PART V

COMMODITY PRICE SPREADS

1. Introduction

During the public hearings, the Commission received representations containing references to measurements of price spreads for individual commodities. In most instances the evidence on price spread measurements was taken from studies [1] carried out in Canada, although in a few instances references were made to United States studies.[2] A number of the briefs referring to price spread studies and quoting evidence from them were presented by farmers' organizations whose interest in price spread information was more particularly directed to commodities moving into the domestic food market. References to price spread measurements were, for this reason, more frequent in regions supplying the home market. In the Prairie Provinces, producers raised certain other issues relating to the farm problem which, although not without interest to us and of concern to the farmers, we considered to be outside our terms of reference.[3]

Consumers and consumer representatives did not make commodity price spread measurements a strong or central theme in their briefs. Although their direct references to spreads were few in comparison with the producers', the consumers did exhibit concern about particular matters within the marketing system, such as packaging and promotional activities, that were operating to increase the marketing margin. But their approach laid greater emphasis on the way these activities affected levels of food prices at retail rather than on their effects on the farmer's share of the consumer's food dollar.

Recognizing the current interest of farmers in price spreads commodity by commodity, the Commission at its early meetings reviewed material available in this field to determine to what extent it would be useful in pursuit of our inquiry. The most comprehensive statistical information on this matter for Canada is available in a series prepared by the Economics Division, Canada Department of Agriculture.[4] The series, originally including nine commodities,

[1] See F. N. Hillhouse and F. M. Schrader, *Marketing Margins for Selected Canadian Agricultural Products, 1935-49*, Sept. 1950. Also see issues of the *Economic Annalist*, Canada Dept. of Agriculture, as follows: Oct. 1950, June 1952, Aug. 1954, June 1956, June 1957 and Aug. 1958. A number of special studies with particular reference to provincial and local situations have been undertaken. For examples, see: A. W. Wood, "Market Margins for Beef in Manitoba, 1935-57", *Research Report No. 2*, Dept. of Agricultural Economics and Farm Management, University of Manitoba, Winnipeg; our *Proceedings*, Vol. 16—submission of the Government of the Province of Ontario, pp. 2649 et seq. for details of price spreads on potatoes, turnips, celery, carrots, onions, apples, butter and eggs; *Proceedings*, Vol. 1, pp. 48 et seq.—submission by representative of B.C. Federation of Agriculture—price spreads on various commodities; and *An Economic Study of the Wholesale Marketing of Eggs in B.C.*, University of British Columbia, 1949.

[2] *Farm-Retail Spreads for Food Products*, Miscellaneous Publication No. 741, United States Dept. of Agriculture, Washington, Nov., 1957.

[3] See *Proceedings*, Vol. 5, p. 675—submission by representatives of the Alberta Federation of Agriculture; *Proceedings*, Vol. 8, pp. 1317-24—submission of the Saskatchewan Wheat Pool.

[4] Published annually in *The Economic Annalist*.

was first published in 1950, and covered the years 1935 to 1949 inclusive. In 1954 the series was expanded to 12 commodities, and in 1956, to 14. Revisions for past years have been undertaken periodically.

The Commission, after reviewing the results of these studies, decided that a more detailed analysis than was available in the series referred to would be necessary for its purposes. The Commission, therefore, began a program of commodity price spread studies. The knowledge and experience on commodity matters available among officers of federal and provincial government departments and of the private food trade were drawn on. The objective was to achieve as much comparability as possible of price spread measurements for each commodity over time, as well as comparability between commodities. The Commission was interested not only in the size of the various price spreads, but also in the changes occurring in the spreads over the last decade. This required the assembly of both qualitative and quantitative information regarding the state and conditions of production and distribution, and also information on the demand situation, for each commodity.

2. A Working Definition of a Price Spread

The Commission decided that, for the purposes of calculating commodity price spreads, the following working definition would be applied: a price spread is the difference between the price received by the primary producer for a unit of a food commodity and the price paid by the consumer, i.e., the retail price, for the equivalent amount of product from that commodity.

The price spread as defined above may be subdivided to show in money values the spread at different stages or steps in the marketing system, such as from the farm to processor, farm to wholesale, or wholesale to retail. When the farm-retail price spread has been calculated in money terms per farm unit, a further calculation provides a measure for inter-product price spread comparisons. It also provides another basis for comparison of the price spreads on the same product over a period of time. This further calculation consists of expressing the price received by the farmer as a per cent of the price paid by the consumer, and is referred to familiarly as the "farmer's share of the consumer's dollar". We will elaborate on the significance and usefulness of this method of expressing price spreads in a later section.

3. Problems in Calculating a Price Spread

At an early stage in our program of price spread investigations we had to make certain decisions about procedure. The statistical results from commodity price spread studies have a ready public appeal and acceptance. However, some confusion and misunderstanding in the use and interpretation of price spreads have arisen out of the complicated statistical procedures involved. In this section we begin by referring to two situations, illustrated by hypothetical examples, in order to set out the nature of the problems involved in taking account of price and quantity changes in a price spread calculation.

If all food commodities moved from the farm through the marketing system intact to the consumer at the retail counter without change in weight or volume, then it would be possible to make a direct subtraction of the price received by the farmer from the price paid by the consumer at retail to obtain the desired price spread. But such instances are, for the most part, exceptions to the general run of marketing situations. Those which do occur are mainly transactions between farmers and retailers and then to consumers; the products are standardized and no processing is involved. More general by far are the marketing situations in which only a part of the material sold by the farmer reaches the consumer at retail.

The two types of situations to which we referred arise out of the existence of waste and by-products. These two types of situations are in principle the same. We will proceed to distinguish them, however, because of a difference in the adjustment procedures involved.

In our first example we assume that there are no costs involved in marketing other than waste. A dealer[1] buys 100 units of a raw food commodity from the farmer, paying a price of $1.00 a unit. His total payment to the farmer is, therefore, 100 units times a price of $1.00 per unit which equals $100. The dealer finds, however, that before he can offer the product to the consumer he must sort and discard the units which have spoiled or which for other reasons cannot be sold. In the sorting process, 10 of the units are discarded as waste, leaving 90 units to be sold at retail. Now if he is to recover in full the payment made to the farmer the dealer's price per unit to the consumer must be $100 divided by 90 units which equals $1.11 per unit.

Returning to our working definition, we calculate our price spread in this case as the retail price, $1.11 per unit, minus the price received by the farmer, $1.00 per unit which equals a *price* spread of 11¢. But have we made a comparison of prices at the farm and retail ends of the marketing system for the same units? We have not, because the price we have used at the farm was applied to 100 units while the price at retail applied to only 90 units. Our procedure, therefore, is to adjust the retail price quotation quantitatively to account for the waste portion. This is accomplished by taking the ratio of units at retail (90) to units leaving the farm (100) times the retail price $1.11 ($90/100 \times \$1.11$) which yields a retail equivalent value (price) of $1.00. As a consequence, the spread between the retail equivalent value and the farm price becomes $1.00 minus $1.00 = $0.00. Our conclusion in this example is that the price spread is zero.

Our second example shows our adjustment procedure for by-products. We assume that there is no waste and that no other costs are involved in marketing the product. The dealer buys 100 units from the farmer paying a price of $1.00 per unit, and gives to the farmer a total payment of $100. Of the 100 units bought, 90 units are suitable and acceptable for sale as food at retail. The remaining 10 units have a use for sale as fertilizer. The dealer sells these at 50¢ per unit to a fertilizer plant and receives a payment of $5.00 for them. Now out of the payment of $100 to the farmer he has recovered $5.00 and the remainder of $95 has to be recovered

[1] In this example a dealer represents any middleman or group of middlemen in the marketing system between the farmer and the consumer.

from the consumer at retail. He has for sale at retail 90 units and his *retail price* must, therefore, be $95 divided by 90 units which equals $1.05 per unit.

While the farmer sold 100 units of raw material, only 90 of these units were actually food materials, however. The portion of the total payment he received attributable to the sale of food materials was the total $100 minus $5.00 for 10 units of by-product, which equals $95. We divide $95 by 90 units and arrive at a calculated farm value (price) per unit of $1.05. Picking up the retail price per unit of $1.05 and substracting from this the adjusted farm value (price) per unit of $1.05 results again in a price spread of zero.

The difference in the two examples should be distinguished: the by-product adjustment in the second example is made in relation to the farm price and the quantity of raw food material leaving the farm; in the first example, the adjustment for waste is made to the retail price based upon the relation of the quantity sold at retail to the quantity of food material leaving the farm.

If, in our second example, the 10 units had been sold for another food use, we would, if the purpose is to determine the price spread on a *particular* retail food product, proceed with the same calculation as for the non-food by-product. If we wanted to derive a combined price spread on a series of final products derived from the same raw food material, we would combine the various prices at retail in their appropriate proportions by weight or volume and compare this composite retail price with the price received by the farmer.

This point is illustrated explicitly in some of the price spread studies presented in a later section. For example, it will be noted that our study of beef price spreads is based upon a comparison of the farm price for the live beef animal with a composite retail price for five cuts of beef combined so as to represent the proportionate cut-up of the edible part of the carcass into all the fresh retail cuts. In contrast, in our study of potatoes we have compared the price received at the farm with the price of a specific grade and quantity sold fresh at retail.

In the examples we have assumed no costs in the marketing system other than waste. Obviously, retailers, wholesalers, processors and assemblers of farm products have to obtain something to live on as well as payment for their services and other services provided such as fuel, light and taxes. All of these costs enter into the price spread. Where we have available prices at various stages in the marketing system such as those charged by processors and wholesalers, we can obtain a measure of the price spreads from step to step or stage to stage. It follows that as the information on prices at different stages in the marketing system increases, the greater the possibility becomes of increasing the detail available in the price spread analysis.

To summarize the procedure: our starting point in a commodity price spread calculation is a comparison of the price received by the farmer and the price paid by the consumer at retail. Next, we ascertain the kind and quantity of the product sold by the farmer and the kind and quantity of the final product bought by the consumer. Then we adjust for waste and by-products. In more complex situations we combine quantities of similar food products made or derived from the same raw food materials in their proper proportions at retail to give a composite price.

Some examples of the number and variety of products and by-products derived from single farm raw material sources indicate the complexities in making appropriate adjustments in physical quantities of raw materials. An egg is an egg at the farm; at the grading station it can be classified in any one of 13 categories and at retail in one of seven grades. These grades have different uses and the uses vary from time to time as prices vary. Apart from grades there are a series of egg products which can be purchased, including fresh eggs, oiled eggs, dried eggs, frozen eggs and egg melange. Eggs may also become constituents of retail products such as bread, cake mixes or ice cream.

The complexities of price spread measurement increase not only in proportion to the increase in the number of food products derived from a single farm commodity, but also in proportion to the number of non-food products derived from the same farm commodity. For example, a steer carcass yields at least 36 cuts of fresh beef at retail, not to mention a large number of processed beef and beef products, canned and dried beef, soups and broths, as well as certain of the edible offals (liver, tongue, heart). A steer of 1,000 pounds may yield 500 pounds of meat and 500 pounds of other materials, a large proportion of which become products or constituents of products including leather and leather goods, soaps, fertilizers, pet foods, glues and so forth. The meat packing industry has developed a high degree of utilization of what formerly were waste materials. Advances in the utilization of raw materials have been made in many food processing industries in recent years. These developments in raw material utilization, despite the complications which they introduce into price measurements, have had offsetting effects to increases in marketing costs. However, the complexities of processing end-products and by-products, both food and non-food, from raw food materials result in serious problems of identifying the raw material content in final products and reduce the feasibility of quantitative measurement.

The main problems in adjusting for by-products and waste are related to the difficulties in obtaining adequate information on the physical quantities or proportions of the farm raw material which fall in these categories. Waste and the utilization of the by-product portions vary widely from commodity to commodity and within commodities from season to season, and region to region. They vary also with the capabilities of individual entrepreneurship within the marketing system, and with the size and kind of equipment in processing plants, assembling and storage warehouses and retailing establishments. For example, a small local butcher might have to dispose of some useful by-products as waste which, in a centre with a concentration of packing plants, might be sold to a specialized by-product processing plant.

Basic to adjustment calculations in price spread measurements and analysis are "conversion factors". A conversion factor is an arithmetical expression (per cent, fraction or decimal) of the amount of product obtained from a given amount of raw material or conversely, of the amount of raw material required to produce a given amount of product. Conversion factor information is available from many sources such as, for example, special laboratory tests (amount of butterfat in a pound of milk), production records (gallons of apple juice from a ton of apples), and special tests (weights of various cuts of meat from a beef carcass).

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Sometimes the conversion factors represent statutory weights or measures as, for example, a conversion factor for a bushel of wheat to 60 pounds, which is an official Board of Grain Commissioners' specification.

In any event, whether the conversion factors are based upon scientifically devised tests or statutory requirements or are just generally accepted, they are most necessary. Many of the commonly used conversion factors applicable to farm and food products and other agricultural items are available in an official publication.[1]

Current conversion rates are important because slight differences in the rates can have a definite effect on the outcome of the price spread measurement. Because the use of inappropriate or incorrect conversion factors can lead to quite misleading results, it is necessary that conversion rates be adjusted when technology in food processing and distribution is undergoing rapid and abrupt change. It is also important that when the change in conversion rates has been gradual, this change be distributed appropriately over the time period, rather than having the accumulation reflected at a single point of time in a price spread series.

When the producer sells a raw material from the farm he receives a composite price which reflects the values of all the usable parts of the raw materials for which he was paid. Some parts may be very valuable as in beef, for example, the five to seven pound of filet mignon currently retailing at $2.30 per pound in sharp contrast to some other part, for example, the approximately 20 pounds of water which are lost from the carcass in the chilling process and for which no financial recovery is made.

In measuring a price spread in which non-food by-products are involved, we have to isolate that portion of the price paid to the farmer for the raw food constituent corresponding in quantity to the retail food products. In order to do this, we must try to locate points in the marketing system where the non-food materials are priced. Some of these non-food by-products may be traded in large volume, and so reasonably satisfactory prices can be obtained for them. Others may be processed in the same plant as the food materials component but may not reach a pricing point till they are finished products. Not only does the establishment of suitable prices for by-products present problems, but even when the by-product prices are available they must be adjusted to a farm value. In order to carry out this adjustment it is necessary to assume that price relationships at certain stages or steps in the marketing system can be carried back to the farm level. For example, if the by-product and food product prices are available at wholesale, then a ratio between the value of by-products and the total value of food and by-products can be calculated and then applied to the farm price.

In our discussion up to this point of problems in calculating price spreads we have examined the difficulties occurring when a large number of products are marketed from a single raw material. This large number of products may include different grades and qualities for each product and even a range within each grade or quality. We have also discussed the treatment of waste and by-products and, particularly in connection with the latter, we referred to certain statistical difficulties.

An important, if not the most important, prerequisite for the computation of commodity price spreads is the availability of the required statistics. Further-

[1] *Canada Weights, Measures and Conversion Factors for Agricultural Products*, Marketing Service, Economics Division, Canada Dept. of Agriculture, July 1954.

more, if the results of the computations are going to serve their most useful purpose, it is necessary to have a reasonably continuous and consistent price spread series over a period of years. It follows, therefore, that the basic statistical series entering these computations must be continuous and consistent. Unfortunately this is not always so.

Interruptions in statistical series occur, many of them beyond the control of the statistical collector. Definitions are changed to follow changes in grades, brands and specifications for a commodity. To a greater extent it is becoming difficult to maintain the identity of a product through the marketing system. Some products may be upgraded from the status in which they left the farm while others may be downgraded as they move through the marketing system to retail. Thus identification for purposes of price comparisons must be closely watched. At points in the marketing system between the farm and retail it is becoming more and more difficult to pick up a price representing the outcome of most or all of the transactions. There may be several different prices for an identical product depending upon the specific terms and conditions applying to each sale.

We have mentioned problems in connection with price statistics. The problems in obtaining adequate and pertinent statistics on the market flow and utilization of commodities and products are even greater. Information on physical quantities used and the quantities of output in the marketing system are necessary for several purposes in the computation of a price spread. We have mentioned their use for developing and maintaining conversion ratios. They are needed also as a means of weighting prices.

The Commission is aware of the problem faced by government and private statistical agencies in trying to meet the rapidly growing needs and demands for statistics from both the government and private sectors of the economy. With relatively fixed or slowly expanding resources, statistical agencies have had to concentrate upon and develop those series most needed for well-defined and recognized purposes. In such circumstances some interests may not be as well served for particular purposes as might be desired. Among these price spread measurement could be included. However, there are also other interests using many of the same series of statistics which have, perhaps, equally valid if not priority claims to improve service. Further references to this matter are contained in our "Conclusions and Recommendations".

We have referred in our discussion to problems in the collection and assembly of statistics and the problems in adjusting for waste and by-product yields. Another problem in price spread analysis arises in regard to the treatment of "time lags". This problem again is a variable one from commodity to commodity. Its importance in each case is related to the relative speed at which a commodity moves through the marketing system to the purchase of it as an end-product at the retail counter. Generally, the time-lag problem is most pronounced in commodities which are storable for relatively long periods and for which unit storage costs are relatively low in relation to per unit prices. For example, deterioration in the freshness of fluid milk sets in rapidly. Except in certain circumstances, fluid milk reaches the consumer in from 24 to 48 hours after leaving the farm. In this case the price received by the farmer and the price paid by the consumer are, with few exceptions, reasonably comparable at one point of time. In contrast, grain sold by the farmer

may be held in storage for many months. In a period when prices are changing the price paid by the consumer at a later date for an article processed from the same stored grain might reflect the price being paid for grain (the raw material) at that time rather than the price originally paid to the producer. In arranging the price data, therefore, it is desirable to take account of the normal periods of commodity sales from the farm and the normal periods for which sales of identical units of the product take place at retail. This requires adequate information on the flow of commodities through the marketing system. Distortions in price spread measurements may result from failure to take account of time lags or from exceptions in the normal lag. The extent of difficulties with time lags is related also to the frequency with which both farm and retail prices change. The practice of computing commodity price spreads in terms of averages, although convenient, obscures particular situations which may vary considerably from normal due to shifts in time lags.

Generally, food price spread measurements have been calculated and published using annual average data although, as mentioned earlier, some work has been done on seasonal measurement. Reasonably accurate results from a seasonal computation depend upon reliable statistics of seasonal commodity flows and corresponding price data. To the extent that price spreads are affected by seasonal variations in supply and demand, it is important that a seasonal analysis be carried out whenever possible. For some of our commodities the seasonal changes have been examined, and the results are reported in the individual commodity summaries.

We recognize the usefulness of an average as a device for simplifying and summarizing the presentation of statistics. But after looking over the results of our own and other commodity price spread studies, we raise a note of caution against the drawing of invalid conclusions from averages. Coupled with this we issue a further caution in regard to the length of periods used in trend analysis. Most of our studies run over periods of 9 to 10 years. In some instances this length of time may represent only part of a longer-term economic cycle in production, or it may cut into and out of one or more production cycles during the period at different phases of the cycle. We have endeavoured to interpret our analysis with these considerations in mind, both with respect to averages and to trends.

4. The Meaning and Significance of Commodity Price Spread Information

Price spread measurements *by themselves*, expressed in either absolute or relative terms, have little meaning. It is true that, having regard to the nature of the marketing process for a commodity, some judgments may be possible with respect to interpretation of the magnitude of the absolute margin and with respect to the proportion that the farm price represents of the price at retail. These judgments would be conditioned by the complexities in the marketing system for each commodity. One would expect a greater absolute marketing margin for those commodities requiring much handling and many transfers and for those requiring expensive processing and storage. It might follow also, but not necessarily, that the farm price as a proportion of the retail price would be lower for those commodities and products bearing a high marketing cost. But the foregoing principles

by no means apply consistently and there are many exceptions and variations. Therefore, useful and meaningful interpretation of price spread information, both with reference to the situation at any point of time and the changes in price spreads over time, must be based upon careful and detailed analysis of the measure of the spread and all available information pertaining to the farm production and marketing of the commodity from the farm to the consumer.

We have referred to the absolute price spread and the relative spread and we emphasize the importance of clearly distinguishing these two ways of expressing price spread measurements. The *absolute price spread* is the difference expressed in money between the price to the farmer for a unit of a food commodity and the price at retail for a unit of food product.[1] The *relative spread* represents an expression of the price to the farmer for a unit of product as a per cent of the price paid at retail by the consumer for a unit of product. In the discussion to follow we deal first with interpreting absolute price spreads and secondly with interpreting relative spreads.

It is important to remember that in the retail price the consumer is paying both for the food material of farm origin and for many other things unrelated to the farm. We can properly think of the demand for and the supply of the farm materials, and the demand for and the supply of the other things which become associated with the farm material. The important point is that the demand for and supply of the other things can change independently of the demand for and supply of farm materials. Once this point is grasped it is clear that there is no necessarily fixed spread associated with any farm product, and there is no necessarily fixed relation between the spread and the farm price. The spread, recognized as a price for marketing services, can and does move independently of the price for the farm material.

Let us consider a few simplified illustrations.

The consumer buying eggs pays for (1) eggs at the farm, (2) services between the farm and the market basket, including, (a) transportation from the farm to the store; (b) grading; (c) the carton in which the eggs are placed during marketing; (d) the service of the retailer, including the storage facilities he provides. When consumers' incomes rise they may not wish to buy any more eggs but they may be willing to pay more for more rapid transportation from the farm to the store, for a more convenient package to place in the refrigerator at home, and for improved facilities for storage so as to ensure greater freshness of the eggs. In this case there is no increase in the demand for eggs as they leave the farm. The increase in demand is for services provided between the farm and the home. The provision of more and preferred services consequent on the demand for them, or if a demand is created for them, will increase the price to the consumer without any change in the farm price. In this case the absolute spread increases.

When the consumer buys canned peas, she pays for (1) the peas as they leave the farm, and (2) services between the farm and the home, including, (a) the processing of the peas in the cannery; (b) the can in which the peas are placed; (c) grading; and (d) other services between the factory and the home. Suppose that a new technique in canning peas is developed which, with little investment, cuts in half the labour used in processing each can. Unless the reduction in

[1] Assuming appropriate adjustments for waste and by-products.

cost of processing is offset by increases in the prices of other things used in canning, or a price decline is inhibited by an absence of price competition in the industry, the price of the final product should fall but without any necessary change in the farm price. In this case the absolute spread would be reduced.

These two illustrations are sufficient to show that the price to the consumer may move independently of the price to the primary producer. That is to say, the absolute spread can increase or decrease because of changes which have little or no bearing on the farm price. What happens to the absolute spread may be of no consequence to the farm price.

In shifting from the absolute spread to the relative spread (with which we deal elsewhere in terms of the "farmer's share of the consumer's dollar") we must bear in mind that *any* change other than a proportionate change in farm and retail prices will result in a change in the relative spread. The relative spread will be altered by either a change in the farm price or in the retail price, or from concurrent but disproportionate changes in both prices. In the first illustration above, the retail price increased, the farm price remained the same, the absolute spread increased, and so did the relative spread, i.e., the farmer's share of the consumer's dollar declined. But as the price the farmer received remained unchanged, his position was neither worse nor better as a result of the decline in his share. In the second illustration the retail price decreased, the farm price remained the same, the absolute spread decreased, and so did the relative spread. Again this had no effect on the farmer's returns.

Suppose again that, in any year, there is an abnormally large crop of potatoes. If consumers will only buy more potatoes at a lower price, then the retail price will have to be reduced to dispose of the bumper crop. This decline in the price at retail, which is the result of supply conditions on the farms, and not in any way a consequence of conditions in the marketing system, is likely to be passed back to the farmer in a reduced price at the farm. If the retail price falls from $1.00 to 75¢, and the farm price from 50¢ to 25¢, the absolute spread is unchanged but the farmer's share of the consumer's dollar has decreased. We could, of course, use the same figures, but assume an abnormally small crop with prices rising at the farm from 25¢ to 50¢, and at retail from 75¢ to $1.00. Looking at it this way, the absolute spread has remained the same, but the farmer's share has increased.

We pointed out in Part II that, in food marketing services from farm to retail, there is a continuous shifting of functions back and forth. This shifting takes place, not only in what is commonly thought of as the marketing channel itself, but it also takes place at both ends of it—there being shifts to and from the farm and to and from the consumer. In general, the tendency has been to push the specialization process further and to shift functions into the marketing system where greater efficiency can be obtained. But not all changes have been in this direction. In some circumstances farmers have found a lucrative return from taking on functions generally found in the marketing system such as grading, storing, wholesaling and even retailing. The farmer who operates a roadside stand for fresh fruits and vegetables in effect establishes his own marketing system. Similarly, a housewife who buys a deep freeze cabinet, purchases sides of meat and fresh fruits or vegetables in quantity to pack and put away in the deep freeze

cabinet, has taken over marketing functions. These activities being carried on by the farmer or the consumer outside the marketing system contribute to increasing the farm share of the retail price.

To summarize: both absolute and relative price spread information must be interpreted in the light of all known facts surrounding the conditions of production, conditions in the marketing system and the conditions of demand. The relative spread, in making product-to-product comparisons, similarly must be interpreted against these facts.

One cannot assume that, because the farmer's share for product "A" is higher than for product "B", the farmer producing product "A" is better off. Similarly, in looking at changes in price spreads for a given commodity over shorter or longer periods of time, proper evaluation of the effects of the changes on the farmer's position must be carried out against a background of relevant economic information.

5. Sources of Data

Our commodity price spread studies, which we report upon in the remaining sections of this part, were based as far as possible on official published statistics. A detailed reference to the source of each and every figure used in these studies would occupy several pages. Because most of our basic statistical materials were taken from published reports, we considered that a general reference to sources would meet the requirements of most readers of this report and would avoid extensive footnotes.

While we drew most of our data from published reports, in many instances it was necessary to go back to source documents and working papers to rework original data for special purposes. In the main, our retail price statistics were obtained from the Dominion Bureau of Statistics which collects these primarily for use in compiling the food component of the Consumer Price Index. In general, these retail prices were taken from official compilation papers because they are not published or have not been published continuously in the detail necessary for price spread analysis. D.B.S. publications and records were also used as sources for certain price data at intermediate stages in the marketing system, for example at wholesale. Reports published by the Canada Department of Agriculture yielded certain specific price information, especially price quotations at terminal markets. These quotations were used for certain commodities where the price spread analysis could be carried through from raw material to end product for a definite grade and for a designated market.

For farm commodities there is a wide range in the manner and in the terms and conditions under which the material is sold by the farmer and transferred to the buyer. There are direct sales from farmer to consumer, sales through co-operatives, sales to itinerant buyers and truckers, sales by the farmer direct to terminal markets, sales of commodities in bulk, sales in containers, sales of ungraded and of graded commodities. The Dominion Burean of Statistics collects farm prices for use in calculating "Index Numbers of Prices Received by Farmers" and in compiling estimates of cash receipts of farmers. For these purposes a so-called "weighted farm price" is required—that is a composite price which reflects the variety of terms and conditions of sale. Because of the composite nature, this

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series of commodity prices is of little direct use for marketing decisions, and it has not been published. However, we have used this source of information on prices for certain commodities for which the farm-retail price spread was calculated on a composite or overall basis.

Statistics required on the movement or flow of food commodities and products through the marketing system were likewise obtained from government publications. The Census of Industry, which is conducted on an annual basis by the Dominion Bureau of Statistics, provides data on quantities of products. In some instances this was a particularly valuable source of information on by-product yields. Canada Department of Agriculture monthly and annual market reports were the sources of statistics for seasonal and grade weightings. In an earlier section of this part we described conversion factors and the document in which these have been published.[1] In addition to using certain of these conversion rates, we obtained particular information where necessary by correspondence, and also in some instances derived special conversion factors from information given in questionnaire replies submitted to the Commission.

6. Summary of Findings of the Farm Commodity Studies

The producer and the consumer are especially interested in the price spreads on numerous individual products. This was demonstrated repeatedly at our public hearings. The Commission realized at the outset, however, that it would be able to study only the more important farm and fishery commodities. A selection was, therefore, made on the basis of importance to primary producers and to consumers in general across Canada or in particular localities. The list was chosen to include main or representative commodities falling in the major food commodity groups and also a few products of special interest to producers and consumers. Taken together the commodities selected account for the major part of the total incomes of farmers and fishermen and of the total outlay on food by consumers.

The commodity groups and individual commodities selected for study were: Livestock and Meats (beef and pork); Dairy Products (fluid milk, evaporated whole milk, process cheese and buttter); Poultry and Eggs (chicken broilers and A-large eggs); Cereals and Bakery Products (wheat-into-flour and wheat-into-bread); Vegetables (potatoes, tomatoes, canned peas, frozen peas, canned corn and fresh carrots); Fruit (fresh apples, canned and frozen strawberries and canned peaches); Certain Special Products (sugar beets, maple syrup, soups and baby foods); and Fishery Products (lobster, whitefish fillets, canned sockeye salmon, frozen halibut steaks, frozen cod fillets, fresh cod fillets, fresh haddock fillets).

We have been able to take a careful look at all of these commodities with the exception of carrots, soups and baby foods. Shortages of data or inherent statistical complexities prevented us from according these three products anything but a cursory examination. The fish commodities are discussed in Part VI of our report. In the present section of Part V, we summarize briefly the price spread findings which, along with an analysis of the factors affecting the spread, are

[1] *Canada Weights, Measures and Conversion Factors for Agricultural Products.*

presented for individual farm commodities in the next section.[1] In these two sections when we speak of "the spread" we are referring to the absolute spread; otherwise we speak of "the share of the retail value".

The 27 individual farm and fishery commodity presentations in our report are themselves summaries of fuller studies to be included in our Volume III, where more detailed explanations of statistical technique, as well as of interpretation, are provided.

We mention here two problems involved in the analysis and interpretation of price spreads of particular commodities. First, the figures we have used in our measurements represent in an aggregate way the results of the operations of many different processing and marketing firms. Each commodity price spread, therefore, represents a composite of costs which include, in addition to direct or operating costs, some share of indirect or overhead costs such as taxes, depreciation, executive salaries, and of the profits or losses of each firm. Almost all of the firms handle more than one commodity, and there is a problem of allocation of overhead costs among the commodities handled. In Part III we have examined the relation between total profits and the gross margins of firms. Second, the commodity price spreads we have measured and the changes we have noted represent the net effect of many influences some of which have tended to increase, and others to decrease, the spread. In the summary of our findings, contained in this section, we refer only to the dominant influences we have been able to detect, without attempting to measure their effects.

Our estimates of the farm-retail spread on 20 of our chosen farm food commodities are tabulated in Table 35 and expressed as index numbers in Table 36. The commodities are grouped, and the groups are presented in descending order of economic importance to the farmer. Maple syrup was excluded from the tables because retail prices were not available on a systematic basis. The estimates are for calendar years, except for potatoes, apples and sugar beets which are crop years beginning with the years shown. Because several of the individual studies in Section 7 do not include 1958, in order to facilitate comparison the period covered in the tables of this section is the nine years 1949 to 1957, except for frozen strawberries and frozen peas for which retail prices began in 1952, and broilers for which retail prices were calculated from 1953. The price spread estimates are for Canada as a whole except for sugar beets which are for the Prairie region only. The Commission is well aware that prices and price spreads usually vary from variety to variety as well as from commodity to commodity, from place to place, from day to day and sometimes even from hour to hour. But our prime responsibility was to discover the general year-to-year profile of price spreads over the last decade. We have also taken into consideration in Section 7 some of the regional or more local situations and problems drawn to our attention at the public hearings. A few calculations of more local price spreads will be presented in Volume III.

