and to reward quality production.

Finally, it is necessary to deduct the costs entailed in operating the boards in any attempt to calculate their economic contribution. The fact is that all of the boards have collected deductions from producers' returns, usually in the form of a licence fee. It is also true that, in some cases, the amount deducted has exceeded the costs of operation.[1] There are few cases, however, where either costs or deductions constitute any significant amount. Normally the costs involved in operating the negotiating boards have been extremely small.

Operations of Various Boards of the Agency Types

As stated earlier the ordinary negotiating type of board is much the simplest and cheapest. On the other hand the boards which seek to increase price and income in a wider variety of ways must undertake a corresponding variety of marketing activities and incur heavier financial outlays. A brief resume of the activities of some of these boards will indicate the general nature of the methods used, the problems encountered and the results achieved. First consideration may be given to two Ontario boards which have placed major reliance on use of the two-price technique in their attempt to raise average producer prices.

The Bean Growers' Marketing Board which operates on behalf of some 7,000 growers in five south-western Ontario counties was organized in 1944. At first it confined its activities to negotiating prices and picking charges with the 15 dealers who bought from the growers and sold

1 The financial statements of the 1957 fiscal year show that almost all of the boards have accumulated some surplus.

either to processors or in markets in various parts of Canada and beyond. However, in 1947 a marketing agency was set up to handle crop payments and supervise the distribution of surplus beans. A deduction was made from the price paid by the dealers and the funds so collected were used to pay the difference between a negotiated price and any lower price at which beans were sold on the open market. Any money left over after completing this program was returned to the growers at the close of the season. In 1951 a co-operative company was formed to permit erection of a bean-picking machine. Shortly after that the co-operative began handling and selling beans as a dealer and in 1953 it became the selling agent of the board. Since then it has been acting as a dealer, has been doing custom picking for the other 15 dealers and has handled all payments to growers as the board's marketing agency. In addition it has administered the export subsidy fund. It has used this fund to buy beans whenever the market price dropped below the price which growers and dealers regarded as reasonably satisfactory and which is known as the annually negotiated price. The beans so bought were later sold wherever markets could be found. Many were exported to the United Kingdom or elsewhere. Any funds not required to remove the so-called surplus beans were returned to the growers on the basis of their contribution at the end of each season. During 1958 the co-operative and the board signed a purchase and sale arrangement authorizing the Grain Marketing Division of United Cooperatives of Ontario to act as consultant and agent in respect of both domestic and export sales.[1] This arrangement was to continue until August 15, 1959, the end of the 1958 crop year.

The amount of product taken off the market at the negotiated price and resold at the lower open market price has varied widely from year to year depending on weather conditions, crop yields and the general demand situation. For example, a fee of 17¢ per bushel was collected from producers and used to subsidize the sale of 100,000 bushels of the 1956 crop whereas the corresponding figures in 1957 were only 8¢ per bushel and 50,000 bushels.[2] These figures indicate that it has been possible to sell by far the larger part of the total annual crop at a price considerably above that paid on the open market. Stated otherwise, it is apparent that, by pursuing this two-price policy, the board has increased appreciably the <u>average</u> price received for <u>all</u> beans sold. And it has increased even more the price received for the large percentage of the beans sold in the Canadian market. It is, of course, this latter fact which has special significance for this Commission.

Another board which in recent years has operated on a fairly similar principle is the Ontario Cheese Marketing Board. This board was the first one to be established under the 1937 Act. For the first several years its efforts were directed towards increasing the effectiveness of the cheese board (auction) method of selling. Cheese boards or

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1 Annual Report of Ontario Bean Growers' Marketing Board for year ending December 31, 1958.

2 Annual Report, Cooperation and Markets Branch, Ontario Department of Agriculture, year ending March 31, 1958, p. 9.

local auction markets had been in operation for many years. Cheese from a group of factories would be brought to a central point in the area where it was sold by auction to representatives of the trade. By degrees, however, the practice developed whereby each buyer secured a large part of his requirements directly from each of a number of factories with the result that less and less of the cheese was offered for sale on the boards. In 1937, when the Cheese Marketing Board was organized, only about a third of the cheese was being sold on the boards.[1] In view of this situation the Marketing Board instituted a program which required all cheese, with certain limited exceptions, to be sold through the boards. The assumption was that this would increase the number of buyers at the auctions and that the more numerous buyers would result in keener buyer competition and hence higher prices.

During the early post-war years the export price of cheese going to the United Kingdom market was set by annual contracts arranged jointly by the federal government and the British Ministry of Food.[2] Canadian producers became dissatisfied with the prices stipulated in these contracts and felt that a cheese marketing board, if permitted to handle the cheese, could improve the timing of export sales in such a way as to reduce supplies and thereby raise prices in the domestic market in the spring months. Indeed as early as 1946, in response to the Board's request, a corporate agency, Ontario Cheese Producers' Association Limited, was authorized to collect licence fees, handle all sales of Ontario Cheese and collect all payments from buyers. An attempt at central selling by this agency, however, encountered almost immediate buyer opposition with the result that central selling was discontinued and the cheese board system restored.

By 1950, however, producer dissatisfaction with the terms of the export contracts resulted in insistent demands for further control. As a result the provincial marketing board authorized the corporate agency to market all the cheese sold outside the province and stipulated that all other sales should be made through six exchanges which replaced the old cheese boards. In addition provision was made for establishment of a negotiating committee composed of five producers and five buyers. This committee established minimum prices at which all cheese was to be sold. From then on any cheese not purchased at or above this minimum price was to be bought up by the agency of the marketing board at a minimum price.

In 1951 the board built, with government assistance, a modern cheese cold storage and curing plant at Belleville capable of holding five or six million pounds of cheese. About three years later a second curing and storage warehouse of about the same size was built at Winchester in eastern Ontario. In 1951 the board inaugurated a two-price

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1 For a more complete account of the origin, methods and history of operation of cheese boards see Dairy Industry in Canada by Ruddick, Drummond et al published by Ryerson Press 1937, pp. 158 to 162 inclusive.

2 It is important to note that in these years considerably more than half the cheese was exported and almost all of it to the United Kingdom.

system and an equalization pool. The aim was to obtain a higher price for most of the cheese in the domestic market where demand was relatively inelastic and a lower price in the export market for the balance. A contract with the United Kingdom was negotiated under which 25,370,601 pounds of cheese were exported at 32¢ a pound. Then the negotiating committee established a minimum domestic price of 36¢ a pound. In order that all producers might share equally in the total returns received in the domestic and export markets the domestic and export prices were blended. The funds required for this purpose were obtained by charging all factories a licence fee of 3¢ per pound. Thus the blended price to all producers was established at 33¢ a pound.

While this program increased the returns of producers in 1951, the high Canadian price induced importation of over eight million pounds of cheese from New Zealand and this tended to reduce the price that could be obtained for cheese in Canada in 1952. However, the board has continued to conduct a two-price plan since that time. Minimum Canadian prices have been set by the negotiating committee and the board has taken up any cheese that could not be sold on the exchanges at these prices. The finances required for the buying programs have been obtained by using bank credit advanced on the security of federal and provincial government guarantees. The difference between the negotiated price paid by the board's agency[1] and the lower price received on the export market has been made up by collecting levies on all cheese sold. Negotiated prices have varied considerably from time to time depending upon changes in production, the possibility of being able to sell in the United Kingdom, and the extent of bank guarantees and price supporting arrangements with the federal and Ontario governments. Similar variations have existed between the negotiated Canadian price and the price received for the exported portion. As a consequence the benefit derived by producers from the two-price system has varied considerably from year to year. There is every indication, however, that some and probably considerable benefit was obtained throughout the period since the system was instituted. Since the elasticity of demand for Canadian cheddar in the United Kingdom was considerably greater than in Canada it was quite possible to increase producers' returns by disposing of part of the production in the United Kingdom.[2] But while the program may have benefited producers it certainly resulted in Canadian consumers being discriminated against in the matter of price.

It is important to note that the actual costs involved in carrying through the board's program have to be deducted before the net gain to producers can be calculated. That these costs have been very considerable can be seen by examining the most recent statement of the marketing operations of the board's marketing agency. This statement

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1 The corporate agency, the Ontario Cheese Producers' Association Limited, was replaced by a co-operative in 1956.

2 For detailed consideration of the demand elasticity during these years see "The Marketing of Ontario Cheddar Cheese" an unpublished Ontario Agricultural College MSA thesis written in 1958 by M. Roytenberg, Chapter 6.

which follows on the next page, shows that the agency had to perform extensive marketing functions and that the cost of some of these, such as storing, financing and sales promotion, was quite large. It should also be realized that some of these costs would have been much larger had not various forms of government assistance been provided. Government guarantees undoubtedly reduced bank interest and government grants certainly reduced the cost of providing storage facilities.

Apart from the monetary cost there are other factors which have been encountered and which have conditioned both the mode of procedure and degree of success of the board. For one thing the board's agency has had considerable difficulty in getting and supplying the particular quality of cheese desired by British buyers. Even more difficult has been the problem of providing cheese in the quantities and with the degree of regularity desired by foreign purchasers. Acquisition of storage facilities, however, has helped greatly in regulating both the quality of the product and time of shipment. Another problem has been the uncertainty of finding foreign markets, due partly to expansion of production in Britain itself and partly to the British government's lack of dollar exchange. Still another problem has been in limiting the importation of cheese from the southern hemisphere which naturally tended to result from the board's policy of keeping Canadian cheese prices at a high level. In this connection it is significant that in June 1956, after prolonged negotiations, the board managed to have the importation of cheddar cheese placed under the Import-Export Licence Act. Since that time no importer could bring in this commodity without an import licence from the Department of Trade and Commerce. Finally, and very importantly, there is the fact that the price raising efforts undertaken by the Ontario board have benefited the cheese producers in Quebec at no cost to themselves and induced a rapid expansion of production in that province. As production expands it becomes necessary to remove a larger proportion of the product from the Canadian market in order to support the domestic price at a given level. It would thus appear that the need to increase the amount exported is likely to occur at the very time that export markets are more difficult to find.

Very different from the operations just discussed are those of the New Brunswick Cheese Marketing Board which has been operating since 1939. Prior to its formation cheese was marketed on a cheese board auction like those already described in the case of Ontario. Since, however, there were only a few factories, all the cheese was sold on the one auction. A representative of each factory accepted or rejected bids for its particular cheese. Auctions were held every two weeks from May to November. The cheese was graded at the factory by a provincial inspector who kept a record of the amount graded and the grades at each factory. This information was supplied to the trade representatives at the auction.

From the producers' standpoint this system had several weaknesses. Because storage space was insufficient during peak production periods, factories were often forced to accept prices below those ruling on the Toronto and Montreal markets despite the fact that Maritime provinces constituted a pronounced cheese deficit area. Dealers made the most of the producers' weak bargaining position and it was commonly alleged that

ONTARIO CHEESE PRODUCERS' CO-OPERATIVE LIMITED STATEMENT OF 1957 CHEESE MARKETING OPERATIONS FOR THE PERIOD FROM APRIL 1, 1957 TO DECEMBER 31, 1958.

EXPENDITURES:			
Cheese Purchased (200,537 boxes)			$ 6,169,461.81
Direct Expenses:			
Cartage	$ 69,962.05		
Handling	50,751.36		
Insurance	21,879.04		
Storage	216,592.38		
Waxing	22,891.63	$ 382,076.46	
Sales Expenses:			
Salaries	$ 10,300.00		
Travelling	1,056.42	11,356.42	
Promotion of Export Sales:			
Export Subsidies	$ 49,666.89		
Export Freight and Expenses	28,214.32	77,881.21	
Administrative and General Expenses:			
Audit and Legal	$ 3,140.00		
Bank Charges and Interest	280,751.62		
Management Salaries	4,413.19		
Office Salaries	8,336.85		
Rent	410.00		
Telephone and Telegraph	2,546.01		
Office Expenses	752.30		
Travelling - Secretary-Treasurer	1,859.84		
Directors' Fees	260.00		
Directors' Expenses	1,150.64	303,620.45	774,934.54
TOTAL EXPENDITURES			$ 6,944,396.35
DEDUCT: Proceeds from Sales of Cheese (171,012 boxes)			5,191,957.78
NET AMOUNT EXPENDED TO DATE			$ 1,752,438.57

they agreed on a low price before entering an auction. It was when the prices paid dropped to particularly low levels during the 1930's that steps were taken to form a marketing board.

The board's chief activity is the operation of storage facilities at St. John. Cheese goes directly from the factories to these facilities where it is graded and held until satisfactory prices are obtained. By spreading sales over the entire year the board has made real progress in eliminating seasonal price variations. In particular it has made it unnecessary for producers to accept very low prices during the season of peak production.

In order that producers may receive money regularly even though cheese is often kept for several months before being sold, the board collects fees which are used to make an advance payment. This initial price is based on the current price and market outlook. If the cheese is sold for some higher price later on a supplementary payment is made. Instead of the cheese being sold at auction with representatives of the several factories present, it is now all sold by the marketing board's agent. This man meets monthly with the board's directors and, after all available market information is considered, a minimum price is set. All cheese is then sold by the agent at one price to all buyers.

Whether the board's program has resulted in any reduction of retail prices may be seriously doubted. It seems reasonably certain, however, that it has resulted in significant increases in producer prices. One would expect that the extra income resulting from the more orderly marketing and improved bargaining power would considerably exceed the costs involved in storing plus the general costs of administering the board.

Hog marketing boards have been operating in New Brunswick since 1951 and in Nova Scotia since 1953. The purpose or purposes are the same in both cases. Their main function has been to guarantee the continuance of the system of shipping and selling already in existence. In the 1920's, in an effort to improve the quality of hogs, the federal government paid quality premiums. However, in the Maritimes it was found that the system of marketing through drovers prevented premiums from reaching producers. To overcome this difficulty the government began encouraging the formation of producers' shipping clubs. These clubs were supervised by the federal Livestock Branch until 1927 when the Maritimes Livestock Marketing Board was formed. Before long this board extended its operations and was transformed into a general producer co-operative now known as Maritime Co-operative Services Limited.

Since the shipping clubs did not eliminate all the independent drovers and shippers the governments of New Brunswick and Nova Scotia in 1936 agreed to pay a bonus on premium hogs if shipped through recognized marketing organizations. Since independent shippers could not secure this premium it was not long until over 95% of the hogs were being marketed co-operatively. During the war and post-war years, however, hog production increased and the premium payments became more and more burdensome to the provincial governments. In 1951 the New Brunswick government announced that it was discontinuing the payments. Since

these payments were the means of guaranteeing support to the co-operative something had to be done to replace them. The result was the immediate establishment of a New Brunswick Hog Marketing Board. A similar board was formed in Nova Scotia in 1953 even though the premium payments were continued in that province.

Since a major reason for the boards was the desire to maintain Maritime Co-operative Services in a healthy condition it was only natural that both boards chose this co-operative as their selling agency. Both boards provide for the division of the provinces into districts within which the producers are grouped into shipping clubs. Each club has a secretary who arranges for the collection and delivery of the hogs to the co-operative. When sale is completed the co-operative makes out a statement for each farmer showing all marketing costs entailed. These statements along with cheques for the balance are mailed to the shipping club secretary who in turn sends them to the farmers.

So far as one can see the boards' chief objectives are to promote the operation of shipping clubs as a means of maintaining and improving hog quality and to ensure that producers get whatever bargaining advantages and other marketing efficiencies can be obtained by selling through a single co-operative agency. The only control exercised by the boards is the requirement that hogs must be sold through the co-operative selling agent. All New Brunswick producers wishing to sell to packing plants that are federally inspected must sell through the agency. The same applies to all Nova Scotia producers wishing to sell to packing plants which buy over 200 hogs per month. Inasmuch as the percentage being marketed by the co-operative was at least as large before as after organization of the boards, it is difficult to see how board operation has exerted any additional influence over either producer price or general marketing efficiency.

The situation which caused development of the Ontario Hog Marketing Board was entirely different from that just described. Ontario producers were primarily concerned with the need for price rather than quality improvement. They had become more and more convinced that buyer competition had well-nigh disappeared and that the prices which they received reflected this lack of competition among the buyers and lack of bargaining power on the part of producers. The practice whereby hogs were taken directly from the farms to the packing plants by truckers had replaced all but a small part of the selling on the open market and producers contended that this had left price determination entirely in the buyer's hands. In view of these developments producers felt that they were being paid prices which were far below the true competitive level. In their opinion what was needed was elimination of direct marketing with its trucker-packer relationships and its replacement by some system which would put producers in a position where they could force packers to compete actively with one another for their hog requirements. In short, what they wanted was either a full-fledged restoration of the open market type of selling or a selling technique which would give at least equivalent results.

Organized in 1945 the Hog Marketing Board first tried to improve prices by means of negotiation. A negotiating committee representing producers and packers was formed and from 1946 to 1951 price negotiation was attempted. During this period also the board collected licence fees from producers and added greatly to the strength of the provincial hog producers' association. However, despite these developments, marketing methods remained unaltered. And, when in 1951 the processors announced that they would not negotiate in respect of prices, the negotiating committee was disbanded. As a result of this experience the board decided to establish a marketing agency. After prolonged discussions with the livestock commission firms operating on the Toronto stockyards a private company representing these firms and known as United Livestock Sales Company was formed and began operating as the board's selling agent in February 1953. This agent was authorized to establish prices, to sell and direct the movement of hogs and handle payments to producers.

Between February 1953 and March 1955 the agency tried to improve the price situation but met with limited success. Since it was only able to exercise control over the 10% of the hogs that were marketed via the stockyards, its bargaining power was limited. It was further limited by the packer practice of paying bonuses to truckers to induce them to bring hogs from more distant areas. This practice naturally tended to reduce still further the percentage of hogs going to the stockyards. In view of this situation the board decided that further changes in the marketing system were necessary. As a first step the private company was replaced as sales agency in April 1955 by the Ontario Hog Producers' Co-operative which was specially organized for the purpose. Following this a program calculated to eliminate the direct marketing and packer-trucker arrangements was instituted. Assembly yards were gradually established at several points in the major hog-producing areas. Although establishment of these yards was authorized in 1956 for the area covered by Grey and Bruce counties, it was not until after the Supreme Court of Canada rendered its decision regarding the legality of the Ontario Farm Products Marketing Act and the regulations of the Hog Producers' Marketing Board in January 1957 that the board felt free to proceed with its assembly yard program. Legal technicalities further delayed actual issue of the necessary orders until September 1957. Since then the number of assembly yards and the counties served by them has been rapidly increased and at present the bulk of the province's hogs are required to be taken to one or other of these points and held there until sold by the board's selling agency. They are then transported at the expense of the packing plants which buy them.

Supplementing the assembly yards are the activities of the selling agency which operates from a central headquarters in Toronto. The hogs are sold by telephone to the highest bidder. Agency headquarters has teletype connections with the assembly yards. It also has daily contact with all major markets across Canada and two major United States markets. After examining prices being asked for various pork cuts in retail stores, taking note of the previous week's hog kill, expected hog delivery for the coming week, and reviewing hog prices at major Canadian and United States markets, the sales agency establishes an asking price. The various packers are then contacted by telephone and bids are solici-

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ted for lots of hogs of various sizes and in various assembly points across the province. The usual trade haggling follows until finally a price is agreed upon and a sale made. In the process the agency is able to play off one buyer against another. According to board officials the main principle followed is that the processor offering the highest bid will get the hogs.

Just what effect this method of marketing has had upon the price of hogs and the producer's net returns is a much-debated question. It appears impossible to either prove or disprove that it has increased the selling price. Comparison between Ontario prices and those in other parts of Canada, before and after the advent of the agency method of selling, are, at the very best, subject to many indeterminate variables. It seems doubtful also whether the mere fact that the board has control of supply and is able to play off one buyer against another necessarily results in increased competition between the buyers. If, as the producers commonly allege, the larger packers actually agreed tacitly or otherwise to refrain from active bidding in the pre-board days, there seems no reason why they could not continue to do so now if they were so inclined. Furthermore, the mere fact that most of the packing plant capacity is represented by four of the largest firms would seem to make it relatively unnecessary for these firms to bid very actively. Since they possess so much of the processing capacity they know that they are certain to get a large percentage of the hogs sooner or later whatever their price bids. However, the new system undoubtedly makes it more possible for the fairly numerous small packers to get hogs than under the former set-up. To the extent that the large packers refrain from bidding altogether, or until close to end of each market day, the small packers will get hogs since they will obviously be the highest if not the only bidders. And if, as appears to be the case, the small packers are now securing a larger percentage of the hogs than previously, the larger packers may feel impelled to bid somewhat more keenly in order to get something like their accustomed supplies. Such action would, of course, have some price-raising effect. Apart from the above considerations, however, there is the important fact that selling is now being done by people who have specialized bargaining skill and who are acting on the basis of very complete market information. This in itself should make for considerably increased producer bargaining power and correspondingly higher prices. On the other hand it is still true that producers are much less able to delay their sales than packers are to delay their purchases. Hogs must still be sold when they reach certain weights and degrees of finish. This fact tends to weaken the seller's bargaining power.

Whatever the effects on prices and incomes may be today, they were practically non-existent during most of the period of special concern to the Commission. Nevertheless, this particular board and its program are of very real interest from the standpoint of future as well as present marketing policy. The uniqueness of the program and the fact that it affects the welfare of such a large number of producers have made it easily the most controversial one in eastern Canada.

The British Columbia Experience

Without question the most thoroughgoing Canadian attempts to secure farmer benefits through controlled marketing have taken place in British Columbia. Whereas marketing boards in other provinces have sought to raise farm prices and incomes by negotiating minimum selling prices, strengthening producer bargaining power or following a two-price plan, the British Columbia boards have used a wide variety of control methods and most of them contemporaneously. This has been particularly true of the British Columbia Fruit Board. This board has controlled such matters as the time and place of marketing, the quantity and quality of the product marketed, the percentages of the product marketed in the fresh and processed forms, the nature of the containers used, etc. It has also sought to expand demand by undertaking elaborate advertising programs and developing new types of processed products through extensive research. It has also undertaken large scale processing operations and performed its own brokerage functions so far as western Canada is concerned. In short it has made the most extensive use of the special legislation authorizing the creation and operation of marketing schemes of any board in the country.

Prior to 1939 the board's only method of influencing prices consisted in regulating the flow of products to market. In that year, however, a one-desk deal or central selling scheme was instituted. Operation of this plan has meant that all the selling has been done by B.C. Tree Fruits Limited, the board's selling agency, and that all sales returns to growers have been pooled. The agency does all the selling and controls and directs the movement of the products but never takes actual physical control of them. This control is maintained by means of three-way contracts between growers, shippers or packing houses and B.C. Tree Fruits, the central selling agency. The essential point in these contracts is that growers and shippers give the agency the right to sell all the product and to conduct pools to handle all returns.

In 1946 the board decided to enter the processing business and purchased four processing plants. The purpose of this was two-fold. One objective was to make use of what would normally be waste fruit, the cost of sorting of which had to be added to the cost of packing good fruit. The second purpose was to take lower grade fruit off the fresh fruit market and thus secure better returns for the better grades which remained.

The various types of control undertaken by the B.C. Fruit Board are said to have resulted in a number of savings. These are supposed to include savings resulting from effecting low and standardized brokerage fees, economic allocation of shipments due to reduction of the so-called re-shipment problem, development of a standard policy in respect of claims, and using cold storage facilities to the best possible advantage. Apart from making savings, however, the board's main concern has been with the possibility of raising the average price obtained. This aim has been sought through applying the principles of orderly marketing, centralized selling by specialized and well-informed salesmen, product differentiation and price discrimination. The board's

ability to apply these principles stems mainly from its control over 100% of the product. This singleness of control makes it possible to decide when or where to sell, at what prices, in what forms, etc.

While it is obviously impossible to calculate any effect which the board may have had on the marketing spread in many areas where British Columbia fruit is sold, it has seemed to us that there might be at least some possibility of determining whether the board's operations had exerted any influence on the spread in British Columbia itself. Whereas in other areas such as central Canada, the United States and the United Kingdom, the price spread for apples relates to apples which come from several different producing regions, most apples sold and consumed in British Columbia are produced in the province and marketed through the B.C. Fruit Board. In view of this situation, therefore, we have examined certain aspects of the board's pricing policy. More specifically we have looked at the price lists issued by B.C. Tree Fruits Limited during the last few years. These lists are put out quite regularly, sometimes every two or three days. The prices shown on these lists are f.o.b. shipping point prices in British Columbia unless specifically stated to be otherwise. The significant thing about these prices is that they tend to vary from one market area to another.

The prices at which sales are made to British Columbia and Alberta are normally somewhat higher than those charged to buyers in Saskatchewan, quite significantly higher than those charged buyers in Manitoba, and very considerably above those charged buyers east of Fort William. The actual price differences appear to vary rather markedly from one part of the season to another, from year to year, from variety to variety and from grade to grade within a variety. At times only two prices are shown, one for all of Canada west of Fort William and one for Canada east of there. At other times four different prices are shown, one for British Columbia and Alberta, one for Saskatchewan, the Pas and Flin Flon, one for all Manitoba points west of Winnipeg and a fourth for Winnipeg and points east to Fort William and Kenora. At still other times additional prices are quoted for points east of Fort William and for the British Columbia Coast as distinct from the interior of British Columbia. Generally speaking the prices become lower as one goes from west to east, although there actually are times when prices are uniform for all of Canada. To illustrate the extent of these variations it may be noted that during most of the 1954-55 marketing season extra fancy McIntosh (Standard Box and Tray Pack 80S-88S) sold for $2.75 a 45-pound box to buyers west of Port Arthur and $2.20 to buyers east of there. In the same way, during about three months of the 1955-56 season a box of these same apples sold for $2.75 in British Columbia and Alberta and $1.95 in Winnipeg and as far east as Port Arthur and Kenora. What price was charged east of there is not shown, presumably because it was not found possible to meet the competition of Ontario, Quebec and other eastern producers in that year of unusually large supplies and low prices. The point to be noted is that the prices charged in British Columbia and Alberta, where it is not necessary to fear competition from eastern Canadian growers, are usually somewhat higher than those charged further east. In order to sell to eastern Canadian buyers, B.C. Tree Fruits must quote a price that will permit the buyer to pay the cost of transporting the product from British Columbia and sell it in competition with the

apples produced in eastern and central Canada. The natural protection provided by long-distance transportation cost makes it possible for B.C. Tree Fruits to practise price discrimination against the more western buyers. There seems little doubt that this discrimination is a definite part of the agency's pricing policy.

If, in some years, the spread in British Columbia or Alberta is wider than elsewhere, it may well be due to the fact that the list price charged for that part of the apples sold for consumption in these provinces is somewhat higher, on the average, than the price received for all British Columbia fresh apples sold to all buyers. That is, it may well be due to price discrimination against the British Columbia and Alberta buyers. That part of the spread between the price finally received by the producers and the price paid by the first buyer tends to be widened by the practice of price discrimination. At the same time it should be recognized that the farm price itself is made somewhat higher because of price discrimination against western buyers. The farm price is made higher to the extent that some of the buyers are made to pay higher (discriminatory) prices. However, the price discrimination raises the farm price far less than the list price charged the British Columbia and Alberta buyers. This is because the farm price is the result of all sales to all markets. It is an averaged pool price resulting from sales at non-discriminatory as well as at discriminatory prices.

There is, however, another reason, apart from the influence of price discrimination, why the operations of the marketing board might affect the width of the spread in British Columbia. Since the board pools all its marketing costs, the spread in British Columbia is likely to be made wider to the extent that that part of the product which is sold and consumed in British Columbia must bear part of those costs which the board must meet in respect of the largest part of its sales which are made elsewhere. Thus, the retail prices in parts or all of British Columbia may be higher than they would be otherwise, partly because the board's list price is higher in British Columbia and partly because British Columbia consumers must share some of the costs of marketing at more distant points. Here again, however, there seems no reason to believe that this particular influence on the spread has been any more pronounced in the last decade than in the years immediately prior to that.