Tables 35 and 36 reveal a general tendency for farm-retail spreads to widen between 1949 and 1957. The only exception was butter. The spread on broilers, frozen peas and frozen strawberries narrowed over the more recent period for which estimates for these commodities could be made. Over the 1949 to 1957

[1] Some illustrative material on commodity marketing was presented in Part II, Chapter 1.

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Table 35—Summary of Farm-Retail Spreads for 20 Commodities, Canada, 1949 to 1957[a]

Commodities and Commodity Groups	Farm Unit Basis of Calculation	1949	1950	1951	1952	1953	1954	1955	1956	1957
A. *Livestock and Meats*										
1. Beef	¢/lb. live	8.0	9.0	12.3	14.1	12.5	10.8	10.6	11.6	13.1
2. Pork	¢/lb. carcass	14.3	14.5	15.9	16.1	18.6	19.7	16.3	17.1	18.3
B. *Dairy Products*										
3. Fluid Milk	$/100 lb.	2.85	2.98	3.30	3.55	3.53	3.57	3.61	3.66	3.94
4. Evaporated Whole Milk	$/100 lb.	3.75	3.74	3.91	4.37	4.16	4.18	4.05	3.85	4.02
5. Process Cheese	$/100 lb. milk	3.75	3.93	4.14	5.02	4.84	4.72	4.81	4.68	4.97
6. Butter	¢/lb. butterfat	18.7	17.4	17.3	19.0	18.1	17.5	18.0	17.7	18.4
C. *Poultry and Eggs*										
7. Chicken Broilers	¢/lb. live	n.a.[b]	n.a.	n.a.	n.a.	17.3	16.9	15.2	15.5	16.1
8. Eggs, A-Large	¢/doz.	11.1	12.1	13.7	14.4	15.3	14.6	14.9	15.2	16.4
D. *Cereals and Bakery Products*										
9. Wheat-flour	$/bu.	1.56	1.69	1.81	1.91	1.92	2.12	1.94	2.02	2.21
10. Wheat-bread	$/bu.	5.03	5.32	6.11	6.48	6.53	7.01	6.97	7.47	8.06
E. *Vegetables*										
11. Potatoes	$/100 lb.	1.71	1.46	1.77	2.01	1.65	2.07	2.20	2.16	2.46
12. Canned Tomatoes	$/ton	108.	94.	127.	158.	128.	111.	143.	149.	160.
13. Canned Peas	$/ton	327.	326.	346.	376.	389.	384.	380.	366.	378.
14. Frozen Peas	$/ton	n.a.	n.a.	n.a.	649.	635.	559.	509.	502.	471.
15. Canned Corn	$/ton	97.	91.	95.	99.	91.	87.	94.	92.	105.
F. *Fruit*										
16. Fresh Apples	$/bu.	2.38	2.77	3.15	3.58	3.89	4.21	3.82	3.90	4.20
17. Canned Strawberries	¢/qt.	39.6	40.7	39.1	47.3	43.3	47.6	45.5	43.1	45.8
18. Frozen Strawberries	¢/qt.	n.a.	n.a.	n.a.	60.7	59.4	55.6	51.3	49.8	47.4
19. Canned Peaches	¢/lb.	17.0	16.7	18.2	18.0	16.6	16.9	17.5	17.6	19.7
G. *Special Products*										
20. Sugar Beets[c]	$/ton	15.56	20.35	16.99	21.00	17.02	14.18	16.36	19.77	16.01

[a] Based on individual commodity price spread studies summarized in Part V Section 7. Calendar years except for potatoes, apples and sugar beets which are crop years beginning with years shown. Maple syrup excluded because retail prices not available.

[b] n.a. = Not available.

[c] Sugar beets are for Prairie region only.

Table 36—Indexes of Farm-Retail Spreads for 20 Commodities, Canada, 1949 to 1957[a]
(1949=100 except for Broilers (1953) and Frozen Strawberries and Frozen Peas (1952))

Commodities and Commodity Groups	Farm Unit Basis of Calculation	1949	1950	1951	1952	1953	1954	1955	1956	1957
A. *Livestock and Meats*										
1. Beef	¢/lb. live	100.0	112.5	153.8	176.2	156.2	135.0	132.5	145.0	163.8
2. Pork	¢/lb. carcass	100.0	101.4	111.2	112.6	130.1	137.8	114.0	119.6	128.0
B. *Dairy Products*										
3. Fluid Milk	$/100 lb.	100.0	104.6	115.8	124.6	123.8	125.3	126.7	128.4	138.2
4. Evaporated Whole Milk	$/100 lb.	100.0	99.7	104.3	116.5	110.9	111.5	108.0	102.7	107.2
5. Process Cheese	$/100 lb. milk	100.0	104.8	110.4	133.9	129.1	125.9	128.3	124.8	132.5
6. Butter	¢/lb. butterfat	100.0	93.0	92.5	101.6	96.8	93.6	96.2	94.6	98.4
C. *Poultry and Eggs*										
7. Chicken Broilers	¢/lb. live	n.a.[b]	n.a.	n.a.	n.a.	100.0	97.7	87.9	89.6	93.1
8. Eggs, A-Large	¢/doz.	100.0	109.0	123.4	129.7	137.8	131.5	134.2	136.9	147.7
D. *Cereals and Bakery Products*										
9. Wheat-flour	$/bu.	100.0	108.3	116.0	122.4	123.1	135.9	124.0	129.5	141.7
10. Wheat-bread	$/bu.	100.0	105.8	121.5	128.6	129.8	139.4	138.6	148.5	160.2
E. *Vegetables*										
11. Potatoes	$/100 lb.	100.0	85.4	103.5	117.5	96.5	121.0	128.6	126.3	143.9
12. Canned Tomatoes	$/ton	100.0	87.0	117.6	146.3	118.5	102.8	132.4	138.0	148.1
13. Canned Peas	$/ton	100.0	99.7	105.8	115.0	119.0	117.4	116.2	111.9	115.6
14. Frozen Peas	$/ton	n.a.	n.a.	n.a.	100.0	97.8	86.1	78.4	77.3	72.6
15. Canned Corn	$/ton	100.0	93.8	97.9	102.1	93.8	89.7	96.9	94.8	108.2
F. *Fruit*										
16. Fresh Apples	$/bu.	100.0	116.4	132.4	150.4	163.4	176.9	160.5	163.9	176.5
17. Canned Strawberries	¢/qt.	100.0	102.8	98.7	119.4	109.3	120.2	114.9	108.8	115.6
18. Frozen Strawberries	¢/qt.	n.a.	n.a.	n.a.	100.0	97.8	91.6	84.5	82.0	78.1
19. Canned Peaches	¢/lb.	100.0	98.2	107.1	105.9	97.6	99.4	102.9	103.5	115.9
G. *Special Products*										
20. Sugar Beets[c]	$/ton	100.0	130.8	109.2	135.0	109.4	91.1	105.1	127.0	102.9

[a] Based on individual commodity price spread studies summarized in Part V, Section 7. Calendar years except for potatoes, apples and sugar beets which are crop years beginning with years shown. Maple syrup excluded because retail prices not available.

[b] n.a. = Not available.

[c] Sugar beets are for Prairie region only.

period, the spreads increased fastest on apples (76.5%), beef (63.8%), wheat-into-bread (60.2%), canned tomatoes (47.8%), eggs (47.7%), wheat-into-flour (41.7%), fluid milk (38.2%), process cheese (32.5%) and pork (28.0%). The spreads tended to be at their widest either in 1952 or 1957, although the spreads were widest on a few commodities in 1951, and 1953 and 1954. Generally, the price spreads widened from 1949 to 1952 and narrowed thereafter for two to four years. Some spreads began widening again in 1956, and then there was a fairly pronounced and general widening in 1957.

Among the 10 commodities for which we were able to calculate the 1958 farm-retail spreads, only on broilers and eggs was the spread narrower than in 1957. The spread was the same for butter and flour in 1957 and 1958. For the remaining six commodities (beef, pork, fluid milk, evaporated whole milk, process cheese and bread) the spread continued to widen in 1958.

Table 37—Summary of Farm Share of Retail Price for 20 Commodities, Canada, 1949 to 1957[a]

(Per Cent)

Commodities and Commodity Groups	1949	1950	1951	1952	1953	1954	1955	1956	1957
A. *Livestock and Meats*									
1. Beef	68.5	70.6	69.3	60.7	56.9	59.4	60.4	57.5	53.9
2. Pork	65.9	64.7	65.6	60.0	59.3	58.9	57.9	57.3	59.7
B. *Dairy Products*									
3. Fluid Milk	57.5	56.7	55.3	55.3	55.5	55.0	54.5	54.1	53.5
4. Evaporated Whole Milk	41.8	41.1	44.1	38.7	37.9	37.6	38.4	40.2	41.1
5. Process Cheese	39.5	36.2	39.8	30.1	30.6	31.8	31.1	34.5	34.4
6. Butter	76.3	76.4	79.1	76.5	77.2	77.6	77.0	77.2	77.1
C. *Poultry and Eggs*									
7. Chicken Broilers	n.a.[b]	n.a.	n.a.	n.a.	62.7	58.8	63.6	59.7	57.5
8. Eggs, A-Large	81.5	78.0	80.0	74.9	76.8	73.1	75.4	74.7	70.0
D. *Cereals and Bakery Products*									
9. Wheat-flour	49.0	45.5	42.4	39.2	40.6	35.2	38.2	37.5	34.2
10. Wheat-bread	23.0	21.0	17.9	16.0	16.7	14.1	14.6	13.9	12.5
E. *Vegetables*									
11. Potatoes	47.2	47.1	67.5	57.8	43.1	54.9	45.0	47.2	41.6
12. Canned Tomatoes	20.0	21.3	18.5	18.2	22.1	23.3	19.3	18.6	18.3
13. Canned Peas	19.3	18.5	19.9	20.7	19.8	20.0	20.2	21.1	20.3
14. Frozen Peas	n.a.	n.a.	n.a.	13.1	13.1	14.7	16.1	16.1	16.6
15. Canned Corn	19.8	18.0	18.8	20.8	22.2	23.0	21.7	22.0	19.8
F. *Fruit*									
16. Fresh Apples	32.6	30.9	31.2	35.5	34.7	28.8	20.1	30.7	25.4
17. Canned Strawberries	32.8	34.3	37.9	30.5	30.1	30.5	33.6	35.5	32.9
18. Frozen Strawberries	n.a.	n.a.	n.a.	22.9	23.8	26.9	31.0	32.2	32.2
19. Canned Peaches	21.3	21.2	20.2	20.4	21.3	21.0	21.1	21.8	20.9
G. *Special Products*									
20. Sugar Beets[c]	45.7	45.5	47.1	42.1	44.1	46.7	46.3	47.0	44.8

[a] Based on individual commodity price spread studies summarized in Part V, Section 7. Calendar years except for potatoes, apples and sugar beets which are crop years beginning with years shown. Maple syrup excluded because retail prices not available.

[b] n.a. = Not available.

[c] Sugar beets are for Prairie region only.

The farmer's shares, expressed as a per cent of the retail equivalent values of the 20 commodities, are tabulated in Table 37, and expressed as index numbers in Table 38. These tables reveal that there was a general tendency for the farm share to decline between 1949 and 1957. The only exceptions were canned peas, butter, canned strawberries and canned corn. Over a more recent period, however, the farm shares increased on frozen peas and frozen strawberries. Over the period as a whole, the declines in farm shares were slight on evaporated whole milk, canned peaches and sugar beets. Farm shares decreased the fastest on wheat-into-bread (45.7%), wheat-into-flour (30.2%), apples (31.9%), beef (21.3%), eggs (14.1%) and process cheese (12.9%).

Among the 10 commodities for which we were able to calculate the farmer's share of the retail equivalent value in 1958, the share increased over 1957 for six commodities (beef, butter, broilers, eggs, flour and bread), and continued to decrease for the remaining four commodities (pork, fluid milk, evaporated whole milk and process cheese).

Table 38—Indexes of Farm Share of Retail Price for 20 Commodities, Canada, 1949 to 1957[a]

(1949 = 100 except for Broilers (1953) and Frozen Strawberries and Frozen Peas (1952))

Commodities and Commodity Groups	1949	1950	1951	1952	1953	1954	1955	1956	1957
A. *Livestock and Meats*									
1. Beef	100.0	102.9	101.2	88.6	83.1	86.7	88.2	83.9	78.7
2. Pork	100.0	98.2	99.5	91.0	90.0	89.4	87.9	86.9	90.6
B. *Dairy Products*									
3. Fluid Milk	100.0	98.6	96.2	96.2	96.5	95.6	94.8	94.1	93.0
4. Evaporated Whole Milk	100.0	98.3	105.5	92.6	90.7	89.9	91.9	96.2	98.3
5. Process Cheese	100.0	91.6	100.8	76.2	77.5	80.5	78.7	87.3	87.1
6. Butter	100.0	100.1	103.7	100.3	101.2	101.7	100.9	101.2	101.0
C. *Poultry and Eggs*									
7. Chicken Broilers	n.a.[b]	n.a.	n.a.	n.a.	100.0	93.8	101.4	95.2	91.7
8. Eggs, A-Large	100.0	95.7	98.2	91.9	94.2	89.7	92.5	91.6	85.9
D. *Cereals and Bakery Products*									
9. Wheat-flour	100.0	92.8	86.5	80.0	82.8	71.8	78.0	76.5	69.8
10. Wheat-bread	100.0	91.3	77.8	69.6	72.6	61.3	63.5	60.4	54.3
E. *Vegetables*									
11. Potatoes	100.0	99.8	143.0	122.4	91.3	116.3	95.3	100.0	88.1
12. Canned Tomatoes	100.0	106.5	92.5	91.0	110.5	116.5	96.5	93.0	91.5
13. Canned Peas	100.0	96.4	103.1	107.3	102.6	103.6	104.7	109.3	105.2
14. Frozen Peas	n.a.	n.a.	n.a.	100.0	100.0	112.2	122.9	122.9	126.7
15. Canned Corn	100.0	90.9	94.9	105.0	112.1	116.2	109.6	111.1	100.0
F. *Fruit*									
16. Fresh Apples	100.0	94.8	95.7	108.9	106.4	88.3	61.6	94.2	77.9
17. Canned Strawberries	100.0	104.6	115.5	93.0	91.8	93.0	102.4	108.2	100.3
18. Frozen Strawberries	n.a.	n.a.	n.a.	100.0	103.9	117.5	135.4	140.6	140.6
19. Canned Peaches	100.0	99.5	94.8	95.8	100.0	98.6	99.1	102.3	98.1
G. *Special Products*									
20. Sugar Beets[c]	100.0	99.6	103.1	92.1	96.5	102.2	101.3	102.8	98.0

[a] Based on individual commodity price spread studies summarized in Part V, Section 7. Calendar years except for potatoes, apples and sugar beets which are crop years beginning with years shown. Maple syrup excluded because retail prices not available.

[b] n.a. = Not available.

[c] Sugar beets are for Prairie region only.

It is interesting, but hazardous, to compare the general *levels* of farm shares for the different commodities, as distinct from changes in farm shares over the period. There is a danger of drawing unwarranted conclusions from such comparisons. The relative level of a farm share gives no indication of the relative profitability of commodities to the farmer or to the middleman. The general level of farm shares usually indicates the extent of marketing services (such as storage, processing, packaging and transportation) attached to the commodity after it leaves the farmer's hands.

Having repeated our warning to the reader, we can now draw attention to the fact that only on butter and eggs has the farm share normally exceeded 70% of the retail equivalent value. Fresh eggs require no processing, and butter processing and packaging are simple operations. At the other extreme, only on bread and frozen peas has the farm share normally been less than 20%, although it was around 20% on canned tomatoes, canned peas, canned corn and canned peaches—all of which are commodities that undergo extensive and expensive processing.

The farm share levels on frozen strawberries, apples, canned strawberries and process cheese were about 28%, 30%, 33% and 34% respectively. The farm shares on evaporated whole milk, flour and sugar beets were about 40%, 40% and 46%. The farm shares on chicken broilers, pork and beef averaged about 60%, 61% and 62% respectively.

In general, the widening of the spreads between 1949 and 1957 was the result of an increase in food marketing services and in the prices of those services during the period. We have discussed this earlier in the report. The particularly wide spreads in 1952 resulted from the fall in prices, especially farm prices, in 1952, after a period of rising prices, especially farm prices.

In comparing changes in the price spreads for various commodities over the last decade, allowance has to be made for abnormal market situations which may have existed for some commodities, particularly in the terminal years 1949 and 1957.

The price spread increased fastest on apples during our period of study. Several influences were at work—longer and more expensive storage (both cold and controlled-atmosphere storage); higher packing-house costs, due to increased wages and a multiplicity of containers, several of which are increasingly elaborate; increased freight rates; and more advertising and promotion. Wholesale and retail margins increased.

The fact that the spread on beef increased so fast between 1949 and 1957 is not especially significant, because these two years are not really comparable in this case. Cattle and beef are subject to cyclical variation in production and prices, and 1949 and 1957 were not at comparable stages of these cycles. The year 1949 was on the upswing phase of the price cycle, while 1957 was at the bottom of the cycle. To obtain a year comparable to 1949, we would have to wait until about 1961, by which time the beef price spread will likely have narrowed again compared with 1957. In saying that these long cyclical swings are the major influence on beef spreads, we do not deny that there have also been additional services attached to this product which could explain some of the widening of the spread between

1949 and 1957. We are thinking of additional services such as cutting smaller pieces, pre-trimming and packaging, and of rising costs of materials, labour, transportation, etc.

Pork is subject to shorter cyclical variations in production and prices than beef, but the main factor causing a widening of the pork price spread over the last decade seems to have been the increased amount of processing and packaging, particularly for the smoked or cooked pork products.

Among major dairy products, the farm-retail spread increased fastest for fluid milk. Increased processing and delivery costs, particularly payrolls and containers, appear to have been the main reasons for the widening spread. The widening in the farm-retail spread for evaporated whole milk was moderate, and took place largely at the retail level. The widening spread for cheese was due mainly to the addition of more processing services, such as cutting into smaller sizes or slices, and to more packaging and advertising. Although the farm-retail spread on butter actually narrowed a little between 1949 and 1957, the retail component widened. Butter processing and packaging have continued to be simple operations. The Federal Government has absorbed some of the butter marketing costs through its price support operations. The keen competition of margarine retarded rising retail prices of butter. A small markup on butter seems to be traditional.

Broilers are one of the few farm food products which showed a well-pronounced downward trend in both retail and farm prices. Also (more remarkably) the farm-retail spread narrowed. This was a result of spectacular technological and commercial developments and expansion in the broiler industry during our period of study. In contrast, the price spread on eggs widened substantially during the last decade. This was due mainly to increasing costs of grading and wholesaling.

Although wheat prices declined over the decade, flour and bread prices increased. The price spread on wheat-into-flour widened substantially during the decade, but not nearly as fast as the spread on wheat-into-bread. In other words, baking costs rose faster than milling costs. Part of the widening of the miller's spread can be explained by the increased amount of consumer-size packaging performed. The combined wholesale-retail markup on flour increased substantially. With bread prices rising and wheat prices falling during the period, the wheat farmer's share of the price of bread in 1957 was not much more than half of what it was in 1949. The farm-retail spread on bread increased by 60% over the nine years. The increase took place partly in the retail margin, but mainly in the bakery-wholesale margin. The main reasons were higher labour, packaging, promotional and delivery expenses.

The farm-retail spread on potatoes widened during the last decade, because of higher labour costs of packaging, rising transportation costs, and constant per cent markups at wholesale and retail on a rising farm price. The spread on canned tomatoes widened mainly because of increased processing costs. In addition, canned tomatoes were imported from the United States in increasing quantities over the decade, and the spread was widest in the years of heavy imports. The moderate increase in the spread on canned peas can be attributed to increased

wholesaling and retailing charges. No definite upward or downward trend in the spread on canned corn was apparent during our period. The supply and demand for canned peas and corn were in more stable adjustment than for canned tomatoes.

The spread on frozen peas, in contrast with canned peas, narrowed conspicuously. The same was true for frozen strawberries, in contrast with canned strawberries for which the spread increased moderately over the decade. The supply of frozen vegetables and fruit has been increasing rapidly. Increased freezer space in retail outlets and keen competition from other frozen foods exerted a downward pressure on prices. Handling and freezing operations became more mechanized, thereby lowering production costs. The increase in the spread on canned strawberries took place almost entirely in the combined wholesale-retail margin.

The spread on canned peaches, as with canned corn, did not exhibit any definite trend towards widening or narrowing. The same holds for sugar beets processed into sugar in the Prairie region.

7. The Individual Farm Commodities

BEEF[1]

Beef is certainly one of the most important farm products in Canada and its relative importance is increasing. Over the period 1945 to 1957 cash farm income from cattle and calves amounted to about 30.0% of cash income from all livestock and livestock products in Canada, compared with about 22.9% over the comparable period 1934 to 1945. Cattle and calves account for a substantial and increasing proportion of all cash income from farm products—during the period 1945 to 1957, the proportion was 16.8% compared with 12.8% during the periods 1934 to 1945. Expenditures of Canadians on beef amounted to about 40% of their expenditures on all meat and poultry products and accounted for about 11% of their total expenditures on food. Over the last 25 years, the trend in per capita consumption of beef has been upward, from 62.5 pounds annually during the 1934 to 1945 period to 67.1 pounds during the 1945 to 1957 period.

Excepting some farm-killed beef, the cattle leave the farm, ranch or feedlot alive, and usually by truck. They may continue by truck or rail to a country auction, public stockyards, packing plant, or to the United States or overseas. Besides the cost of transporting the cattle to market, there are also the in-transit costs of shrinkage and bruising to be borne by the farmer.

In a general way, the pattern of prices for beef cattle is established at the 11 public stockyards. There has been a decline in recent years, however, in the proportion of cattle sold through public stockyards, and a rapid increase in auction sales at country points. Live cattle are not graded officially; the estimated yield

[1] The main references in the public hearings to this subject were: Vancouver, *Proceedings*, Vol. 1, pp. 46-7, 63-4a, 97-9, 156-7; Edmonton, Vol. 4, pp. 533-6, 554-6, 566-9, 665-6, 678-85, 695-6, 705-20; Winnipeg, Vol. 6, pp. 764-74, 786-89, 848-53; Regina, Vol. 9, pp. 1407-14, 1425-33; Fredericton, Vol. 10A, pp. 1752-9, 1814-5, 1819; Toronto, Vol. 15, pp. 2377-81, 2393-4, Vol. 16, pp. 2599-602, 2659-61, 2690-2, 2778-811; Ottawa, Vol. 23, pp. 3661-4, 3724-30, Vol. 24, pp. 3835-72, Vol. 25, pp. 3934-6, Vol. 26, pp. 4057-64, Vol. 27, pp. 4223-4, 4245-6, 4294-7, and Vol. 29, pp. 4719-21, 4757-75, 4784-8.

and official carcass grade are the main factors in establishing the price of an animal. Beef cattle, excluding feeders, are usually slaughtered within a few days of leaving the farm. The bulk of the beef sold in fresh form over the retail counter comes from the top four carcass grades—Choice, Good, Standard and Commercial Classes 1 and 2. There has been a shift over the last decade towards a higher proportion of cattle marketed as steers on public stockyards and towards a higher proportion of Choice (Red Brand) and Good (Blue Brand) carcasses.

Beef, like other fresh meat, is a perishable product unless chilled, frozen or processed. It requires careful handling, and is subject to shrinkage and discoloration as well as to deterioration. These characteristics call for either rapid turnover of fresh beef or regulated refrigeration and careful packaging. Beef is a heavy product and requires a lot of man-handling.

Cattle numbers on farms and beef production and prices are characterized by a cyclical pattern of behaviour with an average duration of about 12 years. When cattle marketings are in the upward phase of the cycle, prices are in their downward phase and vice versa. The Commission's decade of study 1949 to 1958 does not comprise a full cattle cycle and, therefore, comparisons and conclusions over this period must be made with great caution. The year 1957 marked the turning point from the upward phase of the last cattle population cycle to the downward phase of the next cycle. The two preceding peaks in numbers were in 1945 and 1934.

There is another influence on beef prices and consumption which must be mentioned here—the substitutability of beef and pork in the consumer's food budget. When pork prices are low relative to beef prices, consumers tend to eat more pork and less beef, and when pork prices are high relative to beef, consumers tend to eat more beef and less pork. Since pork production and prices are also subject to cycles, this matter of substitutability of beef and pork is important.

There has been a definite upward trend in the number of cattle slaughtered domestically. Exports and imports of fresh beef have also increased prominently. The net effect has been to increase the domestic consumption of beef, not only to supply the growing population, but also per capita.

Ontario and Alberta are the largest producing provinces of beef cattle, followed by Saskatchewan, Quebec and Manitoba. The relative importance of beef cattle production in Alberta, Saskatchewan and Ontario has increased, but it has declined relatively in Quebec, Manitoba, British Columbia and the Atlantic Provinces. Southern Alberta has become prominent as a cattle feeding (finishing) area in recent years. In spite of the large production of beef in Ontario and Quebec, these central provinces are deficit regions because of their dense populations. The Prairie Provinces are a surplus region, and so many slaughter and feeder cattle move from there to markets in central and eastern Canada and in the United States. About half of the beef held in cold storage in Canada over the last cattle cycle was in storage plants in Ontario and Quebec, and the relative importance of beef storage in these central provinces has increased.

About 62% of Canada's 154 slaughtering and meat packing establishments are located in Ontario and Quebec. There are many fewer meat packing firms than there are establishments, however. In 1957, the big three (Canada Packers, Swift's and Burns) accounted for about 70% of total cattle slaughterings.

Over the last 25 years, there has been a long-run upward drift in cattle prices, probably mainly because of general inflation and an increasing demand for beef. Regional comparisons reveal that beef cattle prices in the deficit area, Ontario and Quebec, have been generally higher than in the surplus Prairie area.

Beef cattle marketings have a distinct seasonal pattern which results in an inverse seasonal pattern of prices. Heaviest marketings are in the autumn, particularly November, and this is the season when cattle prices are lowest. Marketings fall off thereafter, reaching a minimum during the three-month period April-June, and this is the season when cattle prices are highest. Wholesale and retail prices for beef follow a different seasonal pattern from beef cattle prices. Wholesale and retail beef prices are highest in summer and lowest during winter, whereas cattle prices are highest during spring and lowest in the autumn.

Study of the behaviour of the retail prices of fresh beef over the last decade shows clearly how these prices reached a cyclical peak in 1951. Prices fell after 1951 until 1954, but then resumed their upward drift until 1957 when they began another cyclical upswing. The prices for live cattle also rose rapidly up to 1951, and then underwent a sharper decline than retail beef prices.

Mention was made at the Commission's hearings of a difference in the price behaviour of higher-priced and lower-priced cuts of beef. When beef prices are rising rapidly in a cyclical upswing the prices of the less-expensive cuts tend to rise fastest. In other words, the price differential between the more and less expensive cuts narrows during an upswing in beef prices. This means that during the upswing phase of our period, i.e., 1949 to 1951, the farmer's share of the retail beef price increased fastest for the more-expensive cuts, and subsequently up to 1957 the farmer's share decreased fastest for these more-expensive cuts.

The results of our calculations of the farm-retail spreads for fresh beef for each of the last 10 years are summarized in Table 39 and shown in Chart 17. The basis of calculation is a pound of live sale by the farmer. Retail prices are available for our decade of study for six retail cuts of beef only. We made a careful scrutiny of available information on beef cut-out tests at retail in order to derive appropriate annual weights for prices of the six cuts in arriving at a composite yearly retail price. The cut-out tests called for declining weights for the higher-priced cuts and increasing weights for the lower-priced cuts during the decade. The significance of this matter can be appreciated when one realizes that prices for the different cuts may vary from over one dollar per pound for prime cuts, at one extreme, to one-hundredth of a cent per pound for waste fat and bones, at the other extreme.

The basis for our farm price was the stockyard price of Good steers. In order to arrive at a farm-gate price, stockyard and transportation charges were subtracted and an allowance for by-products was made. We examined the available data on live-to-cold dressed yield, and found that this evidently increased somewhat over the period of study, both in Canada and the United States. This was due mainly to a higher proportion of beef-type cattle slaughtered. On the other hand, the proportion of waste trimmed out at retail apparently increased during the decade. After careful study, both of these factors were taken into account on an annual basis in calculating the farm-retail spread. The net effect of the two factors upon the farm-retail spread and the farmer's share of the retail

price was small because the effects of the two factors tend to be offsetting. The combined live-to-retail yield averaged 46% over the decade. In other words, the retail price per pound of beef had to average more than double the live weight price per pound in order to cover the payment to the farmer—before taking any marketing expenses into account. A fuller explanation of the rather complex statistical procedure involved in these several calculations will be given in the beef price spread study in our Volume III.

Table 39—Summary of Farm-Retail Spreads on Beef, Canada, 1949 to 1958[a]

Calendar Year	Retail Price	Retail Equivalent Value of 1 lb. Live	Farm Price	By-Product Value	Farm Price Less By-Products	Farm-Retail Spread	Farmer's Share of Retail Value
	(¢/lb.)	(¢)	(¢/lb.)	(¢/lb. live)	(¢/lb.)	(¢/lb. live)	%
1949	56.9	25.4	19.8	2.4	17.4	8.0	68.5
1950	67.8	30.6	24.6	3.0	21.6	9.0	70.6
1951	85.4	40.1	31.8	4.0	27.8	12.3	69.3
1952	76.5	35.9	23.9	2.1	21.8	14.1	60.7
1953	62.1	29.0	18.4	1.9	16.5	12.5	56.9
1954	58.2	26.6	17.7	1.9	15.8	10.8	59.4
1955	58.9	26.8	18.1	1.9	16.2	10.6	60.4
1956	59.2	27.3	17.5	1.8	15.7	11.6	57.5
1957	61.2	28.4	17.2	1.9	15.3	13.1	53.9
1958	70.2	32.4	21.2	2.1	19.1	13.3	59.0

[a] Adapted from price spread study of beef in Volume III where an explanation of procedure such as the use of annually variable live-to-dressed and dressed-to-retail yields is given.

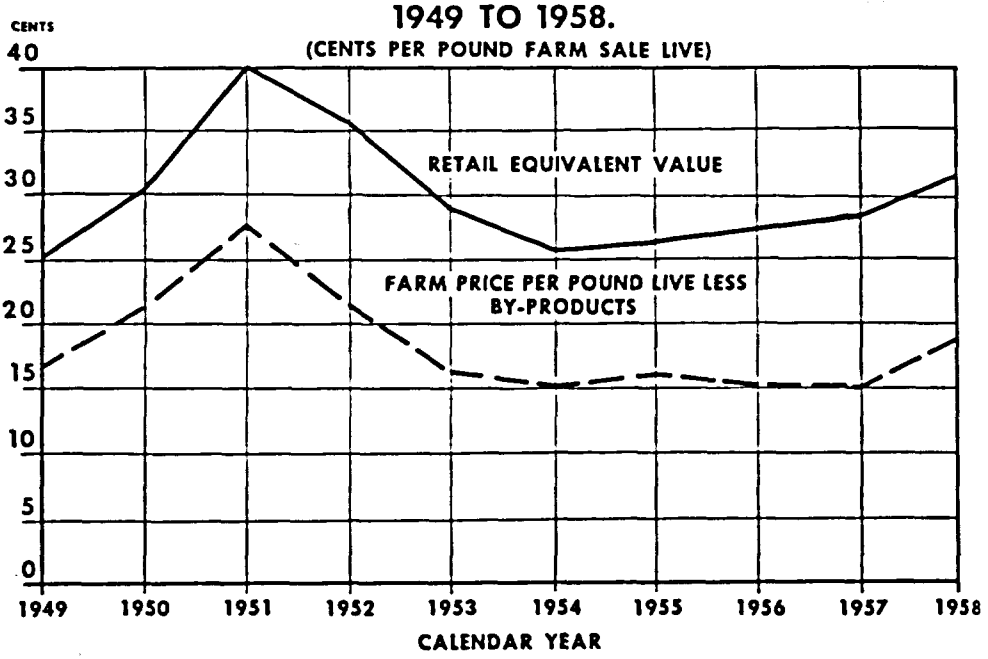
Table 39 and Chart 17 show how retail and farm prices for beef rose rapidly from 1949 to an extreme peak in 1951 and then fell rapidly to 1953, tapered off for about three years thereafter, and then in 1957 began climbing again for another cyclical upswing. The farm-retail spread on beef widened rapidly from a minimum in 1949 to a maximum in 1952, and then fell to 1955, after which it began widening again. The increase in the spread between 1957 and 1958 was slight, however.