In considering the British Columbia or Alberta spread it is necessary to realize that a large fraction (around half) of the total spread consists of the various costs of the shippers, i.e., the difference between the gross amount returned to the shippers by the selling agency (B.C. Tree Fruits) and the net price finally received by the growers after the shippers' costs are deducted, and that the operations of the B.C Fruit Board or its agency, B.C. Tree Fruits, cannot possibly influence these shippers' costs to more than a limited extent. It may be that the orderly marketing policy pursued by the board has lengthened the apple storage period or increased the percentage of the fruit that is stored and thereby added to the unit cost of storing. It could also be that, by stressing quality improvement and increasing the number of grades or classes in which fruit is sold, the board has increased the cost of packing and inspecting. Apart from ways such as these, the

board could probably only influence the width of the spread by charging discriminatory prices. It should be noted, however, that any effect the board may have had on the spread for the reasons just cited has probably not been any greater in the last few years than in the late forties or early fifties. Indeed there is every reason to expect that the increasingly intensive competition which the board has encountered in more recent years from Washington, Michigan and eastern Canada has reduced considerably its opportunities to gain from using price discrimination tactics. This would suggest that any effect which the board's price discriminating policy may have had on the width of the spread in certain areas has been decreasing rather than increasing in recent years.

While the B.C. Fruit Board has had the longest continuous existence of any marketing board in the country and is generally reputed to have had an outstanding record of performance, it is by no means the only marketing board in British Columbia. Apart from the milk marketing board which was created following the Royal Commission report in 1955,[1] both the British Columbia Interior Vegetable Marketing Board[2] and the B.C. Coast Vegetable Marketing Board have been in existence since 1935. Both of them have experimented with a wide variety of controls and both have used the central selling agency technique. The Coast Vegetable Board has been particularly active in extending the sphere of its operations. A co-operative was formed to act as its marketing agency in 1945 and all growers were required to market through it. A large warehouse was constructed in 1947. This now provides cold storage facilities, and grading, washing, sorting and packaging equipment, as well as office space and a laboratory for testing potatoes. In an attempt to meet increasingly effective competition from potatoes grown in the State of Washington an extensive grading, packaging and branding program was instituted in 1952. The operation is on a large scale and results in low-cost packaging which, in turn, has helped greatly in meeting United States competition. In 1959 the board announced that it is starting to construct a second plant to cost $600,000 in Richmond on the north arm of the Fraser River.[3] It will have facilities to grade, wash and pack about 400 tons of potatoes per day and storage space for 7,000 tons. It is expected that the plant will handle about 40,000 tons annually of Fraser Valley vegetables. Rail siding facilities are to be provided to permit shipment of produce to prairie markets.

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1 Report of the British Columbia Royal Commission on Milk, 1954-55, Queens Printer, Victoria, B.C.

2 Despite its lengthy existence, this board has encountered many obstacles and at present faces some very serious problems. For a detailed account of this board's development, its marketing methods, the nature and causes of its present problems, together with suggested requirements for their solution, see Report on the British Columbia Interior Vegetable Industry by E.L. Menzie, Department of Agricultural Economics, University of British Columbia in co-operation with the British Columbia Department of Agriculture, 1956.

3 Canadian Grocer, April 25, 1959.

The Milk Marketing Boards

Before concluding this discussion something should be said about the milk marketing boards which have been operating in the several provinces since the mid 1930's. During the public hearings of the Commission, witnesses in different parts of the country suggested that these particular boards had been very successful in preventing spreads from widening. Because of this alleged success it was further suggested that the type of marketing represented by the milk boards might well be copied in connection with the marketing of farm food products generally.

In considering these suggestions it seems necessary to refer briefly to the special circumstances which gave rise to these boards as well as the general nature of their activities. Prior to 1933 or 1934 the prices obtained for milk for fluid consumption were the result of voluntary negotiation between representatives of producer and distributor organizations. By 1933, however, the prices paid at cheese factories and creameries fell so low that farmers who normally supplied these outlets tried to secure a higher price by offering milk to fluid milk consumers at prices somewhat lower than those specified in the voluntary agreements between the regular producers and distributors. This extra milk was sold by a new crop of distributors and usually in unpasteurized form to consumers whose buying power was low due to wage reductions and unemployment. The result was that the volume of business of regular distributors declined, buying and selling prices lost all semblance of constancy and the voluntary price agreements became completely unenforceable. In these circumstances regular producers and distributors appealed to their provincial governments to bring order out of chaos by establishing producer and consumer prices, controlling the number and kind of distributors and exercising general supervisory powers.

These appeals, plus a general concern about the maintenance of enough milk of high quality, led to the passage of milk control acts in the several provinces. The situation was considered to be serious and the legislation was looked upon as emergency in character. While it provided for boards with almost complete control over all phases of marketing, in practice the boards have been concerned chiefly with setting prices and licensing and bonding distributors. To a lesser extent they have been concerned with testing milk in distributing plants, regulating rates charged for transporting milk from the farms and investigating the possibilities of reducing spreads in distribution. It is significant that this type of regulation has called for regulation of existing marketing agencies and methods rather than any attempt at performing the actual marketing functions by the boards themselves.

Though they were created to deal with an emergency situation the boards have continued to operate, chiefly because producers have practically insisted on the maintenance of governmental assistance in setting prices. They have argued that, without this help, their ability to bargain relative to that of the distributors would steadily diminish in view of the tendency of the latter to become fewer and larger.

When the boards were first set up, and for many years thereafter, prices were set at the consumer as well as at the producer end. This automatically established the width of the margins or spread. As time went on, however, it was felt by some that the fixing of retail prices was making it unnecessary for distributors to compete with one another and thereby discouraging the possibility of securing further marketing economies and reductions in the prices charged consumers.[1] In an attempt to encourage such economies and price reductions some of the boards in more recent years have eliminated fixed retail prices. In most, if not in all cases, however, they have provided maximum levels above which retail prices cannot go. They have thus set maximum retail prices but no minimum ones.

The suggestion that the fixed retail price should be removed has encountered considerable producer opposition. Such opposition was voiced by several producer representatives during the Commission hearings. In British Columbia, where the fixed retail price was removed in 1953, the representative of the provincial Federation of Agriculture expressed strong opposition.[2] Similar objection was registered in Prince Edward Island, Nova Scotia and New Brunswick. This opposition appears to be based on a fear that removal of a fixed price at the retail end will make it more difficult for some distributors to earn their accustomed income with the result that distributors will press for relief in the form of reduced prices at the producer end. There is also the fact that, in the price negotiations which have taken place over the years, there has been a tendency to divide any increase or decrease in the retail price fairly equally between the producers and distributors. It is undoubtedly easier to do this when the retail as well as the producer price is fixed.[3] Moreover, when a given increase or decrease in retail price is divided equally between the two groups, the producer's share of the consumer dollar tends to remain unaltered.

In respect to the general suggestion that the milk board pattern should be considered for the marketing of other products, there is one point that deserves special consideration. In the marketing of fluid milk it has been possible to maintain fixed producer prices mainly because any milk that could not be sold for fluid consumption at these prices could be disposed of for other uses at so-called surplus prices. It is difficult to see how a similar procedure could be adopted in the case of most other farm products. It may well be that the apparent tendency of agricultural producer groups generally to advocate the milk board

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1 Report of the Ontario Royal Commission on Milk, 1947, pp. 106-111.

2 Proceedings, p. 79.

3 In respect to retail milk prices there is the further practical requirement that, whenever a retail price is changed, it has to be changed by 1¢ or ½¢ per quart. The use of other fractions of varying sizes is simply not workable in practice. Furthermore, in those provinces where the formula method of making price adjustments is used, the usual practice is that no adjustment is made until the formula indicates a 19¢ per 100 pound variation in either direction. Nineteen cents in the producer price is equivalent to approximately ½¢ per quart in the consumer price.

type of marketing is due to the fact that fluid milk represents a case where it has been found possible to limit supply and thus prevent a drop in producer price. There is, of course, the further fact that some of the boards have made considerable use of special cost-study data when setting producer prices. The fact that this practice has helped to maintain milk prices at levels satisfactory to producers may also help to explain why producers have suggested that the methods followed or represented by the milk boards might well be applied in connection with the marketing of other farm products. In view of the recent farmer concern with falling selling prices, the fact that fluid milk prices have been well maintained may have considerable significance.

In line with what has just been said there is one further general comment we wish to make in regard to marketing boards in general. The fact is that, thus far, Canadian marketing boards, other than the milk boards just mentioned, have been trying by one means or other to obtain the highest possible price for all of the various commodities that happened to be produced. In other words they have not attempted to raise price by controlling production. There has been no attempt to interfere with the free-entry principle. This suggests that, if the boards have in fact managed to raise prices, they have thereby provided a special incentive to expanded production which sooner or later will produce price-depressing effects. Should this happen, any price-raising benefits that may have been derived from marketing board action may prove to be rather short-lived.

General Summary

The foregoing discussion of marketing boards can perhaps best be summarized in the form of a series of general statements as follows:-

1. The demand for legislation providing for marketing boards with power to exercise 100% control over supplies arose when experience proved that certain kinds of marketing activities and objectives could not be achieved through voluntary co-operation.

2. The demand was also partly due to the pronounced drop in farm incomes during the depression years and the growing farmer conviction that effective producer bargaining power could not be obtained without complete ability to control supplies.

3. The essential feature of all marketing boards is the ability to compel a dissenting minority of producers to fall in line with the wishes of the majority.

4. The general objective of the boards is to raise farm prices and incomes by undertaking special types of control in connection with marketing.

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5. In attempting to achieve this objective, marketing boards have adopted widely different kinds and degrees of control. The majority of the Ontario boards and those established so far in Quebec have concentrated on collective bargaining. For this reason they have come to be known as negotiating boards. Other boards have sought higher prices by controlling the rate of flow to market, by expanding demand through improving quality and advertising, by charging different prices in different markets, by selling different varieties or grades of a product to different income groups, by varying the form in which a product is sold or by using control over supply to achieve economies of scale in the performance of marketing functions.

6. Despite the fact that all provinces possess the necessary permissive legislation, the actual extent to which marketing boards are employed in Canadian farm food marketing, is, after all, still relatively limited. Canadian marketing board activity has so far been limited geographically, in respect of the number of products handled, in respect of the length of operating period, and in respect of the number and variety of control measures employed.

7. Despite these definite limitations marketing board development has been both considerable and continuous. The total number of boards has shown a steady increase.

8. Thus far the major part of marketing board activity has taken place in Ontario and British Columbia.

9. Boards may be classified into three general types - negotiating, negotiating-agency, and central agency boards. Generally speaking, these three classes really represent variations in the scope of board activity. The sphere of activity tends to widen and the number and variety of control measures tends to increase as one passes from the negotiating to the agency type.

10. The particular type or types of control employed depend upon many factors including the nature of the commodity being marketed, the need for gaining experience, the amount of capital available, the willingness or unwillingness of producers to submit to specific kinds of control, distance from market, the particular pattern of the already-existing marketing structure and the nature of the producers' diagnosis of specific marketing problems.

11. Actual experience with the negotiating type of board indicates a considerable variation in the ability to influence producer prices. In certain cases a board's ability to influence prices has been limited by the necessity of meeting outside competition, or by the fact that anticipated supply and demand varied greatly from the actual supply and demand which eventuated several months later. It would appear that a negotiating board cannot have any price-raising effect unless the negotiated price is also the price at which a product is actually sold.

12. Thus far Quebec marketing board activity has been primarily concerned with the creation and operation of joint marketing plans which involve price negotiations between producer and buyer representatives.

13. There appears good ground for believing that, in a good many cases, the bargaining power of producers has been strengthened considerably by the use of negotiating committees. The ability to use the collective bargaining principle, the probability that producer-bargaining representatives have possessed better than average bargaining skill, the very considerable addition of general market information, and the fact that prices have been based,to some extent,on the results of special cost studies, have all been factors making for increased bargaining power. On the other hand, there have apparently been instances where producer representatives have deliberately refrained from pressing for higher prices during negotiation proceedings.

14. On balance, the greater equality of bargaining power resulting from action of marketing boards has probably meant some improvement in producer prices. If such has been the case and, if it has been impossible to pass any or all of these higher prices on to consumers, as appears probable in at least some instances, operation of the boards may have indirectly narrowed the spread to some slight extent. However, it does not seem possible to determine whether or not this has, in fact, occurred.

15. Despite the probability that producer bargaining has been strengthened considerably, it seems unlikely that it has become as strong as that of the processors.

16. So far as negotiating boards are concerned, operating costs appear to have been extremely small.

17. In the case of at least two boards of the negotiating agency type - The Bean Growers' Board and Cheese Marketing Board in Ontario - the average price received by producers appears to have been increased appreciably as the result of the use of a two-price policy. However, the actual price benefit derived by producers has varied considerably from year to year.

18. While board programs may have benefited producers in these two cases, they have certainly resulted in Canadian consumers being discriminated against in the matter of price. In other words, the higher producer prices have been made possible because the United Kingdom demand was more elastic than the Canadian demand. This made it more possible to shift the burden of higher prices on to the consumers.

19. In connection with the cheese board's activities the net gains to producers have been increased quite considerably because various forms of assistance have been given by the federal and Ontario governments.

20. Of special significance is the fact that the price-raising efforts of the Ontario cheese board have benefited cheese producers in Quebec at no cost to themselves.

21. There seems every reason to believe that the New Brunswick Cheese Marketing Board has managed to secure significantly higher producer prices. Since these higher prices have been due mainly to the board's storage and orderly marketing program, it seems unlikely that retail prices have been either increased or decreased. To the extent that this is so, the board's activities have contributed to some narrowing of the spread.

22. Since the basic objective of the Nova Scotia and New Brunswick Hog Marketing Boards has been to maintain the practice of marketing through a co-operative sales agency it is difficult to see how operation of these boards has influenced either producer price or general marketing efficiency. They have simply served to maintain a situation which existed before the boards were created.

23. It appears impossible to either prove or disprove that the activities of the Ontario Hog Marketing Board have increased producer prices. In any case, whatever the effects on prices may have been recently, they were almost non-existent during most of the period of special concern to the Commission.

24. By far the widest variety of control methods has been used in the case of the British Columbia marketing boards. This is particularly true of the British Columbia Fruit Board which has controlled such matters as the time and place of marketing, the quantity and quality of the product marketed, the per cent marketed in fresh and various processed forms, the nature of the containers used. It has also undertaken extensive research, sought to expand demand through advertising, and performed processing and brokerage functions. The British Columbia Fruit Board has sought to raise producer prices through regulating the flow to market, employing specialized and well-informed salesmen and practising price differentation. In short, it has made the fullest use of controlled marketing legislation of any board in Canada.

25. The general practice of the board is to sell to British Columbia and Alberta buyers at higher prices than those charged buyers in other provinces. There seems no reason to believe, however, that any such price differences have been more pronounced since 1950 than in the immediately preceding years. Indeed it seems likely that they have become considerably less in more recent years.

THE CHANGING SITUATION IN THE CANADIAN FARMING INDUSTRY, 1941 TO 1957

A. The Scope and Purpose of the Study

The marked changes that have occurred within the farming industry since World War II have had a significant effect on the level of farm prices.[1] Two of the important changes in farming have been the introduction of improved production techniques and substantial increases in the amounts of capital invested in machinery and equipment, farm buildings and livestock. The effect of these has been a substantial increase in the level of farm output (supply) with consequential effects on the levels of prices received by farmers for their products. This study presents an analysis of the data reflecting the changes in agriculture in relation to prices and incomes for the years 1941 to 1957.

The period 1951 to 1957, when farm prices declined sharply and then levelled off, is of immediate interest. To the extent that the decline had its origins prior to 1951, it is desirable to look back into the earlier period for developments in certain lines. Comparisons are made for shorter time periods representing the sharply changing conditions affecting agriculture. Thus the years of World War II, 1941 to 1945, were significantly different from the peace-time era, 1946 to 1950. The outbreak of hostilities in Korea in 1951 brought a peak in farm price levels, the effects of which percolated through to 1953. The most recent period, 1954 to 1957, is representative of a struggle of agriculture to adjust to longer-run trends.

There is a certain degree of regional specialization in Canadian agriculture. Changes in farm prices, therefore, have varying effects on different producing regions. In the ensuing analysis reference is made to the varying impact on different regions of changing prices of farm products and changes in farm technology.

Resulting from the agricultural development of the last two decades, there has been a sharp decline in the number of farms and in the total labour force employed in agriculture. For this reason, aggregate value and volume figures for items such as farm income and farm capital reflect inadequately the full impact of technological changes upon the farm enterprise as a unit. The analysis in this study, therefore, is based upon an "average per farm".

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1 For a general economic study of the changing situation in Canadian farming industry, the reader is referred to "Progress and Prospects of Canadian Agriculture", Royal Commission on Canada's Economic Prospects, 1957. Since issue of that study, data from the Census of 1956 have become available and also consequent revisions in several of the basic agricultural statistical series. These new data have been used in preparing this study and it was considered useful to present an analysis based on these data in this volume.

Counts of farms (using Census definitions) are not carried out in intercensal years. Because of this lack, the estimates of farms for years intervening between Censuses are derived from straightline interpolations. To the extent that changes in numbers of farms in any given year departed from the straightline interpolation, averages per farm, as shown in the tables, will be an under- or overstatement of the actual situation. However, the major interest in this study is the analysis of trends. In the main, the derivation of estimates of number of farms by a straightline interpolation would not affect significantly the year-to-year changes in averages per farm.

B. Conditions in Agriculture, 1941 to 1945

Conditions in Canadian agriculture in the early years of World War II were, to a large extent, a reflection of the preceding depression. The industry entered the war with depreciated and obsolete equipment, considerable unemployment (or underemployment) and heavy farm debts.

During the war, farm prices rose under the pressure of heavy wartime demand, but control measures limited the extent of increase in prices received and also maintained relative stability in input prices. But output increased and this, combined with higher prices, led to appreciable improvement in farm incomes. Net farm income from farming operations per farm, in terms of 1957 dollars, was $1,391 in 1941 and $2,133 in 1945 - an increase of some 57% in real terms.

As farm income improved, debts were paid off. Total farm debt for the Prairie Provinces, as reported in the quinquennial Censuses, in 1946 was only 54% of the amount reported in 1941. In 1941, 39% of all Prairie farms reported "mortgages and/or agreements for sale" as compared with only 25% in 1946. Further, the debt in absolute dollars was much easier to service because prices of farm products rose by 85% from the 1941 to the 1946 average.

The improvement in farm incomes came about while the agriculture labour force declined. Incomes per member of the farm labour force increased. But the difficulty of obtaining capital equipment in the war years was reflected in a decline in volume of sales of farm implements and machinery. This restrained the expansion of new investment and output to some extent, and set the stage for a period of rapid investment after the war.

C. The Era of Capital Improvement

The total value of farm capital increased considerably between 1941 and 1957, but the period of most rapid expansion began after the war in 1946 and continued through to the early '50's. There was a strong demand for farm products immediately following the war. As

decontrol proceeded, the domestic market adjusted to peace-time needs. The export market revived as war-devastated countries depended more on North American supplies. Farm prices rose as supplies were inadequate for postwar requirements. Rising prices were an incentive to increase output, and the capital investment program grew apace.

Following the end of the war, the amount of capital per farm and per worker increased significantly. This strengthened the productive capacity of farms and farm workers, as will become clear in a subsequent section on changes in productivity. Table 1 shows the changes in the value of capital per farm, while Table 2 shows the changes in the value of capital per worker in agriculture.

TABLE 1. VALUE OF CAPITAL PER FARM: CANADA AND REGIONS, AVERAGES BY PERIODS, 1941 TO 1957

(Dollars)

	CANADA	Maritime Provinces	Quebec	Ontario	Prairie Provinces	British Columbia
			(actual dollars)			
1941-45	7,563	3,892	6,231	8,575	8,487	8,430
1946-50	10,920	5,230	7,956	11,660	13,284	12,390
1951-53	15,653	6,745	10,679	16,866	19,571	15,809
1954-57	17,228	7,342	11,886	19,179	21,053	18,023
			(1957 dollars)			
1941-45	14,665	6,473	10,098	17,531	17,982	15,163
1946-50	15,494	6,556	10,937	17,899	18,809	17,448
1951-53	16,806	6,922	11,733	18,989	20,495	17,732
1954-57	18,036	7,636	12,428	20,256	21,740	18,884

Source: Data from Dominion Bureau of Statistics, Agriculture Division.

TABLE 2. VALUE OF CAPITAL PER FARM WORKER: CANADA AND REGIONS, AVERAGES BY PERIODS, 1941 TO 1957

(Dollars)

	CANADA	Maritime Provinces	Quebec	Ontario	Prairie Provinces	British Columbia
			(actual dollars)			
1941-45	4,680	2,541	3,521	5,288	5,490	5,015
1946-50	6,820	3,580	4,413	6,748	9,167	7,450
1951-53	10,418	4,750	6,787	10,776	13,309	12,662
1954-57	11,857	5,234	7,466	12,628	15,419	14,718
			(1957 dollars)			
1941-45	8,942	4,220	5,702	10,818	11,467	9,015
1946-50	9,241	4,482	6,057	10,340	13,018	10,457
1951-53	11,059	4,875	7,456	12,135	13,935	14,187
1954-57	12,332	5,442	8,306	13,308	15,915	15,410

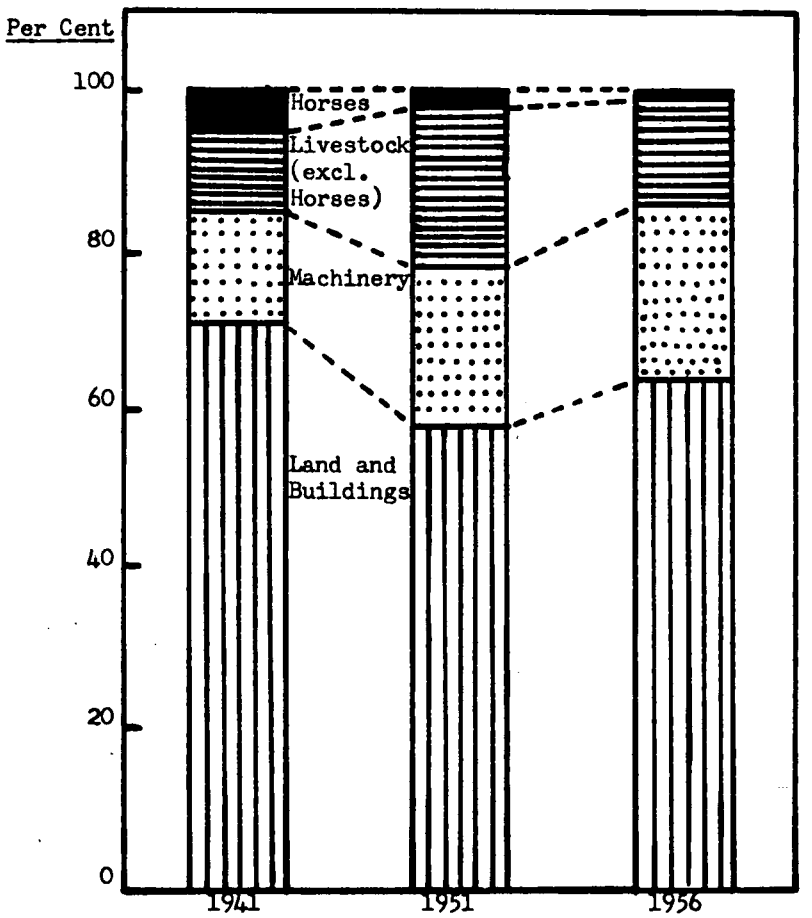
Source: Data from Dominion Bureau of Statistics, Agriculture Division.

Most of the increase in the value of farm capital in the postwar and Korean periods was a result of heavy investment in farm machinery and equipment, and a buildup of producing livestock (wool-, milk-, meat- and egg-producing animals) on farms. Increases in the total value of land and buildings were comparatively moderate, while both the numbers and values of horses declined drastically. Chart 1 shows changes in the percentage distribution of farm capital. The increase in the relative importance in terms of value of livestock (excluding horses) and machinery between 1941 and 1951 is readily apparent. The 1951 livestock values were exaggerated, particularly by the high prices prevailing at or near the peak of the beef cattle price cycle.

The rapid buildup of capital depicted in these tables and chart accounts, in part, for the condition of oversupply that later developed and contributed to the decline in farm prices after 1951.

One of the features of the "era of capital improvement" was the expansion in the average size of farms, as measured by area. Average area per farm in 1941 was 237 acres. By 1951, this had expanded to 279 acres - an increase of 18%. The trend continued through to 1956, when the average size of farms was over 302 acres - 28% larger than in 1941 and 8% larger than in 1951. The increase in the average size of western farms (particularly Saskatchewan and Alberta) proceeded at a greater pace than in the east. The average size of Saskatchewan farms, for example, was 40% larger in 1956 than in 1941, as compared to only an 8% increase over the same period for New Brunswick.

CHART 1. CHANGES IN THE DISTRIBUTION OF FARM CAPITAL, CANADA, 1941 TO 1956



The expansion in the average size of farms accompanied a reduction in the number of farms. There were only slight changes in the total land area in agriculture. In fact, the reported total area in agriculture for Canada in 1956 was slightly less than in 1951. The abandonment of farm land in the east was greater than any additions in the west.

Table 3 contains average values of livestock (excluding horses) on farms as at June 1 of each year for four periods between 1941 and 1957 in terms of both actual and constant (1957) dollars. Because horses are a source of farm power, they have been separated from "livestock" for the purposes of this analysis.

TABLE 3. VALUE OF LIVESTOCK (EXCLUDING HORSES) PER FARM, AVERAGES FOR SELECTED PERIODS AS AT JUNE 1: CANADA BY REGIONS, 1941 TO 1957.

(Dollars)

	CANADA	Maritime Provinces	Quebec	Ontario	Prairie Provinces	British Columbia
			(actual dollars per farm)			
1941-45	1,099	512	953	1,458	1,101	1,157
1946-50	1,753	836	1,541	2,443	1,687	1,635
1951-53	2,778	1,245	2,179	3,535	2,917	2,392
1954-57	2,387	1,051	1,874	3,081	2,570	2,154
			(1957 dollars[a] per farm)			
1941-45	1,896	894	1,523	2,537	1,941	1,991
1946-50	1,799	845	1,522	2,531	1,767	1,759
1951-53	1,938	904	1,632	2,734	1,940	1,602
1954-57	2,308	1,029	1,887	3,081	2,532	2,000

a Deflated by index of average values per head.

Source: Dominion Bureau of Statistics, Agriculture Division.

Aggregate values of livestock on farms at June 1 in the postwar years were greater than during the war years in terms of actual dollars. But average values per head were much higher; allowing for this change in value per head, in terms of volume (deflated values), there were fewer livestock in the 1946-50 period. There was a subsequent increase in the 1951-53 period, however - particularly in Ontario. The most marked increases came in the 1954-57 period for all regions in Canada. It should be pointed out, however, that these annual livestock inventories are materially influenced by cyclical movements in cattle and hog numbers. For example, the periods 1941-45 and 1950-57 include

a number of years representing upward phases in the cattle numbers cycle, while 1946-50 represents a downward phase.

The decline in the number of horses on farms was a direct result of the farm mechanization program. This is supported by the fact that the rate of decline in the western provinces has been greater than in the east and began at an earlier stage. Besides giving way to more productive methods of farming, the disappearance of horses released farm land which had been used to produce feed for these animals. This, in turn, increased the carrying capacity of farms for livestock destined for human consumption.

The number of horses on farms in Canada at June 1, 1957, was only 31% of the number at the same time in 1941. Prairie farms had 79% less horses in 1957 than in 1941, as compared with 53% less in Quebec and 56% less in the Maritimes.

Table 4 presents estimates of the dollar purchases per farm for new farm machinery and equipment since 1941. An adjustment for price changes indicates actual volume changes and index numbers of changes in volume of new purchases per farm are shown in Table 5.

It was not until 1946 that increases in volume of purchases of new farm implements and machinery became rapid. After the war the agricultural implements industry reverted to full-scale peace-time production, and volume of purchases showed progressive increases from 1946 through to 1951. The increases in purchases for the Prairie Provinces in the immediate postwar years were greater than for the eastern provinces. The peak year for the Prairie region was 1949, as compared to 1952 for the Atlantic Provinces.

The decline in volume of purchases per farm in more recent years is a reflection of the unfavourable cost-price relationship and also the substantial stock of farm machinery already on farms as a result of the rapid buildup in the earlier period, as indicated in Table 6.

Estimates of the value and volume of farm machinery on farms as at June 1 of each year for the four time periods since 1941 are presented in Table 6.

The average value of machinery per farm in the 1951-53 period was between three and four times as much as the average for the 1941-45 period for the Prairie Provinces, and from two to three times as much for Quebec and the Maritimes. In terms of physical volume there was an increase of well over 100% for the Prairies. On the whole, stocks were substantial in the early '50's and with the levelling off of new investment the increase in the most recent period (1954-57), was less spectacular.