The farmer's share of the retail price for beef rose from 68.5% in 1949 to 70.6% and 69.3% in 1950 and 1951, and fell sharply to 56.9% in 1953. The farmer's share then partially recovered in 1954 and 1955, but receded again to a minimum of 53.9% in 1957. The farmer's share recovered to 59.0% in 1958.

The major factor in the widening price spread on beef seems to have been statistical. The terminal years of our period of study, 1949 and 1957, were not at comparable stages of the cattle price cycle. The year 1949 was on the upswing phase, and 1957 was at the bottom, of the price cycle. To obtain a year comparable to 1949, we would have to wait until about 1961, by which time the price spread will likely have narrowed compared with 1957. The balance of the explanation for the widening spread seems to be both in additional services and in increased costs of marketing livestock, of processing and of retailing beef. There have undoubtedly been improvements in efficiency in meat distribution and processing during the last decade, but these have not been sufficient to offset the rising costs of materials, labour, transport etc. and of additional services such as cutting

CHART 17

PATTERN OF FARM-RETAIL VALUES FOR BEEF, CANADA, 1949 TO 1958.



smaller pieces, pre-trimming and pre-packaging. Although the meat packer's margin increased, its influence on the farm-retail spread appears to have been secondary to that of the increased retail margin.

Naturally, with such an important product as beef, the Commission received numerous representations concerning beef marketing. We were told in Vancouver by the British Columbia Federation of Agriculture that the grading of products such as beef can be overdone. In Vancouver, the grading of beef is carried right through to the retail shelf. We were informed that the effect there has been to prejudice the sale of lower-grade, but quite nutritious and tasty, beef produced from grass-fed rather than grain-finished cattle. If it is true, as contended, that the typical consumer really does not care for fat beef, then the fault may lie with the existing grading standards for emphasizing this feature of finish so much, rather than with the carrying of grading as such through to the retail level. In Edmonton, we were told that the farmer feels that he will not be fully compensated for producing quality livestock until the grades by which the packer buys the primary product are carried through to the retail meat counter. At our Ottawa hearings, the Canadian Association of Consumers suggested that for the protection of consumers meat which has not been inspected should be so marked at the point of retail sale.

We were informed in Edmonton and Regina that retail meat prices do not fluctuate to the same degree as do livestock prices. We have already drawn

attention to how cattle prices underwent a sharper decline than retail beef prices after 1951. This is why the farm-retail spread reached its widest point in 1952, at the beginning of the declining phase of the beef price cycle. We have also pointed out that wholesale and retail prices for beef follow a different seasonal pattern than beef cattle prices. Wholesale and retail prices are highest in summer and lowest during winter, whereas cattle prices are highest during spring and lowest in the autumn. The result is that the farm-wholesale and farm-retail price spreads are usually widest in summer and narrowest during winter and spring. The explanation of these seasonal time lags seems to be mainly the lapse of a few weeks between live and retail sale, but seasonal variations in the demand for fresh beef and for beef by-products, and inertia in pricing at wholesale and retail, may also be involved.

We were told in Edmonton, Winnipeg and Regina that farmers are suspicious when heifers sell at comparable prices with steers only when slaughter cattle are scarce and otherwise at a three to five cent discount. Producers were said to believe that yearling heifers yield carcasses "nearly" comparable to yearling steers. We understand that typically the live-to-dressed yield and the proportion of higher-priced cuts is higher with steers than heifers, but this is by no means invariably so. Apparently it is more likely with heavier carcasses. If this is true, however, then the fact that the heifer-steer price differential varies with the supply-demand situation should not be considered peculiar. Supermarkets generally prefer steer beef, and have become increasingly influential customers. Only when beef is scarce can supermarkets not afford to be discriminating customers. It was pointed out in a Federal Department of Agriculture document submitted to us in Regina that the price premium on steers over heifers varies seasonally in relation to the volume being marketed—the months when heifers are in largest supply are also the months of the greatest spread in prices. This is what we would expect to happen in a free market, if the buyers prefer steer beef. We drew attention earlier to another illustration of this phenomenon. The retail price differential between the more and less expensive cuts of beef narrows during a temporary period of scarcity. The Canadian Federation of Agriculture has suggested to us that there may be a long-run trend in the opposite direction as incomes and living standards rise and people switch to buying better cuts.

The Commission recognizes the importance of the matter of cut-outs. It is not impossible, for example, that the preference of the trade for steer over heifer beef is based on an inaccurate understanding of the relative yield of steer and heifer carcasses, physically and financially. We feel strongly that from time to time cut-out tests should be made across Canada under valid sampling procedures (and the results published) so that the industry and other interested parties may keep in touch with cut-out changes (whether the changes be long-run, cyclical, regional or in heifer-steer differentials). We also suggest that live as well as dressed weights of slaughter cattle be published systematically to keep track of trends in the live-to-dressed yields. We feel, moreover, that at least monthly prices of all major animal by-products should be collected and published.

In Fredericton, we were told that farm-retail spreads on beef were unjustifiably large in the Maritimes. The Maritime region as a whole is a deficit region in beef, and yet farm prices tend to be lower, and retail prices higher, than in Quebec or

Ontario. (We would like to point out parenthetically here that Quebec and Ontario are also deficit regions in beef.) The only explanation we could obtain of why beef cattle prices are lower in the Maritimes, grade for grade, than in Ontario and Quebec, is that the Maritime cattle arrive at the packinghouse with greater fill and hence more weight is lost in slaughtering. We were unable to confirm this, but even if accepted and allowed for, we cannot understand how cattle prices in the Maritimes could consistently fall below Montreal prices, grade for grade, by more than the costs of shipping cattle from the Maritimes to the Montreal and Toronto markets. We can see how Maritime prices would tend to be lower than Montreal or Toronto by anything up to the amount of shipping costs. On the other hand, we can see why retail beef prices in a deficit region like the Maritimes would tend to be high enough to make it pay to bring in cattle from Montreal and Toronto to cover the deficiency. These higher retail prices would be reflected in the D.B.S. retail price quotations which are urban in origin. The result of the lower farm prices and the higher retail prices, of course, is a wide farm-retail spread.

If the discount on Maritime cattle has often exceeded their cost of shipment to Montreal and Toronto, we wonder whether in fact the same quality of cattle were being compared. Generally speaking, beef production in the Maritimes is a by-product of the dairy industry. Are the unofficial live grades sensitive enough to sort out the qualities which higher-income people prefer in steer beef over cow and heifer beef? Otherwise, Maritime shippers are inexplicably foregoing a profitable trade in shipping beef more regularly to the Montreal and Toronto markets. We wish to commend the Maritime Co-operative Services for their enterprise in shipping cattle to Montreal when they find that the price differential is in excess of shipping costs.

PORK[1]

Over the decade of study, cash farm income from the sale of hogs amounted to 12.0% of total cash income from farm products and 21.2% of cash farm income from all livestock and livestock products. Consumer expenditures on pork amounted to about 8.1% of total food expenditure. The annual per capita consumption of pork averaged 51.3 pounds.

Hogs are usually shipped live from the farm directly to packing plants or public stockyards or, as feeder hogs, to community auctions. Over the period of study, about 87% of the hogs were delivered directly to packing plants. Shipping costs are met by the farmer, as are selling fees, transit insurance and shrinkage.

Over the decade of study, about 80% of the hogs slaughtered were in federally-inspected or "approved" plants. In the inspected plants, and in some of the approved plants, the hogs must meet federal, provincial or municipal health requirements. At federally-inspected plants, and optionally at approved plants, the hog carcasses are graded by federal graders. The government does not charge for its inspection and grading services.

[1] The main references in our public hearings on this subject were: Vancouver, *Proceedings*, Vol. 1, pp. 47-8, 99-100; Winnipeg, Vol. 6, pp. 759-60; Fredericton, Vol. 10, pp. 1726-31; Toronto, Vol. 15, pp. 2426-8 and Vol. 17, pp. 2793-8; Montreal, Vol. 21B, pp. 3440-532; Ottawa, Vol. 24, pp. 3844, 3847, 3852, 3866-9 and Vol. 26, pp. 4064-74, 4082-4, and Vol. 27, p. 4226.

There are 14 official grades for hog carcasses, and the hog carcasses are bought by grade on a weight basis. There are fairly standard and stable price differentials between the top five grades. The federal government pays a premium to producers of $2.00 per Grade A hog and $1.00 per Grade B1. Over the last decade as a whole about 71% of all hogs were grade A and B1, but there was a definite decline during the first four years in the proportion of hogs graded A and B1.

During the last decade, 81.5% of the hogs were marketed in three provinces, Ontario, Alberta and Quebec. Manitoba and Saskatchewan marketed another 15.0%. With 18% of Canada's population, the Prairie region produced 40% of the hogs. Surplus live hogs and pork from the Prairies are shipped eastwards and westwards to deficit areas in central and eastern Canada and British Columbia.

Storage is a very important stabilizing function in pork marketing, because of the considerable seasonal variation in hog production. Storage stocks are built up over the winter months and drawn down during the summer. A storage program also helps to meet certain periods of peak demand, notably Christmas-New Years and Easter. The largest storage stocks are held in the provinces of largest hog production, Ontario, Quebec and Alberta.

During 1952 the United States placed an embargo on imports of Canadian hogs and pork due to an outbreak in Saskatchewan of foot-and-mouth disease. Hog prices dropped to the price support level of $26.00 per 100 pounds, and the Agricultural Prices Support Board had to make heavy purchases to prevent prices dropping further. A large quantity of pork was preserved by canning.

From 1953 to 1958, at a support level of $23.00, no purchases by the Board were required. In 1958, the support was raised to $25.00. In October, 1958, the Board again began support operations and became heavily committed in both fresh and canned pork. In October, 1959, the support level is to drop to $23.65.

Historically, hog production and prices have been subject to cyclical variations averaging three to four years in duration. Over the decade of study, there appears to have been two and a half production cycles, beginning from a low supply phase in 1949 and ending with a high supply phase in late 1958 and in 1959. During the periods of high production prices were low, and during the periods of low production prices were high.

There is a normal seasonal pattern of variation in pork production and prices. Farrowing of pigs are concentrated in the spring and fall. Over the decade of study, the season of peak production was the late autumn and the peak month was December. There were particularly heavy marketings in December of the price-support years 1952 and 1958. A secondary peak normally occurred in March. Seasonally, prices tended to vary inversely with the seasonal pattern of production, but the price variations were less marked.

The main export market for pork during the decade of study was the United States. These exports varied from 3.5% of production in 1952 to 14.8% in 1950. Generally, exports to the United States were high in years when Canadian production was high. Total exports were greatest during the two years 1949 and 1950 when substantial exports on contract were also made to the United Kingdom. Except in 1951, pork imports over the last decade amounted to less than 1% of domestic production.

During the decade, the per capita consumption of pork increased during periods of heavy supply and low prices and decreased in years of low supply and high prices. A slight upward trend was discernible over the decade as a whole, however.

Bacon is an important pork product and accounts for about 15% of the hog carcass. Consumer expenditures on bacon over the last decade amounted to about 24% of expenditures on all pork products. The proportion of bacon sold sliced increased during the decade. Over the period 1954 to 1957 approximately 50% of the bacon was sold sliced.

Stocks of frozen bellies which are normally built up during the late autumn and winter months are withdrawn from storage between June and October for processing into bacon. There is a time lag in the movement of retail and wholesale bacon prices behind the movement of hog carcass prices which probably is due to the lapse of time between buying the carcass and selling the bacon caused by storage and processing. With reference to the hog price cycle, wholesale bacon prices swing rapidly upwards and downwards, but retail prices tend to swing more rapidly upwards than downwards. The result is a narrowing of the retail bacon margin on the upswing phase of the price cycle and a widening on the downswing phase.

Our calculations of the farm (stockyard)-retail spreads on B1 hog carcasses are summarized in Table 40 and shown in Chart 18. The basis of calculation is one pound of carcass pork. The farmer is paid on a carcass-graded basis, and we were unable to derive an authentic farm-level value, mainly because of lack of data on live weights and live marketing charges. The farmer's share shown in the table, therefore, is inclusive of primary marketing costs of live hogs, such as transportation, which are often performed for the farmer for a cash payment. Also due to insufficient data, a constant allowance had to be assumed for waste throughout the period of study. The retail price is a composite of five major pork cuts, two of which are retailed fresh and three processed. Further details as to procedure of computation are provided in Volume III.

Retail and stockyard prices fluctuated considerably during the decade. These prices tended to move together from year to year, but the retail price showed greater fluctuations. The stockyard price trended downward. The price spread increased from 1949 to 1954, decreased in 1955, and then increased from 1956 to 1958. In 1958 the spread almost attained its maximum of 19.7¢ reached in 1954. Over the decade as a whole there was a definite widening of the spread.

The farmer's share (stockyard basis) of the retail equivalent value averaged 60% over the decade. From 1949 to 1951, the farmer's share remained fairly stable at 65% to 66%, but from 1952 to 1956 it decreased to 57.3%. In 1957 the farmer's share increased to 59.7%, but in 1958 it dropped again to 56.5%. Over the period as a whole, the farmer's share definitely decreased.

The widening spread and the declining farm share seem to have been due mainly to a substantial increase over the decade in the amount of processing and packaging. We are referring particularly to smoked pork products, such as hams and bacon, which used to be sold in whole cuts but which now usually sell defatted, skinless, boneless, in small cuts or slices, and conveniently packaged in

CHART 18

PATTERN OF FARM-RETAIL VALUES FOR PORK, CANADA, 1949 TO 1958.

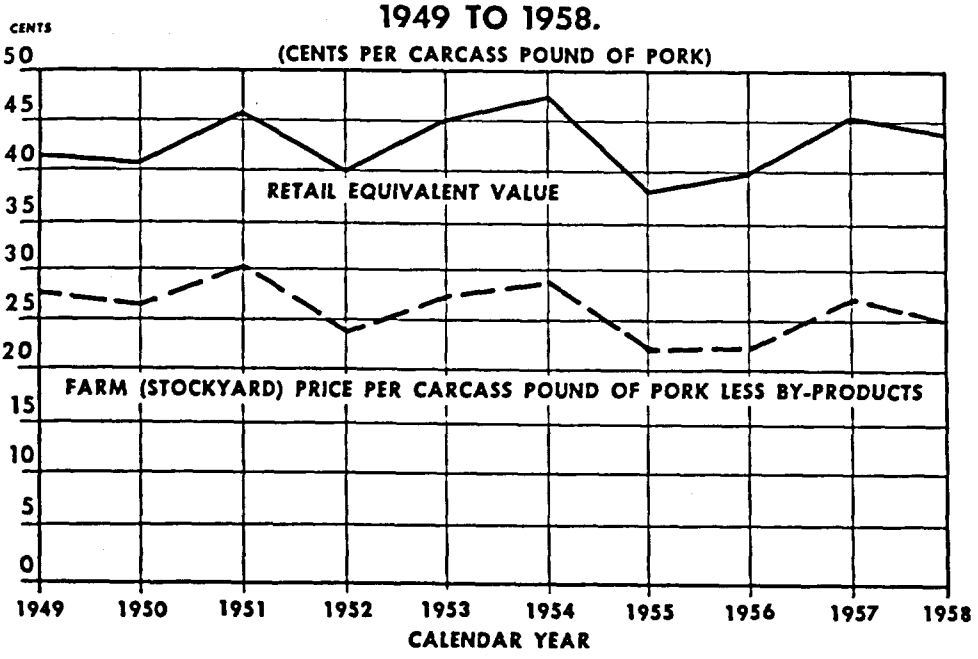


Table 40—Summary of Farm (Stockyard)–Retail Spreads on Pork, Canada, 1949 to 1958[a]

Calendar Year	Composite Retail Price	Retail Equivalent Value of 1 lb. Carcass Pork	Stockyard Price B1 Hogs	By-Product Value	Farm (Stockyard) Price Less By-Products	Farm (Stockyard) -Retail Spread	Farmer's Share (Stockyard Basis) of Retail Value
	(¢/lb.)	(¢)	(¢/carcass lb.)	(¢/carcass lb.)	(¢/carcass lb.)	(¢)	(%)
1949	54.4	41.9	29.6	2.0	27.6	14.3	65.9
1950	53.4	41.1	28.4	1.8	26.6	14.5	64.7
1951	60.0	46.2	32.6	2.3	30.3	15.9	65.6
1952	52.2	40.2	25.4	1.3	24.1	16.1	60.0
1953	59.4	45.7	28.6	1.5	27.1	18.6	59.3
1954	62.2	47.9	30.0	1.8	28.2	19.7	58.9
1955	50.2	38.7	23.8	1.4	22.4	16.3	57.9
1956	52.0	40.0	24.4	1.5	22.9	17.1	57.3
1957	59.0	45.4	29.1	2.0	27.1	18.3	59.7
1958	57.9	44.6	26.8	1.6	25.2	19.4	56.5

[a] Adapted from price spread study of pork in Volume III where a fuller explanation of procedure etc. is given.

plastic. The British Columbia Federation of Agriculture pointed out to us in Vancouver, for example, that it is relatively more expensive to package sliced bacon in half-pounds than in pounds.

There is a seasonal tendency for pork price spreads to be more narrow during the first half of the year and wider during the latter half. This tendency can be explained by the seasonal hog marketing pattern, already referred to, and a lag in retail prices. Prices for hog carcasses usually advance during the first half of the year when hog marketings are declining. Since retail prices tend to lag behind stockyard prices during upward and downward movements, price spreads are narrower on the upswing in the first half of the year, and wider during the downswing in the second half of the year. When pork prices are rising or high, there is some resistance at retail to higher prices because of the ready substitution of other meat (notably beef) for pork. When pork prices are falling or low, there seems to be a tendency to resist decreases in marketing margins. The seasonal pattern of the farmer's share is inverse to that of the spread, i.e., the share tends to be larger during the spring and summer and smaller during autumn and winter.

At its public hearings in Winnipeg, the Commission was told that the support level on hogs in Winnipeg was lower than in Toronto by considerably more than the costs of shipping from Winnipeg to Toronto. We have referred this complaint to the Agricultural Stabilization Board.

In Toronto, we were told that the farmer gets no payment for hog by-products. Although no specific allowance is made for by-products, we are satisfied that hog prices are arrived at with probable by-product values taken into account by both parties to the deal.

It was also suggested to us in Toronto that the official carcass grade should be carried through to the retail level. It is true that C-grade carcasses may be upgraded as well as downgraded, but first-class cuts are thus obtained only by trimming off more fat than from higher-grade carcasses. When rendered and sold as lard, this fat sells at a much lower price than pork meat. Consequently, the packers apparently make more money on the higher-grade carcasses than on the lower grades.

DAIRY PRODUCTS[1]

Over the decade 1949 to 1958 farm cash income from dairy products increased almost continuously. In 1950 Canadian farmers received $343 million from the sale of dairy products and in 1958 this income had risen to $495 million. For the decade as a whole farm cash income from the sale of dairy products accounted for 16.2% of total cash income from farm products. Dairy products are also next in importance to meat in the family food basket, accounting for about 18% of consumer expenditures on all foods.

[1] The main references in our public hearings on this subject were: Vancouver, *Proceedings*, Vol. 1, pp. 76-80 and Vol. 2, pp. 204, 206-7, 209, 221-36, 246-8, 262-73, 277; Edmonton, Vol. 4, pp. 547-9, 551-3 and Vol. 5, pp. 663-5, 731-7; Regina, Vol. 8, pp. 1249-77; Fredericton, Vol. 10, pp. 1735-48 and Vol. 10A, pp. 1815-8; Halifax, Vol. 13, pp. 2154-5, 2169-78; St. John's, Vol. 14, pp. 2185-93; Toronto, Vol. 15, pp. 2312-4, 2347-50, 2381-4, 2394-8, 2420-4, 2455-62 and Vol. 16, pp. 2501-5, 2519-24, 2536-7, 2650, 2654-8, 2699-702; Montreal, Vol. 20, pp. 3261-84, 3315-6; Ottawa, Vol. 23, pp. 3719-24, 3744-5, Vol. 25, pp. 3921, 3936-9, 3951-2, Vol. 26, pp. 4126-8, Vol. 27, pp. 4324-7 and Vol. 29, pp. 4594-620.

Over the decade of study as a whole, total milk production has shown an upward trend. For the first four years of the decade, however, production declined; the increase has taken place since 1952. In 1958 production reached an all-time record of 18 billion pounds. Milk production increased in spite of a decrease in the number of cows. The production of milk per cow increased substantially over the period due to better quality cattle, better feeding and better management of dairy herds.

The annual per capita consumption of dairy products, in terms of fluid milk, averaged close to 1,000 pounds over the decade. However, there was a slight decrease in the per capita consumption of dairy products as a whole over the period, largely because of a decline in butter consumption.

Cows' milk contains about 87% water and about 13% solids (including fat and non-fat solids mainly in the form of proteins, calcium, phosphorous and riboflavin). Milk is a highly perishable product and special care must be taken to safeguard its purity for the health of consumers. This, of course, has a definite bearing on marketing costs and the price to consumers. Milk can be used in many ways: as fluid milk, in manufacture of butter, cheese, ice cream and concentrated products. These products require a wide variety of processing and packaging.

Fluid milk is usually consumed within the district of production while many manufactured dairy products enter interprovincial and export trade. consequently there are local, provincial and federal regulations that apply to milk and milk products. According to these regulations all dairy products have to meet prescribed standards of composition, packing and marking before being marketed. Although the marketing of fluid milk and of manufactured milk products includes the same three major functions of assembly, processing, wholesaling and retailing, these functions are usually performed by the same firm in the case of fluid milk, but for manufactured milk products the functions are performed by several specialized firms. For manufactured milk products other than butter these operations are more varied and costly, and this is reflected in wider marketing margins and smaller farm shares than for fluid milk.

Table 41—Total Milk Production and Utilization as a Per Cent of Production, Canada, 1949 to 1958[a]

Calendar Year	Production	Fluid Sales Milk & Cream	Used in Manufacture			Used on Farms	
			Creamery Butter	Cheese	Concentrated Milk & Ice Cream	Dairy Butter	Other Purposes
	(million lb.)	(%)	(%)	(%)	(%)	(%)	(%)
1949	15,918	28.1	41.2	8.5	7.0	4.6	10.6
1950	15,322	29.7	40.0	7.5	7.6	4.2	11.0
1951	15,310	30.2	39.3	6.9	8.6	4.1	10.9
1952	15,309	28.3	42.9	5.3	9.0	3.4	11.0
1953	16,036	28.4	44.2	5.7	8.3	2.8	10.6
1954	16,528	28.5	44.3	6.2	8.2	2.4	10.4
1955	16,946	29.3	44.0	5.7	8.6	2.1	10.3
1956	16,966	30.9	41.8	6.1	8.9	1.9	10.4
1957	17,306	31.1	41.0	7.0	9.2	1.7	10.0
1958	18,057	30.4	43.6	6.2	8.6	1.5	9.7

[a] Source: D.B.S. *Dairy Statistics*, Ottawa, annual.

A statistical profile of the Canadian dairy industry over the last 10 years is presented in Table 41 which shows total milk production and the proportion of its utilization in manufacture, fluid sales and farm use. From this table we can see that fluid milk and butter together account for almost three-quarters of the total milk supply. The remainder of about 25% is used in the manufacture of cheese, concentrated milk products, dairy (farm) butter, and for farm consumption. The growing importance of concentrated products and ice cream is evident as is the relative decline in the utilization of milk for dairy butter and cheese.

Fluid milk accounts for 30% of total milk utilization and its total annual consumption has been increasing during the decade. However, this total increase in consumption was due to the increase in population since the per capita consumption showed a slight and almost continuous decline over the period. Consumer expenditures on fluid milk increased in relation to total food expenditures, however, from 7.8% in 1953 to 8.0% in 1955 and 9.3% in 1957. Although fluid milk sales account for 30% of total milk production, farmers receive for their fluid milk close to 48% of their cash income from all dairy products because the farm price for fluid milk is higher than for any other use. The trend in several provinces towards an increasing proportion of milk being marketed in the fluid form has, therefore, been a welcome one to dairy farmers.

The production of creamery butter which reached an all-time record in 1958 has been changing considerably from year to year over the last decade. Between 39% and 44% of the total milk production has been used in the manufacture of creamery butter and for this farmers received close to 37% of their cash income from dairying.

The per capita consumption of butter has been declining. Over the decade the decline in per capita consumption of butter amounted to three pounds. For the same period there was an increase of three pounds in the per capita consumption of margarine. This shows that increased margarine consumption is offsetting the decreased butter consumption with no change in the total per capita consumption of these two agricultural products. In 1958 butter consumption dropped 20.4 million pounds compared with 1957. This decrease in butter consumption was due to the increase in butter prices, relative to the prices of substitutes, that resulted from a six-cent-per-pound increase in the butter price support. The per capita consumption of butter in 1958 dropped by about 6% from 1957, and the per capita consumption of margarine increased by close to 9%.

Cheese production has fluctuated greatly in the last 10 years, but the general trend in production has been downward. The pattern of production of particular kinds of cheese differs considerably, however. Whereas cheddar production has been declining, the production of process and cottage cheese has been increasing. The per capita consumption of cheese has shown an increase over the decade. About 6.5% of milk has been used for the production of all varieties of cheese and that portion of milk accounted for close to 6.0% of farm cash income from the sale of dairy products. The export of cheese, which in past decades amounted to many million pounds annually, has dropped substantially during the decade of study and the quantities exported have varied greatly from year to year.

Of the group of concentrated milk products, evaporated whole milk, skimmed and whole milk powder, condensed whole milk and partly-skimmed evaporated

milk were produced in increasing quantities. Evaporated whole milk and skimmed milk powder account for over 80% of the production of this group. Over the decade, the production of skimmed milk powder has increased almost three times—the highest rate of increase of all dairy products. A very important development in the dry skimmed milk industry has been the "instant" type of milk powder and this convenience has been a contributing factor to the increase in household consumption. There has also been a considerable increase in the production of ice cream. Over the decade, the per capita consumption of concentrated milk products and ice cream has increased by almost 30%, in sharp contrast to the decreasing consumption per capita of butter and fluid milk. For the 8.4% of the total milk used for concentrated milk products and ice cream farmers received about 8.5% of their dairy farm cash income.

Over the decade, an increasing concentration in the dairy industry at the farm, processing and distribution levels has been evident. The number of farms reporting milk cows is decreasing and the number of milk cows per farm is increasing. At the same time total milk production and production per cow has been increasing. The concentration of the dairy processing and distributing industry, however, is proceeding at a much faster rate. The dairy plants are growing larger and multiple-product plants are taking over several functions which in the past were performed by many specialized plants. Large factories are now producing butter, cheese, concentrated milk products and ice cream. On the whole, the total production of dairy products exceeds the domestic disappearance. Since Canadian wholesale prices for many dairy products are higher than in other countries, this creates a problem of unsold stocks. Also, on the domestic market some of the dairy products encounter strong competition from margarine and other substitute products. The federal price support program for butter and certain other dairy products has led to large carry-overs.[1]

Dairying is widely but unevenly dispersed across Canada. The provinces of Ontario and Quebec, taken together, produce over two-thirds of the total milk production in Canada. Second in importance are the Prairie Provinces with over one-fifth of the total production. Over the decade of study, Quebec showed the highest rate of increase in milk production, and in the last three years emerged as the leading milk-producing province. In central Canada the essential factor contributing to the development of dairying has been the proximity of large cities and industrial centres and the suitability of the climate and soil. Over two-thirds of the creamery butter and up to 95% of the cheddar cheese is produced in Quebec and Ontario. Ontario has been for a long time the principal producer of cheddar cheese and Quebec has been the principal producer of creamery butter.

The production of milk has a well-pronounced seasonal pattern. It is above the annual average during the summer months and well below the average in the winter months. The extra milk that comes during the flush pasture season April through September is used in the manufacture of creamery butter, cheese and concentrated milk products. The farm prices for all dairy products are generally lowest during the months of high production and highest during the months of low production. However, because of the federal price support for creamery butter, cheese and skimmed milk powder and because of provincial

[1] We also refer to the butter price support program in Part II.

provisions for establishing minimum prices for fluid milk, the overall fluctuations in farm prices are tempered. The retail prices of dairy products show a marked seasonal stability.

With regard to year-to-year changes in farm and retail prices for dairy products there were three distinct phases in the last decade. Between 1949 and 1951 farm prices showed a rather sharp increase, from 1951 to 1956 they remained almost stationary, and after that they started to rise again. Retail prices rose until 1952, remained fairly stable until 1956, and since then they have risen again. Over the whole decade retail prices increased by 22.5% and farm prices by 15.8%.

The results of our calculations of farm-whole sale-retail spreads for fluid milk, evaporated whole milk, plain process cheese, creamery butter and the dairy products group as a whole are summarized in the following five tables and shown in the accompanying charts. All these estimates are based on average prices for Canada and relate to the decade 1949 to 1958.

The Price Spread on Fluid Milk

Table 42 and Chart 19 show that farm and retail prices for fluid milk rose from 1949 to 1952, remained almost steady until 1956, and then in 1957 began to rise again. The rise in retail prices, however, was faster, and this made the farm-retail spread wider and the farmer's share smaller. Over the decade, the farm-retail spread for fluid milk increased fastest among the dairy products group. Increased processing and delivery costs, particularly payrolls and containers, appear to have been the main reasons for the widening spread.

The Price Spread on Evaporated Whole Milk

In order to make one pound of evaporated milk, 2.3 pounds of fluid milk have to be used, and in addition this milk has to be put through the manufacturing process and then canned, hermetically sealed, packed in shipping cases, and transported to different places for distribution through various commercial channels. Although there have been fluctuations in farm, wholesale and retail prices of

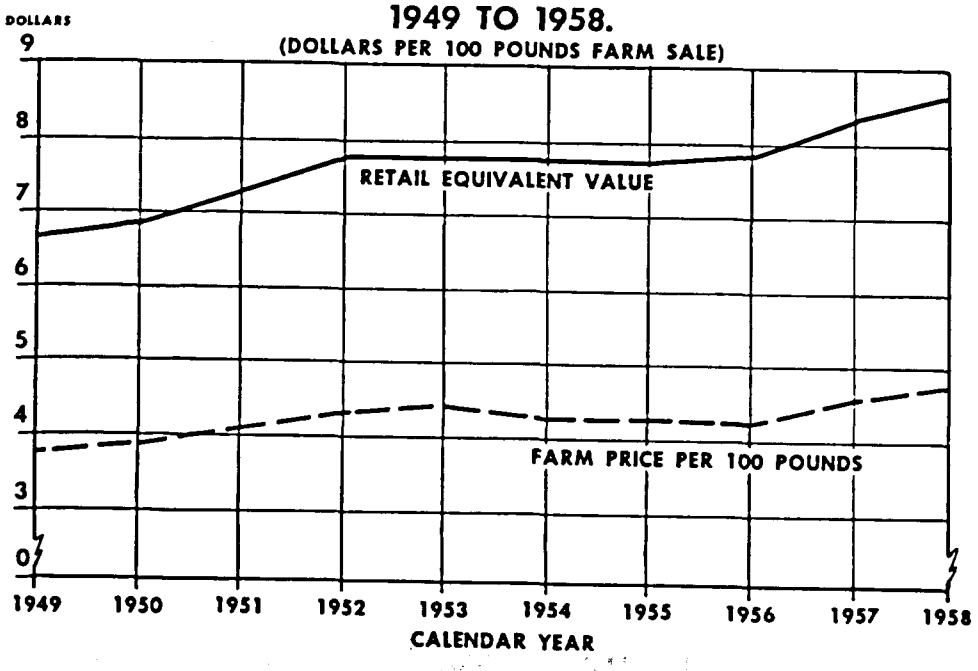
Table 42—Summary of Calculations of Farm-Retail Spread on Fluid Milk, Canada, 1949 to 1958[a]

Calendar Year	Retail Price	Retail Equivalent Value of 100 lb. Farm Sale	Farm Price	Farm-Retail Spread	Farmer's Share of Retail Value
	(¢/qt.)	($)	($/100 lb.)	($)	(%)
1949	17.8	6.70	3.85	2.85	57.5
1950	18.3	6.89	3.91	2.98	56.7
1951	19.6	7.38	4.08	3.30	55.3
1952	21.1	7.94	4.39	3.55	55.3
1953	21.1	7.94	4.41	3.53	55.5
1954	21.1	7.94	4.37	3.57	55.0
1955	21.1	7.94	4.33	3.61	54.5
1956	21.2	7.98	4.32	3.66	54.1
1957	22.5	8.47	4.53	3.94	53.5
1958	23.2	8.73	4.62	4.11	52.9

[a]Adapted from price spread study of dairy products in Volume III where a fuller explanation of procedure etc. is given.

CHART 19

PATTERN OF FARM-RETAIL VALUES FOR FLUID MILK, CANADA, 1949 TO 1958.



evaporated milk from year to year over the decade, the general relationship between these prices has not changed significantly. As a result, the farmer's share of the retail value changed by less than 1% between 1949 and 1958. The farm-retail spread increased by 10% over the decade, which is relatively moderate. Whereas the farm-wholesale spread was almost the same in 1958 as in 1949 the retail spread increased appreciably. As a result, the retailer's share of the retail price increased from about 14.9% in 1949 to 19.0% in 1958 (Table 43 and Chart 20).

The Price Spread on Plain Process Cheese

The farmer's share of the retail price is smaller for plain process cheese than for the other principal dairy products. Process cheese has to go through a double operation—first a cheddar cheese has to be made, and then the cheddar is processed with the addition of several ingredients. From Table 44 and Chart 21 we can see that the rise in retail prices of process cheese, although very uneven, was more pronounced than the rise in farm prices of cheese milk. Consequently the farmer's share of the retail price declined, from 39.5% in 1949 to 34.1% in 1958. The farm-retail spread widened substantially between 1949 and 1952, then declined for a few years, and in 1958 it was at the same level as in 1952. The main reasons for the widening spread were the addition of more processing services, such as cutting into smaller sizes or slices, and more packaging and advertising.

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Table 43—Summary of Calculations of Farm-Wholesale-Retail Spreads on Evaporated Whole Milk, Canada, 1949 to 1958[a]

Calendar Year	Retail Price	Retail Equivalent Value of 100 lb. Farm Sale	Wholesale Equivalent Value of 100 lb. Farm Sale	Farm Price	Farm-Retail Spread	Retailer's Share of Retail Value	Farmer's Share of Retail Value
	(¢/16-oz. tin)	($)	($)	($/100 lb.)	($)	(%)	(%)
1949	14.8	6.44	5.48	2.69	3.75	14.9	41.8
1950	14.6	6.35	5.39	2.61	3.74	15.1	41.1
1951	16.1	7.00	6.09	3.09	3.91	13.0	44.1
1952	16.4	7.13	5.96	2.76	4.37	16.4	38.7
1953	15.4	6.70	5.52	2.54	4.16	17.6	37.9
1954	15.4	6.70	5.52	2.52	4.18	17.6	37.6
1955	15.1	6.57	5.35	2.52	4.05	18.6	38.4
1956	14.8	6.44	5.35	2.59	3.85	16.9	40.2
1957	15.7	6.83	5.61	2.81	4.02	17.9	41.1
1958	16.2	7.04	5.70	2.88	4.16	19.0	40.9

[a]Adapted from price spread study of dairy products in Volume III where a fuller explanation of procedure etc. is given.

CHART 20

PATTERN OF FARM-WHOLESALE-RETAIL VALUES FOR EVAPORATED WHOLE MILK, CANADA, 1949 TO 1958.

(DOLLARS PER 100 POUNDS FARM SALE)

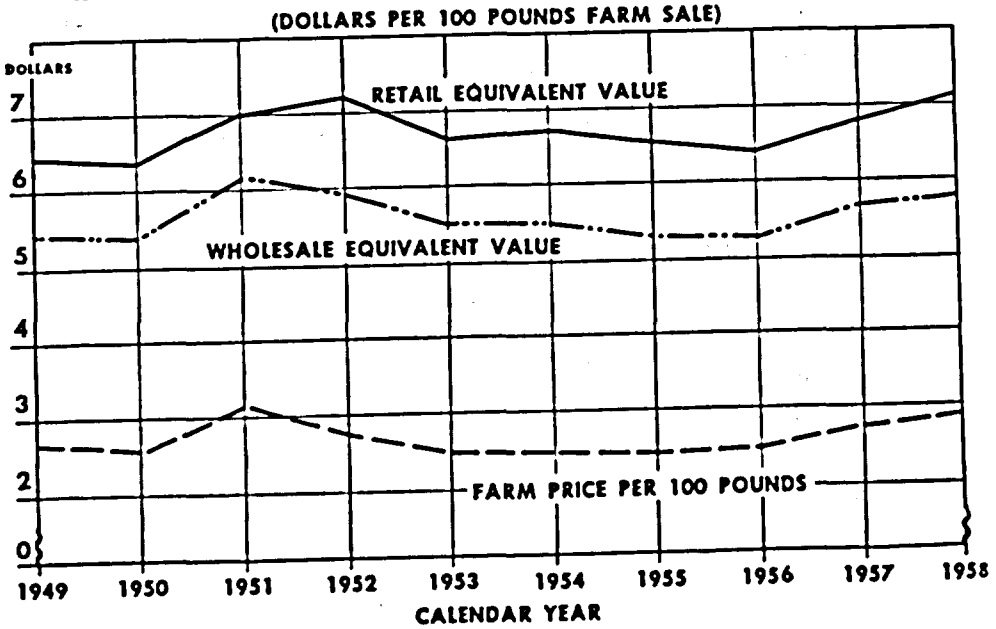


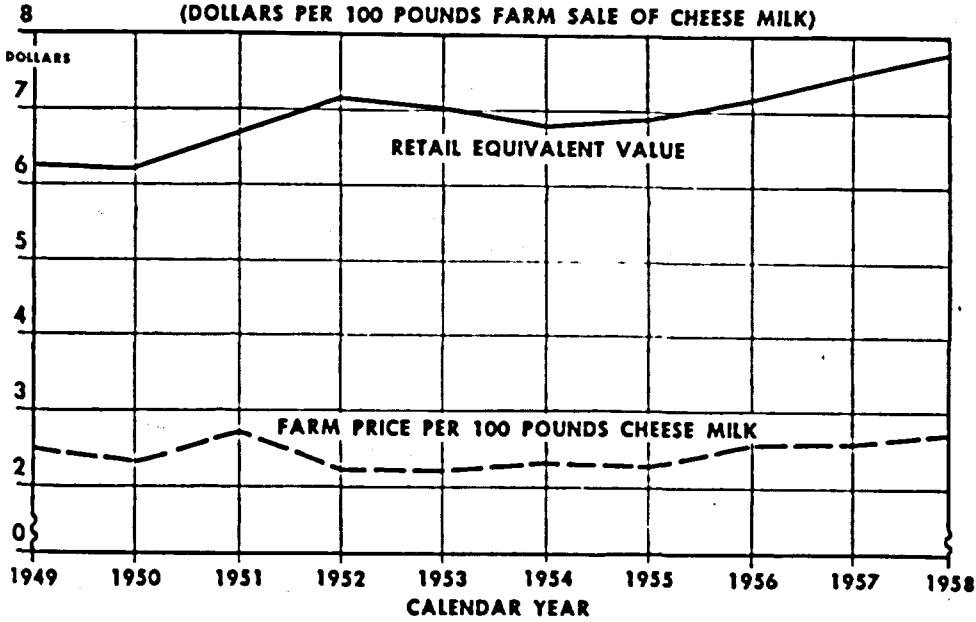
Table 44—Summary of Calculations of Farm-Retail Spread on Plain Process Cheese, Canada, 1949 to 1958[a]

Calendar Year	Retail Price	Retail Equivalent Value of 100 lb. Farm Sale of Cheese Milk	Farm Price for Cheese Milk	Farm-Retail Spread	Farmer's Share of Retail Value
	(¢/½-lb.)	($)	($/100 lb.)	($)	(%)
1949	29.2	6.20	2.45	3.75	39.5
1950	29.0	6.16	2.23	3.93	36.2
1951	32.4	6.88	2.74	4.14	39.8
1952	33.8	7.18	2.16	5.02	30.1
1953	33.0	7.00	2.16	4.84	30.6
1954	32.6	6.92	2.20	4.72	31.8
1955	32.9	6.98	2.17	4.81	31.1
1956	33.7	7.15	2.47	4.68	34.5
1957	35.6	7.56	2.59	4.97	34.4
1958	35.9	7.62	2.60	5.02	34.1

[a]Adapted from price spread study of dairy products in Volume III where a fuller explanation of procedure etc. is given.

CHART 21

PATTERN OF FARM-RETAIL VALUES FOR PLAIN PROCESS CHEESE, CANADA, 1949 TO 1958.



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The Price Spread on Creamery Butter

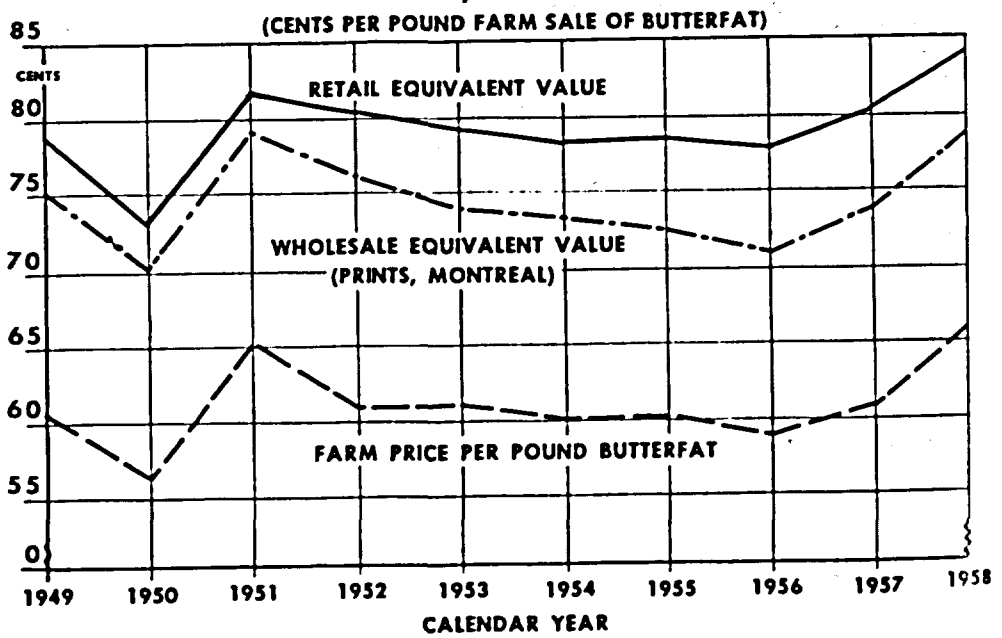
Butter is the only dairy product which has shown a slight decrease in the farm-retail spread and an increase in the farmer's share of the retail price. The farmer's share increased from 76.3% in 1949 to 78.2% in 1958, and at the same time the farm-retail spread decreased from 18.7¢/lb. butterfat to 18.4¢/lb. butterfat. The probable reasons for this are presented towards the end of this section on dairy products. There was close conformity in the pattern of price fluctuations over the decade at the farm, wholesale and retail levels. They declined sharply in 1950, rose equally sharply in 1951, then declined slowly until 1956. Since then they have showed a rather sharp increase. A breakdown of the farm-retail spread shows that over the decade the retail spread has been increasing while the farm-wholesale spread has been decreasing. The retailer's share of the retail price increased from 4.1% in 1949 to 6.8% in 1958. Calculations of farm-wholesale-retail spreads on butter in Montreal and Winnipeg will appear in Volume III. (Table 45 and Chart 22.)

The Price Spread on the Dairy Products Group as a Whole

Table 46 and Chart 23 summarize the equivalent farm and retail values for all dairy products bought each year by the average urban Canadian family over the decade 1949 to 1958. The quantity of each dairy product that is included

CHART 22

PATTERN OF FARM-WHOLESALE-RETAIL VALUES FOR BUTTER, CANADA, 1949 TO 1958.



in these calculations is based on a Dominion Bureau of Statistics survey made in 1953. The calculations suggest that the value of dairy products bought annually by the average family increased from $164.25 in 1949 to $197.20 in 1958 while the equivalent farm value for these products increased from $96.73 to $110.80. Accordingly, the farmer's share for all milk used in the various dairy products dropped from 58.9% in 1949 to 55.9% in 1958.

Frequently in the public hearings, the Commission's attention was drawn to various aspects of the marketing of dairy products, particularly fluid milk. In general, we have taken the stand that fluid milk marketing is a provincial concern, and so our comments upon it here will not be prescriptive.

The most frequent representations on the subject of fluid milk marketing were made to us by provincial and federal associations of consumers. Evidently the consumers feel strongly that they should have formal representation on milk

Table 45—Summary of Calculations of Farm-Wholesale-Retail Spreads on Creamery Butter, Canada, 1949 to 1958[a]

Calendar Year	Retail Price	Retail Equivalent Value of 1 lb. Butterfat	Wholesale Equivalent Value of 1 lb. Butterfat	Farm Price Butterfat	Farm-Retail Spread	Retailer's Share of Retail Value	Farmer's Share of Retail Value
	(¢/lb.)	(¢)	(¢)	(¢/lb.)	(¢)	(%)	(%)
1949	64.6	78.8	75.6	60.1	18.7	4.1	76.3
1950	60.3	73.6	70.8	56.2	17.4	3.8	76.4
1951	67.8	82.7	79.3	65.4	17.3	4.1	79.1
1952	66.2	80.8	76.1	61.8	19.0	5.8	76.5
1953	65.0	79.3	74.4	61.2	18.1	6.2	77.2
1954	64.0	78.1	73.1	60.6	17.5	6.4	77.6
1955	64.1	78.2	72.8	60.2	18.0	6.9	77.0
1956	63.5	77.5	71.5	59.8	17.7	7.7	77.2
1957	65.7	80.2	74.1	61.8	18.4	7.6	77.1
1958	69.2	84.4	78.7	66.0	18.4	6.8	78.2

[a]Adapted from price spread study of dairy products in Volume III where a fuller explanation of procedure etc. is given.

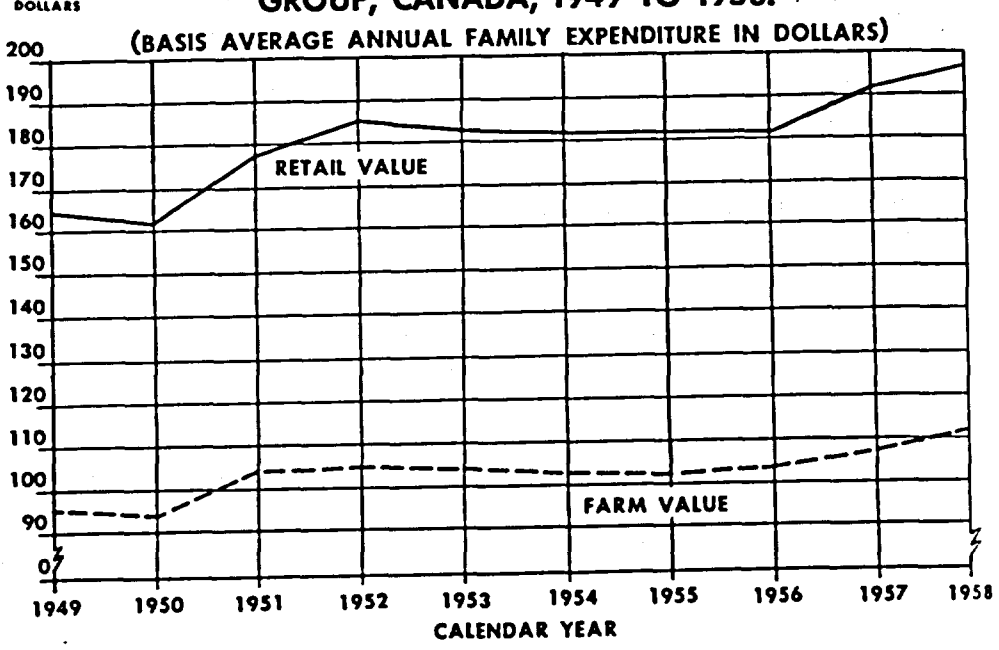
Table 46—Summary of Farm-Retail Spreads,[a] Dairy Products Group, Canada, 1949 to 1958[b]

Calendar Year	Retail Value	Farm Value	Farm-Retail Spread	Farmer's Share of Retail Cost
	($)	($)	($)	(%)
1949	164.25	96.73	67.52	58.9
1950	162.89	94.42	68.47	58.0
1951	178.26	104.58	73.68	58.7
1952	185.03	104.03	81.00	56.2
1953	182.52	103.04	79.48	56.4
1954	181.51	102.32	79.19	56.4
1955	181.43	101.58	79.85	56.0
1956	181.59	102.22	79.37	56.3
1957	191.32	106.68	84.64	55.7
1958	197.90	110.80	87.10	55.9

[a]Based on annual expenditures on all dairy products made by the average Canadian urban family.
[b]Adapted from price spread study of dairy products in Volume III where a fuller explanation of procedure etc. is given.

CHART 23

PATTERN OF FARM-RETAIL VALUES FOR DAIRY PRODUCTS GROUP, CANADA, 1949 TO 1958.



boards. The consumers also want quantity discounts at retail and a store price differential. The consumers believe that formula pricing of milk at the producer level leaves out one vital variable—an index of productivity in dairying. We were also told that there is wasteful overlapping and frequency in milk delivery which is probably the highest cost item. The British Columbia and Alberta Federations of Agriculture argued in favour of setting minimum retail, as well as farm, prices for milk, contending not only that this provides stability in the industry but also keeps the spread narrow.

We became interested during the hearings in why the farmer's share of the retail price of butter is normally higher than for nearly every other food product and why the price spread on butter narrowed during the period of study. The only commodity with a higher farm share (and it is only an occasional exception) is eggs. The explanation seems to be: (1) the farm price for butter-fat is actually a delivered price to the creamery, and hence important hauling costs are already excluded from the farm-retail spread; (2) butter processing is a simple operation and processing costs have been reduced by large plants and the installation of a few continuous butter-making machines; (3) butter packaging also continues to be a simple operation; (4) with fewer and larger retail accounts, processors may have been able to reduce their selling costs; (5) traditionally, the retail markup is small compared with most foods, probably because butter has a high value per unit of volume and a rapid turnover and perhaps it has also become a sort of

permanent "come-on" or "leader"; (6) the federal government absorbs some of the costs of storage both through its price support operations and by its subsidies to cold storage, and sometimes resells butter at less than its purchase price; (7) keen competition with margarine at retail prevents the retail price from rising much without a sharp curtailment in butter consumption.

We noted earlier that process cheese undergoes a double processing, first as cheddar and then as process cheese. This helps to explain why the farmer's share of the retail price of process cheese is lower than for other major dairy products. The advent of consumer-size packaging and slicing of the cheese certainly adds to the costs of marketing. It was suggested to us, however, that the public wants it that way, otherwise they would not buy it. We were glad to hear that economies have been introduced at retail during our period of study by centralized cutting and cellophane packaging of cheese. This saves time and reduces spoilage. In view of the fact that so many packages of cheese are less than a pound, we are of the opinion that on each package of cheese at retail should be marked the price per pound as well as the price for the package. And we are not convinced that the branding and advertising of cheddar cheese is a desirable turn of events. It seems to us like gilding the lily.

POULTRY AND EGGS

The poultry and egg industry ranks high among our major food industries. Over the decade 1949 to 1958 cash farm income from the sale of poultry and eggs ranged about a rising trend from a low of $170 million in 1950 to a high of $295 million in 1956. Over the decade as a whole, cash income from poultry and eggs accounted for 9.8% of total cash income from farm products. Consumers are spending on poultry and eggs about 8% of their total expenditure on food. The per capita consumption of these two products, particularly poultry, showed a well-pronounced upward trend over the decade. Between 1949 and 1958 the per capita consumption of eggs increased from 19.3 dozen to 24.8 dozen annually, and the per capita consumption of poultry (eviscerated basis) increased from 15.8 pounds to 26.6 pounds.

POULTRY[1]

The poultry industry of the last few years contrasts sharply in many ways with 10 or 15 years ago.[2] The production of chickens and turkeys, which for many years had been a sideline activity on most farms, has changed considerably. Although there are still several thousand farms that maintain small flocks on a non-commercial or semi-commercial basis, specialization in production is now firmly established in many regions of the country and is continuously increasing. Poultry is sold by the farmer both on live-weight and rail-graded basis.

[1] The main references in our public hearings on this subject were: Vancouver, *Proceedings*, Vol. 1, pp. 48-50, and Vol. 2, p. 283; Toronto, Vol. 15, pp. 2426, 2930-1; Ottawa, Vol. 24, pp. 3838, 3845.

[2] See our discussion in Part II, Chapter 1, Section 2.

Poultry processors now take special interest in the type of bird grown and in its feeding. Large-scale, highly-mechanized processing plants have come into existence, in contrast with the mainly manual operations prior to our period of study. Great progress has been made in cooling and packaging. By eviscerating the birds at the plant, freight is saved on the offal (20% to 30% of the live weight) through subsequent stages in distribution.

There has been considerable change over the last 10 years in the channels for selling poultry. While the old practice of farmers selling directly to consumers is still followed on public markets and through private connections, an increasing proportion of poultry marketing is done through registered (processing) stations which do their own wholesaling. Some poultry processors, particularly processors of turkeys, market through jobbers. In 1951 only about one-quarter of the poultry produced was marketed through registered stations, but in 1958 the registered stations marketed about 60% of the total production. Usually, the processors buy live birds from the farm and quickly put them through an assembly-line for grading and evisceration. Within a day or two the ready-to-cook birds are forwarded in chipped ice to retail stores or restaurants. The bulk of broilers is sold through retail outlets in this way; it keeps the meat fresh and of high quality. Broilers are frequently priced by supermarkets as a special.

A decade ago, poultry was normally sold on the New York dressed basis. This changed to head and feet off, and now it is sold almost exclusively on an eviscerated basis. Poultry is marketed mainly in the form of carcass meat for consumer use. Poultry cuts such as legs, breasts, wings and backs are also sold separately, and are becoming increasingly prominent on the market. The carcass poultry are packed for distribution in crushed ice or frozen in plastic bags; poultry parts are packaged or sold in bulk. Another important outlet for poultry is barbecue restaurants. Poultry is also marketed canned, and in soups and prepared pies.

Location, climate and proximity to the large consuming centres have made for some regional differences in poultry production and marketing. In the production of chicken broilers, however, climate is no longer a limiting factor. The large-scale commercial production and processing of poultry have been made possible by investment in scientific and technological developments. These characteristics and changes apply most prominently to the broiler industry, where the overall growth has been remarkable. In 1955 about 20 million chicks were hatched for broiler production, and in 1958 this number had more than tripled. The large-scale production of broilers has sprung up mainly around major urban markets. Another feature of the modern broiler industry is its year-round operation which reduces the marked seasonal fluctuations that occurred in the past, and at the same time assures the consumer a readily-available and fresh product. Although the breeding, hatching, mixing of feed, raising and marketing operations in the broiler industry tend to be specialized, there has been a conspicuous trend, particularly in Ontario, towards at least partial financial integration. The farmers often raise the broilers under contract to a processing firm, feed manufacturer or feed merchant.

The total marketings of chickens and fowl still show seasonal variations, however, being well below average between January and June and above average for the rest of the year. Farm prices for poultry, however, exhibit rather small seasonal fluctuations.

Ontario is the largest producer of broilers in Canada. Over the last few years this province alone accounted for about 60% of the total broiler production. Second in importance is Quebec, followed by British Columbia and the Prairie Provinces. The production of broilers on the Prairies is increasing rapidly, and shows the highest rate of increase in Canada.

The results of our calculations of the farm-retail spread on chicken broilers are presented in Table 47 and shown in Chart 24. These estimates are based on

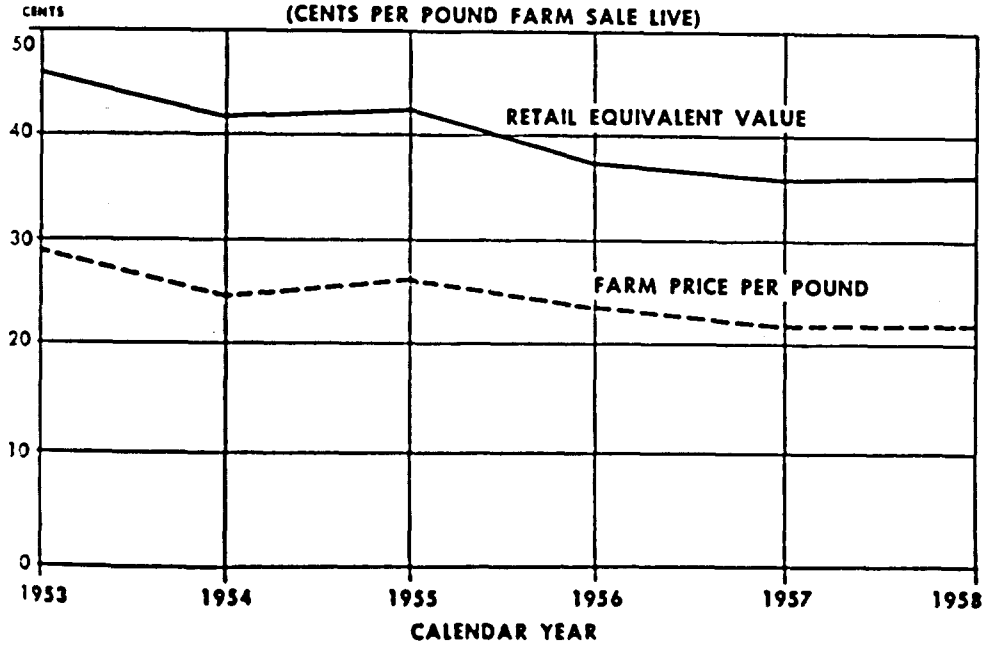
Table 47—Summary of Calculations of Farm-Retail Spread on Chicken Broilers (Eviscerated), Canada, 1953 to 1958[a]

Calendar Year	Retail Price	Retail Equivalent Value of 1 lb. Live	Farm Price Live	Farm-Retail Spread	Farmer's Share of Retail Value
	(¢/lb.)	(¢)	(¢/lb.)	(¢)	(%)
1953	63.6	46.4	29.1	17.3	62.7
1954	56.1	41.0	24.1	16.9	58.8
1955	57.2	41.8	26.6	15.2	63.6
1956	52.8	38.5	23.0	15.5	59.7
1957	52.0	37.9	21.8	16.1	57.5
1958	51.1	37.3	21.5	15.8	57.6

[a]Adapted from price spread study of poultry and eggs in Volume III where a fuller explanation of procedure etc. is given.

CHART 24

PATTERN OF FARM-RETAIL VALUE FOR CHICKEN BROILERS, CANADA, 1953 TO 1958.



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national averages and cover the 1953 to 1958 period for which data are available. Farm-wholesale-retail spreads on broilers in Toronto and Winnipeg are presented in Volume III.

Broilers are one of the few farm food products which show a well-pronounced downward trend in both retail and farm prices over the period 1953 to 1958. Also (more remarkably) the farm-retail spread in Table 47 shows a narrowing tendency. This was a result of the technological and commercial developments in the industry which were mentioned above. Between 1953 and 1958 the farmer's share of the retail price dropped from 62.7% to 57.6%.

EGGS[1]

An egg is a perishable commodity which begins to deteriorate in quality immediately after it is laid. Proper cooling and humidity, however, retard this loss of quality. An egg is also fragile, and must, therefore, be handled with special care and packaged in expensive containers. In grading, each egg has to be candled individually to ascertain interior quality.

Eggs are used in the form of shell eggs or dried and frozen egg products. Most of the eggs produced (about 95%) are marketed as shell eggs. Dried and frozen eggs are used mainly in the baking industry.

Egg production reached its first postwar peak in 1947, and then declined for a few years, but it has increased again since 1951. Over the decade 1949 to 1958 the increase in production was about 46%. In 1958 egg production reached an all-time record of 450 million dozen.

The export of eggs has been very unstable, ranging during the decade from 1% to 14% of total production. For the period as a whole exports averaged close to 4% of production, which indicates that this commodity is almost entirely dependent on the domestic market.

Although an increasing proportion of poultry is being marketed through the registered stations, the trend is just the opposite in the case of eggs. In 1949 about 54% of all eggs were marketed through registered egg grading stations, but by 1958 this proportion had dropped to 45%.

The increase in production of eggs resulted from more hens and an increased output per bird. Also there has been improvement in the quality of eggs produced and, as a result, the proportion of lower grades has been reduced. On the whole, about 86% of eggs produced are Grade A. These developments have resulted from marked improvements during the decade in the breeding, feeding and management of poultry.

Extreme seasonal fluctuations in production and price, probably greater than for any other farm product, have characterized the egg industry. Although seasonal variations in egg marketings have decreased considerably in the last few years, they are still pronounced. Egg marketings are usually well above the average during the

[1] The main references in our public hearings on this subject were: Vancouver, *Proceedings*, Vol. 1, pp. 55-7, 152 and Vol. 2, pp. 282-3; Edmonton, Vol. 4, pp. 570-2, 584-6; Winnipeg, Vol. 6, pp. 760-1, 854-9, 876-9 and Vol. 7, pp. 1050-2; Regina, Vol. 8, pp. 1232-9 and Vol. 9, pp. 1414-7; Fredericton, Vol. 10, pp. 1725, 1762-3; St. John's, Vol. 14, pp. 2196-9; Toronto, Vol. 15, pp. 2424-6, 2448-51 and Vol. 16, pp. 2499, 2525-9 and Vol. 18A, pp. 2-10; Ottawa, Vol. 23, p. 3714.

first half of the year and then fall below the average for the remainder of the year. For economical operation, specialized egg producing enterprises need to be used as near as possible to full capacity throughout the year. The result has been a lessening of the severity of seasonal variations in egg production and of the costs of compensating storage. The federal price support on eggs has also had a stabilizing effect on seasonal prices. Seasonal variations are much stronger in the Prairies than in the rest of the country. This is mainly because of numerous small flocks and severe winters. In Saskatchewan almost half of the eggs produced in a year are marketed during the four-month period March to June.