The increase in volume of machinery and equipment was, in part, complementary to the decline in the number of horses on farms. There is a close correlation between the two. Tractors and tractor-drawn implements replaced the horse-and-plough and contributed

TABLE 4. PURCHASES OF NEW FARM IMPLEMENTS AND MACHINERY PER FARM, 1941 TO 1957[a]

(Dollars)

Year	CANADA	Maritime Provinces	Quebec	Ontario	Prairie Provinces	British Columbia
1941	769	248	397	854	1,064	527
1942	601	236	315	826	1,075	557
1943	445	162	219	449	641	344
1944	885	291	357	800	1,237	564
1945	973	399	435	927	1,443	716
1946	1,243	582	634	1,274	1,706	1,180
1947	1,882	671	817	1,781	2,821	1,571
1948	2,653	866	1,080	2,467	4,076	2,129
1949	3,412	868	1,215	3,097	5,494	2,282
1950	3,466	968	1,405	3,390	5,400	1,626
1951	3,803	1,146	1,773	3,918	5,673	1,918
1952	4,100	1,557	1,798	3,473	6,556	1,927
1953	3,959	1,373	1,586	3,105	6,589	1,753
1954	2,472	944	1,328	2,722	3,370	1,660
1955	2,619	1,257	1,731	3,067	3,189	2,069
1956	2,982	1,411	1,902	3,051	3,966	2,058
1957	2,640	1,009	1,978	2,777	3,397	1,558

a Values at wholesale prices.

Source: D.B.S. Farm Implement and Equipment Sales (annual).

TABLE 5. RELATIVE CHANGES IN THE VOLUME OF PURCHASES OF NEW FARM IMPLEMENTS AND MACHINERY PER FARM, 1941 TO 1957.

(1941 = 100)

Year	CANADA	Maritime Provinces	Quebec	Ontario	Prairie Provinces	British Columbia
1941	100.0	100.0	100.0	100.0	100.0	100.0
1942	92.9	90.9	75.6	92.1	96.3	100.7
1943	54.0	61.1	51.7	49.2	56.0	59.8
1944	106.1	109.7	83.5	87.2	106.9	98.2
1945	119.9	153.8	104.5	103.7	128.3	128.4
1946	148.3	217.6	147.4	137.9	146.8	204.8
1947	211.4	235.9	179.0	181.0	228.2	256.3
1948	265.4	272.0	211.2	224.4	294.4	310.1
1949	305.6	243.4	212.3	251.6	354.8	297.2
1950	297.4	262.3	237.2	266.6	333.7	202.6
1951	288.5	274.2	264.0	271.2	310.0	211.4
1952	297.5	356.8	256.9	230.7	341.9	202.7
1953	285.0	313.6	225.6	205.3	340.9	182.9
1954	177.1	215.0	188.3	179.5	173.2	172.0
1955	186.8	284.2	243.6	200.7	163.3	213.8
1956	202.0	300.2	252.1	188.0	193.4	202.4
1957	167.2	199.0	243.0	158.6	155.5	143.9

Source: Adapted from data in Table 4.

TABLE 6. VALUE OF FARM MACHINERY PER FARM AS AT JUNE 1: CANADA BY REGIONS, AVERAGES FOR SELECTED PERIODS, 1941 TO 1957.

(Dollars)

	CANADA	Maritime Provinces	Quebec	Ontario	Prairie Provinces	British Columbia
			(actual dollars)			
1941-45	1,065	474	699	1,120	1,383	905
1946-50	1,935	799	1,113	1,932	2,673	1,642
1951-53	3,343	1,241	1,710	3,253	4,886	2,331
1954-57	3,817	1,544	2,072	3,900	5,295	2,634
			(1957 dollars)[a]			
1941-45	2,075	928	1,369	2,190	2,692	1,757
1946-50	3,411	1,265	1,761	3,047	4,132	2,550
1951-53	3,877	1,459	2,011	3,826	5,635	2,689
1954-57	4,130	1,687	2,264	4,263	5,754	2,634

a Deflated by relevant price index of farm machinery.

Source: Dominion Bureau of Statistics, Agriculture Division.

significantly to the increase in farm labour productivity. Machines replaced both horses and men.

Larger areas could be cultivated with the help of machinery and this encouraged the expansion in the size of farms by consolidation in the east, and by a combination of consolidation and introduction of virgin land in the west.

D. The Impact of Changes in Productivity

The process of farm mechanization, improvement in livestock breeds, improved varieties of crops and seed, control of insects and diseases, and better farming techniques have all contributed to the increase in farm output.[1] The increase in output, occurring at a time when the farm labour force declined, resulted in a substantial increase in output per man.

However, output per man is not the best measure of productivity, since the number of working hours per man were also declining. By dividing the index of physical volume of production by an index of the farm labour force, an index of gross output per man has

1 See pp. 79 to 91, "Progress and Prospects of Canadian Agriculture", Royal Commission on Canada's Economic Prospects, 1957.

been obtained. This derived index is a rough guide to changes in productivity, providing qualifications about changes in capital and purchased inputs are kept in mind.

Volume of production (output) fluctuates from year to year and the index is materially affected by fluctuations in grain output. The peaks in Chart 2 for the years 1942, 1951-53 and 1956 coincide with peaks in the output of grain, which resulted primarily from exceptionally favourable growing conditions. The peak in the index of output per man came as late as 1956.

The decline in the farm labour force, after 1946, coincides with the start of the intensive farm mechanization program. Machines replaced men. The most marked decrease in the farm labour force occurred in the Prairie region where the mechanization program had proceeded apace.

The trend line indicates a marked increase in rate of gross output per man over the period of study at a rate of some 4.4 percentage points per year. Output per unit of farm labour in 1955 was over 50% higher than in the 1946-50 period. In the favourable crop year of 1956, it was over 80% higher and was 45% greater in 1957. The capital: labour ratio was higher in the latter years; in terms of physical volume, there was, on the average, 33% more capital available per farm worker in the 1954-57 period than there was in 1946-50.

The increase in farm output has been facilitated by an increase in inputs - particularly purchased inputs. As mechanical power displaced animal power, farmers had to buy more oil, grease, gasoline, and other things with which to run their machines. Better farming techniques entailed greater use of fertilizers and sprays. Thus, agriculture became more dependent on other industries as a srouce of inputs.

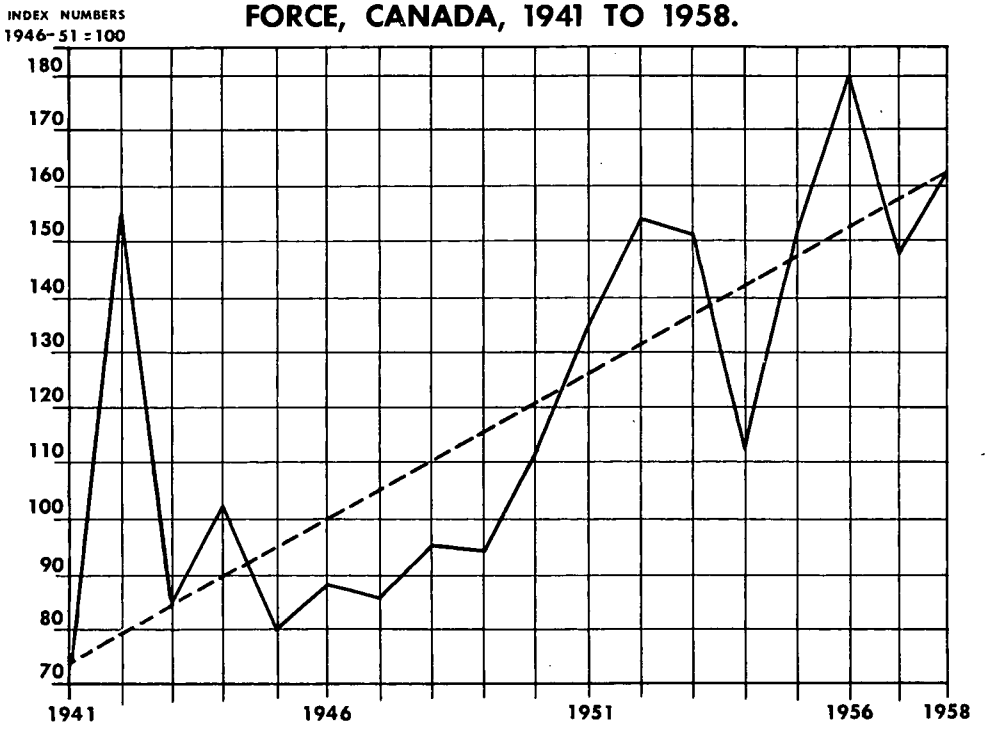
Output-input relationships are of interest in this analysis on two accounts. First, the quantity of inputs in any year gives some indication of <u>planned</u> changes in output. In a longer-run context, changes in the ratio of output to input are a measure of changes in the overall productivity of agriculture.

The index of physical volume of output was divided by the index of volume of input to derive output:input ratios. The average for the output-input ratio in the period 1951-53 was 18% higher than the average for 1946-50, while that for the most recent period, 1954-57, was about equal to the average for 1946-50.

Output fluctuates from year to year because variables, such as the effects of nature, e.g., weather, are as yet mainly unplanned, but the trend has been on the whole upward. Inputs are more stable in the short run, and have shown a strong upward trend since 1941 - particularly in periods when farm prices were high relative to input prices. In spite of the break in farm prices in 1951, the volume of input

CHART 2

TREND IN OUTPUT PER MEMBER OF THE FARM LABOUR FORCE, CANADA, 1941 TO 1958.



continued to increase, indicating that farmers were still planning to increase output in these years, and so output continued to rise. It was not until 1957 - some years after the break in farm prices and the development of unfavourable cost-price relationships - that the volume of input declined, but was still 12% higher than the average for 1946-50.

E. The Implications in Terms of Farm Prices

Farm prices increased steadily and rapidly from 1941 until 1951, when they reached a peak of 197% above the average for the 1935-39 period. Then prices declined sharply from 1951 until 1954, and have remained relatively stable since then. Since price is related to demand and supply, it should be possible to explain changes in prices in terms of these two variables. But demand and supply are, in turn, influenced by several other variables. Some of the variables on the supply side and the net effect of these on the level of farm prices is the subject of discussion in this section.

During the war years, the demand for agricultural products rose faster than supply. The Canadian farming industry was recovering from the prewar years of low levels of output caused, in large measure, by adverse weather conditions. The demand for food at home and abroad pressed hard on the available supplies, raising farm prices. Farmers had difficulty getting factors of production (e.g., capital in the form of machinery) during the war, and this restrained increases in output. Wartime controls became necessary. But in relation to requirements, shortages of food supplies became even more acute immediately after the war. Production in countries where combat was heavy was seriously disrupted, and the onus fell on other countries, including Canada, to meet the needs of these countries. Meanwhile, relaxation of controls at home unleashed the domestic demand for all consumer goods, including farm products. This increase in demand intensified the pressure on available supplies, and farm prices rose rapidly in the postwar period.

Rising farm prices were an incentive to increase production, and with more resources now available, farmers began a program of expanding output. There is evidence of this in the buildup of capital investment on farms starting in 1946. The mechanization program got underway at about this time. By 1947, the volume of purchases per farm of farm implements and machinery, was 2½ times that of 1941. Technological improvements resulted in increased productivity per man, per acre, and per animal unit, with favourable weather conditions also contributing. Supply was rapidly catching up with demand as output increased and shortages abroad became less acute as the agriculture of war-devastated countries recovered.

The outbreak of hostilities in Korea disturbed the process of readjustment. Farm prices rose to even greater incentive levels, while

unit prices of inputs lagged. Farm prices in 1951 rose over those of 1950 on the average of 13.8%, a rate of increase that was exceeded only in 1948 when farm prices rose by 18.5%. As the Korean situation eased, demand for agricultural products and other raw materials slackened. By this time production had well recovered in Europe. But output was at a high level and farmers were planning further increases. The volume of purchases of implements and machinery per farm in the years 1949 through 1953 averaged almost three times that of 1941, even though the inventory of machinery per farm in June, 1951, was 16% greater in volume than in 1949. The average volume of inputs in the 1951-53 period was 8% higher than the average for 1946-50 and total output rose to peak levels with favourable weather.

The break in farm prices came in the latter part of 1951 and reflected the pressure of supplies on the market. Farm prices fell by 8% in 1952.

It was shown that farmers were still planning increases in production in 1951. This continued in spite of the decline in farm prices which began in 1951 and continued through to 1955. The quantity of machinery per farm continued to rise during these years. An increase in investment is reflected at a later stage in increased output. Capital investments of a durable nature are committed inputs and this makes it more difficult to reduce output. Average volume of inputs for the years 1954-57 was 13% more than the average for 1946-50, while volume of output was 14% higher.

Generally favourable weather conditions prevailed in the early '50's and this helped to increase crop yields. The peak years of output, 1951-53 and 1956, coincided with high grain output resulting from good weather.

The continued application of improved techniques in the 1951-57 period increased productivity further, thus contributing to the oversupply. Gross output per worker in 1957 was 45% higher than the average for the 1946-50 period, and was 80% higher in the good crop year of 1956. Even in the poor crop year, 1954, when rust damage resulted in low grain yields, output per worker was 12% higher than the average for 1946-50.

F. Impact of Changes on Farm Incomes

Chart 3 shows the relationship between changes in the prices of farm products and the prices of commodities and services (exclusive of farm family living) used by farmers for the period 1941-57. The index of prices received by farmers reflects changes in the prices of farm products relative to the base year, 1949. Likewise, the index of input prices reflects changes in these prices relative to 1949.[1]

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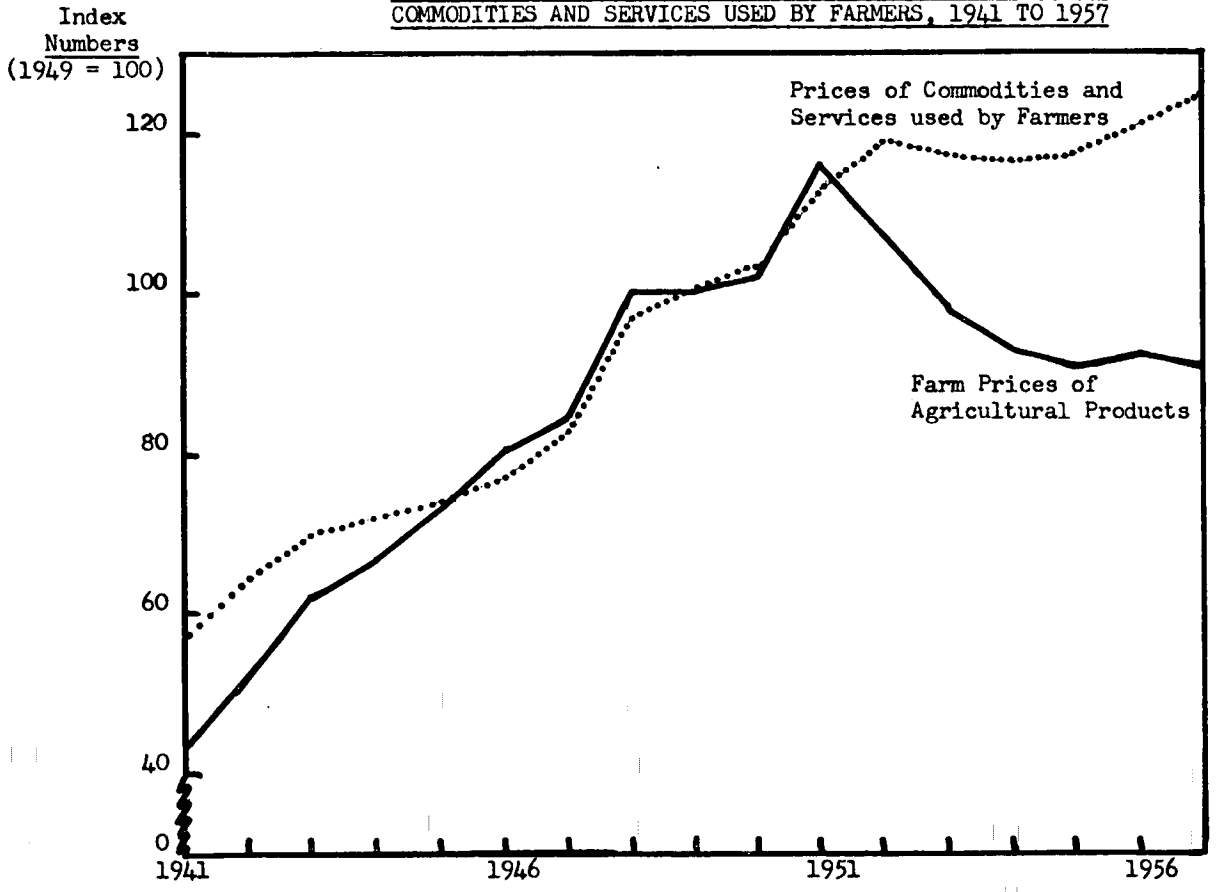
1 These indexes were constructed on a five-year base, 1935-39. They were changed to a 1949 base by recalculation.

CHART 3. INDEX NUMBERS OF PRICES OF FARM PRODUCTS AND PRICES OF COMMODITIES AND SERVICES USED BY FARMERS, 1941 TO 1957



When input prices rise at a greater rate than output prices, often it is contended that farmers are in a less favourable position, since it costs more to produce commodities that now fetch a lower price than in the base year. The existence of such a situation has been referred to in popular jargon as the "cost-price squeeze", and in recent years it has been a prominent theme of farmers' representations to the public and to governments.

Apart from questions about the usefulness and validity of a comparison of changes in unit output prices with changes in unit input prices, the nature of the relationship described by graphic and tabular presentation of these is highly dependent on the base period selected. The presentation in Chart 3 is not intended to convey any suggestion of normality in 1949 relationship of prices. The year 1949 was used as a base in this instance only to provide consistency with most of the analysis in other parts of the report.

Since farm incomes are a residual of receipts less expenditures, it follows, other things being constant, that when input prices rise at a greater rate than output prices, this will have an adverse effect on net incomes. The effect becomes more pronounced if the trend is towards greater use of purchased inputs, as has been the case in Canadian agriculture over the period of study. But it has already been shown in the analysis that there were substantial increases in efficiency during the postwar period. Thus, in certain types of enterprises, net incomes per farm and per worker were not as seriously affected as would appear from the bare "output price-input cost" comparisons.

Realized gross income is the sum of cash receipts from the sales of farm products, income in kind, and supplementary payments under the provision of the Prairie Farm Assistance Act, Prairie Farm Income Plan, and Wheat Acreage Reduction Program. Operating expenses and depreciation includes taxes, interest and rent, as well as all purchased inputs including hired labour. The adjustment for inventory change includes the value of physical changes of farm-held year-end inventories of grain and livestock. Net farm income is derived by subtracting operating and depreciation charges from realized gross income and adding the value of inventory change. It represents returns to farm operators and their families for labour, management, and for their share of the capital in the farm business.

Year-to-year changes in farm incomes for Canada as a whole are materially affected by the changes for the Prairie Provinces. There is a marked correlation between the two series, with Prairie incomes generally higher than the average for Canada. The net farm income per farm, in actual and in 1957 dollars, is given in Table 7.

For all regions, average net farm income in actual dollars rose from the war years and reached peak levels in the 1951-53 period. The averages for the most recent period, 1954-57, were below the 1951-53 peaks, but were higher than the immediate postwar period, 1946-50, with the exception of the Prairie Provinces. In real terms, the average

TABLE 7. NET FARM INCOME PER FARM

(Dollars)

	CANADA	Maritime Provinces	Quebec	Ontario	Prairie Provinces	British Columbia
			(actual dollars)			
1941-45	1,294	674	958	1,321	1,580	1,614
1946-50	1,988	863	1,410	2,040	2,537	1,997
1951-53	3,002	1,014	1,871	2,793	4,294	2,225
1954-57	2,092	927	1,665	2,243	2,493	2,038
			(1957 dollars)			
1941-45	2,224	1,066	1,641	2,277	2,815	2,830
1946-50	2,595	1,102	1,821	2,682	4,173	2,702
1951-53	3,059	982	1,897	2,853	4,384	2,269
1954-57	2,148	939	1,710	2,307	2,552	2,094

Source: D.B.S., Census of Canada; Reference Paper No. 25, (Part II) Farm Income 1926-57; Price Index of Commodities and Services Used by Farmers and Index Numbers of Farm Prices of Agricultural Products.

net incomes from farming for 1954-57 were, on the whole, lower than in the three preceding periods.

The nature of the statistical procedure in compiling official estimates of farm income in Canada is such as to permit only a general and broad analysis of incomes. The fact that grain is a principal product of Prairie agriculture makes it possible to examine, to a limited extent, the effects of changes in prices and volume of output and input on the incomes of that region. Even for the Prairie Provinces, however, this approach is becoming less useful, especially as diversification in agricultural output increases. There have been only sporadic studies and fragmentary evidence on the income position of particular groups of farmers, such as specialized apple growers, beef producers, hog producers, etc., or groups of farmers in areas or regions. Moreover, such special income data of this kind have not, as a rule, been available over a period of time and thus, analysis of changes in incomes related to volume and prices, are not possible for such particular groups of farmers.

In the analysis of average incomes, it is desirable to differentiate between those farms where the operator derives all, or the greater portion, of his earnings from farming and other kinds of farms which are used primarily as residences or as a part-time source of income. But statistics with this type of information have not yet been

fully developed.[1] Previous censuses have classified four main economic types of farms, of which "commercial farms" best approximate the concept of full-time farms. The 1956 Census defines a commercial farm as one which has "...a potential production of $1,200 or more (based on average production and price series)". In 1956, 79% of all Canadian farms were classified as "commercial crop and livestock farms", but the proportion varies between regions from 92% for the Prairie Provinces, to 46% for the Maritimes.

It is reasonable to expect that if average incomes were calculated for full-time farms separately, the average incomes for these would be higher than those contained in Table 7. The effect of segregating "genuine" farms would vary as between regions, however. It would raise the average for the Maritimes and British Columbia to a greater extent than for the Prairies, Ontario and Quebec.

The rapid decline in the farm labour force has been noted in a previous section. Non-paid farm workers comprise the greater part of the farm labour force; these include the farm operator and all members of the family who work on the farm, but do not receive contract wages in return. Non-paid workers accounted for some 85% of the farm labour force in 1957. Table 8 shows the changes in the average net farm income per non-paid worker in actual dollars, and in 1957 dollars, for Canada and regions. The data represent income from farming operations only and do not include income realized from off-farm work.

The general pattern of average increases per worker during the four periods is similar to that of incomes per farm. There were increases in all periods up to 1951-53, then incomes fell back to levels which were higher than the war and immediate postwar years. In real terms, incomes in the Maritimes declined consistently, but in other provinces, they rose to a peak in 1951-53, but declined in the 1954-57 period to levels lower than those of the two immediately preceding periods.

There is very little data available on the off-farm earnings of non-paid farm workers. The available evidence shows that at any given time, more farmers in the Maritimes, Quebec and British Columbia support their incomes from farming operations with work off the farm than in other regions. These farmers are generally in areas within close proximity to opportunities for fishing or working in the woods during the winter.

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1 The reader is referred to Chapter 13 of the study - Progress and Prospects of Canadian Agriculture, Royal Commission on Canada's Economic Prospects, for an exposition on the problem of definition.

TABLE 8. NET FARM INCOME PER NON-PAID WORKER: CANADA AND REGIONS

(Dollars)

	CANADA	Maritime Provinces	Quebec	Ontario	Prairie Provinces	British Columbia
			(actual dollars)			
1941-45	1,033	239	636	1,109	1,274	1,472
1946-50	1,580	732	934	1,714	2,128	1,802
1951-53	2,612	890	1,424	2,601	3,591	2,551
1954-57	1,757	788	1,240	1,891	2,113	2,137
			(1957 dollars)			
1941-45	1,774	882	1,090	1,910	2,269	2,370
1946-50	2,052	916	1,202	2,337	2,803	2,424
1951-53	2,663	862	1,443	2,658	3,665	2,612
1954-57	1,804	798	1,275	1,946	2,163	2,426

Source: Data from Dominion Bureau of Statistics, Agriculture Division, Census of Canada; Reference Paper No. 25, (Part II), Farm Income 1926-57 and Reference Paper No. 58, The Labour Force.

CONCENTRATION IN THE CANADIAN FOOD INDUSTRIES

A study was conducted to obtain an indication of the extent of monopoly in food marketing. A study of monopoly can follow three reasonably distinct approaches. One is to compute and comment on general indications of monopoly power; a second is to investigate conditions of monopoly in specific industries; and a third is to describe monopoly practices. In the study reported on here, the first approach has been followed, and we have looked at concentration in the various food industries as a general indication of the potential degree of monopoly.

Concentration, looked at in terms of an index of firm size relative to industry size, can be measured in terms of sales, assets or manpower; a high correlation would be expected to exist between these different measurements provided that firm structures are similar.

While concentration is the most commonly used index of monopoly it suffers from the following disadvantages which interfere with a correlation to an ideal index. (1) Monopoly cannot exist without high concentration, but high concentration does not always imply monopoly power. There may be only one firm in an industry, but fear of entry, competing imports or adverse public relations may prevent it from exercising its norm, its control over output. (2) The index of concentration is not independent of the definition of industry implied in the index. For example, a firm has a monopoly over its brand of coffee, but not over coffee in general: the relevant consideration is the number of close substitutes, which determine to a large extent the elasticity of its demand curve. If demand is highly elastic because of close substitutes little monopoly power can be exercised. (3) The index of concentration is not independent of the area encompassed in the definition. To illustrate, the percentage of grocery sales by Loblaws is large for Ontario, zero for the Maritime Provinces, and small for Canada as a whole. Clearly an index of concentration with respect to Loblaws' sales for Canada as a whole would understate their monopoly power in Ontario and overstate their monopoly power in the Maritime Provinces. To this objection it might be answered that the index of concentration should be restricted to areas in which the firm in question sells; but this is a <u>partial</u> selection of those areas in which concentration is highest, and would therefore exaggerate the degree of monopoly. Carried to the extreme it would mean that each independent local grocery store has a monopoly over some types of sales. The correct measure of concentration, of course, is with respect to a given <u>market</u> but markets are not always distinct from one another. (4) Most firms produce more than one product. When aggregates are used a concentration index may show one, or a few, firms with a small share in the total sales but with a large share of the market for an individual product which is included in total sales. (This point is related to the previous one regarding the definition of an industry). (5) An increase in competition may result from an increase in concentration. It

is easy to imagine some industries which are dominated by a single firm with a number of independents. Organization of the independents may increase competitive behaviour at the same time that it increases the index of concentration. (6) The index of concentration may be correlated more directly with optimum size of firms (or plants) than with the degree of monopoly.[1]

In spite of these objections the index of concentration is often a very helpful tool for recognizing potential monopoly situations.

1. Definition of Concentration

(a) Three Levels of Concentration

There are three basic levels on which the concentration of economic power can be measured corresponding to three different levels of business organization. These levels are the plant, the parent corporation and the financial interest group.[2]

The plant level refers to the technological unit; measurement of concentration at this level is simple both because data are readily available in the Census of Manufactures and because the plants in any given industry are likely to produce a similar range of products. The parent corporation refers to the ownership unit; measurement of concentration at this level is difficult because data are not always available in convenient form and because parent corporations often produce wide ranges of products which cannot be expected to correlate closely with the range of products produced by other such corporations. The financial interest group level refers to "communities of interest", generally centering in a family group or investment organization; relatively little is known about this level of concentration because of the difficulty of finding a meaningful index and because data are difficult to obtain. Qualitative measures of concentration at this level usually involve a study of inter-locking directorates, common banking and trust affiliates, stock and bond ownership and historical relationships.

Plant concentration is less than firm concentration and firm concentration is less than the concentration of financial interests. The plant level of concentration is the easiest to measure and the concentration of financial interests is the most difficult. Our concern in this study is primarily with the control of markets in particular industries and, therefore, the basic measure of concentration used here is the second, or corporation level. While financial interest groups are not dealt with here, there are at least two aspects on which

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1 This is not an exhaustive list of the limitations of an index of concentration as a measure of monopoly.

2 Sometimes a fourth level -- the subsidiary -- is added to this grouping but for a variety of reasons it is less fundamental, some subsidiaries' accounts being consolidated with the parent corporation for reasons which could not be expected to reveal differences in economic power.

some information is available. From the Financial Post's Survey of Industrials and from other sources, data on financial holdings of major corporations can be obtained. And from the Financial Post's Directory of Directorships, it it possible to obtain information on the number of directorships held by individuals and the firms in which they are held.