There is also a seasonal pattern in prices for the different grades of eggs. The spread in prices among different grades is narrowest during the period of heavy marketings and widest in the early autumn when marketings are at their lowest level. This seasonal pattern in price differentials for higher and lower grades seems to be the result of seasonal changes in the proportion of the different grades produced. During the season of heavy production a much higher proportion of "A" eggs is produced than during the season of low production.

Ontario is the leading province in the production of eggs, followed by Quebec, Alberta, Saskatchewan, Manitoba, British Columbia and the Maritime Provinces. Over the decade 1949 to 1958 Ontario produced about 40% of the country's eggs, the three Prairie Provinces together about 29%, Quebec 15%, British Columbia 8% and the Maritime Provinces about 8%. Nova Scotia recorded the fastest rate of growth in egg production over the decade.

Small sideline farm flocks are still numerous in all provinces, but the trend is towards larger units, particularly in Ontario, Manitoba and British Columbia. In Canada all eggs are sold by grade and the producers are paid on a graded basis. The grading legislation provides that eggs may be graded either by a poultry producer or a registered grading station. The egg grading stations are under the supervision of the Federal Department of Agriculture. The marketing of eggs is carried out by producers, grading stations, wholesalers, jobbers and retailers. In the last decade, however, the role of the independent wholesalers in the marketing of eggs declined. Large chain stores often enter directly into contract with large producers. The wholesaling function in this case is performed by the producer who does his own grading or by the producer and the retailer.

The summary of our calculations of the farm-wholesale-retail spreads on eggs is presented in Table 48 and shown in Chart 25. These estimates are made for Grade "A" Large eggs only, which represent about 50% of total egg production.

Farm, wholesale and retail prices for eggs declined over the decade of study as a whole, with the farm price declining the fastest. Retail and wholesale prices dropped by about 8% but farm prices dropped by about 19%. Consequently, the farm-retail spread increased from 11.1¢ per dozen in 1949 to 16.2¢ per dozen in 1958. The increase in the spread took place in the farm-to-wholesale component. Increased grading (labour) costs seem to have been an important factor. Wholesalers' buying, collecting, selling and delivery costs also increased, because egg wholesalers have had to secure a larger proportion of their supplies from a larger number of smaller producers and resell them to small, more widely scattered retailers. The farmer's share of the retail price decreased from 81.5% in 1949 to 70.9% in 1958.

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Table 48—Summary of Calculations of Farm-Wholesale-Retail Spreads on Eggs "A" Large, Canada, 1949 to 1958[a]

Calendar Year	Retail Price	Retail Equivalent Value of 1 Doz. at Farm	Wholesale Equivalent Value of 1 Doz. at Farm	Farm Price	Farm-Retail Spread	Farm-Wholesale Spread	Farmer's Share of Retail Value
	(¢/doz.)	(¢)	(¢)	(¢/doz.)	(¢)	(¢)	(%)
1949	61.8	60.0	53.5	48.9	11.1	4.6	81.5
1950	56.9	55.2	48.9	43.1	12.1	5.8	78.0
1951	70.7	68.6	62.2	54.9	13.7	7.3	80.0
1952	59.0	57.3	50.7	42.9	14.4	7.8	74.9
1953	68.1	66.1	60.1	50.8	15.3	9.3	76.8
1954	55.7	54.1	48.5	39.5	14.6	9.0	73.1
1955	62.2	60.4	54.3	45.5	14.9	8.8	75.4
1956	62.1	60.3	54.0	45.1	15.2	8.9	74.7
1957	56.3	54.7	48.1	38.3	16.4	9.8	70.0
1958	57.3	55.6	49.3	39.4	16.2	9.9	70.9

[a]Adapted from price spread study of poultry and eggs in Volume III where a fuller explanation of procedure etc. is given.

Farmers sell 45% of their total egg production through the grading stations, and about 55% directly. Their share of the retail price on direct sales would be slightly higher than as shown in Table 48. On the other hand, if all grades of eggs were considered, the farmer's share would be lower than for Grade "A" Large.

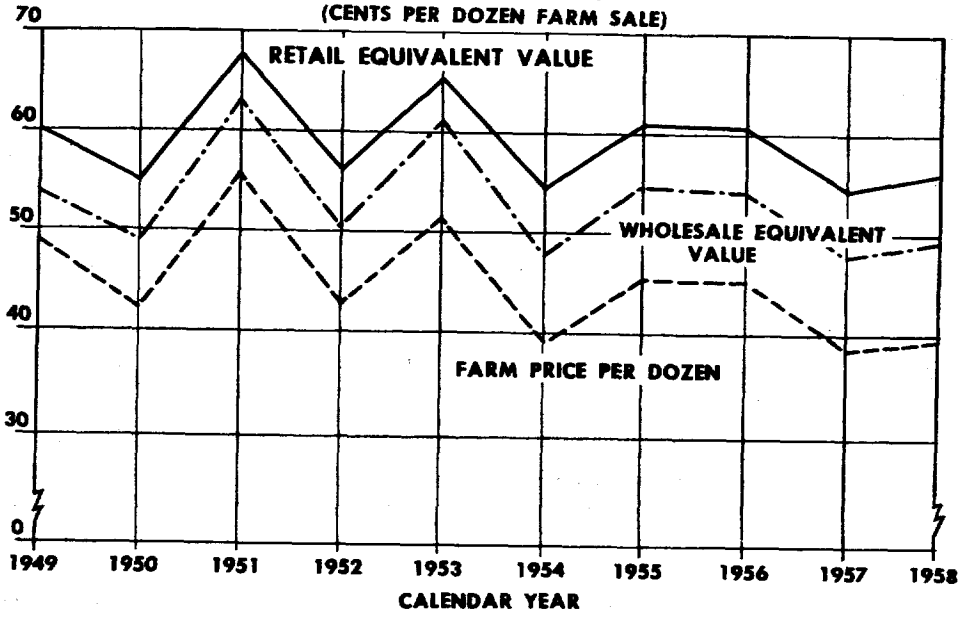
These calculations are national averages and do not show regional or local differences in prices or spreads. In our Volume III we present some regional price-spread estimates on eggs. As a general rule, retail prices are highest in the Maritimes and lowest in the Prairies. Producer prices are the lowest in the Prairies and the highest in the central provinces and the Maritimes followed closely by British Columbia. Wholesale margins are lowest in the central provinces, intermediate in the Prairies and British Columbia and highest in the Maritimes. Total farm-to-retail margins do not differ very much regionally, however, except for the Maritimes where they are substantially higher, especially since 1953. The producers in the central provinces get the highest share of the retail price for their eggs, whereas the producers in the Prairies get the lowest. The Prairies are a surplus region, and regularly supply eggs to Ontario and Quebec.

Frequent mention was made in the public hearings of the extreme seasonal fluctuations in egg prices. We have already drawn attention to this and have pointed out that the violence of these fluctuations has been slowly abating as egg production has become more even throughout the year due to larger-scale, specialized production and the stabilizing influence of price supports. The effect of price support operations and subsidies upon the spread for fresh eggs has been small.

It was suggested to us in Vancouver by the British Columbia Association of Consumers that eggs at retail should be marked "B.C. fresh" or "storage". It was claimed that this would protect the consumer and encourage the egg industry in British Columbia. We can see no completely reliable way of ensuring that fresh eggs so graded and marked remain fresh. Under warm conditions, a fresh egg can deteriorate faster in days than a properly stored egg does in weeks. A valid system of retail grading according to "fresh" and "storage" would require periodic

CHART 25

PATTERN OF FARM-WHOLESALE-RETAIL VALUES FOR EGGS, GRADE "A" LARGE, CANADA, 1949 TO 1958.



re-checking, downgrading and re-marking wherever appropriate. This seems too costly to be practical. The general problem already applies to some extent to the present system of grading. Even if the Vancouver proposal were feasible, we are not convinced that the "fresh" designation should be made on a provincial basis as was suggested.

It was suggested at our Winnipeg and Toronto hearings that eggs should be sold by weight instead of by the dozen. Considering the fragile nature of eggs and the protective packaging which this entails, and considering also that egg sizes vary so much at any time and from time to time, we can see definite difficulties in departing from selling by the dozen. But, even if these difficulties were overcome, it might not be desirable to maintain a fixed price differential according to weight or size and regardless of the general market situation, as was suggested or implied at our Winnipeg and Regina hearings. Rigid price differentials for different egg sizes or grades of eggs are probably no more realistic than fixed price differentials would be for different cuts of beef or between steers and heifers or for different grades of wheat.

It was suggested to us in Regina that grading and wholesaling charges are too inflexible, and do not take into account seasonal differences in handling costs due to variations in the volume handled. Apparently, when egg prices and costs of handling are very high, the trade exercises some restraint in its markups

but when egg prices and costs of handling are low the trade does not reduce its markups accordingly. This is a version of "charging what the traffic will bear", and seems to involve some balancing out of cost-recovery over the different marketing seasons of the year.

We believe that grading and handling costs per egg are much higher during the short season than during the flush season. The main criticism of the pricing practice referred to in the previous paragraph seems to be that it prevents low retail prices from falling still lower and thus discourages a higher volume of sales in times of large supply. The validity of this particular argument hinges on how sensitive the demand for eggs is to price changes. Our own studies suggest that this demand is not as sensitive as might generally be supposed. United States evidence tends to confirm this. A recent report there estimated that it would require, on the average, a price concession at retail of about 2.5% to increase per capita consumption by 1%.[1] The significance of this inelastic demand for eggs is that the total returns from sale of the extra-large supply would actually be less than from the sale of only the major part of the supply. In the absence of purchase by government for price support, the egg industry as a whole would actually be better off to divert the extra eggs from regular fresh egg markets into processed uses. This is what has been happening, particularly in Alberta and Manitoba.

It was pointed out to us in Toronto that since an increasing proportion of eggs is marketed directly by producers to chain stores which do their own wholesaling, the traditional sources for obtaining published wholesale price quotations are becoming less and less valid. Apparently these quotations are influential and pervasive guides in pricing eggs. We agree that under these circumstances there is a real danger of such price quotations being unrepresentative of the actual market situation and hence offering misleading information which would add unnecessary uncertainty to markets which have traditionally been unstable.

FLOUR AND BREAD[2]

Canadian flour mills produce most of the flour consumed domestically as flour or bread and, in addition, export large quantities of flour each year. A large proportion of the flour and bread is made from top quality "Manitoba Spring" wheat, produced in the Prairie Provinces. These wheats produce "hard" (high protein) flours which have excellent bread-making qualities. Over the period of study, farm cash income from the sale of wheat amounted to about 21.6% of the total farm cash income. The amount of Manitoba Spring wheat purchased by the flour milling industry was approximately 30.8% of the total amount of this wheat marketed at home and abroad.

Consumer expenditures on flour were approximately 18.8% of expenditures on all cereal products, but only half of 1% of total food expenditures. The per capita consumption of flour declined over the last decade, averaging 146 pounds

1 Martin J. Gerra "An Econometric Model of the Egg Industry" *Journal of Farm Economics*, May, 1959, pp. 290-4.

2 The main references in the public hearings on this subject were: Edmonton, *Proceedings* Vol. 4, pp. 610-24 and Vol. 5, p. 676A; Winnipeg, Vol. 6, pp. 862-7; Regina, Vol. 8, pp. 1316-21; Fredericton, Vol. 10, pp. 1581-687; Toronto, Vol. 15, pp. 2454-5, 2463-86, and Vol. 17, pp. 2724-8, 2763-4; Montreal, Vol. 20, pp. 3233-46, 3257-8, 3284-5; Ottawa, Vol. 25, pp. 3933-4, 3965-8.

annually. Purchases of flour by the baking industry averaged about 53.0% of the total flour available for domestic consumption. Consumer expenditures on bread were approximately half of total expenditures on bakery products, and about 5.1% of total food expenditures. The per capita consumption of bread tended to decrease over the period, averaging 101 pounds annually.

All commercial wheat grown in western Canada is marketed through the Canadian Wheat Board which sets an initial price to the farmer and adjusts its selling prices more or less according to world market conditions. The farmer delivers his wheat to the country elevator which receives it on behalf of the Wheat Board.[1] After weighing and determining the grade and the dockage for impurities, the elevator agent issues a cheque to the farmer based on the initial Wheat Board price. The initial price is based on a Lakehead (Fort William-Port Arthur) quotation and is subject to deductions for freight and elevator handling charges between the country shipping point and the Lakehead. These handling charges cover weighing, storage and outloading from the country elevator into boxcars.

The wheat then moves in carlots, mostly eastward through the main inspection point at Winnipeg, where the grade is confirmed or established by sampling. From Winnipeg, the wheat then moves in carlots to elevators at the Lakehead where it is handled in bulk by a mechanical unloading and elevating operation. In the process, the wheat is automatically sampled again to check the grade and dockage. The "screenings" which are removed in a cleaning process are usually saleable for livestock feed. After storage, the wheat is shipped by lake vessel during the navigation season or else by boxcars to an eastern milling company's storage point or to private or government storage.

Forty-one of the 73 flour mills in Canada are located in Ontario, 28 in the Prairie Provinces, and four in Quebec. The flour mills buy wheat by grade from the Wheat Board in proportion to the mixtures to be used in the milling process. Flour milling is a highly-mechanized, complex blending operation. Flours of varying baking quality may be milled from a particular lot of wheat. The selling prices of the different grades of flour vary according to the quality. Certain non-wheat ingredients such as vitamins and chemical blending and maturing agents are added to the flour. A 60-pound bushel of wheat makes about 43.2 pounds of flour and 65.3 pounds of bread.

There are valuable by-products from the milling process called "mill feeds". Variations in prices of the mill feeds have significant influence on the profitability of the milling operation. The mill feeds may be sold directly by the flour mills to farmers as feed for livestock, they may be distributed through feed dealers, or they may be used as constituents in further processing into prepared livestock and animal feeds.

The baking industry consists of a number of chain bakeries and independent bakeries ranging down to small local establishments. Larger bakeries in eastern Canada buy their flour from the milling companies on a current requirement basis. Sometimes the flour is delivered by the milling company to large bakeries in bulk in special railway cars, but it is usually distributed by truck. The smaller

[1] See our discussion of the marketing of wheat in Part II, Chapter I, Section 1.

independents may obtain their supplies of flour from wholesalers. Some milling companies and bakeries are connected financially, as was indicated in Part II.

After the flour reaches the bakery, the processing and distributing operations are many and varied. Initially, the flour may have to be stored for a while; then the ingredients are mixed more or less mechanically; the bread is baked in the ovens and then cooled, usually sliced, and the loaves wrapped and delivered. Wages and salaries and ingredients are the largest items among baking costs, and packaging and delivery costs are also important items. Considerable selling and promotional expenses are incurred by bakeries in bread distribution, and the loss from bread going stale is significant. The stale bread is retailed at a discount or is salvaged as feed for livestock.

The bread moves from the bakeries directly to chain stores by bulk truck shipments, and is delivered in smaller lots to independent grocery stores, restaurants and other small retail establishments. Some of the larger bakeries operate depots in urban centres where bulk is broken and from which the smaller establishments are served. Bread-selling routes are served by the delivery truck system with drivers on a salary-commission handling a range of bread and cake products. The delivery man is the bakery firm's main link with the customer. In the case of wholesale sales to retail stores, the delivery man not only sells but arranges for display space and gives advice on other selling details. The proportion of bakery sales made at wholesale has been increasing.

Wheat and flour prices in general moved downward during the last decade. This took place in spite of the additional cost incurred by the enrichment of flour since 1953. Millfeed sales partially offset the costs of milling flour and can cushion the effects of falling flour prices. The selling price of millfeeds moved upwards from 1949 to 1952, and downwards thereafter. The volume of hard wheat flour and millfeeds sold declined between 1952 and 1957, but increased in 1958.

Unused capacity results in higher costs per barrel of flour produced than if mills are operating at near-capacity. Over the period 1949 to 1957, flour production varied from about 62% to 76% of capacity, averaging 70%. Capital, repairs and maintenance expenditures, per barrel of flour produced varied considerably from year to year, but salaries and wages increased continuously after 1950, except for 1956. Increasing mechanization and automation, keen market competition, and product diversification may explain why there has not been more upward pressure on flour prices, particularly from increasing wage and salary costs. It would seem that if flour production is to move significantly towards capacity, much depends on increasing exports. As far as the domestic market goes, the increase in population is almost offset by the decline in per capita consumption. In an effort to assure themselves of a domestic market for their flour, some larger flour mills have invested heavily in the baking industry. The per capita consumption of bread also is declining although total bread sales by bakeries are increasing.

The Farm-Lakehead-Mill-Wholesale-Retail Spreads on Wheat Flour

Our calculations of the farm-Lakehead-mill-wholesale-retail spreads on wheat flour are summarized in Table 49 and shown in Chart 26. The farm value of wheat was based on the domestic price of one bushel of No. 2 Northern, in store at the Lakehead. By-product values and marketing costs from the country ele-

vator to Lakehead storage, such as storage, insurance, freight and handling charges and Wheat Board expenses, were deducted to derive the farm value. The retail price of flour is a weighted average price for "all purpose" white flour which is mostly No. 1 Patent. The milling and wholesale prices are for No. 1 Patent flour. The wholesale price is for Toronto and Montreal.

Wheat and flour prices declined over the period at all levels except wholesale and retail. Retail prices increased each year except for 1955. Wholesale prices advanced to 1953 and declined thereafter, but remained above the 1949 level. The overall spread widened rapidly from 1949 to 1954, decreased slightly in 1955, and increased thereafter.

Marketing charges for wheat as far as the Lakehead increased up to 1953 and then declined to 1949 levels. By-product values increased to 1951 and then declined well below the 1949 figure.

The milling spread and the miller's share of the retail value increased over the decade as a whole. At least part of the widening of the miller's spread can be explained by the increased amount of consumer-size packaging performed. The retailer spread increased also, and the wholesaler spread more than doubled. Wholesalers do not handle much flour any more compared with the chain stores who do their own wholesaling and so it is more meaningful to say that the combined wholesale-retail spread has widened substantially.

CHART 26

PATTERN OF FARM-LAKEHEAD-MILL-WHOLESALE-RETAIL VALUES FOR WHEAT-INTO-FLOUR, CANADA, 1949 TO 1958.

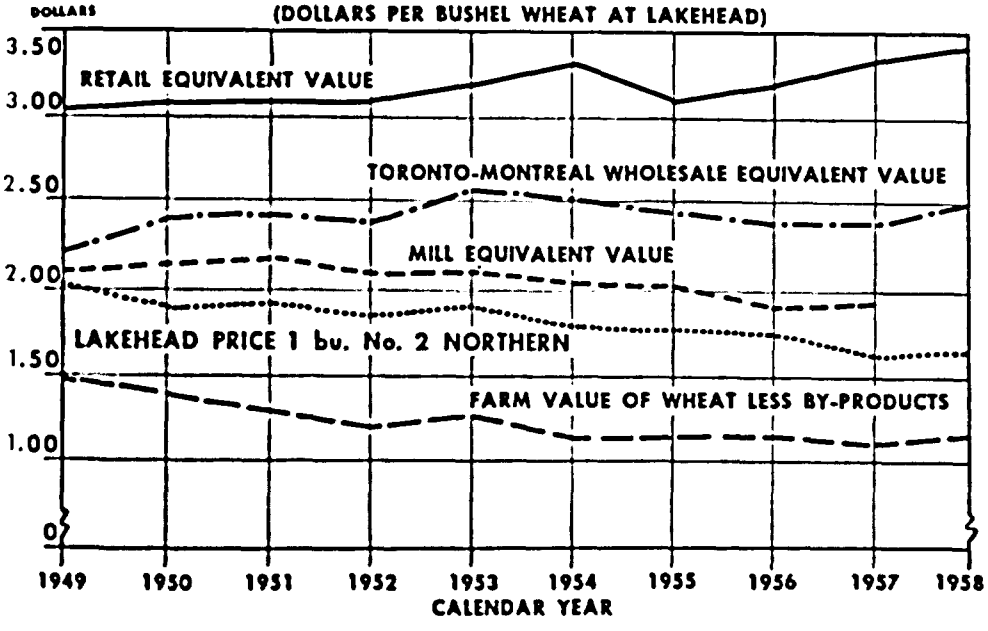


Table 49—Summary of Farm-Lakehead-Mill-Wholesale-Retail Spreads on Wheat-into-Flour, Canada, 1949 to 1958[a]

Calendar Year	Retail Price Flour	Retail Equivalent Value of 1 bu. Wheat	Toronto-Montreal Wholesale Equivalent Value of 1 bu. Wheat	Milling Equivalent Value of 1 bu. Wheat	Lakehead Price No. 2 Northern	Farm Price of Wheat	Farm Value of Wheat less By-Products	Farm-Retail Spread	Farmer's Share of Retail Value
	(¢/lb.)	($)	($)	($)	($/bu.)	($/bu.)	($)	($)	(%)
1949	7.2	3.06	2.23	2.12	2.02	1.78	1.50	1.56	49.0
1950	7.3	3.10	2.41	2.14	1.87	1.71	1.41	1.69	45.5
1951	7.4	3.14	2.48	2.17	1.91	1.64	1.33	1.81	42.4
1952	7.4	3.14	2.41	2.12	1.80	1.53	1.23	1.91	39.2
1953	7.6	3.23	2.59	2.12	1.89	1.57	1.31	1.92	40.6
1954	7.7	3.27	2.51	2.04	1.71	1.40	1.15	2.12	35.2
1955	7.4	3.14	2.49	2.02	1.71	1.45	1.20	1.94	38.2
1956	7.6	3.23	2.47	1.88	1.70	1.45	1.21	2.02	37.5
1957	7.9	3.36	2.47	1.92	1.60	1.37	1.15	2.21	34.2
1958	8.0	3.40	2.50	n.a.[b]	1.62	1.39	1.19	2.21	35.0

[a]Adapted from price spread study of flour and bread in Volume III where a fuller explanation of procedure etc. is given.
[b]Not yet available.

The Farm-Flour Mill-Wholesale-Retail Spreads on Bread

During the period of study, the bread-baking industry purchased from 49.7% to 54.8% of the total wheat flour available for domestic consumption. Bread production by the baking industry increased from 1949 to 1953, decreased slightly in 1954, and increased thereafter.

The cost of flour per pound of bread decreased slightly over the period 1949 to 1957. The cost of other ingredients varied over the period, but reached its highest level at the end of the period. The price of bread increased by about 45.0% during the last decade.

Table 50—Summary of Farm-Flour Mill-Wholesale-Retail Spreads on Wheat into Bread, Canada, 1949 to 1958[a]

Calendar Year	Retail Price Bread	Retail Equivalent Value of 1 bu. Wheat	Wholesale Equivalent Value of 1 bu. Wheat	Flour Mill Equivalent Value of 1 bu. Wheat	Farm Value of Wheat as Flour	Farm-Retail Spread	Farmer's Share of Retail Value
	(¢/lb.)	($)	($)	($)	($/bu.)	($)	(%)
1949	10.0	6.53	5.53	1.93	1.50	5.03	23.0
1950	10.3	6.73	5.94	1.98	1.41	5.32	21.0
1951	11.4	7.44	6.66	1.93	1.33	6.11	17.9
1952	11.8	7.71	6.79	1.89	1.23	6.48	16.0
1953	12.0	7.84	7.05	1.85	1.31	6.53	16.7
1954	12.5	8.16	7.25	1.84	1.15	7.01	14.1
1955	12.5	8.16	7.12	1.78	1.19	6.97	14.6
1956	13.3	8.68	7.44	1.77	1.21	7.47	13.9
1957	14.1	9.21	8.03	1.79	1.15	8.06	12.5
1958	14.5	9.47	8.16	n.a.[b]	1.19	8.28	12.6

[a]Adapted from price spread study of bread in Volume III where a fuller explanation of procedure etc. is given.
[b]Not yet available.

Our calculations of the farm-flour mill-wholesale-retail spreads on bread are summarized in Table 50 and shown in Chart 27.

The farm prices of wheat used for the flour price spread calculations were also used in estimating the price spread on bread. The mill price is for No. 2 Patent flour, which is the grade usually bought by the bread bakeries. The wholesale price of bread is an average for Canada. The retail price is an average price for plain white bread for Canada.

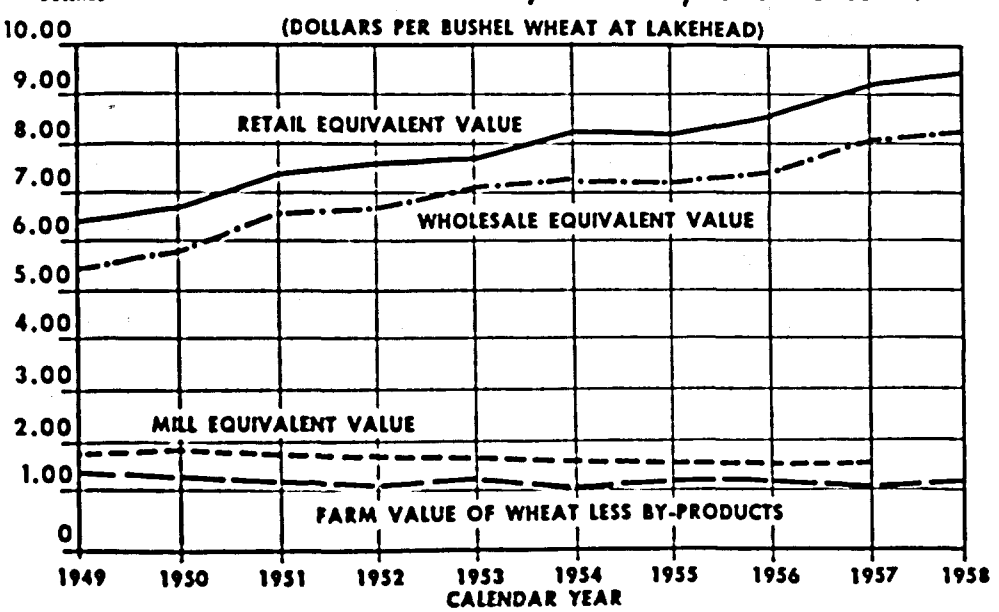
Farm and flour mill prices declined over the decade of study, but wholesale and retail prices increased prominently. The combined result was an increase of about 64.5% in the farm-retail spread on bread. It is clear from Table 50 and Chart 27 that the increase took place between the sale of the flour from the mills and the sale to the consumer at retail, which includes bread baking (processing and wholesaling) and retailing. Of these the bakery-wholesale margin increased the fastest.

The farmer's share of the retail price dropped from 23.0% in 1949 to 12.5% in 1957. The retailer's share increased slightly over the period as a whole, and there was a substantial increase in the bakery-wholesale share from 55.1% in 1949 to 67.8% in 1957.

Out of a 20-ounce loaf of sliced white bread which cost 17.6¢ on the average at retail in 1957 the farmer received 2.2¢ for the wheat going into it, the wheat handling, etc. costs to the Lakehead accounted for 0.9¢, the flour miller received 0.4¢, the bread bakery-wholesaler received 11.9¢, and the retailer received 2.3¢.

CHART 27

PATTERN OF FARM-FLOUR MILL-WHOLESALE-RETAIL VALUES FOR WHEAT-INTO-BREAD, CANADA, 1949 TO 1958.



Some large bakeries sell bread to chain stores under both chain brands and highly advertised bakery brands. The chain brands then retail at 2¢ to 4¢ a loaf less than either the bakery brand or house delivery.

The main reason for the widening of the farm-retail spread on bread was higher bakery costs, prominent among which were labour, packaging, promotional and delivery expenses. The Ontario Federation of Labour informed us at the Toronto hearings that wages in the bakery industry apparently increased faster than productivity during our period of study, but that this still left the wage level below average for the manufacturing sector. We were told in Fredericton and Montreal that although bread wrapping has not changed much it has improved during our period. We were also told that the loaves are baked softer, and this requires stronger packaging for protection of the wrapped loaves in delivery. An increased variety of breads with small volume sales, and longer delivery routes may also have contributed to the increased bakery spread. Another possible explanation of part of the increased spread is improved bread quality. We were told that the baking formula has been improved by adding more milk, butter and sugar—ingredients which are more expensive than flour.

POTATOES[1]

Potatoes are an important vegetable to both producers and consumers. Over the last decade, cash farm income from the sale of potatoes amounted to about 39.1% of cash farm income from all vegetables and 1.5% of total cash income from farm products. Consumer expenditures on potatoes accounted for about 27.1% of expenditures on all fresh vegetables and 1.7% of total expenditures on food. The annual per capita consumption of fresh potatoes declined over the decade; during 1953 to 1957, it averaged about 150 pounds.

Potatoes are highly perishable unless handled with care and stored at about 38°F. The expenses of assembling, storing, wholesaling and retailing potatoes make up the major costs in marketing. In general, preparation is limited to washing, grading and packaging the potatoes for fresh sale, although during the decade of study an increasing quantity of potatoes was processed further into prepared, precooked and packaged forms. New ways of handling fresh potatoes such as consumer-size packaging done either at country shipping points or terminal markets, have also been developed.

Although potatoes may be grown almost anywhere, there are fairly well defined commercial producing areas in each province. Prince Edward Island and the St. John River valley in New Brunswick are the major surplus producing areas in Canada, and it is from there that Quebec and Ontario obtain the bulk of their extra supplies for supplementing local production. Seasonally, the earliest producing areas are southwestern Ontario and coastal areas of British Columbia. Both of these areas make substantial shipments to eastern Canada and the Prairies respec-

[1] The main references in our public hearings to this subject were: Vancouver, *Proceedings* Vol. 1, pp. 50-1, 132-5, Vol. 2, pp. 279-80 and Vol. 3, pp. 332-99; Winnipeg, Vol. 7, pp. 1041, 1047; Charlottetown, Vol. 11, pp. 1901-30; Halifax, Vol. 13, pp. 2156-7; Toronto, Vol. 15, pp. 2433-; Montreal, Vol. 21B, pp. 3533-48.

tively until the local crops are harvested. Generally speaking, farm prices during the last decade tended to be higher in major deficit regions like Ontario, Alberta and Saskatchewan than in the major surplus region of the Maritimes.

The storage of potatoes usually takes place at shipping points. Producers having adequate storage space may hold potatoes for periods varying from a few weeks after harvest to eight or nine months depending on the weather, the type of storage and the market outlook, both domestic and United States. The decision is flexible and more or less speculative. The price of potatoes, particularly at the farm level, is highly variable, being quite sensitive to changes in market supply and outlook. For example, the 1951 crop was 27% smaller than in 1950; by mid-October of 1951, wholesale prices of New Brunswick potatoes in Montreal had doubled their 1950 price.

Normally the season of heaviest domestic marketings is autumn after the harvest, especially the months of October and November, but there is a secondary peak in April. Marketings tend to decrease to February, rise to April and then fall to a minimum in June and July. October is the month of lowest prices. Prices rise through the winter, taper off in March, April and May and then rise to a peak in July. Prices at the different levels tend to move up or down together from month to month. Generally speaking, when prices are highest seasonally, the farmer's share of the retail price is highest. The season of lowest farm shares includes the months of November through February.

The results of our calculations of the farm-wholesale-retail price spreads on fresh potatoes are summarized in Table 51 and shown in Chart 28. An allowance was made for waste, shrinkage, etc. of 7%, attributing most of it statistically to the marketing stages prior to retail. The retail and wholesale prices are for No. 1 grade white table potatoes; the farm price is for all sales. Monthly farm, wholesale and retail prices were weighted by domestic unloads to derive weighted crop-year prices. The crop-year was taken as August 1 to July 31.

The farm-retail spread widened over the period as a whole. The widening took place in both the farm-wholesale and retail components of the farm-retail spread. This is visible in Chart 28. Table 51 and Chart 28 also show how in the

Table 51—Summary of Farm-Wholesale-Retail Spreads on Potatoes Canada, Crop Years 1949/50 to 1957/58[a]

Crop Year	Retail Price	Retail Value Equivalent of 100 lb. Farm Sale	Wholesale Value Equivalent of 100 lb. Farm Sale	Farm Price	Farm-Retail Spread	Farmer's Share of Retail Value
	(¢/10 lb.)	($)	($)	($/100 lb.)	($)	(%)
1949/50	34.9	3.24	1.87	1.53	1.71	47.2
1950/51	29.7	2.76	1.59	1.30	1.46	47.1
1951/52	58.5	5.44	4.28	3.67	1.77	67.5
1952/53	51.2	4.76	2.93	2.75	2.01	57.8
1953/54	31.2	2.90	1.62	1.25	1.65	43.1
1954/55	49.4	4.59	3.00	2.52	2.07	54.9
1955/56	43.0	4.00	2.45	1.80	2.20	45.0
1956/57	44.0	4.09	2.60	1.93	2.16	47.2
1957/58	45.3	4.21	2.69	1.75	2.46	41.6

[a]Adapted from price spread study of potatoes in Volume III where a fuller explanation of procedure etc. is given.

short crop year 1951/52 potato prices soared at all levels, particularly at the farm. The farmer's share rose in that year to about 68% from 47% in the previous two years. By 1953/54, however, the farmer's share had dropped to 43%. In 1956/57 the farmer's share was back at 47%, where it had been at the beginning of the period. Over the period as a whole, the farmer's share amounted to about 51%.

The combined transporter-wholesaler share (or transporter-broker-wholesaler share) amounted to about 11.5% of the retail price over the period as a whole. This combined share narrowed while the farmer's share widened in the early years of the period, however, and then the share widened as the farmer's share contracted to its initial size. Brokerage was 2 and ⅜¢ to 4¢ per 100 pounds, which would amount to a share of about ¼ of 1% of the retail price.

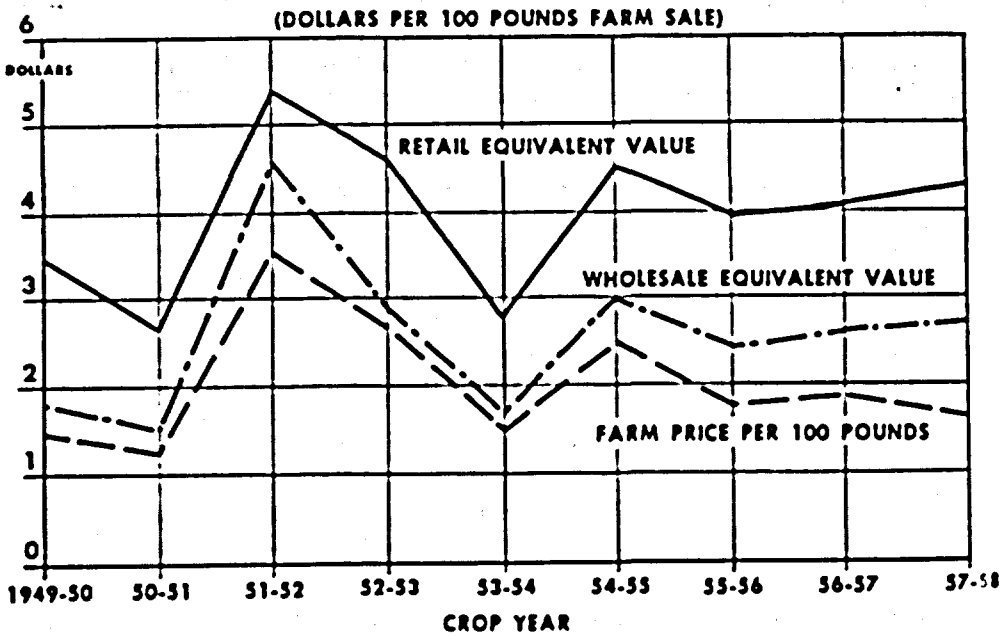
The retailer's share averaged about 37.5% of the retail price over the period as a whole, with no definite upward or downward trend discernible. The retailer's share was more stable than either the farmer's or wholesaler's share.

The reasons for the widening of the farm-retail spread appear to have been higher labour and material costs of packaging, higher transportation costs and constant per cent markups at wholesale and retail on a rising farm price.

The foregoing estimates are, of course, national averages, and are subject to almost unlimited variations from place to place and time to time. A few of these particular situations were brought to the attention of the Commission during its public hearings.

CHART 28

PATTERN OF FARM-WHOLESALE-RETAIL VALUES FOR POTATOES, CANADA, CROP YEARS 1949-50 TO 1957-58.



In Winnipeg, the Commission was informed by the provincial representative of the Canadian Association of Consumers of a situation in which New Brunswick potatoes had undersold Manitoba potatoes in Winnipeg, in spite of the long freight haul from New Brunswick. This situation was not claimed to be a chronic state of affairs. Our investigations show that farm prices for potatoes in New Brunswick average 40 to 50 cents lower per 100 pounds than in Manitoba. Since the difference would sometimes considerably exceed this average following a heavy crop, it could explain, in large part, why New Brunswick potatoes sometimes undersell Manitoba potatoes in Winnipeg. Another possibility, which we were unable to investigate, is that Winnipeg consumers have a price preference for Manitoba potatoes.

In Charlottetown, representatives of the producer and consumer co-operatives explained to us that Prince Edward Island potato producers and shippers have always had to contend with drastic price fluctuations on table stock. We were told that these price changes bear no proper relationship to shifts in supply and demand, but are caused rather by speculative buying in Montreal and Toronto, which in turn is tied to daily fluctuations in potato futures on the New York Mercantile Exchange. It was said that shippers of Prince Edward Island potatoes usually have to wait until 11:00 a.m. (when opening prices on the New York Mercantile Exchange become known) before receiving firm offers from Montreal and Toronto dealers.

The Commission noted that shipments of potatoes out of Prince Edward Island to Toronto sometimes fluctuate considerably from week to week. The testimony was not clear as to whether total Prince Edward Island marketings also fluctuate a lot from week to week, but apparently, there are sizeable variations in the volume of marketings from time to time. The variations are not entirely in response to price changes, but are also affected by weather and seasonal transportation difficulties in the Island and by interruptions in shipping to the mainland. We have also noted that the producers themselves sometimes speculate by holding on to their potatoes in the hope of selling later at a higher price. Other people, such as the shippers, speculate by moving potatoes into and out of storage, depending on market prospects.

Once the potatoes have reached advance distribution points, a temporary oversupply could result in a sharp fall in price for two important reasons—the perishability of the product and the inelastic demand for it. Even a sharp fall in price to clear the market does not result in a substantial increase in rates of consumption. On the other hand, because of the inelastic demand, a temporary shortage of supply (perhaps because of weather conditions or misjudgment in the trade) could cause a sharp rise in price because rising potato prices do not result in a substantial decrease in consumption.

We are prepared to believe that operations on the New York Mercantile Exchange can influence Canadian potato prices. The nature of the influence may sometimes be to aggravate price fluctuations, but we are not convinced that this must always be the result. Speculative buying when potato prices are low, for the purpose of selling later when prices are high, should, if the predictions turn out to be correct, raise the low price and later lower the high price. Similarly, the buying of potatoes in one region where market prices are low, for shipment to other markets where prices are high, should reduce the interregional differences in prices, after allowing for freight, tariffs etc.

At our Montreal hearings, we were told that chain stores take a high retail markup on fresh fruits and vegetables like potatoes in order to compensate for their special sales on certain other items (so-called "leaders"). We were also told in Montreal that bargains on potatoes advertised by chain stores applied only to large packages such as the 75-pound bag which is inconveniently heavy and bulky and hence unpopular, while at the same time and for the same potatoes the chain store prices on handy 10-pound packs remained high—higher than charged by independent retailers. The general inference which we draw from both of these claims is that the chain retailer has considerable flexibility in pricing fresh fruits and vegetables. Also, it is apparent that consumers need to read food advertisements carefully.

TOMATOES[1]

Among fruits and vegetables tomatoes are the most important farm product used in processing. During the period 1949 to 1957 between 365 million pounds (in 1950) and 697 million pounds (in 1952) of field tomatoes were processed annually. Farm cash income for tomatoes delivered for processing ranged from $5.9 million in 1950 to $14.2 million in 1952. Over the period as a whole, farm cash income from tomatoes for processing accounted for 9.0% of cash income from all vegetables, and 0.3% of total cash income from farm products.

Tomatoes (fresh, canned and juice) accounted for about 20.0% of the expenditure on all vegetables by consumers. The annual per capita consumption of all forms of tomatoes varied from year to year depending on the crop, but in general it was close to 60 pounds on a fresh equivalent basis. The per capita consumption of tomato juice, paste and puree increased fairly steadily.

Field tomatoes are a highly perishable crop and they must, therefore, be delivered quickly to the processing plant or to the ultimate consumer. Up to 70% of all fresh tomatoes are shipped by truck and the remainder by rail. They must be placed in appropriate shipping containers and handled with care to avoid brusing, crushing and other damages which lower the grade, increase the waste and lower the price. Packing or packaging materials, labour, waste and spoilage are the main cost items in marketing tomatoes. Baskets, boxes and crates are usually used up to the wholesale level, but the tomatoes are normally retailed in window-cartons or trays.

There are two main groups of tomato varieties, one used for the fresh market and the other used for processing. Tomatoes are sold in a greater number of forms than any other vegetable: fresh and canned tomatoes, tomato juice, catsup, soups, pulp, puree, paste and sauce. As with other canned and frozen vegetables and fruits, the registered establishments processing tomatoes are frequently inspected by a Canada Department of Agriculture inspector, and the canned tomatoes are sampled for grade verification.

The production of field tomatoes changes considerably from year to year. These variations are caused by weather conditions and changes in planted acreage.

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1 The main references in our public hearings to fresh and canned tomatoes were: Vancouver, *Proceedings*, Vol. 2, pp. 280-1; Winnipeg, Vol. 6, pp. 860-2 and Vol. 7, p. 1044; Toronto, Vol. 15, pp. 2432-3.

Since close to 80% of the field tomatoes are used for processing, the primary influence on any change in crop production is exerted by the processor who usually decides in advance what quantities he will need and signs contracts with the growers accordingly. Tomato exports are far outweighed by imports. Imported tomatoes are shipped into Canada all year round. During the summer months the shipments are slightly smaller, because at that time larger quantities of domestic tomatoes enter the market.

Field tomatoes are grown in many regions of Canada, but the bulk of the commercial crop comes from Ontario (about 80%), Quebec (about 15%) and British Columbia (about 5%). Ontario has favourable soil and climatic conditions and large markets. Although tomato growing is usually a sideline, in Essex and Kent counties of Ontario it is an important cash crop. Ontario growers sell to the processors up to 85% of their production, British Columbia 80%, and Quebec 65%. The rest of the crop is sold on the fresh market. Fresh Ontario tomatoes usually find their market within the province with some quantities shipped to Quebec and the Maritimes. British Columbia retains up to 60% of the crop and sells the rest to the Prairies. Quebec fresh tomatoes are almost exclusively used inside the province with very small quantities being shipped to Ottawa. In Ontario and British Columbia, minimum prices are established annually by negotiation between producer marketing boards and the processors.

Farm prices of tomatoes used for processing and the quantities produced show large variations from year to year. Farm prices seem to depend to a greater extent upon the availability of the stocks of processed tomato products at the beginning of the season and on the price of imported field tomatoes and tomato products than upon domestic tomato production. For example, in 1952 when the crop was the highest during the decade 1949 to 1958, farm prices were also the highest whereas the stock of tomato products in that year was the lowest of the decade. The year-to-year variations in retail prices of canned tomatoes have also been caused more by the availability of stocks than by the size of the crop.

Large seasonal variations in wholesale and retail prices exist only for fresh tomatoes. In July, when the new crop of tomatoes enters the market, there is a sharp drop in fresh tomato prices. The prices for canned tomatoes maintain much greater stability throughout the year.

There has been a marked difference in the trends of retail prices for fresh and canned tomatoes in major Canadian cities. Between 1952 and 1958 retail prices for fresh tomatoes increased by about 50% in Vancouver, 40% in Toronto and Montreal and 25% in Winnipeg and Halifax. For the same period retail prices for canned tomatoes showed a decrease in all cities mentioned, ranging from about 2% to 12%. The biggest decline in prices occurred in Montreal and the smallest in Halifax.

Canned tomatoes are the only tomato product for which systematic data on both farm and retail prices are available for measuring the farm-retail spread and the farmer's share of the retail price. The results of our calculations of the farm-processor-retail spread on canned tomatoes for the period 1949 to 1957 are summarized in Table 52 and shown in Chart 29. These calculations are based on retail prices for "Choice" quality, and farm and processor prices for all grades and varieties of tomatoes. In view of this, the farmer's share is to

some extent on the low side. We should also keep in mind that all these figures are national averages and cannot be applied with equal validity to all regions or localities.

There have been wide fluctuations in retail and processor prices over the decade. Retail prices seem to follow a cyclical pattern of about four years' duration; farm prices have shown relatively smaller fluctuations. The farm-retail spread for canned tomatoes is much more variable than for other canned vegetables. Between 1950 and 1952 it increased from $94 per ton to $159 per ton, and then decreased sharply for the next two years. Since 1954 there has been a more regular pattern in prices, spreads and the farmer's share. Over our period of study as a whole, processor and retail prices increased, and also, but to a lesser extent, farm prices. The farmer's share increased from 20.0% in 1949 to 23.3% in 1954, but then declined to 18.3% in 1957. The spread widened mainly because of increased processing costs. In addition, canned tomatoes were imported from the United States in increasing quantities over the decade, and the spread was widest in the years of heavy imports.

The Canadian Association of Consumers suggested to us at our Ottawa hearings that, in canning fruits and vegetables, there should be a shift to larger cans of 20 and 28 ounces. The can size was reduced during wartime as an economy measure. The Canadian Association of Consumers pointed out that a larger can would be more economical for the larger families of today. We are inclined to agree, but wonder just how widespread is the demand for larger cans.

CHART 29

PATTERN OF FARM-PROCESSOR-RETAIL VALUES FOR CANNED TOMATOES, CANADA, 1949 TO 1957.

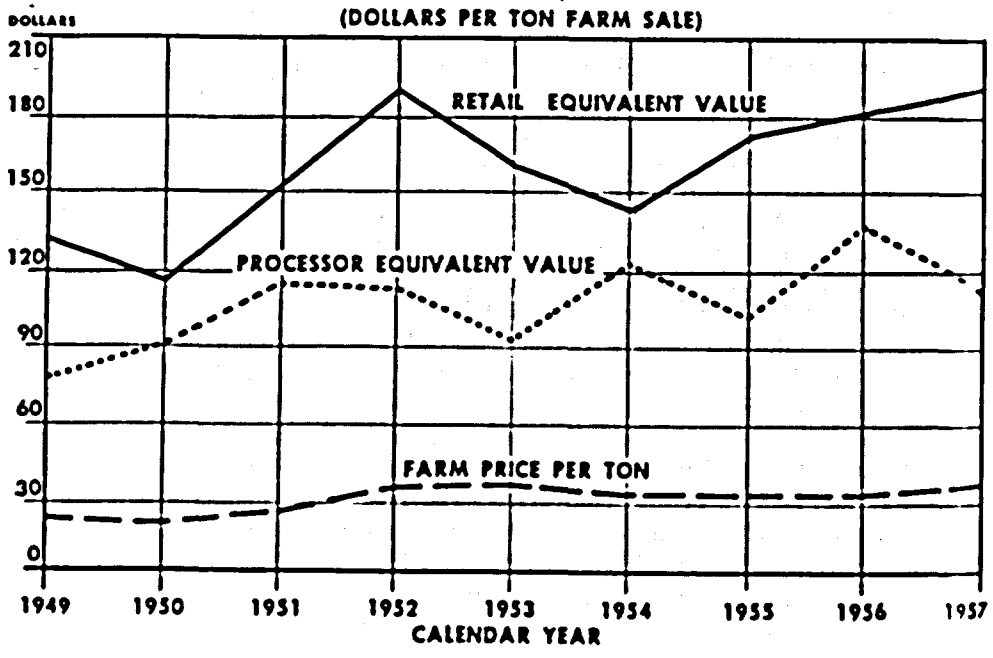


Table 52—Summary of Farm-Processor-Retail Spreads on Canned Tomatoes, Canada, 1949 to 1957[a]

Calendar Year	Retail Price	Retail Equivalent Value of 1 Ton Fresh	Processor Selling Value Equivalent of 1 Ton Fresh	Farm Price Calendar Year Basis	Farm-Retail Spread	Processor's Share of Retail Value	Farmer's Share of Retail Value
	(¢/28-oz. tin)	($)	($)	($/ton)	($)	(%)	(%)
1949	20.1	135	81	27	108	39.7	20.0
1950	17.7	119	92	25	94	56.1	21.3
1951	23.1	155	118	29	126	57.4	18.5
1952	28.8	194	117	35	159	42.2	18.2
1953	24.4	164	93	36	128	34.7	22.1
1954	21.5	145	122	34	111	61.0	23.3
1955	26.3	177	113	34	143	44.5	19.3
1956	27.3	184	140	34	150	57.4	18.6
1957	29.1	196	117	36	160	41.7	18.3

[a] Adapted from price spread study of tomatoes in Volume III where a fuller explanation of procedure etc. is given.

PEAS[1]

About 93.2% of the green peas grown during the period of study were canned. Among canned vegetables, peas were exceeded in value only by tomatoes. The weight of green peas canned during the last decade accounted for about 22.5% of the total for all canned vegetables. Among frozen vegetables, peas accounted for about 60.0% of the total weight. Cash farm income from the sale of peas for processing amounted to about 4.5% of cash income from all vegetables and 0.2% of total cash income from farm products. Consumer expenditures on canned peas amounted to 21.5% of expenditures on all canned and dried vegetables and 0.6% of total expenditures on food. The per capita consumption of canned peas increased slightly from an average of 6.9 pounds during the period 1949 to 1952 to an average of 7.2 pounds during the period 1954 to 1957. The per capita consumption of frozen vegetables, of which peas make up the major part, increased from an average of 0.9 pounds during the period 1949 to 1952 to an average of 2.3 pounds during the period 1954 to 1957.

The yield and quality of peas vary greatly with weather conditions. A cool growing season with frequent rainfall is favourable to the increased production of tender, sweet peas of good colour. Peas for processing are purchased on the basis of a "tenderometer" reading (a tenderometer is an instrument which measures the firmness of the skin). Since quality deteriorates rapidly with advancing maturity, it is important to harvest and process ripe peas rapidly. If harvested too early, the quality is good but the yield is light; if harvested too late, the quality is poor but the yield is heavy. The pea yield varies considerably from year to year, but over the decade 1948 to 1957 it averaged 2,100 pounds per acre.

[1] The main references in our public hearings to canned and frozen peas were: Winnipeg, *Proceedings*, Vol. 6, pp. 860-2, 885; Toronto, Vol. 15, pp. 2432-3 and Vol. 18, p. 2861.

Other factors also affect growing and processing costs. The quality of peas continues to deteriorate after shelling unless the peas are processed promptly. By planting early and late varieties, however, the harvesting and packing season is extended. Small, specialized vegetable packing plants may operate only a month or two out of the year. Larger, more versatile packing plants may operate three months or more. Even when operating, the packing plants may not operate steadily at or close to capacity—it depends a lot on harvest weather conditions.

The peas from the field are shelled in a vining machine close by, and then transported to the processing plant where they pass mechanically, and to a large extent automatically, through the packing operations of cleaning, sizing, blanching, grading, filling of cans, sterilizing and cooling, labelling, casing, storing and distribution.

Peas canned in registered establishments are examined by a Canada Department of Agriculture inspector. The canned peas are graded into Canada "Fancy", "Choice" and "Standard". Each of these grades is usually subdivided into five sizes of pea from No. 1, the smallest, to No. 5, the largest, but they may also be canned unsized.

The leading provinces in the production of peas for processing are Ontario, Quebec and British Columbia, but peas for processing are also grown in the Prairie and Maritime Provinces. Over the decade of study, Ontario, Quebec and British Columbia accounted for 84.2% of the total contracted acreage. It is the usual practice for the processors to contract with the growers in advance of planting for specified acreages of peas at a negotiated minimum price. Yearly variations in total contracted acreages are closely associated with stocks of canned peas on hand in relation to the stocks of a year before and to the increasing population. There is, therefore, very ltitle seasonal variation in prices at the farm, processor or retail levels.

Over the period of study, imports of canned peas exceeded exports, but not conspicuously. Neither imports nor exports over the period accounted for much more than 1% of stocks.

Table 53—Summary of Farm-Processor-Retail Spreads on Canned Peas, Canada, 1949 to 1957[a]

Calendar Year	Retail Price	Retail Equivalent Value of 1 Ton Farm Sale	Processor Equivalent Value of 1 Ton Farm Sale	Farm Price Calendar Year Basis	Farm-Retail Spread	Processor's Share of Retail Value	Farmer's Share of Retail Value
	(¢/20-oz. can)	($)	($)	($/ton)	($)	(%)	(%)
1949	17.6	405	316	78	327	58.8	19.3
1950	17.4	400	328	74	326	63.5	18.5
1951	18.8	432	376	86	346	67.1	19.9
1952	20.6	474	394	98	376	62.4	20.7
1953	21.1	485	394	96	389	61.4	19.8
1954	20.9	480	376	96	384	58.3	20.0
1955	20.7	476	348	96	380	52.9	20.2
1956	20.2	464	362	98	366	56.9	21.1
1957	20.6	474	364	96	378	56.5	20.3

[a] Adapted from price spread study of peas in Volume III where a fuller explanation of procedure etc. is given.

Price Spread on Canned Peas

Our estimates of the farm-processor-retail spreads on canned peas for the period of study are summarized in Table 53 and shown in Chart 30. The calculation is made on the basis of one ton of peas sold by the farmer for processing.

Retail prices increased between 1949 and 1953, and then declined, except for 1957. Processor selling prices in general followed the same pattern. Farm prices increased rapidly from 1949 to 1952, and then weakened a little. The farm-retail spread increased between 1949 and 1953 and then narrowed to 1956. The spread widened again in 1957. The increase in the spread was moderate over the period as a whole.

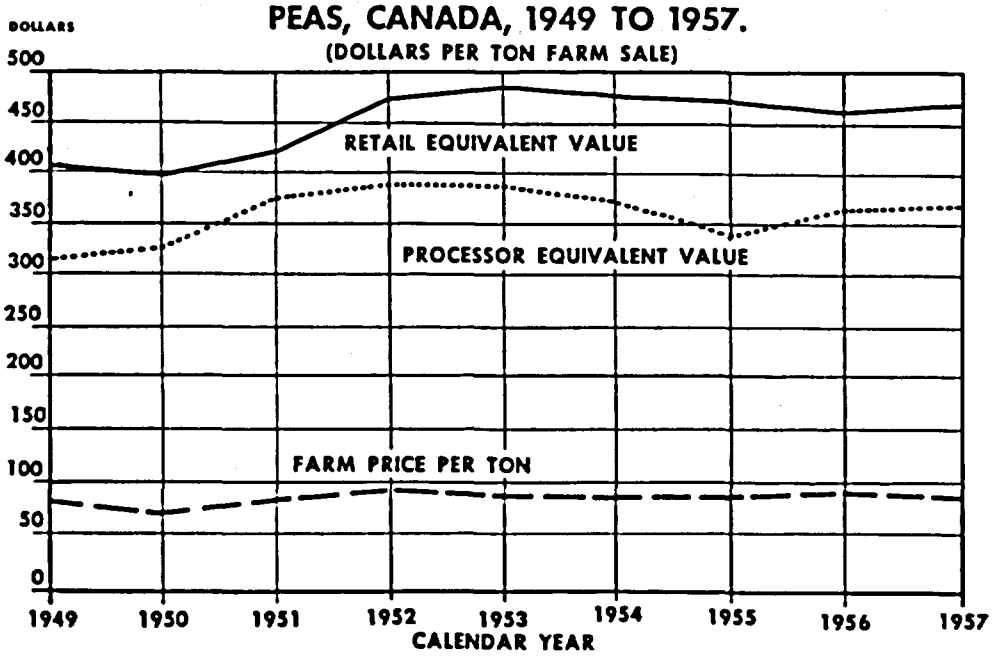
The farmer's share of the retail price shows a slight upward trend over the period, from 19.3% in 1949 to 20.3% in 1957. The processor's share of the retail value varied considerably, but averaged 59.6% over the period as a whole.

Price Spread on Frozen Peas

Over the period of study, frozen peas accounted for an increasing proportion of the total weight of frozen vegetables—50.6% in 1949 and 66.3% in 1957. The value of sales of frozen peas exceeds that of any other frozen vegetable. They are also used in the production of soups, baby foods, frozen mixed vegetables and prepared frozen foods.

CHART 30

PATTERN OF FARM-PROCESSOR-RETAIL VALUES FOR CANNED PEAS, CANADA, 1949 TO 1957.



Frozen peas retain much of the fresh flavour and colour of fresh green peas. Peas for freezing are usually packaged by machine. Packaging is a costly item because of special requirements—a satisfactory package must be attractive, protect against contamination, have low moisture transmission, and tend to exclude air.

Many of the plants which process frozen peas and other vegetables prepare the package in one plant and do the freezing in another. The distance between the plants is sometimes considerable and may have an adverse effect on quality. With an expanding market, packing and freezing units will probably become more closely integrated.

The main producing areas of frozen vegetables are British Columbia, Ontario, Alberta and Quebec. British Columbia and Alberta are a long and expensive haul by refrigerated transport to the larger markets in Ontario and Quebec. A shortage of freezer storage and cabinet space in retail outlets has limited sales and has required frequent deliveries. Supermarkets presently provide a large and increasing part of freezer cabinet space.

Separate figures are not available on imports and exports of frozen peas, but it is known that imports have increased rapidly over the period of study and that exports have remained small. Most of the imports came from the United States.

Our estimates of the farm-retail spreads on frozen peas are summarized in Table 54. The calculation is made on the basis of one ton of peas sold by the farmer for processing. The same farm price had to be assumed as for canned peas, and this may underestimate the farm price and the farmer's share and overestimate the farm-retail spread. The validity of our general conclusions would not be impaired, however.

The retail price for frozen peas declined from 31.5¢ for a 12-ounce package in 1952 to 23.8¢ in 1957. The farm price also declined, but more slowly from $98 per ton in 1952 to $94 per ton in 1957. Concurrently, the farm-retail spread declined, and the farmer's share increased from 13.1% of the retail value in 1952 to 16.6% in 1957, averaging 15.0% over the period as a whole.

The marked decline in retail prices of frozen peas, in spite of the increase in per capita consumption, is all the more conspicuous in contrast with the increase in retail prices of canned peas. There seem to have been three main

Table 54—Summary of Farm-Retail Spreads on Frozen Peas, Canada, 1952 to 1957[a]

Calendar Year	Retail Price	Retail Equivalent Value of 1 ton Farm Sale	Farm Price Calendar Year Basis	Farm-Retail Spread	Farmer's Share of Retail Value
	(¢/12-oz. pkg.)	($)	($/ton)	($)	(%)
1952	31.5	747	98	649	13.1
1953	30.8	731	96	635	13.1
1954	27.6	655	96	559	14.7
1955	25.6	607	98	509	16.1
1956	25.2	598	96	502	16.1
1957	23.8	565	94	471	16.6

[a] Adapted from price spread study of peas in Volume III where a fuller explanation of procedure etc. is given.

reasons for the declining prices of frozen peas: (1) increased production and production in new areas, and imports; (2) better distribution facilities for frozen foods and increased freezer space at retail and in the home; and (3) increased competition from other frozen vegetables.

CANNED CORN[1]

Among vegetables corn ranked after tomatoes and peas in value for processing during the last decade. Cash farm income from the sale of corn for processing accounted for approximately 2.7% of cash income from the sale of all vegetables and 0.1% of total cash income from farm products. The weight of canned corn processed over the period amounted to about 17.5% of the total weight of all canned vegetables. Consumer expenditures on canned corn amounted to about 14.6% of expenditures on all canned and dried vegetables and 0.4% of expenditures on all food. The annual per capita consumption of canned corn remained fairly constant at about 5.0 pounds.

About 90.1% of the sweet corn produced in the last decade was for processing. Sweet corn has been greatly improved for canning purposes since World War II by the development of hybrid varieties. The processors usually contract annually with the growers for their requirements at a negotiated minimum price; the acreage contracted usually varies according to the size of stocks on hand. Field men keep in close touch with the ripening crop in order to decide when it is at its optimum stage of maturity. Corn that is immature results in a watery pack and over-ripe corn is hard and starchy. The yield per planted acre over the last decade averaged about 2.5 tons.

A large part of the corn crop is now harvested by machine. The ears of corn are then transported by truck from the field to the cannery, where the load is weighed and the farmer paid. In a modern plant, the corn passes through the various canning operations by a conveyor system. This continuous method, with very high cooking temperatures, increases the speed of operation and produces an improved product.

Corn is usually processed into two main "styles"—cream style which may be packed in a brine solution or homogenized ("cremogenized"), and whole kernel style, which may be packed in brine or vacuum-packed. Labelling, casing and storing operations then follow. The different styles of canned corn are graded into Canada "Fancy", "Choice" and "Standard". Husks and trimmings become a by-product feed for livestock.

Corn for canning is grown widely across Canada, but the main producing provinces over the decade of study were Ontario, Quebec and British Columbia. Alberta's and Manitoba's production have been expanding. Ontario and Quebec together accounted for about 82% of the total contracted acreage during the period of study.

Imports of canned corn increased from less than a ton in 1950 to 4,316 tons in 1957. All of the imports came from the United States. Exports varied a lot from year to year, but averaged about 300 tons, if the extremely heavy export-year 1951 is omitted.

[1] The main references in our public hearings to canned corn were: Winnipeg, *Proceedings*, Vol. 6, pp. 860-2; Toronto, Vol. 15, pp. 2432-3.

There is very little seasonal variation in prices for canned corn at the farm, processing or retail levels. Farm prices are usually negotiated previous to the planting of the season's crop and remain unchanged throughout the season. The size of pack is pretty well determined by the acreages contracted, which are related to the stocks on hand at the time and to the increasing population.

Our estimates of farm-processor-retail spreads on canned corn for the period of study are summarized in Table 55 and shown in Chart 31. The calculation is made on the basis of one ton of sweet corn sold by the farmer for canning.

The farm price increased from $24 a ton in 1949 to $26 a ton in 1952 where it has tended to remain. Annual farm-retail price spreads, therefore, followed the year-to-year pattern of retail prices, ranging from a low of $87 per farm ton in 1954 to a high of $105 per farm ton in 1957. No upward or downward trend is discernible in the spread, however.

The farmer's share of the retail price ranged from a low of 18.0% in 1950 to a high of 23.0% in 1954. In 1957, however, the farmer's share was back to 19.8% compared with the same figure for 1949 and an average of 20.7% over the period as a whole. No upward or downward trend is discernible in the farmer's share. The processor's share of the retail price ranged from a low of 47.9% in 1949 to a high of 68.4% in 1951 and averaged 58.9% over the period as a whole.

CHART 31

PATTERN OF FARM-PROCESSOR-RETAIL VALUES FOR CANNED CORN, CANADA, 1949 TO 1957.