(b) The Measurement of Concentration: Sales, Assets or Manpower?

Once having established the level on which concentration is to be measured the next problem is to determine the most relevant measure of concentration. Should it refer to sales, employment or assets?

In principle these measures would yield the same result if the capital-labour ratio were the same for all firms in any given industry. While this is not always the case the error which would be introduced by making this assumption would not seem to be very large. The real choice revolves around another issue -- the adequacy and meaningfulness of the existing data. A measurement of concentration is usually designed to describe the proportion of a given market controlled by one corporation. The most direct measure is, therefore, one which measures firm output or sales as a proportion of industry output or sales. But it has sometimes been argued that a better measurement of the share of the market can be acquired from data on the share of assets or employment in the industry controlled by one firm. The reason is that some of the larger firms are integrated to a greater degree than smaller firms and that interfirm sales are excluded from the sales of the large consolidated corporations. To the extent that this is true the index of concentration using sales data would understate the true degree of concentration. Againstthis factor must be set what may be an even greater disadvantage of a measurement in terms of assets or employment, which affects the degree of concentration often unpredictably. Large corporations frequently engage in lines of business outside the definition of industry used. A corporation has to be assigned to the industry grouping in which it is predominantly engaged. The use of consolidated assets or employment would then overstate the degree of concentration in those industries. Sales figures, on the other hand, are often given in terms of specified products so that the exact share of the market can be determined, subject to the qualification about integration made earlier.[1]

1 But it is not always easy to find comparable statistics. Should sales be measured by product or industry shipments? Should they be f.o.b. or c.i.f.?

2. Industrial Concentration in Canada and the United States in the Food Industries.

(a) Canada

The Sources of Data

The basic data are drawn from material prepared for the Commission by the Dominion Bureau of Statistics; the size classification is by employment;[1] the data refer to 1948 and 1956. In a few cases it was possible to obtain data for 1933 from Reynolds, Control of Competition in Canada.

Cumulative Concentration Ratios, 1948 and 1956

Table 1 shows the cumulative concentration ratios of 16 industries engaged in the manufacture of food products. Only a few points in the table are known. For example, we know that in 1956, of the total sales of biscuits and crackers, four firms controlled 69%, seven firms controlled 79%, eleven firms controlled 89% and 17 firms controlled 94%. The points in between are not known exactly.

It is not possible to say, unequivocally, that one industry was more highly concentrated than another. In other words we might conclude, if we took the per cent of output accounted for by the four largest firms, that meat packing was a more highly concentrated industry than biscuits and crackers; yet if we took the per cent of output accounted for by the 11 largest firms the opposit conclusion would emerge. The same limitation applies to an index computed in terms of the number of firms required to account for a given per cent of the output of the industry. (Compare, for example, Vegetable Oil Mills and Processed Cheese). This does not mean, however, that a given concentration index is not meaningful; it only means it must be interpreted with care. Using the per cent of output accounted for by four firms as the index, the order of concentration is roughly as follows. The most highly concentrated industries are listed first. (They are listed in the same order in Table 1.)

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1 It might be objected that if a sales concentration index is used, size classification should be by sales; it is possible that some error is involved if the largest firms by employment are not also the largest firms by sales. This error however is likely to be slight. In any case, it would not be avoided by using an employment concentration index. The latter would measure employment concentration more accurately than a sales concentration index would measure sales concentration; but the purpose of the employment concentration index is to measure the share of the market and it would, in the case postulated, measure this less accurately than the sales concentration index.

Prepared Breakfast Foods
Processed Cheese
Sugar
Flour
Animal Oils and Fats
Meat Packing
Biscuits and Crackers
Condensed Milk
Vegetable Oil Mills
Sausage and Sausage Casings
Fruits and Vegetables
"Other" Dairy Products
Bread and Other Bakery Products
Fish Packing and Curing
Butter and Cheese
Macaroni (position uncertain)

From the data in Table 1 it can be ascertained that concentration in food industries in Canada increased from 1948 to 1956. We draw this conclusion after having compared the shares of sales accounted for by the four and eight largest firms in each of the two years. It was necessary to interpolate in order to obtain the estimated shares of the four and eight largest firms when these were not given. Concentration in some industries has increased; in some it has remained constant; and in some it has decreased. Ranked in order of the greatest increase in concentration to the greatest decrease in concentration the industries would be listed as follows:[1]

Flour Vegetable Oil Mills Processed Cheese	Increase (5% or more)
Biscuits and Crackers Butter and Cheese Condensed Milk Meat Packing Fish Packing and Curing	Increase (less than 5%)
"Other" Dairy Products Bread and Other Bakery Products Sugar Fruits and Vegetables	Insignificant change
Prepared Breakfast Foods Animal Oils and Fats	Decrease

1 Of the 16 industries listed in Table 1, two are omitted here -- sausage and sausage casings, and macaroni.

TABLE 1. CUMULATIVE PER CENT OF OUTPUT CONTROLLED BY NUMBERS OF FIRMS, CANADA, 1948 AND 1956

Industry Group	Number of Firms 1-5	6-10	11-15	16-20	21-25	25-30	Total
	Per Cent (Numbers of Firms in Brackets)						
Prepared Breakfast Foods							
1948	92(3)						100(19)
1956	87(3)	96(7)					100(16)
Processed Cheese							
1948	81(5)		97(12)				100(19)
1956	88(4)	94(7)					100(17)
Sugar							
1933							100(5)
1948	73(3)	99(6)					100(7)
1954	75(3)	97(6)					100(7)
1956							100(7)
Flour							
1948	32(3)	74(9)	80(14)				100(156)
1956	80(4)	90(8)			97(23)		100(59)
Animal Oils and Fats							
1948	86(3)	95(6)					100(9)
1956	65(3)	86(6)					100(16)
Meat Packing							
1933	85(2)						
1948	70(5)		80(13)		86(22)		100(120)
1956	71(4)		81(12)		89(23)		100(126)

TABLE 1. CUMULATIVE PER CENT OF OUTPUT CONTROLLED BY NUMBERS OF FIRMS, CANADA, 1948 AND 1956 (Continued)

Industry Group	Number of Firms 1-5	6-10	11-15	16-20	21-25	25-30	Total
	Per Cent (Numbers of Firms in Brackets)						
Biscuits and Crackers							
1948		76(7)	88(13)		96(21)	99(30)	100(41)
1956	69(4)	79(7)	89(11)	94(17)		99(29)	100(34)
Condensed Milk							
1948		62(6)	79(12)		97(23)		100(30)
1956	59(4)	79(9)		37(16)	98(21)		100(25)
Vegetable Oil Mills							
1948	51(4)						100(12)
1956	45(3)	88(6)					100(10)
Sausage and Sausage Casings							
1948			59(14)			80(26)	100(70)
1956	38(3)	53(7)					100(101)
Fruits and Vegetables							
1933	83(2)						
1948	41(3)	51(8)					100(378)
1956	43(4)		59(12)				100(340)
"Other" Dairy Products							
1948	33(4)		71(13)				100(80)
1956	30(3)			82(16)			100(50)

TABLE 1. CUMULATIVE PER CENT OF OUTPUT CONTROLLED BY NUMBERS OF FIRMS, CANADA, 1948 AND 1956
(Continued)

Industry Group	Number of Firms 1-5	6-10	11-15	16-20	21-25	25-30	Total
	Per Cent (Numbers of Firms in Brankets)						
Bread and Other Bakery Products							
1948	33(5)	42(8)		52(17)		56(29)	100(2,748)
1956		37(6)		54(18)			100(2,481)
Fish Packing and Curing							
1948		37(6)		67(19)			100(527)
1956	32(4)		54(11)			68(30)	100(414)
Butter and Cheese							
1948	13(2)	21(7)	24(11)			32(30)	100(1,848)
1956	22(5)					45(30)	100(1,183)
Macaroni							
1948							100(14)
1956							100(15)

The method of interpolation, the level of aggregation in the industry definition, and the dependence on the particular index of concentration used, does not permit confidence in these changes within a range of as much as, say, 5%. On this assumption certainty is possible concerning five industries only. Concentration in flour, vegetable oil mills and processed cheese increased while concentration in prepared breakfast foods and animal oils and fats decreased. On balance more industries were more highly concentrated in 1948 than in 1956.

(b) The United States

An explanation of changes in concentration in Canada can often be aided by a comparison with the United States. If trends in concentration are similar a prima facie case can be made that similar forces were operating in both countries. Did concentration in food industries increase in the United States?

(i) The Source of Data

Information on concentration is much better developed in the United States than it is in Canada. The basic source from which data were obtained is the report of the Kefauver Sub-committee on Anti-trust and Monopoly, Concentration in American Industry, 1957.

(ii) Changes in Concentration in the United States Food Industries, 1947-54

An analysis was made of the changes in shares of four largest firms and the eight largest firms for 36 groups in the food industry. No striking, clear-cut conclusion emerged from the comparison but it appeared likely that on balance concentration had increased slightly.

(c) Concentration in Canada and the United States

Next a comparison is made between concentration in food industries in Canada in 1956 and concentration in food industries in the United States in 1954. The data (Table 2) clearly reveal that food industries in Canada are more highly concentrated than food industries in the United States.[1] This was a general pattern for all industry noted in Rosenbluth's study - Concentration in Canadian Manufacturing Industries - for the year 1948. The most probable reason for greater concentration in Canada is that, because of technological similarities, the optimum size firm is similar in the United States and Canada, but the Canadian market is generally not more than one-tenth the size of the American market. It necessarily follows that if firms are approximately of optimum size in Canada and the U.S., the per cent of total sales accounted for by one firm of optimum size must be larger in Canada than in the United States.

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1 Because the definitions of the industries differ it is hazardous to draw conclusions for the individual industries.

TABLE 2. COMPARISON BETWEEN CONCENTRATION RATIOS IN CANADA (1956) AND THE UNITED STATES (1954)

Industry Group (Canada)	4 Largest		8 Largest	
	Canada	United States	Canada	United States
	Per Cent			
Meat Packing	71	39	76	51
Fish Curing & Packing	32	51	45	62
Butter and Cheese	19	(16[a] (25[b]	26	(24[a] (30[b]
Condensed Milk	59	55	75	68
Flour				
Prepared Breakfast Foods	80	40	90	52
Biscuits and Crackers	69	71	82	77
Bread and Other Bakery Products	27	20	41	31
Sugar	86	67	100	86
Vegetable Oil	60	55	94	80

a Butter
b Natural Cheese

3. Concentration in Retailing

(a) A Different Approach

The study on Concentration dealt with up to this point has been concerned solely with manufacturing industries, and has been conducted along commodity or commodity-group lines. One of the limitations of this type of study is that firms have to be assigned to one commodity group even though they produce many products. In other words, such a study cannot always deal satisfactorily with multi-product firms. This limitation is sometimes important for manufacturing firms, but generally the degree of specialization is quite high. However, nearly all large retail firms sell products in many product groups and figures for concentration of sales of particular commodities would not be very meaningful. Another approach is, therefore, required when dealing with retail firms, especially those engaged in the food industries.

Instead of viewing firms as sellers of a wide range of individual products, it becomes necessary to view the institutions themselves as the unit of selection. In other words, from examining the shares in given markets held by firms of different types, the emphasis shifts to the shares of sales of all institutions of a given type controlled by one or a few particular institutions.

(b) The Importance of Chain Stores[1]

One of the most significant developments in the food industry in recent years has been the rapid growth in sales of corporate chain stores. Specific figures illustrating this change are provided in Table 3.

(i) The Growing Importance of Chain Stores

Sales of corporate chain stores as a proportion of total retail food sales rose from 29.5% in 1930 to 44.0% in 1958. Because of a decline in relative importance during the war years, the increase was even more remarkable in relative terms following 1946, when they accounted for only 23.8% of sales.

(ii) The Decline in Numbers of Chain Store Units

Despite the rise in the share of total sales by corporate chain stores, the number of stores fell almost to half of the number in 1930 by 1951, while the number of independent stores increased by over 60%. The change in numbers of units is given in Table 4.

(iii) The Growth in Size of the Chain Store Unit

The explanation of the increasing importance in spite of the decline in numbers is found in the enormous growth in the sales volume per store. In 1930 the average size store in corporate chains was $60 thousand per year, while in 1958 it was $946 thousand. Apart from the effect of price increases, this growth in sales per unit reflects the growing importance of the supermarket. The comparison between sales per unit of the chains and sales per unit of the independent stores is shown in Table 4.

(iv) The Importance of Chain Store Sales by Provinces

Almost 75% of all chain store sales in 1958 were made in Ontario and Quebec, with Ontario accounting for 53% by itself. The distribution of chain store sales by provinces in 1958 was as indicated in Table 5.

This concentration of corporate chain store sales in the central provinces was the result of both more store units and greater sales per store unit. Chain stores in the central provinces were almost twice the average size in the other provinces. This is shown in Table 5, which gives average sales per store by provinces in 1958.

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1 The 1951 Census of Distribution and subsequent D.B.S. reports define a retail chain as an "organization operationg four or more retail stores in similar or related kinds of business under the same ownership." We shall refer to this as a corporate chain to distinguish it from a "voluntary chain".

TABLE 3. GROCERY AND COMBINATION STORE SALES, INDEPENDENT AND CHAIN STORES COMPARED.

Year	Independent Stores		Chain Stores		Total
	Amount	% of Total	Amount	% of Total	
	$'000		$'000		
1930	285,905	70.5	119,499	29.5	405,404
31	243,589	67.5	117,284	32.5	360,873
32	211,206	66.9	104,619	33.1	315,825
33	218,459	68.8	98,862	31.2	317,321
34	215,669	68.1	100,875	31.9	316,544
35	225,113	68.9	101,418	31.1	326,531
36	245,098	69.5	107,346	30.5	352,444
37	281,571	70.8	116,390	29.2	397,961
38	279,111	70.5	116,850	29.5	395,961
39	280,011	69.3	123,826	30.7	403,837
1940	328,532	70.0	140,806	30.0	469,338
41	395,062	69.6	172,317	30.4	567,379
42	475,366	71.6	188,116	28.4	663,482
43	527,644	74.6	179,833	25.4	707,477
44	569,519	74.1	198,811	25.9	768,330
45	635,636	74.9	212,892	25.1	848,528
46	761,739	76.2	237,677	23.8	999,416
47	873,924	74.3	301,796	25.7	1,175,720
48	980,456	71.7	387,137	28.3	1,367,593
49	1,040,452	70.6	433,950	29.4	1,474,402
1950	1,110,060	68.7	504,579	31.3	1,614,639
51	1,291,877	67.8	612,731	32.2	1,904,608
52	1,338,683	65.6	702,105	34.4	2,040,788
53	1,359,340	63.7	773,220	36.3	2,132,560
54	1,415,980	62.1	863,422	37.9	2,279,402
55	1,466,748	60.4	962,833	39.6	2,429,581
56	1,542,648	58.5	1,096,330	41.5	2,638,978
57	1,641,504	57.1	1,231,251	42.9	2,872,755
58	1,731,204	56.0	1,362,389	44.0	3,093,593

TABLE 4. GROCERY AND COMBINATION STORES - 1930,1941,1951 INDEPENDENT AND CHAIN STORES COMPARED

Year	Number of Stores		Sales		Average Sales per Store	
	Chain	Independent	Chain	Independent	Chain	Independent
			($'000)	($'000)	($000)	($000)
1930	2,004	21,324	119,499	285,905	59.6	13.4
1941	1,526	26,459	172,317	395,061	112.9	14.9
1951	1,141	33,250	612,731	1,291,877	537.0	38.9
1958	1,447	-	1,368,883[a]	-	946.0	-

a This sales figure is a later revision of the estimate contained in Table 3.

TABLE 5. CHAIN STORE SALES[a], REGIONAL TOTALS AND SALES PER STORE, 1958

Region	Sales	Proportion of Total Canada	Number of Stores (Maximum)	Average Sales per store
	($ thousand)	(5)	(No.)	($ thousand)
Atlantic Provinces	62,843.8	4.6	99	634.8
Quebec	278,411.1	20.3	246	1,131.8
Ontario	728,733.1	53.2	645	1,129.8
Manitoba	47,816.2	3.5	78	613.0
Saskatchewan	34,374.5	2.5	80	429.7
Alberta	87,875.5	6.4	120	732.3
British Columbia	128,828.6	9.4	179	719.7
Canada	1,368,982.8	100.0	1,447	946.0

a The sales figures are a later revision of the estimates contained in Table 3.

It is, of course, to be expected that the central provinces would predominate in the total sales of chain stores because of population and income concentration there. Nevertheless, the proportion of chain store sales to total grocery and combination store sales was higher in Ontario than in the other provinces. In 1958, 59% of total sales in Ontario were made by chain stores while most other provinces were below the average for Canada as a whole of 44.0% in 1958. The proportions for all regions are given in Table 6.

(c) Concentration of Chain Store Sales

(i) Definition and Significance

Concentration can be determined either in terms of the shares held by individual chain stores in total chain store sales, or the shares of total independent plus chain store sales. The criterion on which judgment between these two measures should be based is whether or not the elasticity of substitution in consumption between chain store sales and independent store sales is high or low. In one sense the elasticity is low: chain stores, especially the large supermarkets, stock a wider range of goods than most independent stores, so consumers buy convenience as well as goods. There are at least two other factors which separate the markets: loyalty and location. Nevertheless, consumers are not persistently willing to pay too high a price for loyalty and convenience, so there is a limit to the price differentials between the two types of stores. It is, therefore, safer to calculate concentration ratios in terms of both the above measures.

TABLE 6. PROPORTION OF SALES OF GROCERY AND COMBINATION FOOD STORES DONE THROUGH CHAINS, BY REGIONS, 1958

Region	Proportion %
Atlantic Provinces	22.2
Quebec	32.2
Ontario	58.9
Manitoba	40.6
Saskatchewan	28.0
Alberta	44.0
British Columbia	46.4
Canada	44.0

The problem of the region within which concentration should be measured has already been discussed. The so-called big five chain stores do not operate in all parts of Canada. In this study, however, we deal with shares throughout Canada as a whole to be consistent with the other data on concentration.

(ii) The Big Five

In Table 7, the sales of the five largest corporate food chains in Canada are compared with the sales of all corporate food chains and with total sales of grocery and combination food stores for the year 1957. Considerable caution is required in accepting these figures as even good approximations of "true" concentration -- the main limitation being the importance of regional sub-markets. Concentration figures for Canada as a whole understate "true" concentration in some regions and overstate it in others.

TABLE 7. PROPORTION OF SALES ACCOUNTED FOR BY THE FIVE LARGEST CORPORATE CHAINS, CANADA, 1957

Group	Sales	Five Largest Chains as Per Cent of Total
	($ million)	(%)
Five Largest Corporate Food Chains[a]	1,084	-
Total Sales of Corporate Food Chains	1,231	88
Total Sales of All Grocery and Combination Food Stores	2,873	38

a In order of total sales in 1957: Dominion, Loblaws, Safeway, A & P and Steinberg's.

COMPARISON OF FOOD PRICE LEVELS IN MAJOR CITIES OF CANADA

The indexes given in the following table were prepared by the Dominion Bureau of Statistics to indicate the extent of the difference in the average level of retail food prices as between major Canadian cities. The indexes have been calculated on the basis of prices collected in each of the cities, weighted in accordance with average urban food expenditures as contained in the weighting diagram of the Canada Consumer Price Index. Because of the differences in food purchases in each city, it is impossible to calculate precisely accurate measurements. The closest approximation would be derived, for example, from the use of both Winnipeg and Vancouver weights in the calculation of the Winnipeg-Vancouver comparison, rather than the use of average urban food expenditures. However, the calculation of a number of indexes, using weights peculiar to each city, did not produce indexes significantly different from those attached.

In addition to the problem of weights, the difficulty of obtaining prices for identically the same description of each food item in each city is of some consequence. While considerable care has been taken to eliminate differences due to variations in quality of the items priced, it was impossible to eliminate all such variations. This is particularly so in the case of beef items, where variation in grades as between cities undoubtedly affects the comparison.

While these indexes have been expressed in terms of Toronto = 100 and Winnipeg = 100, the selection of either Toronto or Winnipeg as the base city has no significance. The indexes could have been expressed on the base of any of the cities included.

SPATIAL RETAIL FOOD PRICE INDEXES, 1956, 1957 AND 1958

Toronto = 100

	1956	1957	1958
Halifax	102	102	103
Saint John, N.B.	104	104	103
Montreal	100	101	101
Ottawa	100	101	101
Winnipeg	103	102	103
Regina	106	106	107
Saskatoon	107	106	107
Calgary	104	103	104
Edmonton	103	103	103
Vancouver	107	107	107

Winnipeg = 100

	1956	1957	1958
Halifax	99	100	99
Saint John, N.B.	101	102	100
Montreal	98	99	98
Ottawa	97	99	98
Toronto	97	98	97
Regina	104	104	103
Saskatoon	105	104	104
Calgary	101	101	100
Edmonton	100	101	100
Vancouver	105	105	104

FOOD PRICES IN RETAIL FOOD STORES
TORONTO AND VANCOUVER

Section I - Introductory

(a) Purposes of the Study and its Organization

This study was based upon a special analysis of retail food prices undertaken in a search for answers to the following questions:

(1) Are food price levels generally lower or higher in one type of store as compared with another type?

(2) Do food prices differ according to the volume of sales?

(3) Do food prices differ according to whether stores are located in low income areas or in high income areas?

(4) Do identical items tend to be priced the same in all the food stores of a market area?

(5) Are differences in prices of food items due to differences in qualities and grades?

(6) Do stores having high price levels sell only high quality goods?

In pursuit of the analysis necessary to answering the above questions, the study broke into two main parts. The first part which is dealt with in Section II of this report required organization of price material so that store price levels could be related to type of stores, volume of sales and income area. These factors are referred to in the first three questions. The second part of the study, the results of which appear in Section III, involved an analysis of prices of food items by type of store. Details of the sources of data and of the procedures used in Sections II and III are set out next under (b) in this Introductory Section.

(b) Sources of Data and Procedures

The Prices Division of the Bureau of Statistics collects information on retail food prices in cities and towns across Canada. These prices are collected regularly by employees of the Bureau of Statistics for chain stores on the first Friday of each month and for independent stores in the first week of each month. The directions given to the collectors of prices include careful definition of the kind of item and the quality, and the stores in which prices are to be collected. The same stores are visited each month. These stores compose a judgment sample, chosen so as to be representative of the shopping

conditions in each city, both as to size and type of store and its location. The price report for each store, with the exception of chain store outlets, makes possible identification of its type, location and sales volume.

The prices recorded in the above-described collection process were the source of price information used in this study. Because the study was of an exploratory nature and resources available were limited the analysis was restricted to two time periods, namely, the months of May and June 1958. For the same reasons, the analysis of the difference in levels of prices between stores was confined to the situation in two cities only, viz. Toronto and Vancouver. These two large urban centres were selected, first, because for each, substantial developments in food retailing had taken place and, second, because they were well separated geographically.

The judgment sample used as a source of price data for this study is small. While the Bureau of Statistics selects the sample specifically for the purposes of consumer food price index computations, confidence in its use for purposes of this particular study was supported by the relative consistency shown in the direction of month to month price changes and subject to qualification, in the general similarity of the patterns of price levels in both months and in the two cities included.

The statement on procedure which follows contains a description of the method of store identification and classification and an account of the method used in calculating store average price levels. The store classification adopted for the Section II analysis also applied to the analysis in Section III. However, the Section III price variation analysis was carried out for Toronto stores only and there were differences in the coverage of food items. The differences are referred to in the later paragraphs of this description of procedure.

In the procedure of store classification the first step was an identification of each store as a corporate chain or as an independent. Voluntary food chain outlets were included with the independent stores. Each independent store was further identified as a self-service or non-self-service store and then classified according to its volume of sales.

In the Bureau of Statistics records the chain stores are identified only through their central office in the city and, therefore, their prices could not be related to income areas. Accordingly, chain store prices were not used in the analysis of the effects of size and of income area. Generally, chain stores operate on a policy of central office pricing with limited discretion left to store managers on the pricing of perishables. All of the stores of the corporate chains were self-service and, therefore, they were grouped as large-volume self-service outlets.

Each independent store was located on the Census map of the city. The characteristics of each location were then taken from the Census descriptions in terms of median rents and earnings and the pro-

portion of owner-occupied to rented dwellings and each was designated as high, medium or low income area.

Rather striking city differences emerged at this stage. In Vancouver the areas in which the stores were located could be readily classified by income groups. In Toronto the areas appeared much more heterogeneous as to income groups and thus more difficult to separate into income levels. Following the work of income classification, the results were checked with persons familiar with the cities and the descriptions confirmed.

The categories for independent stores and voluntary chain stores by type and volume of sales were set up as follows:

Store Type	Floor Space
Supermarket	3,500 and more square feet
Large Self-Service	2,500 to 3,499 square feet
Self-Service	1,500 to 2,499 square feet
Other	Less than 1,500 square feet
Volume of Sales	**Dollar Volume**
Large Volume	$250,000 and more
Medium Volume	$100,000 to $249,999
Small Volume	Less than $100,000

Indexes of store price levels (given in Tables 5(a) to 8 (b) inclusive) were derived by multiplying the price of each item by the weighting given to it in the food group of the Consumer Price Index. The aggregate of these items was then expressed in index form as a "store price level". The bases for calculation of the indexes were the aggregates of the items for the chain stores in each of Toronto and Vancouver for each of the months of May 1958 and June 1958. This calculation of store price levels was made separately for groceries and for meats. Meats included fresh and cured meats and poultry, and groceries covered all other food items including canned salmon. Fresh fish prices were not used in the analysis because of the very few quotations available in the price reports.

The necessity for calculation and presentation of store price levels separately for groceries and for meats is explained by the procedure of collection. Meat prices are obtained from the meat departments of chain stores and combination stores (independent stores selling both groceries and meats) as well as from butcher shops which sell mainly meat. Grocery prices include those from chain and combination stores and also those from grocery stores not having butcher shops. The separation of groceries and meats for this study therefore permitted comparisons of the different price levels of the two groups of items in store types selling both. However, the effect on the level of prices generally for stores handling only one group of items as compared with the same type and size of store handling both cannot be distinguished.

The detailed analysis in Section III on prices of food items by type and size of store was limited to price quotations available for Toronto stores for May and June of 1958. While the same basic source of price material was drawn upon, certain changes were made in the selection of items priced. Insofar as it was possible to identify them, the analysis was confined to prices of foods of domestic raw material origin. Therefore, obviously imported items like tea, coffee, oranges and bananas were excluded. Again, as for the Section II analysis, fresh and frozen fish items could not be included because of the limited number of price quotations available. However, it was possible to include prices for some items not included in the "store price level" analysis since some food items of domestic raw material origin are priced regularly in monthly reports to the Bureau of Statistics although they are not used in computing the Consumer Price Index. These, therefore, were not used in calculating "store average prices" (there being no weighting factor), but were included in the item price study in Section III.

Section II - Price Levels by Type and Size of Store and Income Area

The distribution of stores by income areas as determined by the methods described in Section I (Procedure) is given in Tables 1 and 2.

TABLE 1. FOOD STORES PRICED IN MAY AND JUNE, 1958, BY TYPE OF STORE, BY VOLUME OF SALES AND BY INCOME AREA, TORONTO.

Type of Store	Volume of Sales	Income Area			
		High	Middle	Low	Total
Chains					9
Independents					
Supermarket	Large Volume	2	-	-	2
Self-Service	Large Volume	3	-	-	3
	Medium Volume	1	2	1	4
	Small Volume	-	-	1	1
Other	Medium Volume	-	1	-	1
	Small Volume	-	-	2	2
Total Independents		6	3	4	13

TABLE 2. FOOD STORES PRICED IN MAY AND JUNE, 1958, BY TYPE OF STORE, BY VOLUME OF SALES AND BY INCOME AREA, VANCOUVER

Type of Store	Volume of Sales	Income Area				
		High	High Middle	Low Middle	Low	Total
Chains						8
Independents						
Self-Service	Large Volume	1	-	1	-	2
	Medium Volume	-	-	2	2	4
	Small Volume	2	1	-	1	4
Other	Medium Volume	-	-	1	1	2
	Small Volume	-	2	3	1	6
Total Independents		3	3	7	5	18

The ratio of corporate chain stores to independent stores contained in the price reporting sample was different in Toronto, where 9 corporate chain stores and 13 independents were priced, and Vancouver where 8 corporate chain stores and 18 independents were priced. The distribution of stores by type and by volume of sales differed also as between these cities. In Toronto only 3 out of the 13 independent stores were non-self-service, while in Vancouver 8 out of 18 were non-self-service. Only 3 small volume stores were priced in Toronto but 10 were priced in Vancouver.