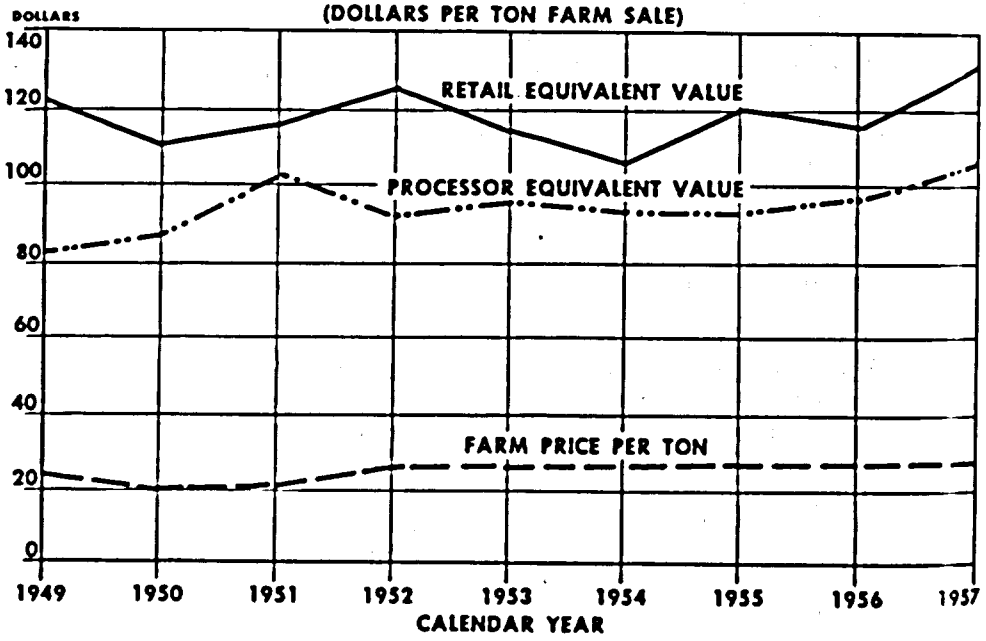


Table 55—Summary of Farm-Processor-Retail Spreads on Canned Corn, Canada, 1949 to 1957[a]

Calendar Year	Retail Price	Retail Equivalent Value of 1 Ton Farm Sale	Processor Equivalent Value of 1 Ton Farm Sale	Farm Price Calendar Year Basis	Farm-Retail Spread	Processor's Share of Retail Value	Farmer's Share of Retail Value
	(¢/20 oz. can)	($)	($)	($/ton)	($)	(%)	(%)
1949	19.1	121	82	24	97	47.9	19.8
1950	17.5	111	88	20	91	61.3	18.0
1951	18.4	117	102	22	95	68.4	18.8
1952	19.7	125	94	26	99	54.4	20.8
1953	18.4	117	96	26	91	59.8	22.2
1954	17.9	113	94	26	87	60.4	23.0
1955	19.0	120	94	26	94	56.7	21.7
1956	18.7	118	98	26	92	61.0	22.0
1957	20.7	131	106	26	105	60.1	19.8

[a] Adapted from price spread study of canned corn in Volume III where a fuller explanation of procedure etc. is given.

APPLES[1]

Apples are an important fruit. During the last decade, cash income from the sale of apples accounted for about 44.1% of total cash farm income from the sale of fruit and 0.7% of total cash income from farm products. Consumer expenditures on fresh apples accounted for about 20.7% of total expenditures on fresh fruits and 1.2% of expenditures on all foods. The annual per capita consumption of fresh apples declined over the decade, averaging about 24.6 pounds.

Because of their perishable nature, apples require for their complete protection in marketing a strong, firm, clean and smooth package, with the apples inserted under gentle compression to prevent them from rolling about and bruising. Cool storage is needed for keeping apples. Although some storage is done on the farm and in the later stages of marketing, storage takes place mainly in co-operative or commercial warehouses and packing plants prior to wholesaling. The grading, packing and storage of apples, therefore, is a time-consuming and costly process. In practice, a compromise is struck between incurring more of these marketing costs and foregoing the premium prices to be obtained for top quality and late marketing. During the last decade, the amount of marketing costs incurred increased substantially. For example, with the advent of controlled-atmosphere (CO_2) storage, domestic apples are becoming available (at a price) the year around.

The annual fluctuations in size of apple crops create costly problems of adjustment in the industry. The last 31 years show that there is a fair chance of apple prices across Canada dropping sharply one year in every two or three due to bumper crops. If the industry were to gear itself to market the bumper crops, then in other years there would be excess capacity which is expensive to maintain. On the other hand, a marketing capacity adequate only for a small crop would

[1] The main references in our public hearings to this subject were; Vancouver *Proceedings*, Vol. 1, pp. 120-1, 137-9, 160-96 and Vol. 2, pp. 278-9; Winnipeg, Vol. 7, pp. 1041-2, 1045; Halifax, Vol. 13, pp. 2155-6; Toronto, Vol. 15, pp. 2385-9; Montreal, Vol. 21B, pp. 3537-8; Ottawa, Vol. 27, pp. 4337-9.

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often resulting considerable spoilage. What has resulted in practice is a marketing capacity somewhere between these two extremes, with the processing branch of the industry assigned the accommodating role of stabilizer. There is some indication of the processing branch of the industry assuming an increasingly important and independent role.

The largest markets for apples are in Ontario and Quebec, close to the producing areas in these provinces, but a long and expensive haul from the British Columbia and Nova Scotia producers. Consequently there have been persistent differences among these four main producing provinces in average farm values of apples. Over the 1949 to 1957 period, Quebec and Ontario had the highest farm values (averaging $1.39 and $1.27 per bushel respectively) while Nova Scotia and British Columbia had the lowest farm values ($.80 and $.95).

Within any calendar year, there is a seasonal price pattern caused by apple harvesting being concentrated in the late summer and early autumn while consumption is spread out, rather unevenly, over three-quarters or more of the year. October is usually the month of highest marketings. The seasonal price pattern varies by apple variety and market, but the lowest prices are generally in October-November and the highest prices in July. Not many Canadian apples have been available for sale during the highest-price months June to August, but this volume is increasing with the introduction of controlled-atmosphere storage.

The results of our calculations of the farm-retail spread on fresh apples are summarized in Table 56 and shown in Chart 32. The retail price is for the "volume seller". Monthly farm and retail prices were weighted by domestic unloads to derive weighted crop-year prices. The crop year was taken as August 1 to July 31. An adjustment of 10% was made to the weighted retail price to allow for waste, shrinkage etc. in marketing.

The farm-retail spread was at a maximum in the crop year 1954/55. The spread increased from $2.38 per farm bushel in 1949/50 to $4.21 in 1954/55, receded to $3.82 in 1955/56, and then returned to $4.20 in 1957/58. Over the period as a whole, the farm-retail spread widened prominently.

Farm price, expressed as a proportion of equivalent retail value, increased from 32.6% in 1949/50 to a maximum of 35.5% in 1952/53, and then declined

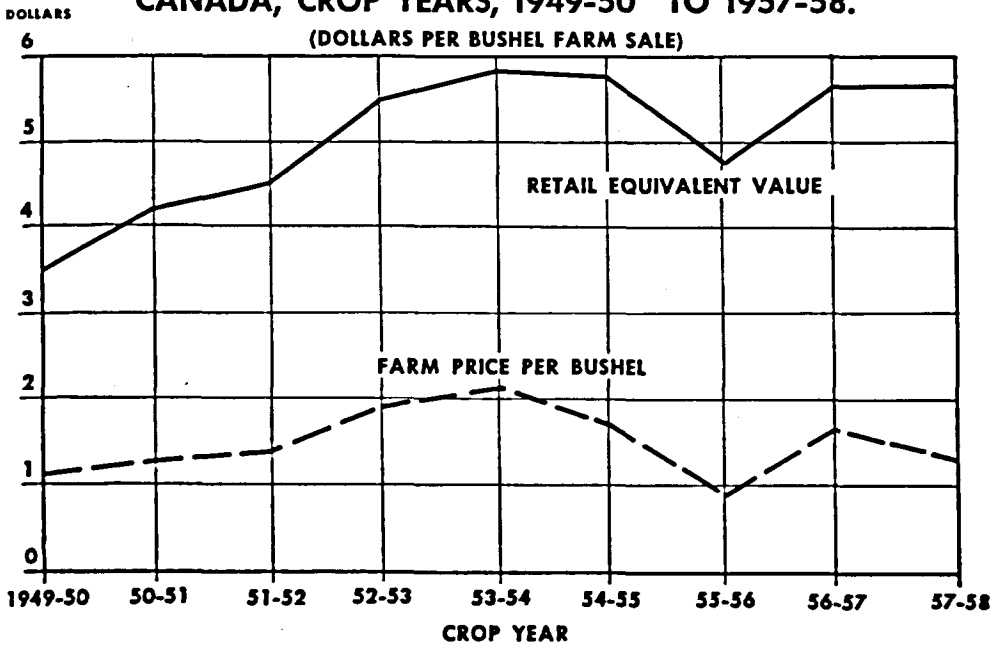
Table 56—Summary of Farm-Retail Spreads on Fresh Apples, Canada, Crop Years 1949/50 to 1957/58[a]

Crop Year	Weighted Retail Price	Retail Equivalent Value	Farm Price	Farm-Retail Spread	Farmer's Share of Retail Value
	(¢/lb.)	($)	($/bu.)	($)	(%)
1949/50	8.7	3.53	1.15	2.38	32.6
1950/51	9.9	4.01	1.24	2.77	30.9
1951/52	11.3	4.58	1.43	3.15	31.2
1952/53	13.7	5.55	1.97	3.58	35.5
1953/54	14.7	5.96	2.07	3.89	34.7
1954/55	14.6	5.91	1.70	4.21	28.8
1955/56	11.8	4.78	.96	3.82	20.1
1956/57	13.9	5.63	1.73	3.90	30.7
1957/58	13.9	5.63	1.43	4.20	25.4

[a] Adapted from price spread study of apples in Volume III where a fuller explanation of procedure etc. is given.

CHART 32

PATTERN OF FARM-RETAIL PRICES FOR FRESH APPLES, CANADA, CROP YEARS, 1949-50 TO 1957-58.



to 20.1% in 1955/56—a year of extremely large production. The farm share increased to 25.4% of the retail price in 1957/58. The average farm share over the period as a whole was about 30.0%.

The combined packer-transporter-broker-wholesaler share appears to have averaged about 33%, and the retailer's share, about 37%. Systematic data were not available for determining representative shares going separately to packers (shippers), transporters, brokers and wholesalers.

Several influences were at work in widening the farm-retail spread—longer and more expensive storage (both cold and controlled-atmosphere storage); higher packing-house costs due to increased wages and a multiplicity of containers, several of which are increasingly elaborate; increased freight rates; and more advertising and promotion. Wholesale and retail margins increased.

At the Vancouver hearings we were told that compulsory, one-desk, pooled selling by the British Columbia Tree Fruits Board was not in the interests of many producers. This particular question was the special concern of the British Columbia Royal Commission on The Tree-Fruit Industry (MacPhee Commission) which published its report in October, 1958.[1]

The price spread calculations made for the MacPhee inquiry covered four varieties of apples (McIntosh, Delicious, Winesaps and Newtons) for the 1957/58 season. The retail prices were averages for all sizes of the Fancy grade. The

[1] The Report of the Royal Commission on *The Tree-Fruit Industry of British Columbia* (MacPhee Report), Victoria, October 1958, pp. 614-637. Also see our Part II, Chapter 3, Section 3.

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spread was computed for four major western markets—Vancouver, Calgary, Winnipeg and Regina. The results of the study show that prices and price spreads varied considerably from variety to variety, from city to city, and from outlet to outlet.

The combined wholesale-retail share of the retail price of British Columbia apples in the four western markets in 1957/58 came to about 40%. This was an average for independent retailers and chains in a heavy crop year.

The report points out that the share of the retail price going to the chain stores (which usually perform their own wholesaling) was lower than the combined shares of independent wholesalers and retailers, and condemns the high markups taken by some Calgary and Winnipeg wholesalers and some Vancouver and Winnipeg independent retailers.

The conclusion of the MacPhee Report respecting the share of the final price going to chain stores and to the independent wholesaler-retailer combination is consistent with the results of our study. We have not been able to make, for the various commodities we have studied, the detailed analysis of particular markets which the MacPhee inquiry was able to make for apples. However, in view of the fact that the general retail spread for apples as measured by this Commission averaged 37% over the period, a combined wholesale-retail share in the four western markets in 1957/58 of about 40% does not seem to be relatively high.

We would expect that the markups of Vancouver wholesalers would be considerably lower than in Calgary, Regina and Winnipeg. Being closer to the source of supply, Vancouver wholesalers should have lower transportation costs, less storage, and less spoilage. Since they can, using their own trucks if they wish, go directly to the packing houses in the Okanagan, Vancouver wholesalers do not need to keep large supplies of apples on hand.

There are several possible explanations of the high markups of the independent Vancouver retailers to which the MacPhee Report referred. Some of the apples handled by these independents are bought from nearby coastal growers who operate outside the area of the British Columbia Tree Fruit Board. The prices paid for the coastal apples are probably considerably lower than the prices for apples bought from the British Columbia Fruit Board and, if they sell at the same price, their retail markup would be high and would raise the average markup on all apples retailed. Another explanation is that apples retailed in Vancouver tend to be of lower quality and are subject to greater spoilage. Apples shipped to the more distant markets must be of the highest quality to absorb the high cost of transportation. Sales in small quantities, combined with special services such as remaining open late and on holidays, would raise the markups of independent retailers. It may also be that, because they are close to the source of supply, some independents undertake some of the wholesaling function.

Despite the high markups of independent retailers, we note that Vancouver retail prices are usually lower than in other cities. This is due both to low wholesale markups and to the fact that apples retailed in Vancouver are subject to lower transportation costs. It is probably also due to the competition from apples imported from Washington State.

From the MacPhee inquiry it appears that on the average the British Columbia grower received about 25% of the retail price for his apples in 1957/58.

This corresponds closely to our estimate for Canada as a whole for that year—a year in which the apple crop was large and, therefore, normally the farm share would be smaller than usual. The British Columbia grower's share and the share going to the packing house were found to be lower in markets close to the growing areas than in more distant markets, although retail prices tended to increase with increasing distances from the point of production.[1] This suggests that the selling prices of the British Columbia Fruit Board in British Columbia markets may be high enough when pooled to subsidize in part the transportation costs on apples to more distant and more competitive markets. This policy, combined with high retail markups, would explain the complaint we received from the British Columbia representative of the Canadian Association of Consumers. We were told that consumers are constantly asking why the prices of Okanagan apples should be so high in British Columbia.

In Halifax, the Nova Scotia branch of the Canadian Association of Consumers expressed the conviction that the farm-retail spread on apples was "entirely too great". Figures were cited of $1.38 per bushel to the grower and $4.50 at retail. The grower's share in this case (34.0%, allowing for waste) was above the Canadian average (see Table 56), which is what we might have expected in view of the shortness of the haul of Nova Scotia apples to the Halifax market.

The Nova Scotia Association of Consumers also suggested to us that the size (as well as the grade and variety) of apple should be marked on the package. This suggestion would permit more informative buying of apples and discourage infractions of minimum size and sizing regulations. Federal grading regulations for the interprovincial and export trade specify a minimum size of 2¼ inches and require uniform sizing.

At the Toronto hearings, we were told by the Ontario branch of the Canadian Association of Consumers that consumers are in danger of losing their wide choice in selection of apple varieties. This was attributed to the volume merchandising of influential chain stores which handle a limited number of apple varieties. We were told that because of the present emphasis on red apples, some of the finest cooking apples have to be sold almost entirely to processors. We are sympathetic to the Association's plea for educational advertising by the apple growers to inform our younger generation that flavour and quality are not the exclusive prerogative of red apples.

The Ontario Association of Consumers pointed out that the apple grower may have more than a dozen alternative channels, more or less direct, for marketing his product. The Association felt that the existence of 1,300 licensed fruit and vegetable dealers in Ontario indicated that distribution was cumbersome and needlessly costly to consumers.[1] It was not possible to test the validity of this claim that limiting the number of middlemen in the fruit and vegetable trade would reduce the price spread.

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[1] Except that the lower freight rates into Winnipeg compared to Regina usually were reflected in higher prices in Regina. See *MacPhee Report*, p. 629.

[2] A "dealer" is someone (other than a retailer) who collects, or buys produce from primary producers, and consigns or transports or sells it.

STRAWBERRIES

The amount of land used for strawberry production in Canada is small, but the crop is not unimportant. Cash farm income from strawberries over the last decade amounted to about 14.2% of farm income from all fruit, but it has been below this average in the last two or three years. Cash farm income from strawberries accounted for 0.2% of total cash income from farm products. A little more than half of the strawberries grown in recent years were marketed as fresh fruit and the rest were processed. Consumer expenditures on strawberries accounted for about 3.1% of expenditures on all fresh fruit and 0.2% of expenditures on all foods. In recent years Canadians have consumed about 2.7 pounds (farm weight) of strawberries per capita annually. Fresh and frozen strawberries accounted for most of this consumption, in about equal amounts, leaving approximately ½ pound per capita consumption of canned strawberries. The per capita consumption of fresh and canned strawberries did not change much over the last decade, but the per capita consumption of frozen strawberries increased.

Strawberry production is seasonal and the product is highly perishable. The size of the crop and the length of a particular harvesting season vary a lot with weather conditions, but harvesting is concentrated in June and July. A short harvesting season is not peculiar to strawberries; what makes it so important in this case is the high degree of perishability of the fruit and its vulnerability to weather conditions. The resulting effects upon the quantity and quality of the fruit can cause year-to-year variations in price. Also, the market price is highly variable from day to day in response to picking conditions. If bad weather prevents picking one day, the next day a large supply of berries reaches the market and must be sold at whatever price they can fetch.

Because of this perishability, ripe strawberries must be carefully hand-picked, marketed in protective containers, and distributed rapidly to avoid costly deterioration. Adequate information was not available for estimating the typical amount of waste between the farm and retail. Berries picked at the right stage of maturity, moved to market promptly under refrigeration, and handled expeditiously through retail channels could be almost free from waste. On the other hand, berries of advanced maturity, picked while wet, and subjected to rough or delayed handling could have a high proportion of waste. The answer usually lies somewhere between these extremes, and varies seasonally depending upon the weather. The mechanics of marketing fresh strawberries have not changed much during the last decade, but there is at least one reason for thinking that there has been a gradual reduction in spoilage. Transportation, particularly by refrigerator truck, has undoubtedly improved over the decade of study, thereby contributing to less waste and better quality of fruit.

As far as the channels of marketing are concerned, such a perishable product cannot change hands often. What has become increasingly conspicuous over our period is supermarket chains dealing directly with larger strawberry growers.

The alternative to selling strawberries as fresh fruit is to preserve them by processing—canning, freezing or jam-making. The grower usually makes direct

delivery to the processor. Our studies indicate that the grower ordinarily receives about two cents per quart less for strawberries sold for processing than for those for the fresh market. The cost of producing strawberries for processing is probably lower—these strawberries are picked into larger containers and are sold in larger volume. There are about 80 plants processing strawberries in Canada.

The processors sell to wholesalers or directly to large retail outlets. Sometimes the processor may sell through a broker. Whether sold fresh or in processed form, strawberries typically incur substantial costs in production and marketing. This, of course, has a direct bearing on prices and the price spread.

In the second half of our period, the production of strawberries in Canada fell compared with the first half. Since domestic sales to processors did not decline as fast as domestic production, they represented an increase in the proportion of Canadian strawberries processed. During the decade of study, exports of strawberries declined and imports increased prominently: both fresh and frozen imports for both processing and the fresh trade. The imported fresh strawberries often sell at premium prices, even after the domestic berries have reached the market.

The three provinces of Ontario, British Columbia and Quebec account for about 90% of the strawberries produced commercially in Canada. The strawberry crop is also important in Prince Edward Island, Nova Scotia and New Brunswick. From a farm-income viewpoint, strawberries are more important to British Columbia agriculture than to that of any other province. Over the last decade, British Columbia processed about 63% of its production, Ontario 42%, Prince Edward Island 41%, and Quebec about 31%. The amounts of strawberries processed by the provinces vary from year to year, but British Columbia processed about half of the total for Canada, Ontario about 30% and Quebec about 17% of the total for Canada.

There was remarkably little seasonal (month-to-month) variation in the retail prices of canned and frozen strawberries over our period. An explanation for this price stability lies in the normal pattern of seasonal variation in inventories of canned and frozen strawberries. Inventories are progressively decreased during the autumn, winter and spring and are then rebuilt by the new pack during June and July.

Systematic monthly data were not available on the retail prices of fresh strawberries, but it is known that the fresh strawberry market is concentrated in a two-month interval beginning early in June. It is customary for the retail price to begin from a peak at the beginning of the marketing season and then fall within three weeks to a plateau from which it rises again towards the end of July.

Availability of data permitted us to calculate farm-retail price spreads on canned and frozen strawberries only, and in the latter case only for the years 1952 to 1957.

The results of our calculations of the farmer-processor-retailer spreads for canned strawberries are summarized in Table 57 and shown in Chart 33. The retail prices of canned strawberries are available for the "Choice" grade, 15-ounce tin. For farm-retail comparability, these retail prices were adjusted to give the retail value equivalent of the canned strawberries derived from one quart of fresh strawberries. By similar treatment, it was possible to derive a comparable processor's selling value. (The strawberry content of the canned strawberries is not, of course, the only cost component in the processor's and retailer's prices.)

Table 57—Summary of Farm-Processor-Retail Spreads on Canned Strawberries, Canada, 1949 to 1957[a]

Calendar Year	Retail Price	Retail Equivalent Value of 1 qt. Fresh	Processor Selling Equivalent Value of 1 qt. Fresh	Farm Value Calendar Year Basis	Farm-Retail Spread	Processor's Share of Retail Value	Farmer's Share of Retail Value
	(¢/15-oz. can)	(¢)	(¢)	(¢/qt.)	(¢)	(%)	(%)
1949	27.8	58.9	47.1	19.3	39.6	47.2	32.8
1950	29.2	61.9	49.9	21.2	40.7	46.4	34.3
1951	29.7	63.0	49.1	23.9	39.1	40.0	37.9
1952	32.1	68.1	44.9	20.8	47.3	35.4	30.5
1953	29.2	61.9	51.9	18.6	43.3	53.8	30.1
1954	32.1	68.1	50.9	20.5	47.6	44.6	30.5
1955	32.3	68.5	49.8	23.0	45.5	39.1	33.6
1956	31.5	66.8	54.6	23.7	43.1	46.3	35.5
1957	32.2	68.3	50.2	22.5	45.8	40.6	32.9

[a] Adapted from price spread study of strawberries in Volume III where a fuller explanation of procedure etc. is given.

The cost to the processing plants per quart of fresh Canadian strawberries was taken as the basic farm value, but the preceding and current crop prices were weighted to derive calendar-year prices comparable to the retail prices.

The farm-retail spread on canned strawberries widened moderately over the period as a whole. The farm price rose slightly over the period, but not as fast as the retail price. The widening in the farm-retail spread took place almost entirely in the combined wholesaler-retailer spread (or broker-wholesaler-retailer spread). Sufficient data were not available to enable us to separate the wholesale and retail spreads.

The farmer's share declined slightly and the processor's share increased slightly over the period. The combined wholesaler-retailer share also increased a little. The farmer's share over the period as a whole amounted to about 33.1%, the processor's share amounted to about 43.7%, and the combined wholesaler-retailer share amounted to about 23.2%. When the processor sells through a broker, the brokerage fee amounts to 2½% to 3% of the f.o.b. factory price.

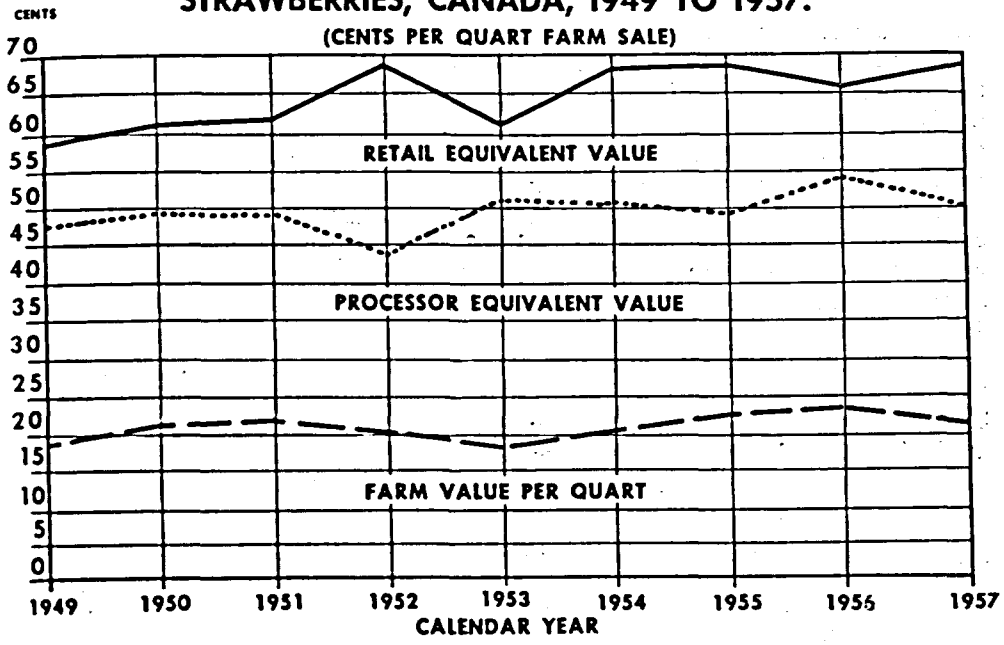
Retail prices for frozen strawberries are available from mid-1952 on, for the 15-ounce package. In order to estimate the farm-retail spread on frozen strawberries for this period, it was necessary to assume that the farm price of strawberries for freezing was the same as for canning. The results of our calculations are summarized in Table 58.

In marked contrast with canned strawberries, the farm-retail spread on frozen strawberries narrowed substantially over the period. Retail prices declined while farm prices rose. The farmer's share increased from an average of 24.5% during the three-year period 1952 to 1954 to 31.8% during the period 1955 to 1957.

The downward drift in the price of frozen strawberries, in contrast with a rising retail price for canned strawberries, requires some explanation. The volume of frozen strawberries has been increasing rapidly. Also, increased freezer space

CHART 33

PATTERN OF FARM-PROCESSOR-RETAIL VALUES FOR CANNED STRAWBERRIES, CANADA, 1949 TO 1957.



in retail outlets and keen competition have exerted a downward pressure on the price of frozen strawberries. In addition, handling and freezing operations have become more mechanized, thereby lowering per-unit production costs. In contrast with the expanding supply of frozen strawberries, the pack of canned strawberries is small and stable from year to year.

Table 58—Summary of Farm-Retail Spread on Frozen Strawberries, Canada, 1952 to 1957[a]

Calendar Year	Retail Price	Retail Equivalent Value of 1 qt. Fresh	Farm Value Calendar Year Basis	Farm-Retail Spread	Farmer's Share of Retail Value
	(¢/15-oz. pkg.)	(¢)	(¢/qt.)	(¢)	(%)
1952	50.1	78.7	18.0	60.7	22.9
1953	49.7	78.0	18.6	59.4	23.8
1954	48.5	76.1	20.5	55.6	26.9
1955	47.3	74.3	23.0	51.3	31.0
1956	46.8	73.5	23.7	49.8	32.2
1957	44.5	69.9	22.5	47.4	32.2

[a]Adapted from price spread study of strawberries in Volume III where a fuller explanation of procedure etc. is given.

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PEACHES[1]

Among fruits grown in Canada, apples take pride of first place from the point of view of income to producers, while second and third place are taken interchangeably by peaches and strawberries. Canadian peach growers received between three and six million dollars income annually over the last decade. This represented an average of 12.1% of cash farm income from the sale of all fruit and 0.2% of total cash income from farm products. Consumer expenditures on canned peaches during the period of study were greater than on any other canned fruit. Consumer expenditures on canned peaches amounted to 17.4% of total expenditures on canned fruit and 0.4% of expenditures on all foods. Consumer expenditures on fresh peaches amounted to 3.0% of expenditures on all fresh fruit and 0.2% of expenditures on all foods. Per capita consumption of fresh and canned peaches combined increased from 5.7 pounds in 1949 to 8.2 pounds in 1957.

Peaches are among the most perishable of fruits in Canada, and are available for fresh consumption for only two to three months during a year. They have to be packed and handled with special care and moved to the market promptly. The marketing of fresh peaches includes three major functions—packing, transporting and selling. Packing and selling are usually performed by different firms which specialize in one or other of these functions.

Packing peaches is a costly process in which materials account for over one-half of the cost, labour over one-fourth, and overhead (which includes depreciation on building and equipment, taxes, power, repair and miscellaneous) for the rest. When fresh peaches are sold directly out of the orchard to the consumer, there are no custom packing costs, and the grower charges the retail price. When, however, selling is done through commercial channels, the packers, wholesalers and retailers apply their markups which include an allowance for the risk of spoilage.

Because fresh peaches cannot be kept for long, processing has become a very important development in the peach industry. Processing makes quality peaches readily available throughout the year. The canners play an important stabilizing role in the peach industry by processing that part of the crop which cannot be disposed of on the fresh market. Over the last decade about 50% of the total peach production was used for processing and sold subsequently as canned peaches. In prewar years less than 30% of the crop was processed. Dried and frozen peaches have made their debut in the past few years, but the quantities produced are small.

Although there have been considerable variations in the production of peaches from year to year, the trend in peach production has been upward for several decades. Over the last 20 years the production has increased by two-and-one-half times. The commercial production of canned peaches shows an upward trend similar to that of total peach production.

The level of farm and retail prices of peaches is closely related to the size of the crop. There is, however, a difference between the fluctuations of farm and retail prices for fresh peaches on the one hand, and the retail prices of canned

[1] The main references in the public hearings to this subject were: Toronto, *Proceedings*, Vol. 15, pp. 2432-3 and Vol. 16, pp. 2635-6, 2658-9.

peaches on the other. The former react quickly to changes in the size of the crop and show greater fluctuations, whereas the latter maintain much greater stability and usually react after a time lag.

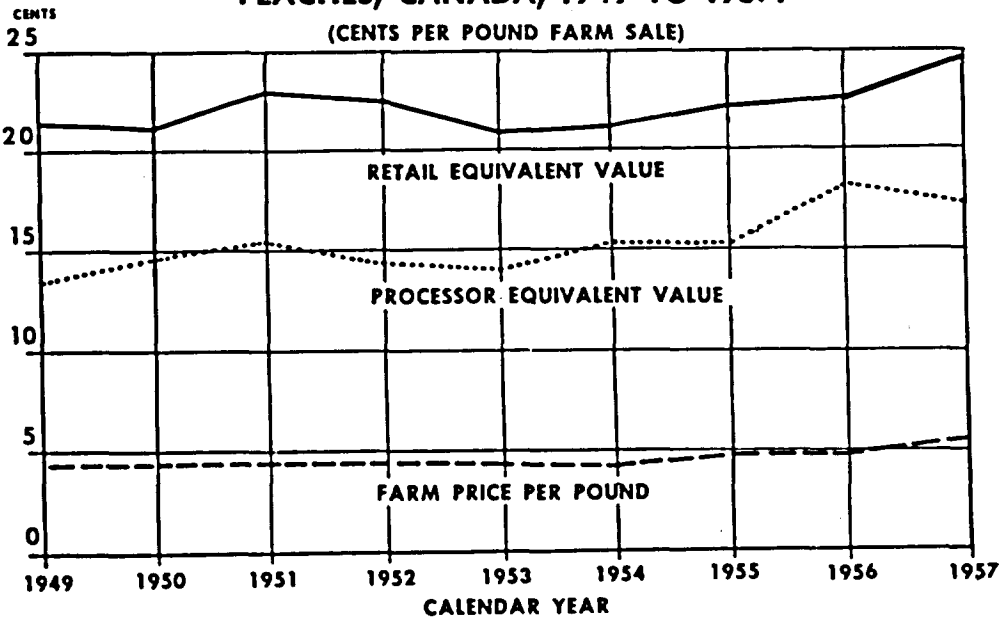
The production of peaches in Canada is practically confined to the southern parts of Ontario and British Columbia. Generally Ontario produces 80% of the crop and British Columbia 20%. This ratio of four-to-one changes in some years because unfavourable weather conditions can affect the crop in one province or the other. Because these two peach-producing regions are so widely separated, they also may be differently affected by market conditions. In general, farm prices of peaches in Ontario were higher and more stable during our period than in British Columbia.