Differences between the cities in the distribution of the sample of stores price reported also became apparent when the tables were summarized by volume of sales only (Tables 3 and 4).

TABLE 3. INDEPENDENT FOOD STORES PRICED IN MAY AND JUNE, 1958, BY VOLUME OF SALES AND INCOME AREA, TORONTO.

Volume of Sales	Income Area			
	High	Middle	Low	Total
Large Volume	5	-	-	5
Medium Volume	1	3	1	5
Small Volume	-	-	3	3
Total	6	3	4	13

TABLE 4. INDEPENDENT FOOD STORES PRICED IN MAY AND JUNE, 1958, BY VOLUME OF SALES AND INCOME AREA, VANCOUVER

Volume of Sales	Income Area				
	High	High Middle	Low Middle	Low	Total
Large Volume	1	-	1	-	2
Medium Volume	-	-	3	3	6
Small Volume	2	3	3	2	10
Total	3	3	7	5	18

In Toronto the volume of sales was in direct relation to the income area. All the large volume stores were in the high income areas and all the small volume stores were in the low income areas with the medium volume stores preponderant in the middle income areas. The volume of sales also appeared to be in direct relation to the type of store as defined for the purposes of this study. Two of the large volume stores were supermarkets and all the large volume stores were self-service. Four out of the five medium volume stores were self-service but only one out of the three small volume stores was self-service.

In Vancouver the majority of the independent stores were located in the low income and low middle income areas and more than half the stores priced were small volume stores. Most of the stores in the high income and high middle income areas were small volume stores which were distributed evenly through all the income areas.

These contrasts in the types of stores, their volume of sales and location undoubtedly reflect a real difference in the pattern of retail trade in the two cities. However, the characteristics used to describe areas in terms of income levels resulted in the older downtown areas and the business sections of the cities being classified as low income areas. In the sample for Vancouver, however, there were a larger number of downtown food shops. The assumption implicit in relating a store to the income level of the locality was that people tend to shop in the neighbourhood in which they live. This assumption might be modified considerably if a large number of retail outlets were concentrated in a business section or a suburban shopping centre. To the extent that such concentration occurred the income level of the immediate neighbourhood might be of little or no importance in determining the level of prices charged in the store. The difference in the type of stores, their volume of sales and their location by income areas between Toronto and Vancouver not only pointed up this field as an interesting one for investigation but also showed up very clearly the difficulty of pursuing it with the small sample of stores available

from Bureau of Statistics records. It is emphasized here again that this sample was not designed for the particular purposes of this study. A sociological as well as an economic study of the city would be necessary to define the various localities of each city in terms of income level and a further marketing study to describe the area from which a store or type of store generally draws its customers.

The store price levels for all chain stores for both groceries and meats were lower than the price levels for all independent stores for both Toronto and Vancouver for both months. (Table 5(a) and 5(b) and 7(a) and 7(b)).

TABLE 5(a). STORE PRICE LEVELS BY TYPE AND SIZE OF STORE, TORONTO, GROCERY ITEMS

(Average Chain Store Price Level in May 1958 = 100 and June 1958=100)

Type of Store	Volume of Sales	May	June	Per Cent Change May to June[b]
Chains	All	100.0	100.0	- 1.3
Independents	All	104.8	105.7	- 0.4
Supermarkets	Large Volume	101.7	103.5	+ 0.4
Self-Service	All	104.3	105.3	- 0.4
	Large Volume	102.6	104.8	+ 0.8
	Medium Volume	105.6	105.7	- 1.2
	Small Volume	a	a	-
Other	All	107.8	107.9	- 1.2
	Medium Volume	a	a	-
	Small Volume	107.8	108.3	- 0.8

a One store only. b The change in the absolute store price level.

TABLE 5(b). STORE PRICE LEVEL BY TYPE AND SIZE OF STORE, VANCOUVER, GROCERY ITEMS.

(Average Chain Store Price Level in May 1958= 100 and June 1958= 100)

Type of Store	Volume of Sales	May	June	Per Cent Change May to June
Chains	All	100.0	100.0	- 3.1
Independents	All	103.8	104.7	- 2.2
Supermarkets	Large Volume	-	-	-
Self-Service	All	103.8	104.7	- 2.2
	Large Volume	101.9	102.3	- 2.6
	Medium Volume	103.8	104.7	- 2.2
	Small Volume	104.5	106.2	- 1.4
Other	All	103.4	103.9	- 2.6
	Medium Volume	100.4	101.2	- 2.3
	Small	104.5	105.0	- 2.6

TABLE 6(a). STORE PRICE LEVEL IN INDEPENDENT STORES BY VOLUME OF SALES, TORONTO, GROCERY ITEMS.

(Average Chain Price May 1958 = 100 and June 1958 = 100)

Volume of Sales	May	June	Per Cent Change
Large Volume	102.2	104.4	+ 0.8
Medium Volume	106.1	106.1	- 1.2
Small Volume	106.5	107.9	-

TABLE 6(b). STORE PRICE LEVEL IN INDEPENDENT STORES BY VOLUME OF SALES, VANCOUVER, GROCERY ITEMS.

(Average Chain Price May 1958 = 100 and June 1958 = 100)

Volume of Sales	May	June	Per Cent Change
Large Volume	101.9	102.3	- 2.6
Medium Volume	102.6	103.5	- 2.2
Small Volume	104.5	105.4	- 2.2

TABLE 7(a). STORE PRICE LEVEL BY TYPE OF STORE, VOLUME OF SALES, TORONTO, MEAT ITEMS.

(Average Chain Store Price May 1958 = 100 and June 1958 = 100)

Type of Store	Volume of Sales	May	June	Per Cent Change
Chains	All	100.0	100.0	+ 2.3
Independents	All	100.6	102.4	+ 4.1
Supermarkets	Large Volume	105.7	105.9	+ 2.5
Self-Service	All	102.6	103.6	+ 3.3
	Large Volume	102.8	102.4	+ 1.9
	Medium Volume	103.6	105.4	+ 4.1
	Small Volume	a	a	-
Other	All	98.8	99.2	+ 2.8
	Medium Volume	a	a	-
	Small Volume	99.4	99.8	+ 2.8

a One Store only

TABLE 7(b). STORE PRICE LEVEL BY TYPE OF STORE AND VOLUME OF SALES, VANCOUVER, MEAT ITEMS

(Average Chain Store Price May 1958 = 100 and June 1958 = 100)

Type of Store	Volume of Sales	May	June	Per Cent Change
Chains	All	100.0	100.0	+ 4.1
Independents	All	104.4	101.0	+ 0.7
Supermarkets	Large	a	a	-
Self-Service	All	102.3	99.3	+ 1.0
	Large Volume	a	a	-
	Medium Volume	103.3	100.1	+ 0.9
	Small Volume	100.6	96.8	+ 0.1
Other	All	104.9	101.6	+ 0.9
	Medium Volume	a	a	-
	Small Volume	105.0	101.9	+ 1.0

a One Store only

TABLE 8(a). STORE PRICE LEVEL IN INDEPENDENT STORES BY VOLUME OF SALES, TORONTO, MEAT ITEMS

(Average Chain Price May 1958 = 100 and June 1958 = 100)

Volume of Sales	May	June	Per Cent Change
Large Volume	104.0	103.8	+ 2.1
Medium Volume	101.1	103.0	+ 4.2
Small Volume	99.7	100.3	+ 2.9

TABLE 8(b). STORE PRICE LEVEL IN INDEPENDENT STORES BY VOLUME OF SALES, VANCOUVER, MEAT ITEMS

(Average Chain Price May 1958 = 100 and June 1958 = 100)

Volume of Sales	May	June	Per Cent Change
Large Volume	107.4	104.4	+ 1.1
Medium Volume	103.3	99.8	+ 0.6
Small Volume	104.2	101.0	+ 0.9

In Toronto the chain stores and the large volume independents showed lower price levels in groceries than the medium sized and small store. In Vancouver the difference between the chain stores and the large independents was as wide as the difference between the small volume independent outlets and the large and medium sized ones.

Although meat price levels were lower in chains than in independent stores the pattern in independent stores was considerably different for meats than for groceries. In Toronto the highest average price levels for meats were found in the supermarkets and the lowest price levels, even lower than the chain store meat price levels, in the volume and small volume non-self-service stores. In Vancouver the highest meat price levels were also found in the large volume supermarkets but the lowest price levels were in the small volume self-service stores. This difference is likely attributable to quality differences, particularly for beef and lamb.

The last point in the analysis of store price levels was the question of the relation of these to the income levels prevailing in the areas in which the stores were located. On this point, the results yielded no conclusive evidence as to variation in price levels in food stores as between income areas. In Toronto the prices level in stores within each income area was lower in the larger volume stores and higher in the small volume ones. Because all the large volume stores were in high income areas, the lowest store price levels were found in the high income areas. In Toronto, therefore, volume of sales and income level showed a consistent positive relationship from high income area large volume stores to low income area small volume stores. Although for both months the price levels for the stores in the middle income area were higher than for the stores in the low income area, the differences were not great. In Vancouver also the price level by income areas appeared to be strongly affected by the distribution of the large volume stores. The highest store price levels were recorded in the high middle income area, which had only small volume stores. For the other three income group areas, store price levels were generally close.

Section III - Prices of Food Items by Type and Size of Store

In Section II it was demonstrated that store type and volume of sales were related to the general food price level in a retail store. Because prices of food products only were used, broader questions such as the effect of extending the range and variety of products offered in grocery stores was not taken into account, nor were differences in store services offered. The question as to whether or not the stores able to sell food at lower average prices have been aided in doing so by the profitability of non-food items and conversely the question as to whether or not the higher priced food stores offer additional services with the food they sell could not be answered from the data available.

Another aspect of this study related to price comparisons for the same commodity items within a market area as between stores of

similar types.

As in the preceding analysis of average store prices prices in chain stores again tended to be lower than in independents. Of the 53 items compared for Toronto, only 18 items in May and 17 in June, 1958, were priced the same or lower im independents than in chain stores. Of these same or lower priced items in the independent stores, 13 were lower in both months. Prices of 30 of the items were higher in independent stores in both May and June; seven items were higher by 5% or more in both months, 15 items were higher by less than 5% in both months and seven items were higher by more than 5% in one month and by less than 5% in the other.

Comparisons of individual items in different types of stores did not disclose clearly any definite pricing patterns. In the 13 items referred to above for which prices in independent stores were the same price or lower-priced in both months, potatoes were the only unprocessed food item. Among the processed items were evaporated milk, cake mixes, pickles, shortening, canned sardines and canned lobsters, bacon, sausages and bologna. Quality differences related to brand and taste preferences probably played a part in sales of these items and, although in the price collection process endeavours are made to be as specific as possible in this respect, the problem of definition is difficult and, even when the specification can be made, price for the exactly corresponding quality cannot always be obtained. Thus, in part, the lower prices prevailing among the items under discussion may be for goods of lower quality or of less well known brands that have not commanded market prestige. Among the 13 items there were, however, graded products like canned and frozen fruits and vegetables for which grade differences as an explanation of price difference were ruled out by the exacting specification of grade used in the price collection process.

Three of the items in the 13 referred to in the preceding paragraph, namely, evaporated milk, sardines and canned lobsters, shared with milk, butter and sugar the characteristic of consistently low price variation in the two types of stores, chain and independent. Milk and butter prices have been affected by regulation. The limited price variation found for milk and butter was attributed in part to marketing board and "floor price" controls. Sugar and flour, both dietary staples and produced by industries of relatively high concentration of firms, showed low price variation, not only as between stores, but also as between types of stores.

Of the seven items that were 5% or more higher in price in independent stores than in chain stores in both months, three of the items were comparable by grade and quality from store to store — pink salmon, frozen peas and frozen beans. Neither cheddar cheese nor hamburger are sold by grade at the retail level so that the price differences here may have been due to differences in quality. Fresh tomatoes in May and June included both domestic hothouse and imported tomatoes. Thus the price variation for this item in June, for example, was over 10% in both types of stores.

Average meat prices were higher in independent stores for many items including hamburger as noted above, and for sirloin and round steak and rib roast of beef. Pork chops and pork shoulder roast were also higher. Five of the 15 items higher in both months in independents by less than 5% were items similar in quality. These items were Grade A Large eggs, sockeye salmon, tomato juice, canned tomatoes and frozen strawberries.

Independent store prices were not only higher on the average than chain store prices but also varied more widely. None of the price items showed "no variation" in the independent stores; nearly 40% of the items in chain stores showed from less than 5% to zero price variation, while only 30% to 33% of the items had a price variation of less than 5% in independents. In May, nine items or 17% of the items priced in chain stores had a price variation of 10% or more as compared with eight items in independents. However, in June, 11 items in chains compared with 15 items in independents had price variations of more than 10%.

Although price variation in chain stores as disclosed in this analysis was less than in independent stores it takes on more significance in relation to chain price levels. This is because it was found to exist between stores of the same type with similar store price levels. In contrast to the similarities in type among chain stores, independent stores were composed of very unlike outlets, both as to size of store and volume of sales, as well as the distinction between self-service and other. It would have been surprising to find the same uniformity of pricing among the heterogeneous group of independent stores as that prevailing among the more homogeneous chain stores.

TRANSPORT COSTS AS A FACTOR IN PRICE SPREADS OF FOOD PRODUCTS

1. The Significance of Rising Transport Costs

At the outset, it is desirable to point to the need for maintaining a clear distinction between increasing transport rates (or prices) which accompany, but do not chiefly cause, a rise in prices of goods in general, and increasing transport rates which contribute specially and directly to rising prices. In the case where all costs are rising together, public policy may prescribe monetary medicine and no special attention to the transport industry at all. In the other case, of prices which rise directly as a result of pressures from the transport industry, the proper concern of public policy may be the rate structure, competition among various forms of transport, or management or labour problems within the major transport firms.

Within the past 10 years, increases in the transport cost per unit for food products consumed in Canada (excluding exports), have outstripped the increases in retail prices of food. Table 1 makes this explicit in the case of railways. The general level of freight rates in 1957 was close to 79% higher than in the latter part of 1949, while the consumer price index for food was about 17% higher. The sharpness of the contrast is reduced if we realize certain limitations of an index of general freight rates. In the first place, a general rate index does not take account of the increasing proportion of traffic moving under competitive rates and agreed charge rates negotiated between the railways and shippers. As these rates are lower, the "effective" rate increases have been less than would appear from an index based on "horizontal" or across-the-board increases granted from time to time by the Board of Transport Commissioners. Secondly, an index of this type takes no account of the changing composition of traffic; some commodities on which rail freight charges are particularly high may be finding their way to less costly carriers, or may even be manufactured closer to market as a result of the increasingly heavy charges. Thirdly, a general index takes no account of exceptions to the general increases. The exceptions in food traffic are important: western grain, which has been entirely exempt from the increases; and potatoes, which have been partially exempted. Finally, a general index of rail freight rates has application not only to food, but to other products as well.

The effects of increasing resort to competitive rates and the changing composition of rail traffic are more accurately accounted for in an index of the estimated average revenue of the railways for handling a ton of food one mile. Between 1949 and 1957, the average revenue per ton-mile of food freight (Table 1) increased 43% as compared with a 17% increase in the consumer food price index. The average railway revenue per ton of food freight moved (regardless of distance) has increased even more substantially, from $7.82 in 1949, to $12.56 in 1957, or 60.6%. Revenue per ton of freight trucked appears to have risen at least as much. Assuming that the amount of rebilling of freight, which

TABLE 1. COMPARISONS OF INDEXES OF RETAIL PRICES FOR FOODS OF DOMESTIC ORIGIN, AVERAGE RAIL REVENUES PER TON-MILE FOR FOOD AND RAIL FREIGHT RATES, 1949 TO 1957.

(1949 = 100)

Year	Food Prices	Average Revenue per Ton-Mile	Rail Freight Rates[a]
1949	100.0	100.0	100.0
1950	101.4	118.1	114.6
1951	116.9	130.2	123.6
1952	116.4	122.4	137.4
1953	112.0	155.2	158.5
1954	110.4	144.8	161.0
1955	110.3	130.2	161.0
1956	111.1	137.1	166.7
1957	116.8	143.1	178.9

a Annual indexes prepared by time-weighting intra-year changes in rates applicable to raw food materials and food products.

inflates the tonnage statistics, is roughly the same in the two years, we can conclude that the rail freight cost per ton of food produced and consumed in Canada has increased much more rapidly than retail prices of food in general.[1]

There are three possible reasons for the substantial increase in transport cost relative to consumer prices of food.

(1) The general inflation of prices contributed to the increase in transport costs. If the cost to the public had not been allowed to rise through the medium of increases in freight rates, it would have done so through substantial deficits of publicly owned railways and cost-saving measures by the railways, which would have adversely affected rail service. Truckers would have been forced to compete with unremunerative rates charged by the railways, and trucking services would also have been curtailed. Inflation was a force that could not be resisted simply by an attempt to hold the line in respect to freight rates. During a time of intensive investment in resource development and through periods of labour shortage, the transport industry was certainly faced with rising costs, and competed directly in hiring and purchasing with the most conspicuously booming industries. A series of freight rate increases, beginning with a 21% general increase effective April 8, 1948 (the first general increase in 27 years), reflected the pressure of inflationary forces on the cost position of the railways.

(2) Another possible source of increasing transport cost has been the change in the composition of traffic. If there was a shift towards heavier traffic in highly-rated products, or an increase in average

1 Generally, the research studies deal with the period 1949 to 1957 or 1958. See reference in Volume I of the Report.

haul for all food products, or an increase in the amount of traffic moved by carriers providing expensive but possibly also valuable services, such as the airlines, then there would be a tendency towards increasing transport cost per ton-mile and per ton.

(3) Finally, there may have been changes in the standard of service provided by all carriers, so that increasing transport costs actually represent charges for an improved service. The tendency has been in this direction. The average speed of freight trains has increased in the past 10 years, airlines offered air cargo service to an increasing number of points, and entirely new types of service, such as "piggyback" truck trailers carried by rail have been offered to the public since 1949. All such developments in transport service must be taken into account in an appraisal of increases in transport charges.

Changes in the composition of traffic may cause increases in transport cost. Sometimes the frequent shipping of small consignments at greater expense reduces a consignee's inventory carrying costs and also total costs, as compared with infrequent large shipments which necessitate carrying larger inventories. Improved services offered by carriers in the form of speedier transport and better handling may also improve the quality of the goods purchased by the consumer and reduce costs of waste and damage. The growth of huge urban centres may increase transportation costs appreciably, because of the greater distance from which produce of the land must be brought to satisfy the larger market. These are all sound reasons for increases in transport cost. It is difficult to appraise the effects of such developments in the past 10 years or to quantify them, but in approaching the subject of increases in food marketing costs, it will facilitate sound judgment if they are kept in mind.

The starting point of this investigation is the development of estimates of aggregate costs of transporting food in Canada. The total costs of transporting Canadian food for domestic use are estimated by different types of carriers, viz: truck, rail, airline, and ship. The extent of effective competition amongst the carriers will be noted, since the existence of competition may help to keep transportation charges low and carriers efficient. The conclusion of this section is that truck-rail competition has been substantial, and has to some degree held transport charges down. Second, changes in composition of traffic will be examined and this part of the study will point out the need for certain additional information on this subject. Finally, some comments will be made regarding statistical information which will assist in appraising trends in efficiency of transportation of food.

2. Transportation of Food by Truck, Rail, Air and Water

Canadians spent approximately $245 million in 1957 for the transport of food produced and consumed in Canada (excluding exports and imports). In 1949 they spent $109 million. The increase in aggregate cost over the eight years amounted to 125%. Table 2 summarizes

TABLE 2. ESTIMATED TOTAL TRANSPORT COSTS FOR DOMESTICALLY PRODUCED AND CONSUMED FOOD PRODUCTS, BY TYPE OF CARRIER, 1949 TO 1957.

Year	Rail	Truck	Water	Air	Total
		(millions of dollars)			
1949	58	48	2	1	109
1950	58	51	2	1	112
1951	66	64	3	1	134
1952	76	89	3	3	171
1953	75	114	3	5	197
1954	71	113	3	3	190
1955	70	138	3	8	219
1956	79	166	3	6	254
1957	78	159	3	5	245

the estimates of total costs of food transported by the various media of transport for the years 1949 to 1957.

The railroads are still the big bulk long-haul carriers of food freight, but in 1957 they handled a smaller volume of this traffic as measured by ton-miles than they did in 1949. It is impossible to obtain a really good estimate of truck traffic and revenue collected by truckers from transporting domestically produced and consumed food back in 1949. It is estimated that there has been an increase of nearly 80% in ton-miles of food handled by truck. This may be subject to some considerable margin of error inherent in the basic assumptions back of the estimating procedure, but there is no reason to doubt the general conclusion that there has been a substantial shift in food traffic from railways to truckers.

The estimate of revenue to truckers from handling food in 1949 ($48 million) should be treated at best as an approximation.[1] The estimated revenue for 1957 - $159 million - is another approximation, but of greater reliability. However, the accuracy of the estimates is believed to be sufficient to warrant the conclusions that: (1) from the standpoint of revenues collected by the carriers, trucking is by far the most important medium of transport for food products when exports and imports of food are excluded from consideration; and (2) that revenues collected by the trucking industry from the handling of food tripled between 1949 and 1957. The trucking industry, therefore, is by far the most significant carrier of food, and the one whose charges and operations are most worthy of study.

1 The estimated revenue from trucking food in 1949 is based on the ton-miles of truck traffic, multiplied by a revenue per ton-mile after adjustment for changes in revenue per ton of all commodities trucked, as shown in the D.B.S. publication, Motor Carriers, Freight-Passenger.

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Airlines traffic in food products has substantially increased since 1949, as evidenced by an increase in revenue from $1 million to $5 million in 1957. Food carried in air cargo by 1957 still amounted to only a little over 2% of the revenue collected by all carriers from transport of food.

Coastwise trade in food products consists very largely of grain. In fact, over 88% of the total cargo-tons of food handled between Canadian ports in 1956 consisted of grain for use as human food. In Table 2 only grain (consumed as food) and a limited amount of canned food products are taken into account because of the scarcity of detailed information on food products moving in a coastwise trade. Based upon the data available, though, it is apparent that water transport has barely maintained its share of total revenues from traffic in foods of Canadian origin used for domestic consumption.

Railway Revenues from Handling Food

The year-by-year performance of the railways in transporting domestically produced and consumed food is shown in the estimates set out in Table 3. Traffic has fallen but revenue has climbed. Between 1949 and 1957, total revenue from freight and express increased from $58.5 million, to just under $78 million, or one-third. During the same period, volume of freight (ton-miles) declined by 5%. Average revenue per ton of freight rose by over two-thirds. In contrast to the rise in total revenues were the sharp drops in revenues from less-than-carload freight, and in revenues from transportation of milk in passenger trains.

The rise in total rail revenues from handling food (excluding exports and imports) was irregular but distinctly upward over the period, and average revenues per ton and per ton-mile rose in a rather similar pattern. The decline in volume of food handled by rail was irregular too, and had a marked effect on fluctuations in total revenue. Freight rates rose. Traffic shifted away from the railways. Those were the two outstanding developments in rail traffic in food between 1949 and 1957. Although these factors tended, in part, to offset each other, total rail revenues rose over the decade, reaching a peak in 1956 and dropping slightly in 1957.

Trends in volume and revenues earned by the railways varied considerably from one product to another. From 1949 to 1957 marked downtrends in volume occurred for shipments of fish, fresh vegetables, and apples, and revenues hardly managed to keep up to 1949 levels. Volume of traffic in meat products, potatoes, and canned foods, however, has shown a distinct upward trend, and revenues from these commodities even more so. Hogs, and sugar and confectionery also have moved higher over the decade, but with sharp intervening declines.

Trends in some of the other food products have not been too clear. Traffic in eggs and dairy products, cattle and calves, and flour declined up to about 1952, and then revived to around the 1949 level. Revenues have followed the course of fluctuations in volume, and increased on balance quite markedly above the 1949 revenues, except

TABLE 3. REVENUES TO RAILWAYS FROM TRANSPORTING FOOD PRODUCTS PRODUCED AND CONSUMED IN CANADA, AND INDEX NUMBERS OF RAIL REVENUES PER TON OF FOOD, 1949 TO 1957.

Year	Rail Freight Revenue[a] ($ thousand)	Revenue per Ton (1949 = 100)
1949	58,461	100.0
1950	58,008	107.1
1951	66,893	123.6
1952	76,379	132.4
1953	75,778	130.3
1954	71,356	151.0
1955	69,990	139.2
1956	79,075	151.9
1957	77,925	167.3

a Included estimates of revenues from carload and less-than-carload food shipments, milk shipments and food shipments by express.

for eggs and dairy products.

It is not the purpose of this study to account for causes of fluctuations in volume of traffic in these various commodities. A complex of factors surrounding conditions of production and consumption of each commodity, together with changes in real transportation costs for each, locally and nationally, has contributed. This brief examination of the trends for selected commodities has been developed at this point to illustrate that generalizations for the whole rail food traffic pattern cannot be applied to any given food commodity.

Some traffic has been retained by the railways only by avoiding effective implementation of general freight rate increases authorized by the Board of Transport Commissioners. In the case of grain, the rates are statutory and the Board of Transport Commissioners cannot raise them.[1] The Crowsnest Pass rates on grain, as a matter of policy, have been maintained at original levels to facilitate export of Canadian grain. Insofar as these apply on grain for domestic use as food, they help to narrow price spreads on grain products. This leaves out of account any effect that maintenance of these rates may have had on transportation rates for other commodities, including food products other than grain.

In the case of a number of products not included in the statutory rate category, the average revenue per ton-mile has been noticeably slow to increase. Very likely one reason is that the railways

1 The statutory rates apply on grain in transit in western Canada destined for eastern Canadian domestic use. They do not apply to local traffic in the Prairie Provinces west of Fort William, nor on any westbound movement of grain for domestic consumption.

have granted various types of competitive rates which are lower than the non-competitive rates under which a larger share of the traffic moved back in 1949.

In a judgment in 1957 the Board of Transport Commissioners commented on the tendency towards increasing use of competitive rates on all types of products, and it seems likely that the comments are also applicable to food:

> "It will be noted...that the proportion of the revenue from 'class' rates has declined materially since 1949 and is now only approximately one-half of the 1949 proportion. Class rates are the highest rates charged by the railways and it is apparent that a large part of the class-rated traffic has either been diverted to highway transportation or, if still hauled by the railways, is now carried at lower commodity rates, competitive rates, or agreed charges.
>
> The fact that the competitive portion of the traffic has increased from 8.9 per cent to 21 per cent, and the agreed charges (largely based on competition) have increased from 2.4 per cent to 10 per cent, is substantial confirmation of the situation with regard to the class and non-competitive commodity rates."[1]

Table 4 presents changes since 1949 in the average revenue per ton-mile collected by the railways from handling various food products. The data are taken from a 1% sample of carload traffic taken annually by the Board of Transport Commissioners, and so minor variations from year to year are to be expected as a result of errors of sampling. Nevertheless, the trend over the period can be regarded as accurate. As might be expected from the unchanging statutory rates applying on western grain, the revenue per ton-mile from hauling wheat is about the same in 1957 as it was in 1950. The statutory rates do not apply to grains in processed form for human consumption, and so revenue per ton-mile from cereal food preparations increased distinctly over the period. The average revenue from butter, cheese, and eggs at the end of the period was actually lower than in 1949/50, and the average revenues from edible packinghouse products and fish appear to be a little lower than they were in the early 1950's. Sugar beets are a commodity hauled on the average about 50 miles and are, therefore, subject to truck competition. So it is not surprising that the average revenue has not increased in the last few years. In the case of potatoes, average revenue per ton-mile has been kept down by excepting potatoes from certain rate increases, and also by agreed charge rates negotiated between the railways and potato producers of the Maritime Provinces since 1953.

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1 Board of Transport Commissioners for Canada, Final Judgment and Order, December 27, 1957, p. 28.

TABLE 4. CHANGES IN RAILWAYS' AVERAGE REVENUE PER TON-MILE FROM CERTAIN FOOD PRODUCTS, 1949 TO 1957

(Average Revenue per Ton-Mile in Cents)

Year	Wheat	Cereal Food Preparations	Apples	Potatoes	Sugar Beets	Edible Packinghouse Products	Fish	Butter Cheese & Eggs	Sugar	Canned Food
1949	0.50	1.40	2.00	1.20	3.60	2.80	2.20	3.00	2.00	1.70
1950	0.57	1.64	1.98	1.29	2.85	3.17	2.07	3.43	2.09	1.80
1951	0.65	2.13	2.10	1.42	2.64	3.75	2.07	3.97	2.16	1.93
1952	0.58	2.90	1.88	1.66	3.89	3.67	2.87	4.35	2.62	2.19
1953	0.57	2.82	2.52	1.92	3.13	3.45	2.88	4.19	2.44	2.72
1954	0.63	1.67	2.21	1.74	2.97	3.17	2.52	3.41	2.14	2.43
1955	0.56	1.66	2.44	1.75	3.00	2.87	2.72	2.91	2.22	2.44
1956	0.56	2.66	2.67	1.70	2.96	2.94	2.89	3.14	2.05	2.45
1957	0.55	2.33	2.75	1.70	2.90	3.36	2.69	2.88	2.18	2.51

Source: Board of Transport Commissioners, Annual Waybill Analysis of Carload Traffic.

In some cases, railways have continued to earn increasing average revenues per ton-mile, but the traffic has fallen off drastically. Fresh fruit, fresh vegetables, and cattle and calves are examples.

There has been a marked shift in the proportion of deliveries of every type of livestock by truck to stockyards and packing plants in the past 10 years. The proportion of cattle delivered by truck increased from 39.0% in 1948 to 72.5% in 1957, hogs from 55.4% to 76.4%, and calves and sheep to a similar extent. In each case there has been a corresponding decline in the proportion delivered by rail.

Competition of other forms of transportation, particularly trucking, has definitely restrained increases in railways' charges for hauling food. The full impact of general railway rate increases has not fallen upon food products. Average revenue per ton-mile and per ton from transport of food by rail has increased by a substantially smaller percentage since 1949 on account of the statutory rates on grain and the competitive rates and agreed charges which the railways have found it necessary to grant on a number of other products. The food industry has shifted some of its traffic to truckers, either because it is sometimes cheaper per se, or because it is more convenient and reduces the food firms' total costs.

By another yardstick, though, the transport bill for domestically produced and consumed food has not been kept within bounds. The total transportation bill for food products (estimated in Table 2) increased from $109 million in 1949 to $254 million in 1956, or 133%. The transportation bill for all products in the Dominion Bureau of Statistics national accounts increased from $1,019 million in 1949 to $1,929 million in 1956, or 89.3%. Gross national product increased by only 80.9%.[1] So it appears that the transport bill for food increased by more than the transport bill for all products, and more than gross national product.

The evidence seems somewhat contradictory, but seems to warrant the following conclusions:

(1) Generally inflationary forces affecting the carriers' costs led to substantial increases in freight charges between 1949 and 1957. The increases in rates applied to food products in general, but not to western grain, and only partially to potatoes.

(2) Competition between truckers and railways prevented the railways from putting the authorized rate increases fully into effect in the case of certain foods, such as eggs, cheese and butter, sugar beets, and potatoes. There has also been a definite shift in certain traffic from rail to truck transport, as in the case of fresh fruits and vegetables. The railways have been far from maintaining their 1949 position in the traffic in domestic food products.

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1 The transport bill for all products (non-foods as well as foods) was 6.8% of gross domestic product in 1949 and 7.2% in 1956, and has varied in the past 10 years between 6.7% (in 1954) and 7.7% (1947).

(3) Because trucks have innate advantages over railways in handling less bulky types of food, especially for short hauls, the shift to trucking represents at least partly a shift to more convenient and efficient transport of food, rather than a reduction in freight charges per ton-mile.

(4) The bill for urban distribution costs by truck grew substantially between 1949 and 1957. As in the case of other estimates of trucking revenues, it is difficult in approaching urban distribution to base firm conclusions on calculations with many built-in assumptions. Evidence of changes in the truck transport bill for food should be treated as something more than circumstantial evidence, but also something short of proof.

Costs of Trucking Food

Compared with treatment of other media in the statistics and literature of transportation, little attention has been paid, up to the present, to trucking. Prior to 1956, there was no information published in government statistics on products transported by truck in Canada, and even now food products can be distinguished only by the headings "Agricultural products" and "Animal products". No data were published for trucking of these products in the Atlantic Provinces prior to the year 1957. Yet trucking is an industry serving all but a few isolated areas or settlements in Canada.

Of the total estimated costs of trucking food produced and consumed in Canada ($159 million for 1957), over 40% (as measured by revenue) was carried in trucks of Ontario registration, and from 25% to 30% in those registered in Quebec. Thus at least two-thirds of the aggregate food trucking costs are attributable to the intensive use of this form of transportation in the concentrated population areas of central Canada. The significance of this also appears when the trucking cost estimates are segregated for interprovincial and intra-provincial traffic in food products. Of the total cost, only about 7% in 1957 represented interprovincial movement - the remainder consisting of costs of movement between points within a province and mainly for costs of movement within urban areas. These estimates include both the costs of "for hire" vehicles, that is to say, vehicles of firms engaged primarily in the trucking business, as well as the costs of trucks owned by individuals and firms engaged in food processing and distribution.

The estimate for total urban food trucking costs in 1957 (both "for hire" and privately owned vehicles) amounted to two-thirds of total trucking costs. In fact, urban transport of food by truck, (estimated at over $100 million) in 1957, exceeded the total food transport bill for haul by rail.

In urban distribution the trucking industry does not, of course, compete with the railways, but competition in intercity handling of food has been keen in the last 10 years. In 1938 the Transport Act legalized the practice of agreed charges in order to help the railways meet truck competition. Under this legislation the railways are permitted to negotiate special low rates with shippers, who are then obligated

to ship at least a certain portion of their freight by rail. The effect of this legislation was not too noticeable during the war years when every carrier was handling capacity traffic, and when there were restrictions upon the growth of the trucking industry. Since the war, use of agreed charge rates has enabled the railways to retain some traffic, which might otherwise have been lost to the trucks.

It is difficult to generalize concerning differences between rail and truck rates. Where there is effective competition between carriers, there is a tendency towards equality in rates as between carriers affording approximately the same service. Otherwise, traffic would almost invariably flow to the cheaper carrier.

However, it is quite possible for one carrier to attract traffic from another even in spite of higher rates, if a superior service is offered. Trucks and railways afford different types of services, each with its own advantages to the shipper. Highway carriers offer a shorter transit time and more flexibility. A truck can start its journey as soon as it is loaded. Truck pickup and delivery services are especially attractive when a customer has no siding. The driver helps to load and unload the truck, which reduces costs of this operation to the shipper or consignee. And less handling by truck reduces damage and claims. Also, firms can own their own trucking fleet as a means of combatting rising freight rates and meeting their own particular delivery requirements. With his own trucks, a shipper can select equipment specifically suited to the transport of his goods.[1] For these reasons, trucks can meet the competition of the railways, even though trucking costs per ton-mile may actually be higher. This is on the average the case for food products transported in Canada. The average revenue per ton-mile from rail handling of food in 1956 was 1.53¢, and in 1957, 1.62¢. In comparison, the average revenue per ton-mile of "for hire" trucks in the years 1956 and 1957 is estimated to have been between 6.5¢ and 7.0¢.

On the other hand, the railways are the traditional bulk carriers on land, and they can handle large quantities at very low cost. In the movement of commodities, such as grain, the advantage of the railways is considerable. Also, the railways are better equipped to handle long-distance shipments. Trucking firms do not maintain the same national organization and facilities as railways, and trucks are more costly to operate and less easily controlled the farther they are from their home base. Each medium of transportation has its own special preserves, based on the types of service which it is intrinsically best suited to perform. At the same time, there is a very substantial middle ground in which competition can be intense.

A study of the transportation preferences of the Texas food industry defines the area of competition between rail and truck in this way:

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1 Dun's Review of Modern Industry, June, 1958, "A Shipper's-Eye View of America's Transportation System", p. 66.

> "To sum up rail operations in relation to distance, it could be said that rail transportation was utilized very sparingly for shipments of less than 100 miles. The use of rail for movements of 100-250 miles was confined largely to carload shipments. At distances over 250 miles, however, rail became increasingly competitive with truck and the relative use for all types of rail shipments increased sharply."[1]

By and large, the same conclusion can be applied to Canada. In the transportation of food, competition between carriers will only extend to a portion of the total tonnage hauled. The area of competition is circumscribed by the natural advantages of each type of carrier. The shift towards trucking in the past 10 years denotes successful competition by the trucking industry with the railways, but once trucks have captured the traffic for which they are the most efficient carrier, the growth of the industry will cease to be at the expense of other types of carrier and will be at a rate proportionate to the growth of the nation's food business as a whole. For this reason, the growth trend of trucking in the next 10 years may not resemble that of the past 10 years.

Water Transport

Although the grain trade bulks large in Canadian coastal shipping, water transport is of secondary importance in the handling of food for domestic consumption. Water-haulage of Canadian products for domestic consumption as food accounted for only 1.3% of the total food transport costs (Table 2). Water freight is definitely the cheapest form of transportation. Throughout the past decade, it cost roughly a third of a cent to transport a ton of grain one mile in coastal shipping. More than half of the total revenue for water shipment of domestic food throughout the period came from wheat.

It is particularly necessary to stress here again that these estimates are, at best, broad approximations. They include estimates of costs of moving grain for domestic food use and of canned foods moving in coastwise trade on the Great Lakes and the St. Lawrence River. Lack of data made it impossible to estimate costs of moving food in coastwise trade on the east and west coasts of Canada and in the Gulf of St. Lawrence.

Apart from grain, coastal shipping has small significance in the transport of food. To a Newfoundland fisherman in one of the outports, coastal shipping may be the indispensable means of marketing his product and obtaining his own food supply. The importance of this means of transport in particular districts is not to be denied. Nevertheless, in total, water transport of foods, other than grain, is of limited importance, and the government statistics do not tell much about it. It

1 Texas Transportation Institute, Bulletin No. 8, "Transportation Uses and Preferences of the Texas Food Industry", by Charley V. Wootan, p. 45.

has, therefore, not been possible to estimate the revenue to the shipping companies from transporting these products.

Instances of coastal shipping companies losing traffic to other carriers are probably few. There has been no change similar to the sizeable shift of traffic from railways to truckers which occurred during the past 10 years. Water transport is cheap. It has a distinctive place in the handling of bulk goods. Yet this means of transport is slow and cannot serve inland points unless the freight is transshipped to another carrier.

Air Cargo

There is an astonishing difference between the amount of revenue an airline and a coastal shipping company collect for transporting a ton of food. In 1956 the average revenue per ton of grain handled by water was $2.72, while the average revenue of the airlines from air cargo (all commodities) was $328.28. This contrast in revenue per ton reflects the vast difference in the roles of these two carriers. Water carrier is the cheapest (and slowest) means of bulk transport. Air cargo is the fastest and most expensive type of transport and as a result performs an emergency or specialty service in populated areas, or sometimes the sole winter service to remote areas.

Although costs of air transport for domestic food supplies still only account for a very small part of total food transport costs, estimates of revenue to the airlines from handling food in air cargo more than quadrupled between 1949 and 1957, increasing from $1 million to $5 million (Table 2). Most of the increase in revenue from air cargo resulted from growing volume of traffic, which quadrupled within seven years.

Nevertheless, air cargo, although still a small factor in the total food transportation cost, is growing rapidly. It has not proved particularly successful in heavily populated areas as other means of transport have speeded up their services sufficiently to prevent effective competition from the airlines. Air traffic has proved most successful in developing and supplying remote areas in the Canadian northland. Yellowknife, Northwest Territories, for example, is wholly dependent upon airlines during nine months of the year for its perishable food. Also, fish is regularly shipped from nothern Manitoba and parts of northwestern Ontario by air to points farther south. Air freight and air express have, therefore, considerable importance in certain regions which can afford the high-cost service. No doubt, as a result of air freight charges, the retail price of food is distinctly higher than in areas which can import their food by a less expensive means of transport. Since the average revenue per ton of air cargo has increased less than the average revenue per ton of food trucked or carried by rail, the contribution of air transport costs to increases in price spreads of food products in remote northern points has likely been less than in areas served mainly by other carriers. Nevertheless, any attempt to shift population or development more into remote areas will tend to increase both average transport costs and average food costs to consumers in Canada.

In more southerly areas, the role of air cargo in transport of food in the future may be noteworthy, especially if the speed of aircraft increases very rapidly. A recent article on the advantages and future prospects of the various means of transport in North America stated:

> "According to Senior Vice President Hugh J. Davern of the Grand Union Company, one of the top ten food chains, jet planes will halve the travel time of fresh produce from farm to supermarket. This may revolutionize the marketing of these products, for farmers will probably make fresh vegetables and fruits 'table-ready' or ready-to-cook before shipment, to compete with frozen foods."[1]

Developments in the transportation industry in the past decade indicate change and improved efficiency. Airways have extended their air freight services and greatly expanded their volume of business with only modest increases in charges per ton handled. Competition between truckers and railways has resulted in the diversion to the trucks of considerable traffic which they are better suited to handle. The necessity of resorting increasingly to competitive rates has tended to hold the railways' charges lower than they otherwise would be on certain types of traffic, though the benefit is at least partly offset by a shifting of the burden of costs onto other types of rail traffic. Especially if inflationary pressures on carriers' costs (and indirectly on freight rates) recur in the future, the contribution of transport charges to price spreads of food products will be held in line only if the industry continues to improve its efficiency.

3. Urbanization and Transport Costs

The transportation of food by trucks in urban areas in 1957 involved an aggregate cost of over $106 million. Canada's urban population is increasing both absolutely and relatively. In the 1951 census 62.9% of Canada's population was classed as urban, and in 1956, 66.6%. The phenomenal growth which occurred in the population of some metropolitan areas between those two census years is illustrated by the data in Table 5. The population of Edmonton increased by just over 30% and the increase for Calgary was more than 28%. The next 10 cities, in order of rapidity of increase, were all located in Ontario. In 1957 well over half the total cost of urban trucking of food for Canada was incurred in Ontario. Distribution of food by truck in metropolitan areas in Ontario particularly is a large and rapidly growing business.

The fact that so much money is spent for handling food in urban centres, coupled with the rapidity of the growth of some of these areas, makes it worthwhile to ask whether urban distribution of food is as efficient as it could be. The lack of detailed and comprehensive

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1 Dun's Review of Modern Industry, June, 1958, "Better Transportation is Up to Management", p. 103.

TABLE 5. POPULATION OF RAPIDLY-GROWING METROPOLITAN AREAS, 1951 AND 1956

Rank	Metropolitan Area	Province	Population 1951 (thousands)	Population 1956 (thousands)	Percentage Increase (%)
1	Edmonton	Alberta	249	174	30.2
2	Calgary	Alberta	196	141	28.3
3	Sudbury	Ontario	94	71	24.4
4	Sarnia	Ontario	52	41	21.3
5	St. Catharines	Ontario	84	68	20.1
6	Oshawa	Ontario	64	52	19.9
7	Sault Ste. Marie	Ontario	50	40	19.7
8	Kitchener	Ontario	79	64	19.2
9	Niagara Falls	Ontario	51	42	17.2
10	Toronto	Ontario	1,348	1,117	17.1
11	Guelph	Ontario	37	30	17.1
12	Hamilton	Ontario	326	272	16.4
13	Halifax	Nova Scotia	160	134	16.1
14	London	Ontario	153	129	16.0
15	Chicoutimi - Jonquiere	Quebec	92	78	15.4
16	Fort William - Port Arthur	Ontario	84	71	14.8
17	Vancouver	British Columbia	659	562	14.7
18	Kingston	Ontario	58	49	14.4
19	Winnipeg	Manitoba	410	354	13.6
20	Shawinigan Falls	Quebec	58	51	13.2
21	St. John's	Newfoundland	78	67	13.2
22	Ottawa - Hull	Ontario - Quebec	336	292	12.8
23	Montreal	Quebec	1,595	1,395	12.5

statistics renders an investigation difficult, and so it may be possible merely to point to the great significance of this industry, the urban freight transport industry. Thousands of firms are involved in it, from those specializing in trucking to those primarily in assembly, processing and distribution, but operating one or more trucks. The interest in its efficiency, therefore, is of concern to the community.

There are two ways in which urbanization can inflate transport costs. First, a growth in concentration of urban population may bring about an increase in the distance from which food products must be brought to serve the growing city. Second, the cost of distribution of food by truck within a city may rise as population becomes greater.

In the case of eggs, milk, butter, and meat the producing areas around the city may shrink as the city grows, and the increasing demand for these products will, at the same time, push the margin of profitable production farther out. As this happens, the average haul to market increases, and so does the cost of transport, whether by truck or rail. The general statistics of average haul on the railways do not yield separately the average haul to urban centres. In the absence of parallel data for trucking it is, therefore, impossible to distinguish changes in length of haul arising out of loss of traffic to trucks from changes resulting from increasing demands of metropolitan centres.

Similarly, statistics of the net movement of various food products by rail from one province to another cannot be specifically related to urbanization. The net import of increasing quantities of food into a province does indicate a change in the position of a province as an agricultural producer though, registering a shift to outside sources of supply. Usually, dependence upon outside sources indicates a higher cost of transportation.

Changes in the surplus or deficit position of the various provinces, as reflected by the rail movement of agricultural and animal products, may be gauged from the data in Table 6. The marked increase in imports of agricultural and animal products into Ontario applies to a broad range of commodities and may, therefore, be directly related to the increase in population of urban centres. In Quebec net imports of dressed meats and dressed poultry have increased substantially between 1949 and 1957, and the same is true of potatoes, flour, and "other fruits" (excluding apples). Changes in net imports of grains may very well reflect changes in volume moving into foreign, rather than domestic, channels. Likewise, in the case of British Columbia, the substantial increase in net rail imports of agricultural products is largely accounted for by a sharp rise in the net imports of wheat, almost certainly reflecting larger shipments from the Prairies subsequently exported to foreign countries by water. Increasing net imports of cattle, hogs, dressed meats, and flour are more likely indicative of increased urban demand. The evidence is far from conclusive, but does not contradict the possibility of food products being brought greater distances by rail to urban markets.

In the case of manufactured food products, the necessity of

TABLE 6. NET RAIL MOVEMENT OF AGRICULTURAL PRODUCTS AND ANIMAL PRODUCTS, BY PROVINCES, 1949 AND 1957

Province	Year	Agricultural Products[a] Net Out of Province	Agricultural Products[a] Net Into Province	Animal Products Net Out of Province	Animal Products Net Into Province
		(thousand tons)			
Newfoundland	1949	not available			
	1957		53		14
P.E.I.	1949	193		10	
	1957	195		11	
Nova Scotia	1949		214		23
	1957		711		13
New Brunswick	1949	107			14
	1957		636		24
Quebec	1949		1,667		133
	1957		2,214		202
Ontario	1949		4,824		21
	1957		6,460		126
Manitoba	1949	2,575		23	
	1957	1,306			2
Saskatchewan	1949	6,502		184	
	1957	8,580		195	
Alberta	1949	3,798		246	
	1957	4,367		284	
B.C.	1949		357		52
	1957		5,148		73

a Field crops, fruit, vegetable, tobacco etc. products.

Source: Based on statistics in D.B.S., Summary of Monthly Railway Traffic Reports, Year Ended December 31, 1949, and Railway Freight Traffic, 1957.

drawing on a wider area for supplies for growing cities is not so direct. New manufacturing plants of near-optimum size can be located close to growing urban centres, which previously constituted too small a market to absorb the output of a factory. In such a case, the building of the new plant may cut the average rail haul for a particular manufactured product quite substantially, although it also might result in increased shipping distances for the raw food materials. This paper, in which no intensive commodity analysis has been attempted, does not attempt to offer statistical evidence on increases in length of food haulage to growing cities.

The second way in which urbanization can increase food transport costs is by making distribution of food within the city more difficult and expensive. Traffic congestion in urban areas increases costs of operating delivery vehicles in downtown streets at certain times of day. In some of the larger cities, like Montreal, congestion may involve delay and poor use of truck-time throughout the day. To some extent, food processors can schedule deliveries in such a way as to minimize the time trucks spend in traffic jams. Deliveries to chain store outlets may be scheduled to avoid rush hours. Many dairies begin deliveries before dawn in order to supply consumers and restaurants and stores with fresh milk and dairy products before their day begins, and so do not bear the brunt of congestion.

Dairies may be more affected by growth of suburban areas where the distance between houses is greater, apartment buildings fewer than in the city centre, and where, consequently, each truck takes longer to make the same number of deliveries.

Another characteristic of urban distribution of food is overlapping of routes, or delivery to homes directly, rather than to retail stores. Interested in reducing the cost of distributing milk, the Ontario Royal Commission on Milk in 1947 expressed the hope that experiments in economy would be tried, such as quantity discount sales, depot sales, every-other-day delivery, and zoning of routes. In his report, Hon. D.C. Wells also said:

> "In fairness to the distributor I think it must be said that it is not possible to reduce the cost of distribution further without much more active co-operation on the part of the consuming public. There is, I think, no substantial evidence before me which would indicate that the cost of processing and administration are unreasonable or can be greatly reduced ... The key at the present time to any immediate further economies must lie in some fundamental re-organization of the distributing process. Without such re-organization possible savings would be comparatively minor in nature and amount."[1]

The same statement is true today. Some of the economies have been tried, but there is still scope for reorganizing the distribution

1 Report of the Ontario Royal Commission on Milk, 1947, p. 93.

process. It is to be observed here, of course, that there has been a shift from delivery service to cash and carry for milk and bread. In some urban centres there has been a consolidation of delivery services, although decreases in sales may have offset transport savings effected by consolidation and elimination of routes. In any event, the change to cash and carry does not yield a full saving in transportation costs - it simply effects a transfer, in whole or in part, of these costs outside the marketing system to the customer.

In view of the growth in Canada's urban population and the large amount spent on distribution of food in cities, a survey of the problems involved in achieving efficient distribution could be most useful. The problem has been approached piecemeal by those interested in traffic congestion, or in a particular firm's delivery problems, or in the distribution of one commodity, such as milk. An overall approach to the problem would tend to emphasize the far-reaching nature of the potential economies, and might attract far more public attention than a bit-by-bit study. Urban distribution of food is one of the functions whose cost is included in the price spread, and in the next 10 years the reduction of distribution cost in large cities could help to prevent a widening of the spread.

4. Gaps in the Statistics

In the process of developing estimates of aggregate food transportation costs, opportunity has been afforded to examine in detail the existing statistical series on Canadian transportation. This examination has thrown light on deficiencies in the statistics, making it possible to suggest where improvements could be made. While the suggestions arise out of the attempts to use the statistics for a particular purpose, in many instances the data would be useful for other purposes. Thus, even if estimates of aggregate costs of transportation for products, industries, or other classes or categories in the Canadian economy are not compiled in the future, or if the series developed here is not to be extended or improved upon, the suggestions which follow may be helpful as a contribution to general improvement of transportation statistics.

(1) The major statistical difficulty faced in estimating the aggregate costs of hauling food by truck over the period of study was the lack of information in the required detail for the years prior to 1957. Up to that year, the commodity breakdown was quite inadequate. For certain types of trucking (e.g., urban) no information on commodities hauled is available. The 1957 Dominion Bureau of Statistics report, "Motor Transport Traffic Statistics", has met several of the gaps, but further refinement and breakdown of statistics is desirable for the purpose of estimating total food transport costs.

(2) Among the abundant Canadian rail statistics, there are only limited data of limited reliability on average haul per ton, and revenue per ton-mile, for particular commodities. At present, the information is available only in the Annual Waybill Analysis of Carload

Traffic prepared by the Board of Transport Commissioners, based on a 1% sample of all carload traffic.

(3) There is no data published on the commodities handled by airlines. One of the difficulties is the fact that airlines do not record kinds and quantities of freight carried in "bulk transportation" or charter service. If airlines maintained such records, useful statistics could be obtained.

The availability of traffic statistics from all carriers, by commodities, based on the Canadian Freight Commodity Statistics Classification issued by the Railway Association of Canada, would greatly facilitate appraisals of shifts of traffic from one type of carrier to another.

(4) Further, the incomplete shipping statistics might be improved so as to give reliable information about revenues and length of haul, by commodities. At the present time, even the tonnage figures fall short in adequacy and reliability. The loadings of a commodity in coastwise traffic frequently are entirely different from unloadings of the same commodity.

(5) More details of the characteristics of individual urban centres, particularly those of substantial size, would prove useful. It is impossible now to judge the volume of goods produced, entering and leaving major cities, or the costs of distributing goods within the cities.

5. Conclusions

1. The total bill for transporting food produced and consumed in Canada increased from $109 million in 1949, to $245 million in 1957.

2. Of the total amount, revenues collected by truckers accounted for $48 million in 1949, and $159 million in 1957. The trucking industry, therefore, collected a large and increasing share of the total food transport bill (excluding exports and imports).

3. The volume of food handled by truckers (as measured by ton-miles) increased nearly 80%, partly as a result of a substantial shift in traffic from the railways. The ton-miles of domestic food handled by rail in 1957 were slightly less than in 1949.

4. Between 1949 and 1957, railway freight rates in general increased by 79%. These increases were largely the indirect results of general inflationary pressures which boosted the railways' costs. Substantial competition from other carriers, particularly trucks, however, prevented the railways from raising their effective rates to the full extent authorized by the Board of Transport Commissioners. Average revenue per ton-mile of food freight handled by rail increased by only 43.1%. The average revenue per ton-mile from certain products,

including butter, cheese, eggs, sugar beets, edible packinghouse products, and fish, therefore, either did not rise during this period, or else rose less than the average revenue per ton-mile from the hauling of food products in general. Even so, between 1949 and 1957 average revenue per ton-mile increased by a larger percentage than the consumer retail price index for food.

5. Water transport of food in coastwise trade consists mainly of grain, principally wheat. Revenues from transport of grain for consumption as food in Canada bulged upwards in 1952/53, but were about the same in 1957 as in 1949. Average revenue per ton-mile increased only about 10% over the period.

6. Like water freight rates on food, air cargo rates increased less than rail or truck rates between 1949 and 1957. Traffic more than quadrupled. Larger revenues from transport of domestically produced and consumed food were earned by the airlines in 1957 ($5 million) than by coastal shipping companies. Air freight and air express services have proved most successful in supplying remote areas in the Canadian northland.

7. One potential field for cost reduction is distribution of food products in urban areas. The bill for urban trucking of food was substantial in 1957, both in total amount (over $100 million) and as a proportion of the total transport cost. Any steps taken to lower costs in urban food trucking would have an impact on overall marketing costs.

APPENDIX A

Sources of Data

1. Rail

The chief sources of data used in the estimates of railway revenues from handling domestically produced and consumed food are: Dominion Bureau of Statistics, Railway Freight Traffic (annual publication); and Shipping Report (an annual publication, used as the source of water exports and imports data, which are required for an adjustment to arrive at domestic rail shipments of food); and Board of Transport Commissioners for Canada, Annual Waybill Analysis of Carload Traffic.

2. Trucking

The cost of transporting food products by truck is based on revenue collected by trucking firms from shippers, as reported in the D.B.S. publication, Motor Transport Traffic Statistics. Only one or two years' data are available for each province, and there is no period of 12 months for which statistics for all provinces are published until the issue of the statistics for the year 1957.

Prior to the publication of Motor Transport Traffic Statistics, Dominion Bureau of Statistics published Motor Carriers, Freight-Passenger, but this latter publication contains no data relating to agricultural products or animal products, and it is, therefore, impossible to use the publication in preparing total revenues from trucking food. The data in the publication are useful, however, to show something about the growth in truck traffic and changes in average revenue per ton-mile from 1949 to 1956. Because of the difficulty of collecting reliable data from so many truckers, many of them in and out of the business, the Dominion Bureau of Statistics stresses the limitations in even its latest series of publications, Motor Transport Traffic Statistics.

3. Water

D.B.S., Grain Trade of Canada Reports, Reports of the Board of Grain Commissioners, and correspondence with coastal shipping firms and agencies.

4. Air Cargo

Data were obtained from various scheduled and non-scheduled carriers and from Trans-Canada Airlines.

FOOD ADVERTISING EXPENDITURES, 1949-1957

This study is limited to advertising expenditures by food retailers, merchant wholesalers, and manufacturers, as defined by the Dominion Bureau of Statistics. It has not been possible to include estimates of advertising costs of certain other marketing institutions. The more noteworthy omissions are parent or head office advertising performed for wholesaling and manufacturing subsidiaries, and advertising expenditures by agents, brokers, voluntary chain headquarter offices, food trade associations, marketing boards and, to some extent, co-operative wholesale assemblers. The carbonated beverages industry is included but segregated; the beer and liquor industries are excluded.

It is difficult to obtain a precise definition of advertising expenditures. Advertising has been defined by one authority as "any paid form of non-personal presentation of goods, services, or ideas to a group by an identified sponsor".[1] In making use of D.B.S. data on advertising expenditures we are confronted with the fact that sales promotion expenses are often included in the advertising account. If one were to follow the definition of Beckman et al, they would not be. They state: "Sales promotion includes those selling activities that supplement both advertising and personal selling, coordinate them, and render them more effective. It includes sampling, displays, demonstrations, and various kinds of non-recurrent selling effort."[2] In estimates of advertising expenditures of manufacturers, one also encounters the fact that advertising allowances to wholesale and retail customers are included. It is difficult to ascertain to what extent these take the place of price discounts in contrast to being straightforward expenditures on advertising.

Estimates of Advertising Expenditures, 1949 to 1957

Advertising expenditures of the sectors of the food economy were calculated and added together to determine total food advertising expenditures in Canada, from 1949 through 1957. This section describes the procedures that were employed to calculate the advertising expenditures of each of the sectors.

A. The Retail Sector - Independent Food Stores

The Dominion Bureau of Statistics publishes biennially the operating results of a sample of independent retailers. The ratios of advertising to net sales, by sales volume size class, were obtained over time for grocery stores, combination food stores, meat stores, fruit and vegetable stores and confectionery stores. Weighted ratios were computed by multiplying the number of stores in each sample by the average sales volume in the given sales volume class, and then by multiplying this result

1 T.N. Beckman, H.H. Maynard, and W.R. Davidson, Principles of Marketing, The Ronald Press, New York: 1957, p. 408.

2 Ibid.

by the advertising-to-sales ratio in the given sales volume class. The advertising ratios for the remaining kinds of independent retailers (bakery, candy-nut, dairy products and fish markets) were derived by using yearly aggregate advertising ratios of confectionery, meat, and fruit and vegetable stores, on the assumption that such ratios would be representative of these smaller-sized stores.

The 1949-1957 sales volumes of independent food retailers, by kind of business, were estimated by using yearly D.B.S. sales volume statistics of independent food retailers (classed into grocery and combination stores and other food stores) and the 1951 Census of Merchandising (Volume VII, Table 13). Using the yearly sales volume data of D.B.S. to determine rates of change from 1949 through 1957, and using the 1951 Census data to determine the per cent of sales volume by kind of business, the sales volumes for each Census kind of independent food retailer were extrapolated for the years 1949 through 1957. These sales estimates are provided in Appendix Table A.

Table 1 provides the estimated advertising expenditures of independent food stores. These were estimated by applying the advertising-to-sales ratios to the sales volume estimates.

B. The Retail Sector - Corporate Chain Food Stores

Essentially the same method was employed in calculating advertising expenditures by corporate chain food stores as was employed in calculating the advertising expenditures by independent food stores.

Yearly weighted advertising ratios were estimated for chain combination stores, grocery stores, and meat stores from the biennial operating results sample surveys conducted by the Dominion Bureau of Statistics.

The yearly sales volumes of each Census kind of corporate chain food retailer were extrapolated by using the yearly D.B.S. sales volume data of the given groups of corporate chain retailers (grocery and combination stores, and other food stores) to determine rates of change from 1949 through 1957, and by using the 1951 Census of Merchandising (Volume VII, Table 13) to estimate the per cent of sales volume by kind of business. These sales estimates are provided in Appendix Table B.

The advertising ratios for the given groups of chain food retailers (combination stores, grocery stores and meat stores) were then multiplied by the appropriate sales volume estimates, to yield estimates of advertising expenditures, over time, for the three kinds of chain stores.

Since none of the three available series of ratios seemed to represent the advertising ratios for the remaining six kinds of chain food stores, it was decided to estimate the remaining ratios as follows. First, the aggregate ratio of advertising to sales was calculated for the three given kinds of corporate chain stores. Second, a similar ratio was evolved for the same three kinds of stores in the independent retail food

TABLE 1. ADVERTISING EXPENDITURES OF INDEPENDENT RETAIL FOOD STORES, CANADA, 1949 TO 1957

Kind of Store	1949	1950	1951	1952	1953	1954	1955	1956	1957
				($ thousand)					
Grocery Stores	907	1,064	1,239	1,284	1,422	1,543	1,791	2,018	2,290
Combination	1,290	1,501	1,676	1,661	2,147	2,715	3,309	4,002	4,629
Bakery	17	19	22	24	26	26	28	35	37
Candy, Nut	3	3	4	4	5	5	5	6	7
Confectionery	155	175	228	240	241	240	249	286	306
Dairy Products	7	8	9	10	11	11	12	15	16
Fish Markets	6	7	8	9	9	9	10	12	13
Other	146	141	179	196	196	196	225	263	286
Meat Markets	217	238	254	233	246	280	318	349	395
TOTAL	2,748	3,157	3,620	3,661	4,303	5,025	5,947	6,987	7,979
Advertising Costs as Per Cent of Net Sales	0.19	0.20	0.20	0.20	0.24	0.27	0.31	0.34	0.37

Source: Operating Results of Independent Food Stores, 1948, 1950, 1952, 1954, 1956, D.B.S., Ottawa and Appendix Table A.

sector. Finally, it was assumed that the overall relationship between the three kinds of chains and independent stores held for the remaining kinds of food stores; the advertising ratios for these remaining chain stores (bakery, candy-nut, confectionery, dairy, fish, and others) were derived by means of simple ratio calculations.

Table 2 provides the estimated advertising expenditures of chain food stores obtained as indicated above.

C. The Wholesale Sector - Food Merchant Wholesalers

Advertising expenditures by food merchant wholesalers were calculated by multiplying estimated advertising-to-sales ratios and estimated sales volumes, by kind of business establishment.

The Dominion Bureau of Statistics publishes biennially the operating results of a sample of food merchant wholesalers. The ratios of advertising to net sales were obtained, over time, for grocery wholesalers, fruit and vegetable wholesalers, and tobacco and confectionery wholesalers. The cost of catalogues were included in advertising expenditures. A 1954 study of advertising expenditures in Canada yielded an aggregate advertising ratio for meat, fish, poultry and dairy wholesalers.[1]

The 1949-57 sales volumes of food merchant wholesalers, by kind of business, were estimated by using yearly D.B.S. sales volume statistics (index numbers for the years 1949-51) of fresh fruits and vegetables wholesalers, groceries and food specialties wholesalers and meat and dairy products wholesalers. Using the above sales volume data to determine yearly rates of change, and using the 1950 Census of Distribution (Volume VIII, Table 3) to obtain information on percentage distribution, the sales volumes for each kind of food merchant wholesaler were extrapolated for the years 1949 through 1957. These sales estimates are provided in Appendix Table C.

It was then necessary to determine the advertising expenditures for those kinds of food merchant wholesalers for which no ratios were available. First, a weighted aggregate advertising-to-sales ratio was determined from the above data for the fruit and vegetable, grocery, and tobacco and confectionery wholesalers, for each year, 1949 through 1957. Second, the 1954 advertising ratio for meat, fish, poultry and dairy wholesalers was extrapolated over time to hold the same relationship to the weighted aggregate ratios. Third, the yearly weighted aggregate ratios were assumed to be representative of the three remaining kinds of food merchant wholesalers, frozen and frosted food wholesalers, other products wholesalers, and produce wholesalers.

A multiplication of the estimated ratios of the above businesses with their estimated sales volumes yielded the advertising expenditures data found in Table 3.

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1 Advertising Expenditures in Canada, 1954, Reference Paper No. 67, Dominion Bureau of Statistics, Ottawa, 1956, p. 14.

TABLE 2. ADVERTISING EXPENDITURES OF CORPORATE CHAIN RETAIL FOOD STORES, CANADA, 1949 TO 1957

Kind of Store	1949	1950	1951	1952	1953	1954	1955	1956	1957
					($ thousand)				
Grocery Stores	63	134	237	309	382	472	651	625	571
Combination	1,968	2,289	2,774	3,892	5,073	6,462	8,096	9,218	10,353
Bakery	12	13	16	23	24	24	25	34	35
Candy, Nut	13	15	18	25	27	26	28	37	38
Confectionery	4	5	6	9	9	9	10	13	13
Dairy Products	1	1	2	2	3	3	3	4	4
Fish Markets	a	a	a	a	a	a	1	1	1
Meat Markets	30	28	29	37	41	52	68	74	84
Other	4	4	5	7	8	8	8	11	11
TOTAL - Chain	2,095	2,491	3,089	4,305	5,567	7,058	8,890	10,017	11,109
Advertising Costs as Per Cent of Sales	0.46	0.47	0.49	0.59	0.69	0.80	0.90	0.89	0.88
TOTAL RETAIL ADVERTISING (Chain and Independent)	4,843	5,649	6,709	7,966	9,869	12,082	14,837	17,004	19,088

a Less than $1,000.

Sources: Operating Results of Chain Food Stores, 1949, 1951, 1953, 1955, 1957, D.B.S., Ottawa and Appendix Table B.

TABLE 3. ADVERTISING EXPENDITURES OF MERCHANT WHOLESALERS OF FOOD PRODUCTS, 1949 TO 1957

Kind of Wholesaler	1949	1950	1951	1952	1953	1954	1955	1956	1957
	($ thousand)								
Fresh Fruit and Vegetables	117	122	110	191	222	190	174	210	232
Groceries and Food Specialties	522	560	530	818	1,039	933	912	1,121	1,491
Meat Products	133	142	139	192	252	202	171	200	253
Dairy and Poultry Products	148	158	155	214	281	225	190	229	281
Confectionery, Soft Drinks and Tobacco	102	108	142	148	177	163	146	127	135
Fish and Sea Foods	31	33	32	50	63	55	52	64	84
Frozen and Frosted Foods	1	1	1	1	2	2	1	2	2
Other Food Products except Groceries	13	14	13	21	26	23	22	27	35
Produce	10	10	10	15	19	17	16	20	26
	1,078	1,148	1,133	1,650	2,081	1,809	1,684	1,997	2,538
Advertising Costs as Per Cent of Sales	.08	.08	.07	.10	.13	.10	.09	.10	.12

Sources: Operating Results of Food Wholesalers, 1949, 1951, 1953, 1955, 1957, D.B.S., Ottawa.
Advertising Expenditures in Canada, 1954, Reference Paper No. 67, D.B.S., Ottawa, 1956. Appendix, Table C.

D. The Manufacturing Sector - Food Manufacturers

Advertising expenditures by food manufacturers were calculated by multiplying estimated advertising-to-sales ratios with estimated sales volumes, by kind of business.

The Dominion Bureau of Statistics provides no yearly estimates of advertising ratios of food manufacturers, but does provide yearly gross selling values of shipments, f.o.b. plant, in the food manufacturing sector. The selling values of shipments were assumed to be equivalent to the sales volume of food manufacturers and are tabulated in Appendix Table D.

The problem was to obtain estimates of advertising ratios. The only known instance that the Dominion Bureau of Statistics has attempted to accumulate advertising ratios in the manufacturing sector was for the year 1954.[1] The accumulated ratios covered all Census classes of food manufacturers except the fish processing and packing, processed cheese, animal oils, sausage and sausage casings, and carbonated beverages industries. The 1954 ratios for these industries were estimated, using as a guide, the industries for which ratios were available.

Since the ratio values were known or estimated for the year 1954 only, the task was then to extrapolate advertising ratios for the other years under consideration. The assumption was made that the advertising expenditures of food manufacturers had the same relative yearly movements as the combined retailer and wholesaler advertising costs. Using 1954 as the base year, an index of yearly movements of food manufacturers' advertising costs was determined. The 1954 advertising ratios were multiplied by the index values to yield estimated advertising ratios, by kinds of food manufacturers, for the years 1949 through 1957. The resultant ratios were then multiplied by the sales volume of food manufacturers, by industry origin, to give the estimates of advertising expenditures found in Tables 4 and 5.

1 Advertising Expenditures in Canada, 1954, Reference Paper No. 67, Dominion Bureau of Statistics, Ottawa, 1956.

TABLE 4. ADVERTISING EXPENDITURES OF MANUFACTURERS OF FOOD PRODUCTS, BY PRODUCT GROUPS, 1954

Product Group	1954 Expenditures ($ thousand)	
Biscuits	1,380	
Bread and Other Bakery Products	3,587	
Total Bakery Products		4,966
Fish Processing and Packaging	2,486	
Fruit and Vegetable Preparations	6,472	
Total Canning and Processing		8,958
Butter and Cheese	3,092	
Concentrated Milk Products	517	
Processed Cheese	1,340	
Ice Cream	84	
Total Dairy Products		5,033
Animal Feed	1,874	
Flour Mills	2,649	
Prepared Breakfast Foods	3,011	
Total Grain Mill Products		7,534
Animal Oils and Fats	24	
Sausage and Sausage Casings	104	
Slaughtering and Meat Packing	3,769	
Total Meat Products		3,897
Confectionery	4,963	
Macaroni and Kindred Products	327	
Sugar Refining	82	
Miscellaneous Food Preparations	13,483	
Total, Other Food Products		18,856
Total, excluding Carbonated Beverages		49,245
Carbonated Beverages	2,369	
Total, including Carbonated Beverages		51,613

TABLE 5. TOTAL ADVERTISING EXPENDITURES OF MANUFACTURERS OF FOOD PRODUCTS, 1949 TO 1957

Year	Advertising Expenditures (excluding Carbonated Beverages) ($ thousand)	Advertising Costs as Per Cent of Sales %
1949	16,105	.74
1950	19,794	.72
1951	25,970	.83
1952	32,377	1.00
1953	40,889	1.31
1954	49,245	1.54
1955	60,064	1.87
1956	74,522	2.18
1957	87,652	2.43

APPENDIX TABLE A

INDEPENDENT FOOD STORE SALES BY KIND OF STORE, CANADA, 1949 TO 1957

(Calendar Year)

Kind of Store	1949	1950	1951	1952	1953	1954	1955	1956	1957
				($ thousand)					
Grocery	453,330	483,532	563,259	583,666	592,672	617,367	639,502	672,595	715,696
Combination	586,417	625,486	728,619	755,017	766,668	798,613	827,246	870,054	925,808
Bakery	13,084	13,883	16,046	16,045	16,088	16,045	15,788	17,289	17,623
Candy, Nut	2,355	2,499	2,888	2,888	2,896	2,888	2,842	3,112	3,172
Confectionery	103,105	109,398	126,441	126,438	126,775	126,432	124,407	136,237	138,871
Dairy Products	5,495	5,831	6,739	6,739	6,757	6,739	6,631	7,261	7,402
Fish Markets	4,710	4,998	5,776	5,776	5,792	5,776	5,684	6,224	6,344
Other	132,938	141,052	163,025	163,021	163,456	163,013	160,403	175,655	179,052
Meat Markets	155,178	158,839	169,616	155,160	144,912	147,214	144,607	145,619	151,870
Total	1,456,614	1,545,518	1,782,410	1,814,751	1,826,016	1,884,086	1,927,109	2,034,045	2,145,839

Sources: Retail Trade and The 1951 Census of Distribution, Volume VII, Table 13, D.B.S., Ottawa.

APPENDIX TABLE B

SALES VOLUME OF CHAIN FOOD STORES BY KIND OF BUSINESS, CANADA, 1949 TO 1957
(Calendar Year)

Kind of Store	1949	1950	1951	1952	1953	1954	1955	1956	1957
					($ thousand)				
Grocery	33,034	38,427	46,567	53,360	58,765	65,620	73,175	83,321	93,575
Combination	401,621	467,194	566,163	648,745	714,455	797,802	889,657	1,013,009	1,137,677
Bakery	3,744	4,346	5,266	5,281	5,410	5,485	5,278	7,234	7,549
Candy,Nut	4,107	4,767	5,776	5,792	5,934	6,016	5,789	7,934	8,280
Confectionery	1,449	1,682	2,038	2,044	2,094	2,123	2,043	2,800	2,922
Dairy Prod'ts.	406	472	571	573	587	595	573	785	819
Fish Markets	77	89	108	108	111	113	108	148	155
Meat Markets	6,338	6,237	6,787	6,888	6,448	7,157	7,960	7,730	7,908
Other	1,197	1,389	1,683	1,688	1,729	1,753	1,687	2,312	2,413
Total	451,974	524,603	634,960	724,478	795,533	886,664	986,270	1,125,273	1,261,299
Total Retail Sales (Chain & Independent)	1,908,587	2,070,121	2,417,370	2,539,229	2,621,549	2,770,750	2,913,379	3,159,319	3,407,138
Combined Advertising Costs as Per Cent of Sales	0.25	0.27	0.28	0.31	0.37	0.44	0.51	0.79	0.56

Sources: Retail Trade and The 1951 Census of Distribution, Volume VII, Table 13, D.B.S., Ottawa.

APPENDIX TABLE C

SALES VOLUME OF FOOD MERCHANT WHOLESALERS, CANADA, 1949 TO 1957
(Calendar Year)

Kind of Wholesaler	1949	1950	1951	1952	1953	1954	1955	1956	1957
	($ thousand)								
Fresh Fruits & Veg's.....	167,469	173,706	183,428	212,407	202,027	211,145	217,540	233,446	231,804
Groceries & Food Specialties..	746,391	789,389	883,303	909,255	944,999	1,036,220	1,139,659	1,246,104	1,355,447
Meat Products...	70,135	74,691	81,899	76,795	81,242	80,934	77,663	82,039	81,477
Dairy Products..	78,142	83,219	91,248	85,563	90,517	90,174	86,529	91,404	90,779
Confectionery, Soft Drinks & Tobacco[a].....	203,491	216,551	237,446	245,994	252,643	271,638	291,346	316,516	336,936
Fish & Sea Foods	16,381	17,432	19,114	19,802	20,338	21,867	23,453	25,479	27,123
Frozen or Frosted Foods.....	1,307	1,391	1,525	1,580	1,623	1,745	1,871	2,033	2,164
Other Food Products excl.Groceries	18,947	20,163	22,108	22,904	23,523	25,292	27,127	29,470	31,371
Produce.....	14,069	14,972	16,417	17,008	17,468	18,781	20,144	21,884	23,296
Total Sales	1,316,332	1,401,514	1,536,489	1,591,309	1,634,379	1,757,796	1,885,332	2,048,375	2,180,398

a Does not include Cigar, Cigarette and Tobacco Wholesalers but does include Tobacco and Confectionery Wholesalers.

Sources: Wholesale Trade, and The 1951 Census of Distribution, Volume VIII, Table 3, D.B.S., Ottawa.

APPENDIX TABLE D

GROSS SELLING VALUE OF SHIPMENTS, F.O.B. PLANT, IN THE FOOD MANUFACTURING INDUSTRY BY INDUSTRY ORIGIN, CANADA, 1949 TO 1957

(Calendar Year)

Industry Group	1949	1950	1951	1952	1953	1954	1955	1956	1957
				($ thousand)					
Biscuits	64,935	64,900	71,900	75,650	75,515	71,117	71,678	71,610	78,203
Bread & Other Bkry. Prods.	203,720	214,587	245,288	260,181	277,998	280,208	289,019	306,805	331,132
Total Bkry. Prods.	268,655	279,487	317,188	335,832	353,513	351,325	360,697	378,416	409,335
Fish Process'g	111,919	128,424	163,100	134,725	137,086	153,457	159,888	188,675	171,466
Fruits & Veg.	148,762	161,092	200,779	211,788	205,119	215,030	234,075	249,884	265,470
Total Canning & Process'g	260,681	289,516	363,879	346,513	342,205	368,487	393,964	438,558	436,936
Butter & Cheese	355,004	330,709	373,746	378,795	396,956	412,205	427,092	431,255	469,852
Concent. Milk	54,705	55,027	67,052	72,230	67,747	68,948	71,584	79,699	89,436
Cheese Process.	22,699	22,480	26,349	25,483	27,271	29,393	25,281	27,435	29,512
Ice Cream	8,817	9,068	10,383	11,993	12,697	11,166	12,099	13,394	12,945
Total Dairy Products	441,224	417,284	477,530	588,500	504,671	521,712	536,056	551,783	601,745

APPENDIX TABLE D (Continued)

GROSS SELLING VALUE OF SHIPMENTS, F.O.B. PLANT, IN THE FOOD MANUFACTURING INDUSTRY BY INDUSTRY ORIGIN, CANADA, 1949 TO 1957

(Calendar Year)

Industry Group	1949	1950	1951	1952	1953	1954	1955	1956	1957
	($ thousand)								
Flour Mills	241,250	247,108	280,867	274,208	266,431	232,363	221,895	221,770	204,376
Animal Feeds	171,850	178,902	198,970	206,117	195,785	215,440	215,848	250,958	249,034
Prep.Bkfst.Fds.	18,412	19,095	23,696	24,636	24,865	25,604	28,584	30,968	32,527
Total Grain Mill Prds.	431,512	445,104	503,533	504,961	487,080	473,407	466,327	503,696	485,937
Animal Oils & Fats	1,905	3,076	4,569	3,430	3,376	5,430	5,913	5,174	5,934
Sausage & Csgs.	11,141	13,479	18,040	17,407	19,492	23,159	26,760	30,133	33,952
Meat Packing	697,950	757,043	892,091	863,776	829,468	837,508	809,468	844,889	907,088
Total Meat Prods.	710,996	773,599	914,700	884,614	852,336	866,098	842,141	880,196	946,973

APPENDIX TABLE D (Continued)

GROSS SELLING VALUE OF SHIPMENTS, F.O.B. PLANT, IN THE FOOD MANUFACTURING INDUSTRY BY INDUSTRY ORIGIN, CANADA, 1949 TO 1957

(Calendar Year)

Industry Group	1949	1950	1951	1952	1953	1954	1955	1956	1957
					($ thousand)				
Confectionery	165,772	176,016	170,528	183,655	184,146	185,195	184,308	196,066	211,922
Macaroni & Kindred Prods.	5,903	7,101	8,064	8,536	8,125	9,385	9,897	12,022	12,734
Sugar Refining	116,767	144,873	139,109	129,038	117,952	117,807	119,673	126,690	155,023
Misc. Food	200,295	226,812	252,023	256,382	274,518	295,687	303,751	334,668	336,292
Total Other Food Prods.	488,738	554,801	569,724	577,611	584,742	608,075	617,629	669,446	715,971
Total Carbon. Beverages	85,656	87,139	90,514	105,050	108,560	108,159	116,582	121,340	139,504
Grand Total	2,247,597	2,846,929	3,237,067	3,343,081	3,233,108	3,297,261	3,333,396	3,543,435	3,736,401
Grand Total (excluding Carb. Beverages)	2,161,941	2,759,790	3,146,554	3,238,031	3,124,547	3,189,103	3,216,813	3,422,095	3,596,897

Source: The Foods and Beverages Industry, D.B.S., Ottawa.

AGGREGATE COSTS OF COLD STORAGE OF FOOD PRODUCTS

The purpose of the study was to determine the changes in physical volume and total costs of cold storage operations as they applied to the domestic sales of the following food products:

Meats (frozen) (including beef, pork, veal, mutton and lamb, and poultry);
Dairy Products (butter and cheese);
Fruits (frozen);
Vegetables (frozen);
Eggs (fresh and frozen);
Apples (fresh);
Fish.

Sales of frozen food in consumer packages have been increasing rapidly, but at the time of this study, they constituted still only a small part of the sales of any product. On the other hand, storage operations, which are carried on by the trade to correlate production and consumption, have long been an established function of food merchandising. The cost estimates which follow apply to cold storage operations between the original producer and the retailer.

Canada has had a Cold Storage Act since 1907 which has provided for a subsidy to aid in the construction and equipping of cold storage warehouses. Originally, the Act allowed subsidies up to 30% of the approved cost of construction and equipping cold storage warehouses. In 1952, the amount was increased to 33-1/3%. In February, 1958, regulations were changed to make the subsidy the lesser of 33-1/3% of the cost of construction and equipment, or $50,000. As a condition of receiving the subsidy, the warehouse firm has to accept maximum tariffs, as set by Order-in-Council. The extent of the subsidy program between 1907 and 1958 is indicated in the summary given in Table 1.

Without a detailed study of the industry, it was not possible to determine the effect of the subsidy upon rates charged and, therefore, upon storage costs. In general, however, the rates would tend to be lower, to the extent of interest and depreciation costs on about one-third of the investment in cold storage facilities in Canada, provided that a reasonable degree of competition exists. Thus, part of the real cost of cold storage (i.e., the effect of the subsidy on rates) has been excluded from the estimates presented here by using competitive rates applied to the volume stored.

Estimates of the aggregate costs of freezing and storing the commodities specified for each of the years, 1949 to 1957, are given in Table 2. The sources of data and methods used in arriving at these estimates are contained in Appendix A. In Table 3, the estimates of aggregate costs are shown as indexes.

Table 4 contains index numbers of the rates applied to estimated quantities handled and frozen. Table 5 also presents in index

number form the rates for storage applied to estimated storage volume - this being a composite of the factors of quantity and time period held.

No account is taken in these estimates of storage costs of the Price Support Program. Appendix B contains a statement of these costs.

TABLE 1. COLD STORAGE WAREHOUSE SUBSIDIES AND GRANTS, 1907 TO MARCH 31, 1958

Province	Number Given	Total Refrigerated Space Involved (thousand cu. Ft.)	Approved Total Cost ($ thousand)	Approved Subsidy ($ thousand)
		Subsidy - 30% of Approved Expenditure		
P.E.I.	9	291	191	57
N.S.	21	4,987	4,010	1,194
N.B.	8	1,545	1,030	309
Que.	31	2,073	2,015	602
Ont.	59	9,138	6,111	1,827
Man.	8	3,135	2,160	648
Sask.	20	630	737	221
Alta.	5	625	476	142
B.C.	66	22,625	9,400	2,280
Total	227	45,050	26,129	7,820
		Subsidy - 33-1/3% of Approved Expenditure		
Nfld.	2	44	200	67
P.E.I.	2	47	117	39
N.S.	2	10	39	13
N.B.	5	330	776	259
Que.	26	3,504	3,216	1,072
Ont.	25	4,164	4,562	1,503
Man.	2	19	64	21
Sask.	3	542	1,025	342
Alta.	4	823	1,678	559
B.C.	6	640	340	113
Total	77	10,122	12,017	3,988

Source: Canada Department of Agriculture, Marketing Service, Transportation and Storage Section.

TABLE 2. ESTIMATES OF AGGREGATE COSTS OF HANDLING, FREEZING AND COLD STORING SPECIFIED CANADIAN FOOD PRODUCTS FOR THE DOMESTIC MARKET, 1949 TO 1957

Year	Frozen Meats	Dairy Products	Frozen Fruits	Frozen Vegetables	Fresh & Frozen Eggs	Apples	Total (excluding Fish)	Fish	Total (including Fish)
					($ thousand)				
1949	1,288	1,513	490	185	727	1,210	5,413	1,474	6,887
1950	1,257	1,658	450	253	687	1,845	6,150	1,539	7,689
1951	1,302	1,337	551	316	383	1,631	5,520	1,447	6,967
1952	2,058	1,590	574	277	632	1,197	6,328	1,603	7,931
1953	2,428	2,207	581	369	446	1,512	7,543	1,814	9,357
1954	1,763	2,642	714	535	566	1,710	7,930	1,454	9,384
1955	1,631	3,077	806	556	693	1,860	8,623	1,542	10,165
1956	2,028	3,033	732	800	333	1,877	8,803	1,753	10,556
1957	2,091	2,594	785	1,006	936	2,092	9,504	1,881	11,385

TABLE 3. INDEX NUMBERS OF AGGREGATE COSTS OF HANDLING, FREEZING AND COLD STORING SPECIFIED CANADIAN FOOD PRODUCTS FOR THE DOMESTIC MARKET, 1949 TO 1957

Year	Frozen Meats	Dairy Products	Frozen Fruits	Frozen Vegetables	Fresh & Frozen Eggs	Apples	Total (excluding Fish)	Fish	Total (including Fish)
					(1949 = 100)				
1949	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1950	97.6	109.6	91.8	136.8	94.5	152.5	113.6	104.4	111.6
1951	101.1	88.4	112.4	170.8	52.7	134.8	102.0	98.2	101.2
1952	159.8	105.1	117.1	149.7	86.9	98.9	116.9	108.7	115.1
1953	188.5	145.9	118.6	199.4	61.3	124.9	139.3	123.1	135.9
1954	136.9	174.6	145.7	289.2	77.8	141.3	146.5	98.6	136.2
1955	126.6	203.4	164.5	300.5	95.3	153.7	159.3	104.6	147.6
1956	157.4	200.5	149.4	432.4	45.8	155.1	162.6	118.9	153.3
1957	162.3	171.4	160.2	543.8	128.7	172.9	175.6	127.6	165.3

TABLE 4. INDEX NUMBERS OF RATES FOR HANDLING AND FREEZING FOOD COMMODITIES, 1949 TO 1957

Year	Meat	Butter	Cheese	Fruit	Vegetables	Eggs (Fresh)	Eggs (Frozen)	Apples	Fish
					(1949 = 100)				
1949	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1950	116.9	121.2	115.4	98.5	98.2	123.9	128.0	100.0	100.0
1951	127.3	130.3	123.1	100.0	101.8	139.9	137.4	120.2	105.0
1952	126.5	130.3	110.8	100.0	101.8	139.9	141.2	120.2	105.0
1953	133.7	154.5	124.6	108.9	117.7	159.4	147.9	142.7	115.0
1954	137.3	154.5	124.6	105.0	115.0	165.9	157.8	142.7	115.0
1955	137.3	154.5	124.6	106.9	115.0	165.9	157.8	142.7	115.0
1956	141.8	154.5	124.6	116.2	123.9	165.9	157.8	142.7	122.0
1957	161.8	171.2	133.8	125.1	134.1	168.8	162.1	161.8	122.0

TABLE 5. INDEX NUMBERS OF RATES FOR STORING FOOD COMMODITIES, 1949 TO 1957

Year	Meat	Butter	Cheese	Fruit	Vegetables	Eggs (Fresh)	Eggs (Frozen)	Apples	Fish
					(1949 = 100)				
1949	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1950	96.4	100.0	100.0	99.2	99.1	100.0	92.3	100.0	100.0
1951	96.4	100.0	102.6	99.2	99.1	100.0	92.3	100.0	100.0
1952	100.0	100.0	95.7	99.2	99.1	102.3	92.3	108.3	100.0
1953	108.1	111.6	107.0	106.0	116.6	110.2	98.6	116.0	106.0
1954	108.1	111.6	107.0	106.0	116.6	110.2	92.8	116.0	106.0
1955	108.1	111.6	107.0	106.0	116.6	110.2	92.8	116.0	106.0
1956	108.1	111.6	107.0	106.0	116.6	110.2	92.8	116.0	106.0
1957	114.0	116.4	106.1	99.6	109.6	106.6	100.9	129.9	106.0

APPENDIX A

Methods and Sources of Data

1. General

Estimates of aggregate costs of cold and cool storage of Canadian-produced foods for domestic consumption were calculated from a series of components. The estimated total costs include not only those of holding food in storage, but also the costs of handling and freezing. The component statistics required were:

(a) Quantities	(i)	For storage - Quantities and time for which stored;
	(ii)	For handling and freezing - Quantities put into storage and through the freezing process.
(b) Rates Charged	(i)	For storage;
	(ii)	For handling and freezing.

Additional to the foregoing was a requirement that the estimates of aggregate cost be limited to those for products of Canadian origin utilized in the domestic market.

Basic physical data on the storage, movement, freezing and foreign trade in products were obtained from monthly and annual publications of the Dominion Bureau of Statistics. The publications were the monthly and annual reports on "Stocks of Food Commodities in Cold Storage and Other Warehouses", the reports "Trade of Canada, Exports" and "Trade of Canada, Imports", "The Fruit and Vegetable Preparations Industry" and "Fish Freezings and Stocks".

2. Total Storage Volume

For purposes of calculating the total cost of storing, it was assumed that the amount in store at the beginning of each month was held for one month. By adding the stocks reported for each month, estimates of the total amount stored for each year were obtained. This aggregate volume was expressed in pound-months for each product. The cost of holding these stocks was then calculated by multiplying the total annual volume by the storage rate applicable, and expressed in dollars per pound-month. The derivation of these rates is referred to in a later paragraph.

3. Handling and Freezing Volume

The preparation of estimates of total costs of handling and freezing presented greater difficulties than for storage costs. The difficulties arose primarily because of lack of basic statistical data for several products. Referring to the cold storage statistics collected by the Dominion Bureau of Statistics, three situations were encountered, into which commodities fell in the following categories:

Category 1. Commodities for which statistics of in-and-out-of-storage movements (freezings) were available.

Category 2. Commodities for which the above-mentioned statistics were not available, but which were characterized by a marked seasonal pattern into and out of storage.

Category 3. Commodities for which the statistics of in-and-out-of-storage movements were not available and which were not characterized by a seasonal pattern.

Category 1 included frozen fruits, frozen vegetables, and fish. No problems in estimating were involved in these because in-and-out-of-storage movement and freezing statistics were available.

In Category 2, were products for which the required statistics were not available, but in which there were marked seasonal storage patterns. These comprised eggs, butter, cheese, and apples.

Category 3 proved the most troublesome because within it fell meat products, including poultry meat. Unsuccessful attempts were made to obtain data on the quantity of meat and poultry products handled and frozen through a special survey.

For products in Category 2, it had to be assumed that the total amount placed in storage would be the sum of the increments in the amount reported in cold storage on the first of each month over that reported in store on the first of the previous month, less net exports, (exports minus imports). The same procedure finally had to be applied to the meat and poultry meat items in Category 3, but it was recognized that for these products, the method would yield at best only a minimum figure for meat handling and freezing costs. The method obviously would not take into account offsetting in-and-out movements occurring within each month.

Having thus obtained estimates of total quantities for each

of the products as described in the foregoing, these quantities were multiplied by a weighted average cost of handling and/or freezing at the principal storage points in Canada.

4. Tariffs (Storage, Handling and Freezing Rates)

The tariffs were obtained from: (1) the files of the Transportation, Storage and Retail Section, Marketing Service, Canada Department of Agriculture, which administers the Cold Storage Act; (2) from published tariffs of the National Harbour Board Cold Storage Warehouses. These tariffs applied to principal warehouses in Canada and a weighted average was calculated for each product based upon the volume of storage in various locations in Canada. The weights used were determined from quantities handled, and are set out hereunder:

WEIGHTS USED IN DERIVING COLD STORAGE TARIFFS

	Meat	Butter	Cheese	Fruit	Vegetables	Eggs	Apples	Fish
Vancouver				2	2		1	1
Winnipeg	2	.75	.5	1	1	2		
Toronto	1	1.00	3.0	3	3	1	1	
Montreal	1	1.00	3.0	3	3	1	1	
Quebec	1	1.00	3.0	3	3	1		
Halifax	1	.75	.5	1	1	1	1	1

APPENDIX B

Storage in Price Support Programs

The aggregate costs shown in Table 2 do not take into account the effect of the price support programs, which include storage incurred in whole or in part as a cost to the government. The following is a tabulation of storage costs incurred in price support programs. It would not be valid to subtract these costs from the calculated annual storage costs for each product to obtain the portion entering into price spread because (1) the storage costs of price support apply to a program, rather than to any specific year, and (2) the programs have included export sales, against which should be charged a portion of the storage costs incurred in the price support programs.

STORAGE COSTS IN PRICE SUPPORT PROGRAMS

Year of Production to which Program Related	Butter	Cheese	Eggs	Fowl	Apples
			(dollars)		
1951	168,025				
1952	919,235	32,071		32,071	
1953	994,905				
1954	1,940,673		62,942		5,683
1955	1,835,585		1,132		
1956	1,918,068		1,792		
1957	166,006		315,395	15,833	

MEAT - 1952 PROGRAM AND SUBSEQUENT STORAGE COSTS

Canned Pork	$ 8,434
Pork Cuts	233,995
Beef U.K.	11,736
Bone-in Beef	371,279
Boneless Beef	100,317
Live Cattle (Regina)	32,886
Offals	428
N.Z. Beef Storage	982,877
	339,788
Beef Sold to Greece	17,488

EXPENDITURES ON PACKAGING MATERIALS AND CONTAINERS IN THE FOOD MANUFACTURING INDUSTRY, 1949-1957

This study presents estimates from 1949 through 1957 of packaging material and container expenditures in the food manufacturing sector of the Canadian economy, as defined by the Dominion Bureau of Statistics. The Carbonated Beverages industry is included, but segregated; the Beer and Liquor industries are excluded.

This study includes estimates of the cost of packaging materials and containers only. It was not possible to estimate other costs of packaging such as labour, machinery, depreciation and overhead contribution. The estimates presented here include packaging material and container expenditures of packaged food products for export as well as for the domestic market.

The data were drawn from annual D.B.S. reports on the various groups in the Foods and Beverages industry for the years 1949 to 1957.

Results

Addition of the costs of the various types of packaging materials and containers used in the Foods and Beverages industry yielded totals for the years 1949-57, by kind of food manufacturing business in current dollars (Table 1). The cost of packaging materials and containers increased from $147.6 million in 1949 to $254.2 million in 1957, an increase of 83%.[1] (If the carbonated beverages group is excluded, the increase is 84%.)

No acceptable food container price index was available to determine the extent of real increase in packaging costs. However, an attempt was made to remove the effect of price increases by deflating with the D.B.S. general index of wholesale prices. The results are given in Table 2. Real costs of packaging materials and containers increased from $147.6 million in 1949 to $235.4 million in 1957, an increase of 59%. (If the carbonated beverages group is excluded, the increase is 61%.)

The increase in the aggregate real costs of packaging materials and containers was due to an increase in the quantity of food processed as well as to increases in the amount of packaging per unit of food. Taking the data in Table 2 and adjusting for increases in output by using the D.B.S. Indexes of Industrial Production, the increases in the amount of packaging per unit of food provided in the third column of Table 3 were obtained. The average increase for the foods industry

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1 The totals given here differ from those given in Part IV of Volume II. The differences are accounted for by the exclusion there of the cost of packaging materials and containers for certain groups such as carbonated beverages and for products destined for export.

as a whole was 20% over the period 1949 to 1957.

From the results in Tables 1, 2 and 3, it will be noted that price inflation and increases in processed food output have played major roles in increasing the costs of food packaging materials and containers. However, even when the effects of price increases and output are discounted, the real cost of packaging a unit of food product has increased from 1949 to 1957.

Table 3 gives the per cent changes for expenditures on packaging materials and containers from 1949 to 1957, by food industry sectors. The Bakery Products and Other Food Products groups had the greatest increases in the amount of packaging per unit of food. As Table 3 notes, there has been a real increase of 56.3% in the packaging of bakery products between the years 1949 and 1957. In purchasing bakery items, the consumer is really buying eye appeal and freshness. She is in the market for a relatively small quantity purchase at any given time. This convenience-of-purchase factor, coupled with the tendency to buy "ready-to-eat" bakery goods, has resulted in the use of a greater amount of packaging material per unit. Plain and fancy soda biscuits have been handled in consumer-sized packages previous to the last decade. There is little doubt, however, that biscuits are now being packaged with better quality and more materials and containers to ensure freshness and sales appeal than ten years ago. In the same manner, while wrapped bread has been on the market well over a decade, more advanced bread wrapping materials are in use. It is noted from Table 1 that all of the packaging materials in the Bakery Products industry have enjoyed increased use; cellophane and other visual flexible materials seem to have made the biggest gains. The increased use of cellophane and other flexible plastics, such as polyethylene, are understated because the unit cost of cellophane and polyethylene materials have declined in the past decade,[1] rather than increased.

In the Other Food Products group, the main subgroup is the Miscellaneous Food Preparations industry. Some of the principal products in this industry have characteristics that allow them to capitalize on the growing trend of "built-in maid services" or greater convenience packaging (fillings, powders, mixes); others have witnessed more elaborate convenience packaging, either in variations of packaging sizes or in higher quality materials (margarine, potato chips, salad dressings); also, a great many of these products are being packaged, branded and sold by retail chains and large wholesale organizations. It appears that the advent of television and the increased importance of home entertainment have popularized miscellaneous food products when put in more convenient package forms and sizes. Another casual factor dictating the use of more elaborate packaging may be the increasing competition amongst processors for retail shelf space.

While expenditures for the packaging of grain mill products

1 "Film Packages", Modern Packaging, June, 1957, p. 114.

per unit of product have declined, the packaging costs of breakfast foods have increased since 1949. (See Table 1 for the relative increases in current dollars.) One striking trend in cereal packaging has been the proliferation of sizes, especially at either extreme of the scale. Cereal package sizes are getting larger, supposedly to conform to the increasing number of larger size families and the tendency of the shopper to make fewer trips to the store; and packages are also getting smaller to permit the purchase of several variety type packages to meet the differing preferences of members of the household.[1] In addition, cereal packages are becoming more colourful; today the package is printed in four or five colours instead of the two or three of a decade ago. This is to allow for greater eye appeal on the shelf, as most packages picture the product usually in conjunction with the fruit.[2]

Appendix Table D to the document on "Food Advertising Expenditures, 1949-57" presents the gross selling value of shipments, f.o.b. plant, of the food manufacturing sector, by industry group. Table 4 is the result of dividing the data found in Table 1 on the cost of food packaging materials and containers by the data found in Appendix Table D to the study of advertising expenditures. Table 4 presents the per cent of the given industry's sales dollar that is absorbed by costs of packaging materials and containers. Packaging costs have been increasing at a slightly greater rate than sales volume. Stated differently, expenditures on packaging materials and containers accounted for a greater share of the sales dollar in 1957 than they did in 1949 -- 7.1¢ of the dollar in 1957 compared to 6.4¢ of the dollar in 1949.

Generally, the ratios of packaging materials and containers cost to sales exhibits stability over the period. The per cent range is from 2% - 3% for Meat Products to 15% - 19% for Canning and Processing. The range is even greater when the individual subgroups are considered separately. About 25¢ of every sales dollar is spent for packaging materials in the Fruit and Vegetable Preparation industry. Generally, it can be said that a greater per cent of the sales dollar is devoted to packaging by the manufacturer when the food product is sold to the ultimate consumer in the same package.

While the ratio of packaging materials costs to sales is relatively stable over the period under study, there are some exceptions to this generalization. The ratios for Biscuits and Processed Cheese have increased considerably; in fact, in both cases the ratios have almost doubled.

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1 "Those Changing Cereal Packages", Packaging Trade, October, 1957, p. 56, Haywood Publishing Co., Chicago, Illinois.

2 Ibid.

TABLE 1. THE COST OF PACKAGING MATERIALS AND CONTAINERS IN THE FOOD MANUFACTURING INDUSTRY, BY INDUSTRY, 1949 TO 1957

Industry	1949	1950	1951	1952	1953	1954	1955	1956	1957
	($ thousand)								
Bakery Products									
Biscuits									
Waxed Wrappers....	394	461	589	749	785	866	819	866	926
Cartons & Shipping Containers.....	2,431	2,399	2,903	3,760	4,085	4,409	4,723	4,428	4,223
Cardboard Cake and Candy Boxes.....	607	956	914	982	685	684	562	1,148	1,067
Cellulose Film....	518	1,093	954	1,293	1,565	1,724	1,806	2,202	2,408
Other Covering & Containers.....	1,153	998	1,731	1,360	1,760	1,508	1,022	2,129	2,415
Total Biscuits	5,103	5,906	7,092	8,143	8,880	9,191	8,933	10,773	11,039
Bread and Other Bakery Products									
Waxed Bread Wrappers	4,957	5,733	6,452	7,031	8,686	8,248	8,397	8,918	9,522
Bread Cartons & Cake Boxes.....	3,856	4,545	4,802	4,995	5,103	5,940	6,339	6,246	7,043
Cellophane & Other Containers.....	2,354	2,659	3,116	3,578	3,791	5,606	7,308	9,217	10,194
Total Bread, etc.	11,168	12,937	14,369	15,604	17,580	19,795	22,043	24,381	26,760
Total: Bakery Products	16,271	18,843	21,462	23,748	26,460	28,985	30,976	35,154	37,799

TABLE 1. THE COST OF PACKAGING MATERIALS AND CONTAINERS IN THE FOOD MANUFACTURING INDUSTRY, BY INDUSTRY, 1949 TO 1957 (continued)

Industry	1949	1950	1951	1952	1953	1954	1955	1956	1957
	($ thousand)								
Canning & Processing									
Fish Processing & Packing Containers Used...	7,320	8,355	12,598	10,964	11,100	11,397	10,638	11,776	12,301
Fruit & Vegetable Preparations - Containers & Packaging Material (including cases, cans, bottles, labels, corks, etc.).....	34,877	35,662	43,223	48,142	47,652	53,021	59,825	59,527	70,264
Total: Canning & Processing.....	42,197	44,016	55,820	59,106	58,753	64,419	70,463	71,303	82,565
Dairy Products									
Butter, Cheese & Concentrated Milk Products.....	6,731	6,996	7,571	9,172	10,830	12,083	13,201	14,294	a
Concentrated Milk Products Containers.....	8,095	8,493	11,089	11,229	9,175	9,403	9,768	10,994	a
Cheese, processed containers.....	1,981	2,221	2,289	2,506	3,298	3,927	3,937	4,346	4,840
Ice Cream: Cones and containers.....	577	684	761	932	994	915	1,095	1,098	1,258
Total: Dairy Prdts.	17,384	18,355	21,710	23,839	24,297	26,328	28,002	30,733	30,486

TABLE 1. THE COST OF PACKAGING MATERIALS AND CONTAINERS IN THE FOOD MANUFACTURING INDUSTRY, BY INDUSTRY, 1949 TO 1957 (Continued)

Industry	1949	1950	1951	1952	1953	1954	1955	1956	1957
				($ thousand)					
Grain Mill Products									
Feed, stock, poultry, prepared, and Feed Mills (containers & packaging materials)	7,091	6,837	8,080	8,178	6,290	7,541	7,199	9,714	9,902
Flour Mills - cost of containers purchased.....	14,971	15,418	19,689	17,642	14,588	14,279	14,149	14,164	12,848
Breakfast Foods - containers and packaging.....	2,434	2,658	3,449	3,596	3,392	3,479	3,777	4,610	4,606
Total: Grain Mill Products	24,496	24,913	31,218	29,415	24,270	25,299	25,126	28,487	27,356

TABLE 1. THE COST OF PACKAGING MATERIALS AND CONTAINERS IN THE FOOD MANUFACTURING INDUSTRY, BY INDUSTRY, 1949 TO 1957 (Continued)

Industry	1949	1950	1951	1952	1953	1954	1955	1956	1957
	($ thousand)								
Meat Products									
Animal Oils and Fats- Containers & Other Packaging Materials & Supplies.....	12	34	55	73	55	73	98	95	64
Sausages & Sausage Casings - Containers & Other Packaging Materials and Supplies, excluding Sausage Skins.....	133	174	219	240	413	498	615	790	1,093
Slaughtering and Meat Packing - Containers, Wrappers Cases,etc.....	13,265	14,368	16,039	22,629	18,871	20,366	21,270	23,635	23,794
Total:Meat Products	13,410	14,577	16,313	22,942	19,340	20,936	21,982	24,520	24,950

TABLE 1. THE COST OF PACKAGING MATERIALS AND CONTAINERS IN THE FOOD MANUFACTURING INDUSTRY, BY INDUSTRY, 1949 TO 1957 (Continued)

Industry	1949	1950	1951	1952	1953	1954	1955	1956	1957
				($ thousand)					
Other Food Industries									
Confectionery									
Waxed Wrappers	601	672	699	1,009	967	1,085	865	928	841
Cartons & Shipping Containers.....	1,207	1,593	1,314	1,413	1,670	3,161	2,685	2,165	2,455
Cardboard Cake & Candy Boxes.....	2,095	2,137	1,894	2,431	2,346	2,341	2,482	3,113	3,544
Cellulose Film	537	1,088	839	1,349	896	1,230	1,560	1,738	2,586
Other Covering & Containers.....	2,615	4,025	3,808	3,469	4,656	4,408	4,656	5,100	5,434
Total Confectionery	7,055	9,515	8,554	9,672	10,536	12,226	12,248	12,043	14,860
Macaroni & Kindred Products -Containers	538	656	780	424	927	1,591	1,249	1,530	1,693
Sugar Refining-Containers,boxes,bags...	4,963	5,298	5,006	5,589	5,629	5,812	6,041	6,042	5,865
Misc.Food Preparations-Containers & Packaging Materials.....	11,813	15,828	17,608	18,628	20,078	22,276	23,825	26,245	28,621
Total: Other Food Industries	24,370	31,298	31,948	34,314	37,172	41,905	43,362	46,860	51,040

TABLE 1. THE COST OF PACKAGING MATERIALS AND CONTAINERS IN THE FOOD MANUFACTURING INDUSTRY, BY INDUSTRY, 1949 TO 1957 (Continued)

Industry	1949	1950	1951	1952	1953	1954	1955	1956	1957
				($ thousand)					
Carbonated Beverages									
Boxes, Cases, Labels, Crowns, Corks, Caps, etc.....	5,896	5,689	5,872	6,251	6,767	6,312	7,098	8,236	8,982
New Bottles Purchased During Year.....	3,584	3,274	3,254	3,733	4,559	4,692	5,498	6,491	6,768
Total Carbonated Beverages...	9,480	8,963	9,126	9,984	11,326	11,004	12,596	14,727	15,750
GRAND TOTAL	147,607	160,965	187,598	203,348	201,617	218,876	232,507	251,784	269,946
GRAND TOTAL(Excluding Beverages)	138,128	152,002	178,472	193,364	190,291	207,873	219,911	237,057	254,195

a Figures not available at time of writing

Source: Reports on Groups in The Foods and Beverages Industry, Dominion Bureau of Statistics.

TABLE 2. THE COST OF PACKAGING MATERIALS AND CONTAINERS IN THE FOOD MANUFACTURING INDUSTRY, 1949 TO 1957

(1949 dollars)

Industry	1949	1950	1951	1952	1953	1954	1955	1956	1957
				($ thousand)					
Bakery Products	16,271	17,694	17,722	20,831	23,774	26,495	28,058	30,891	32,955
Canning & Processing	42,197	41,330	46,094	51,847	52,788	58,884	63,825	62,656	71,893
Dairy Products	17,384	17,235	17,927	20,911	21,830	24,066	25,364	27,006	26,579
Grain Mill Products	24,496	23,392	25,779	25,803	21,806	23,125	22,759	25,032	23,850
Meat Products	13,410	13,687	13,471	20,124	17,376	19,137	19,912	21,547	21,753
Other Food Products	24,370	29,388	26,382	30,100	33,398	38,305	39,278	41,177	44,498
Carbonated Beverages	9,480	8,416	7,536	8,758	10,176	10,058	11,409	12,941	13,732
Total	147,607	151,141	154,911	178 ,375	181,147	200,071	210,605	221,250	235,349
Total (Excluding Carbonated Beverages)	138,128	142,725	147,375	169 ,617	170,971	190,012	199,196	208,309	221,618

Source: Table 1 data deflated by the D.B.S. General Wholesale Price Index, base year shifted to 1949. General Wholesale Price Index from D.B.S. Statistical Review, 1957 Supplement.

TABLE 3. THE PER CENT CHANGES FROM 1949 TO 1957 FOR EXPENDITURES ON PACKAGING MATERIALS AND CONTAINERS, FOOD MANUFACTURING INDUSTRY

Industry Group	Per Cent Change		
	In Current Dollars	In 1949 Dollars	In 1949 Dollars Adjusted for Increases in Production
Bakery Products	132.3	102.5	56.3
Canning and Processing	95.7	70.4	18.6
Dairy Products	75.4	52.9	12.1
Grain Mill Products	11.7	-2.6	-16.5
Meat Products	86.1	62.2	12.3
Other Food Industries	109.4	82.6	46.0
Carbonated Beverages	66.1	44.9	11.7
Total	82.9	59.4	17.6
Total, excluding carbonated beverages	84.0	60.4	20.5

TABLE 4. EXPENDITURES FOR PACKAGING MATERIALS AND CONTAINERS AS A PER CENT OF GROSS SELLING VALUE OF SHIPMENTS, F.O.B. PLANT, IN THE FOOD MANUFACTURING INDUSTRY, CANADA, 1949 TO 1957

Industry	1949	1950	1951	1952	1953	1954	1955	1956	1957
				(Per Cent)					
Biscuits	7.86	9.10	9.86	10.76	11.76	12.92	12.46	15.04	14.11
Bread & Other Bakery Products	5.48	6.03	5.86	6.00	6.32	7.06	7.63	7.95	8.08
Total Bakery Products	6.06	6.74	6.77	7.07	7.48	8.25	8.59	9.29	9.23
Fish Processing & Packing	6.54	6.51	7.71	8.14	8.10	7.43	6.65	6.22	7.17
Fruit & Vegetable Preparations	23.45	22.14	21.53	22.73	23.23	24.66	25.56	23.82	26.47
Total Canning and Processing	16.19	15.20	15.34	17.06	17.17	17.48	17.89	16.26	18.90
Butter and Cheese	1.90	2.10	2.03	2.42	2.73	2.93	3.09	3.31	a
Concentrated Milk Products	14.80	15.43	16.54	15.55	13.54	13.64	13.65	13.79	a

a Figures not available at time of writing.

TABLE 4. EXPENDITURES FOR PACKAGING MATERIALS AND CONTAINERS AS A PER CENT OF GROSS SELLING VALUE OF SHIPMENTS, F.O.B. PLANT, IN THE FOOD MANUFACTURING INDUSTRY, CANADA, 1949 TO 1957

Continued

Industry	1949	1950	1951	1952	1953	1954	1955	1956	1957
					(Per Cent)				
Cheese Processed	8.73	9.88	8.69	9.84	12.09	13.36	15.57	15.84	16.40
Ice Cream	6.55	7.55	7.33	7.77	7.83	8.20	9.05	8.20	9.72
Total Dairy Products	3.94	4.40	4.55	4.91	4.81	5.05	5.22	5.57	5.07
Feed, Stock & Poultry Prepared & Feed Mills	4.13	3.82	4.06	3.97	3.21	3.50	3.34	3.87	3.98
Flour Mills	6.21	6.24	7.01	6.43	5.48	6.14	6.38	6.39	6.39
Foods, Breakfast	13.22	13.92	14.56	14.59	13.64	13.59	13.21	14.89	14.16
Total Grain Mill Products	5.68	5.60	6.20	5.83	4.98	5.34	5.39	5.66	5.66
Animal Oils & Fats	.62	1.11	1.20	2.12	1.63	1.34	1.66	1.84	1.08
Sausage & Casings	1.19	1.29	1.21	1.38	2.12	2.15	2.30	2.62	3.22
Slaughtering & Meat Packing	1.90	1.90	1.80	2.62	2.28	2.43	2.63	2.80	2.62
Total Meat Products	1.89	1.88	1.78	2.59	2.27	2.42	2.61	2.79	2.63

TABLE 4. EXPENDITURES FOR PACKAGING MATERIALS AND CONTAINERS AS A PER CENT OF GROSS SELLING VALUE OF SHIPMENTS, F.O.B. PLANT, IN THE FOOD MANUFACTURING INDUSTRY, CANADA, 1949 TO 1957

Continued

Industry	1949	1950	1951	1952	1953	1954	1955	1956	1957
					(Per Cent)				
Confectionery	4.26	5.41	5.02	5.27	5.72	6.60	6.65	6.65	7.01
Macaroni & Kindred Products	9.12	9.24	9.67	4.97	11.42	16.95	12.62	12.72	13.29
Sugar Refining	4.25	3.66	3.60	4.33	4.77	4.93	5.05	4.77	3.78
Misc.Food Preparations	5.90	6.98	6.99	7.27	7.31	7.53	7.84	7.84	8.51
Total Other Food Products	4.99	5.64	5.61	5.94	6.36	6.89	7.02	7.00	7.13
Total Carbonated Beverages	11.07	10.29	10.08	9.50	10.43	10.17	10.80	12.14	11.29
GRAND TOTAL	6.57	5.65	5.80	6.08	6.24	6.64	6.98	7.11	7.22
GRAND TOTAL (Excluding Beverages)	6.39	5.51	5.67	5.97	6.09	6.52	6.84	6.93	7.07