In British Columbia the marketing of peaches is done through B.C. Tree Fruits Limited which acts as the central sales agency for the whole regulated area. The British Columbia growers get an average price for each grade and variety of peaches irrespective of how these are used. In Ontario, however, there are two marketing boards for peaches, one for peaches for processing and the other for peaches sold to the fresh market. The growers selling peaches to these two different markets get different prices. About 50% of Ontario peaches and nearly 40% of British Columbia peaches were processed during our period of study.

Up to 60% of Ontario peaches are marketed inside the province and the remainder is sent to Quebec, the Atlantic Provinces and the Prairies. British Columbia peaches find their most important market inside the province and in

CHART 34

PATTERN OF FARM-PROCESSOR-RETAIL VALUES FOR CANNED PEACHES, CANADA, 1949 TO 1957.



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Alberta. Generally the distance to market is one of the main factors determining the means used to haul peaches to their destination. About 60% of fresh peaches are transported to market by rail, the rest by truck.

The results of our calculations of the farm-processor-retail spreads on canned peaches during the nine-year period 1949 to 1957 are summarized in Table 59 and shown in Chart 34. The estimates are based on national averages and are subject to variation when applied to a specific place, time, quality or size of container. The farm and processor prices used are average prices for all grades, varieties and sizes of containers, while the retail prices are for the "Choice" 15-ounce can. In view of this the farmer's share as shown in these estimates is slightly on the low side.

Although there have been year-to-year changes in prices, the overall relationship between the farm, processor and retail prices did not change much over the last decade as a whole. The farmer's share showed only a slight increase and the difference between the highest and the lowest share was less than 2% over the whole period. The farm-retail spread in 1957 was considerably larger than in previous years. On the average, the farmer's share of the retail value was about 21%, the processor's share about 48% and the wholesale-retail share combined, about 31%.

National estimates of the farm-retail spread on fresh peaches could not be made for lack of a continuous series of retail prices. Data presented to us for the Toronto area indicate, however, that the farmer's share for fresh peaches in that market was about 45% during the 1957 season. The grower's and retailer's shares were higher at the beginning and end of the season when marketings were lower and prices higher. Fixed costs such as transportation, marketing-board deductions and container costs made up a larger share of the retail price in mid-season when the price was low.

The Ontario Government brief drew our attention to the shift since 1956 towards direct dealings between the supermarket chains and the new fresh peach growers' co-operative. This trend tends to dispense with the services of certain independent middlemen such as brokers, shippers and wholesalers.

Table 59—Summary of Farm-Processor-Retail Spreads on Canned Peaches, Canada, 1949 to 1957[a]

Calendar Year	Retail Price	Retail Equivalent Value of 1 lb. Fresh	Processor Equivalent Value of 1 lb. Fresh	Farm Value Calendar Year Basis	Farm-Retail Spread	Processor's Share of Retail Value	Farmer's Share of Retail Value
	(¢/15-oz. can)	(¢)	(¢)	(¢/lb.)	(¢)	(%)	(%)
1949	20.7	21.6	13.8	4.6	17.0	42.6	21.3
1950	20.3	21.2	14.8	4.5	16.7	43.6	21.2
1951	21.8	22.8	15.4	4.6	18.2	47.4	20.2
1952	21.6	22.6	14.1	4.6	18.0	42.0	20.4
1953	20.2	21.1	14.0	4.5	16.6	45.0	21.3
1954	20.5	21.4	15.2	4.5	16.9	50.0	21.0
1955	21.2	22.2	15.1	4.7	17.5	46.8	21.1
1956	21.5	22.5	18.1	4.9	17.6	58.7	21.8
1957	23.8	24.9	17.0	5.2	19.7	47.4	20.9

[a]Adapted from price spread study of canned peaches in Volume III where a fuller explanation of procedure etc. is given.

SUGAR BEETS[1]

In recent years Canadians consumed, both directly and indirectly in other foods and beverages, about 97 pounds of refined sugar per capita annually. The direct consumption of sugar amounted to about 53 pounds per capita. Consumer expenditures directly on sugar accounted for about 1.2% of all urban expenditures on food. About 18% of the sugar consumed was beet sugar—grown and refined domestically in the Lethbridge area of Alberta, near Winnipeg in Manitoba, in southwestern Ontario, and in the vicinity of St. Hilaire in Quebec. Sugar beets are important to the farmers in these localities, as a source of both cash income and good, cheap by-product feed for livestock. Many growers also work in the sugar beet factories during the refining season.

During the period under study cash farm income from sugar beets accounted for 0.5% of total cash farm income from farm products. According to the 1956 Census, 4,773 sugar beet growers in that year harvested, on the average, 187 tons of beets worth $3,242 from 16.5 acres. The yield of refined sugar from a ton of beets averaged about 267 pounds over the last decade, which is a yield of about 13.4%. Comparing the first half of our period with the second half, the regional shift in sugar beet production has been such that the increasing production in Alberta and Manitoba has more than offset the declining production in Ontario and Quebec.

The total domestic production of refined sugar over the last decade was subject to variations from year to year about a rising trend line. Moreover, there is a seasonal pattern in sales with the peak during the summer and the low level during the winter. Some stability in sugar prices has been imparted, however, by compensatory inventory adjustments. Retail prices of sugar are quite stable from month to month.

The production of refined beet sugar has been more variable than that of cane sugar. The instability in beet sugar production is the joint result of year-to-year variations in sugar beet acreages, yields per acre, and the yield of refined sugar per ton of beets.

Variations from year to year in the sugar content of sugar beets have a direct bearing on the refining costs of sugar, and so the price paid for beets is related to this factor as well as to the price of refined sugar. The perishability of sugar beets necessitates processing before the severe winter cold sets in, which means concentrating the processing in the fourth quarter of the year. As far as the refining operation is concerned the sugar beet factories then stand idle for more than two-thirds of the year.

The results of our calculations of the farm-retail spread on sugar beets for the Prairie region are summarized in Table 60 and shown in Chart 35. Both sugar beet production and beet sugar consumption are distinctive (although not exclusive) features of the Prairie region of Canada, and so sugar beet price spread calculations for this region are more valid and reliable than for other regions or for Canada as a whole. The calculation is based on a year-to-year

[1] The main references in our public hearings on this subject were: Vancouver, *Proceedings*, Vol. 2, pp. 288-9; Edmonton, Vol. 5, pp. 666-8; Ottawa, Vol. 26, pp. 3986-4056, and Vol. 27, p. 4340.

Table 60—Summary of Farm-Refinery-Retail Spreads on Sugar Beets into Sugar, Prairie Region, Crop Years, 1949/50 to 1957/58[a]

Crop Year	Retail Price Sugar	Retail Equivalent Value of 1 Ton Beets	Refinery Equivalent Value of 1 Ton Beets	Farm Price	Farm Value of Beets Less By-Products	Farm-Retail Spread	Refiner's Share of Retail Value	Farmer's Share of Retail Value
	(¢/lb.)	($)	($)	($/ton)	($)	($)	(%)	(%)
1949/50	11.4	28.63	23.73	13.29	13.07	15.56	37.2	45.7
1950/51	13.9	37.31	28.50	17.32	16.96	20.35	30.9	45.5
1951/52	14.0	32.10	25.68	15.71	15.11	16.99	32.9	47.1
1952/53	12.3	36.29	29.59	15.53	15.29	21.00	39.4	42.1
1953/54	11.3	30.45	25.28	13.78	13.43	17.02	38.9	44.1
1954/55	10.8	26.60	22.81	12.71	12.42	14.18	39.1	46.7
1955/56	10.9	30.49	26.15	14.47	14.13	16.36	39.4	46.3
1956/57	13.3	37.32	31.34	17.93	17.55	19.77	37.0	47.0
1957/58	12.2	28.99	23.26	13.27	12.98	16.01	35.5	44.8

[a]Adapted from price spread study of sugar beets in Volume III where a fuller explanation of procedure etc. is given.

comparison of the farm price of a ton of sugar beets, less the farm value of by-products, and the refinery and retail values of the amount of sugar refined each year from a ton of beets.

The farm-retail spread on a ton of sugar beets in the Prairie region decreased over the period of study as a whole, averaging $18.58. The spread increased from $15.56 in 1949/50 to a maximum of $21.00 in 1952/53, and then declined to a minimum of $14.18 in 1954/55. The spread increased again in 1955/56 and 1956/57 and decreased in 1957/58.

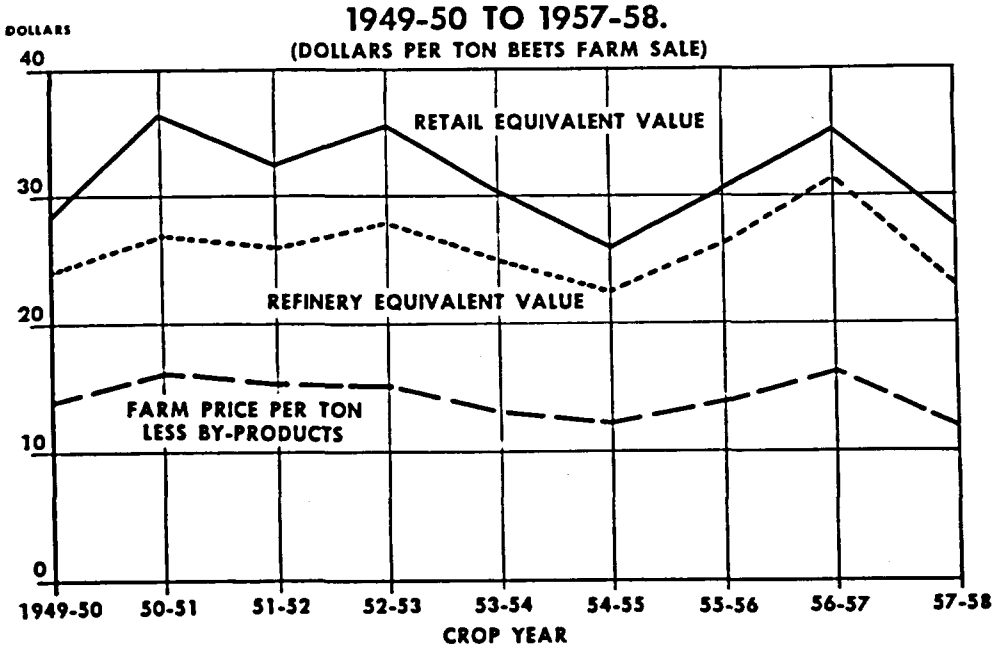
The sugar beet grower's share of the retail price in the Prairie region averaged 45.5% over the period as a whole, being highest (47.0%) in 1956/57. No upward or downward trend in the grower's share was discernible. The refiner's share of the retail price increased slightly over the period of study and averaged 36.7%. A combined share of 17.8% is, therefore, left for the wholesaler and retailer; this magnitude seems to corroborate a statement made to the Commission at our Ottawa hearings to the effect that at wholesale and retail sugar is a "high volume, rapid turnover, low markup product".

At the Ottawa hearings, we were also informed that cane sugar can be produced more cheaply than beet sugar. To succeed in the face of this competition, the beet sugar industry depends both on protection through tariffs on imports of raw and refined cane sugar and on costs of transporting competitive cane sugar into the Prairie Provinces. The price of beet sugar is set with reference to the world price of raw cane sugar, plus the tariff[1] and ocean freight on it into Canada, plus the cost of refining it, plus the cost of freight from Montreal or Vancouver to the interior market. The highest price is reached in eastern Saskatchewan. This technique of price-setting has sometimes been referred to as a "basing-point system". During the period of study, the beet sugar refineries shifted from a policy of granting a trade discount to wholesalers and special price concessions to certain customers to a general policy of setting their beet prices at 10 to 20 cents less per 100 pounds than the cane sugar price arrived at by the

[1] The British Preferential tariff on raw sugar averages 28.7 cents per 100 lb.

CHART 35

PATTERN OF FARM-REFINERY-RETAIL VALUES FOR SUGAR BEETS INTO SUGAR, PRAIRIES REGION, CROP YEARS 1949-50 TO 1957-58.



basing-point system. Since we have no evidence of a cane-beet price differential on sugar at retail, we conclude that the combined wholesale-retail spread on beet sugar is appreciably wider than on cane sugar.

At our Edmonton and Ottawa hearings, our attention was drawn to the contractual arrangement between each sugar beet grower and the processing company. The grower and the company share contractually in the company's net selling price of refined beet sugar, after deducting selling expenses (such as freight, discounts, storage, brokerage, shipping costs and losses, sales, salaries and travelling, insurance, and advertising). We have been told by the farmers and the processors that this has been a mutually satisfactory arrangement, in recent years at least.

The contractual share of the beet sugar processor's price going to the grower was originally 50%, but it increased to a level of about 63% in recent years. In Edmonton, it was suggested to us that this gain was due to increased growing costs. We were told, rather to our surprise, that the effect of mechanization had been to raise growing costs. In our opinion growing costs would have been higher if mechanization had not taken place. At our Ottawa hearings, it was suggested that possibly the main explanation of the rising grower's share of the refiner's price was an increase in volume and extractive efficiency on the part of the processor which made him better able to pay more to the grower.

The consumer interest has also been represented to us. At the Vancouver hearings, we were told that any measures that may be needed to assist sugar beet growers should exclude restriction on imports of cane sugar because this would cost Canadian consumers much more than it would benefit sugar beet growers.

The basing-point system of pricing sugar, already referred to, is the answer to a question raised before us by the Canadian Association of Consumers as to why the price of beet sugar, produced locally, is as high as that of imported cane sugar, taffy, butter, cream and wax—are also processed from maple sap. The prices, and called for an examination into sugar pricing. We would refer them to the inquiries, completed and in progress, by the Restrictive Trade Practices Commission into the sugar industry.[1]

MAPLE PRODUCTS

Generally speaking, maple products are not important from either the consumer's or producer's point of view, but they are an important source of supplementary income to farmers in certain areas of Quebec. Over the last decade in Canada, the per capita consumption of maple syrup declined, averaging about 1.35 pounds per annum. Cash income from maple products accounts for 0.3% of the total cash income from farm products in Canada, and for slightly over 2% of cash farm income in Quebec. Over the last decade Quebec accounted for about 86% of the maple syrup and for about 92% of the maple sugar produced in Canada.

The production of maple syrup has shown a slight downward trend, and there has been a marked increase in the proportion of our maple syrup production which is exported. Exports in recent years have amounted to over 80% of production.

The maple bush can be a good source of off-season income to the farmer, but production fluctuates a lot from year to year due to weather conditions. Syrup production requires considerable readily-available farm labour.

The principal maple product is syrup, but certain speciality products—maple sugar, taffy, butter, cream and wax—are also processed from maple sap. The main difference among all of these maple products lies in moisture content, but colour and flavour are also important. Most consumers prefer a light-coloured syrup. Grades are provided by the Canada Department of Agriculture but grading is not compulsory.

Processing involves the collection, heating, blending, cleaning, packaging and storing of the maple products. Maple syrup is slightly perishable. Perhaps the greatest wastage is due to poor methods on the part of some farmers which result in syrup of poor quality—that is, not readily saleable as a table product at premium prices or, indeed, for other than industrial use. Maple syrup is subject to fermentation if the moisture content has been inadequately controlled during processing. This is important, even to the farmer, who sometimes is left with unsold syrup on his hands beyond the spring season. In processing and bottling

[1] Canada Department of Justice *Report Concerning the Sugar Industry in Western Canada and a Proposed Merger of Sugar Companies*, Ottawa, 1957.

there is some wastage also, but it is probably not great because maple syrup drains readily from containers. Some spoilage in storage after the product reaches the consumer is not unknown.

The crop is disposed of either by direct farm-to-consumer or farm-to-wholesale or farm-to-retail sale in gallon or smaller containers or in bulk to domestic packers and industry and export dealers. Direct marketings by farmers to consumers are mostly seasonal, but commercial packs are sold in the grocery stores throughout most of the year. Maple syrup for table use used to be merchandised mainly in gallon containers, but 26-ounce cans and 16-ounce bottles are being used with increasing frequency. Brand names are used, but extensive advertising seems to be precluded because of the limited volume of sales.

During the last few years at least, maple products have faced keen competition from cheaper artificial substitutes. Although these substitutes are labelled "artificial" they are also labelled "maple", and the general public perhaps thinks that these substitutes are at least partly maple. The Commission was informed that even genuine maple syrup can be up-graded by artificially lightening the colour of dark syrup—this does not enhance its flavour but it looks better and sells at a higher price.

Unfortunately, systematic data on retail prices of maple products were not available for our decade of study. Seasonal information is available, however, on wholesaler-to-retailer prices for maple syrup by major markets (e.g. Montreal and Toronto) and by province of origin. An examination of these data indicated that the normal (but not invariable) pattern of seasonal prices for maple syrup was to begin high and then fall progressively throughout the short spring season.

Because of the lack of data, it was not possible to estimate the farm-retail spread for maple products. The best that could be done, and even this involved pushing the data hard, was to estimate the farm-wholesale spread for maple syrup in Ontario and Quebec. Wholesale quotations are available for the six-to-ten-week syrup season, but these quotations are actually a combination of wholesale and retail prices. This is because a substantial proportion of the maple syrup

Table 61—Summary of Farm-Wholesale Spreads on Maple Syrup, Quebec and Ontario, 1950 to 1957[a]
(Dollars per Gallon)

Calendar Year	Quebec			Ontario		
	Wholesale Value	Farm Value	Farm-Wholesale Spread	Wholesale Value	Farm Value	Farm-Wholesale Spread
1950	3.75	3.44	.31	4.45	4.05	.40
1951	4.07	3.55	.52	4.56	4.29	.27
1952	3.96	3.33	.63	4.80	4.21	.59
1953	4.51	3.69	.82	4.94	4.32	.62
1954	4.64	4.60	.04[b]	4.91	4.28	.63
1955	5.51	4.91	.60	5.36	4.48	.88
1956	5.98	3.57	1.41	5.88	4.71	1.17
1957	4.40	3.08	1.32	4.96	4.65	.31

[a]Adapted from price spread study of maple products in Volume III where a fuller explanation of procedure etc. is given.
[b]Something may be wrong with the official figures for Quebec for 1954; a farm-wholesale spread of 4¢ per gallon seems too small.

reaching the consumer during the maple season is sold by the producer himself on farmers' markets at prices recorded as "wholesale". Furthermore, an unknown amount of maple syrup is sold by the farmer at unknown prices directly to retail stores or to tourists and local residents at roadside stands.

The results of our farm-wholesale price spread calculations for Quebec and Ontario for the eight years 1950 to 1957 are summarized in Table 61. No adjustment was made for waste. The wholesale and farm prices of maple syrup in Ontario exceeded those in Quebec by substantial amounts over the period. Concurrently, the farm-wholesale spread in Quebec exceeded that in Ontario by an average of about 10¢ per gallon. The Quebec spread, moreover, was more volatile from year to year.

There are persistent regional differences in the farm price of maple products. The largest producing province, Quebec, received decidedly lower farm prices for its maple products than the other producing provinces. Ontario, the second largest producer, received the second lowest prices. Since Quebec has a large maple products' co-operative which would try to pay its members as large a return as possible, some explanation is required for Quebec's low farm prices. It has been suggested to us that these farm prices reflect a lower degree of preliminary refinement of maple syrup delivered by Quebec farmers to plants for further processing. Another possible explanation is that Quebec's farm prices are lower because a large amount of the maple syrup is exported in bulk at wholesale prices for industrial purposes. Finally, supplies of maple products in Quebec are large relative to the size of the market, compared with the situations in the other producing provinces. These farm prices, of course, do not indicate relative profits to the farmers, since costs and volume of sales would also have to be taken into consideration.

The farmer's share of the *wholesale* price of maple syrup averaged about 88% in Ontario over the period, compared with about 83% in Quebec. The Commission was informed that the retailer takes a markup of 20% to 25% on the cost to him. If the retail markup in Canada on maple syrup over the period had averaged 20% to 25% (and this is only an assumption) the farmer's share of the retail price would have been between 65% and 69%.

FISHERIES

PART VI

FISHERIES

CHAPTER 1.

THE NATURE OF THE PROBLEM IN THE FISHERIES

1. Dominance of the Export Market

The export market is the dominant force affecting prices realized by Canadian fish processors and wholesalers. Fisheries products are sold largely outside the country; therefore, not only is the price received abroad outside the control of the industry and of the federal or provincial governments, but export sales most often are a dominant factor affecting the scale and costs of production and the volume of supply to the domestic market. But the price received by fishermen is not usually differentiated according to the destination of the product to the domestic or to the export market, even though there may be a persistent difference between the prices realized by the processor or exporter from sales on the two markets. Because the portion of the fisherman's price attributable to sales on the domestic market cannot be isolated, a producer-domestic market price spread, putting aside problems in calculation, has, at best, very limited meaning.

2. Factors Other Than Price Affecting the Welfare of Fishermen

The price of his catch is only one of several factors determining the net income of the fisherman. The cost of fishing as well as the value of the catch determines what the fisherman's net income from his inputs of labour and capital will be, and unit costs of production in fishing are affected by many things, such as the quantity and concentration of the available fish species, the distance to the fishing grounds, the clemency of the weather, the length of the fishing season, the skill and luck of the fisherman, the number of boats and fishermen competing for the catch and the efficiency of the equipment employed in the fishery. Changes in any one or more of these factors usually affect fishermen's productivity and their net incomes.

Through their influence on the number of men employed in the fisheries, regional wage or income levels are basic determinants of the level of fishermen's incomes. Fishermen's receipts from the sale of fish are "opportunity costs" of production, in that fishermen must receive in the long run, if they are to remain in the industry, returns more or less equivalent to what they have an opportunity

to earn in another occupation.[1] As long as the entry of workers into the fishing industry is unrestricted, fishermen will not enjoy incomes much greater than those obtainable in other occupations (of a similar level of skill) in the same region. On the other hand, the availability of alternative occupations in the region sets limits to the entry of workers into the fishing industry and encourages them to leave it if their fishing receipts fall below the level of returns they might expect to earn elsewhere.[2] Fishermen's incomes are, accordingly, dependent not only upon the degree of prosperity in the areas in which their products are marketed, but also (given a degree of labour mobility) upon the economic "climate" of their own area.

Improvement in the productivity of workers in the industry is dependent upon the availability of capital. The way in which the capital is used as well as the amount invested is important; frequently increases in productivity have accompanied a greater degree of concentration of capital and some resultant displacement or reduction in the number of workers. A rising total of capital investment in the Canadian fisheries since 1945 in larger, more mechanized fishing boats and processing plants has been accompanied by progressive decreases in the number of fishermen and plant workers. The availability of capital is related, of course, to the supply and demand situation for the principal fisheries products. Moreover, the existence of relatively high regional wage levels (as in British Columbia) has tended to stimulate investment as a means to increasing labour productivity; this in turn brings economies in the labour factor and thus reduces the cost of production per unit of product.

Few fishermen work for wages and a large number have no share in ownership of the boat and gear with which they fish;[3] consequently institutional arrangements for the sharing of catch receipts between labour and capital are significant in the determination of fishermen's incomes particularly if, in the trend towards larger, more expensive catching units, the fisherman becomes more and more divorced from ownership of the equipment he uses. Under the traditional and typical share or "lay" arrangements, the members of a fishing crew, including the skipper, share in the proceeds from the sale of the catch after the deduction of certain operating expenses and the boat share (the latter constituting the return, including depreciation, on the capital invested). Only a few such as, occasionally, the second man in a lobster boat, work for wages. Most Canadian fishermen, therefore, are co-adventurers or co-sharers in their fishing enterprise, but only some have the status of owners or employers.

Because most fishermen are not wage-earners, their organizations have not the legal status of labour unions for collective bargaining and other matters, and

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[1] If fishermen, because of the attractiveness of the life, the lure of possible extraordinary returns, reluctance to break home ties, or sheer inertia, accept smaller monetary returns than they could obtain in another occupation, this in effect reduces the cost of fishing to society.

[2] Lack of capital for the necessary equipment may, however, restrict many from entering the industry, and possession of a boat and gear may prevent a fisherman from leaving the industry as long as his catch yields some return on his capital above current costs.

[3] According to the 1951/52 Census of the fisheries, there were about 30 thousand fishing enterprises. (An enterprise is defined as the aggregation of capital under the management of an individual, partners or a firm.) These enterprises involved a labour force of about 54 thousand or about two per enterprise. Of these, less than 10% (4 thousand) worked for wages. Most of the remainder, excepting those fishermen operating alone, worked under a share-of-catch arrangement.

fishermen were only recently included under unemployment insurance by special legislation which defines the first buyer of their catch as their employer for the purposes of the Act. Witnesses at the Halifax hearings of the Commission commented on the denial of labour union rights to fishermen in Nova Scotia[1]. In British Columbia minimum prices for net-caught salmon have been negotiated annually between the Fisheries Association of British Columbia representing the processors and the United Fishermen and Allied Workers Union for its fishermen members, but questions as to the legality of this procedure having been raised, it is being continued only under special legislation exempting it for two years from the provisions of the Combines Investigation Act and Section 411 of the Criminal Code.

Finally, improvement of fishermen's productivity and welfare is related in considerable measure to the extent and effectiveness of government measures to conserve fish stocks and to improve fishing methods and equipment. The nature and form of government administration of the fisheries and the effect have varied greatly from time to time and from one region to another. Responsibility for the commercial fisheries is divided between the federal and provincial governments and, while the federal government has general jurisdiction over the commercial ocean fisheries, except in Quebec, provincial governments control most of the inland fisheries and in all provinces have been involved in various loan, subsidy, regulatory and educational programs in the primary, processing and distribution stages of the industry.

3. Resource Management Programs and Other Government Measures

The necessity for government "management" programs in the fisheries arises out of the nature of the resources. Fish stocks are common property resources, freely available to all under an unrestricted free enterprise system.[2] Because no individual is likely to receive much benefit from his own abstention from fishing or other attempts at conservation, there is a tendency for fish stocks to be over-exploited; there is a resultant depletion of the stocks and, frequently, very low economic returns to many fishermen. Such results in the past have led to the development of a wide range of control over the fisheries by federal and provincial governments and international commissions. Conservation projects and regulations have been most successful when there was general recognition of the need for them and wide-spread public support.

Governments have had to take account of other social welfare needs of the fishing population besides those implied in conservation measures. Fishermen and their families share, of course, in social security benefits such as family allowances and old age pensions that are applicable to all of the Canadian population. Special needs have arisen, however, particularly in isolated regions where productivity is low and alternative employment opportunities scarce, such as Atlantic areas dependent upon the salted fish trade and sections of the fresh-water fish industry on the Prairies. At various times and places, therefore,

1 Messrs. H. J. MacLeod and J. K. Bell, *Proceedings*, Vol. 13, pp. 2079-82.

2 Licences are required for a number of fisheries, both salt and fresh-water. Licence fees are generally nominal and have practically no effect on the numbers engaging in fishing.

assistance to the primary fisheries has been carried out by the government. The forms of assistance include price support action, financing of appropriate vocational training and, on the Atlantic Coast particularly, assisting fishermen and fishing companies by loans and subsidies to improve their boats and gear and methods of fishing. Moreover, governments have assisted also fishermen's co-operative movements.

4. Regional Specializations in Production

In the fisheries, natural and social factors have favoured a considerable degree of specialization in production within geographic areas. Although some 150 species of fish and shellfish are exploited commercially in Canada, about a dozen species account for 85% to 90% of the value of the catch, and not more than three or four of these are of predominant importance in any one region.

An analysis of the value to the fishermen of the 1957 catch by species in each of the main fishing areas is presented in Table 62. The proportion of the 1957 catch of these species consumed in Canada is shown in Column 2 of the table. The figures vary widely from year to year, but the 1957 data may be taken as a rough indication of the relative unimportance of the domestic market in the determination of the gross income of fishermen.

Table 62—Value to Canadian Fishermen of the Total Catch of the Principal Species of Fish and of the Part of the Catch Retained in Canada, by Areas, 1957

Species Group	Canada		Principal Regions			
	Total	Retention for Domestic Use	British Columbia	Maritimes and Quebec	Newfoundland	Fresh-Water Fisheries
			Value in Millions of Dollars			
All Species	94.8	34.1	30.7	37.0	13.6	13.5
Atlantic Cod	15.0	2.3	—	6.3	8.7	—
Haddock	4.2	1.8	—	3.2	1.0	—
Lobsters	14.5	1.7	—	13.4	1.1	—
Salmon	19.9	13.4	18.9	0.5	0.5	—
Halibut	5.8	1.8	3.7	2.0	0.1	—
Whitefish	3.6	0.4[a]	—	—	—	3.6
Pickerel	4.7	0.5[a]	—	—	—	4.7
Herring & Sardines	7.5	1.1	4.9	2.2	0.3	0.1
			Per Cent of Total Value			
All Species	100	36	100	100	100	100
Atlantic Cod	16	15	—	17	64	—
Haddock	4	43	—	9	7	—
Lobsters	15	12	—	36	8	—
Salmon	21	67	62	1	4	—
Halibut	6	31	12	5	1	—
Whitefish	4	10[a]	—	—	—	27
Pickerel	5	10[a]	—	—	—	35
Herring & Sardines	8	15	16	6	2	1

[a]Based on 1956 data.

Only in the case of salmon was more than one-half, by value of the catch, retained in Canada (67%).[1] Next in order were haddock (43%), halibut (31%), Atlantic cod and herring (each 15%), and lobsters (12%). The sales for retention in Canada of all commercial species in 1957 are estimated to represent 36% of the landed value ($34 million out of $95 million.)

5. The Difficulty of Measuring Fishermen's Incomes

Measured by value of output, number of persons employed or investment, the total fisheries industry is relatively small. The gross value of production in the primary fisheries was $115 million compared with a gross value of production of $3 billion from farming for 1958. In the primary fisheries the labour force amounted to perhaps 60 thousand while for farming the total was 728 thousand. But, insofar as the domestic food market is concerned, the fisheries contribution is proportionately even smaller. As we noted in the previous section, a high proportion—about two-thirds by value—of the raw material is represented in exports. In terms of the domestic food market, of the approximately 12.5 million tons of food consumed in Canada in 1958, about 69 thousand tons were fishery products.

The inescapable and significant fact is that the smallness of the overall magnitudes fragmented by important regional differences and the relatively small flow of products into the domestic market make for difficulties in developing statistics of the industry. The cost of further statistical refinement is relatively high.

For these reasons we have not been able to follow an analysis exactly similar in pattern to that presented for agriculture in Part I, "The General Problem and Its Setting". We can approach certain parts of that analysis and in Table 63 and Chart 36 present a comparison of an index of prices received

Table 63—Index Numbers of Retail Prices of Fisheries Products and of Prices Received by Fishermen, Canada
(1949=100)

Year	Retail Prices	Fishermen's Prices*
1949	100	100
1950	104	114
1951	112	121
1952	113	119
1953	104	110
1954	104	116
1955	108	118
1956	112	135
1957	119	119

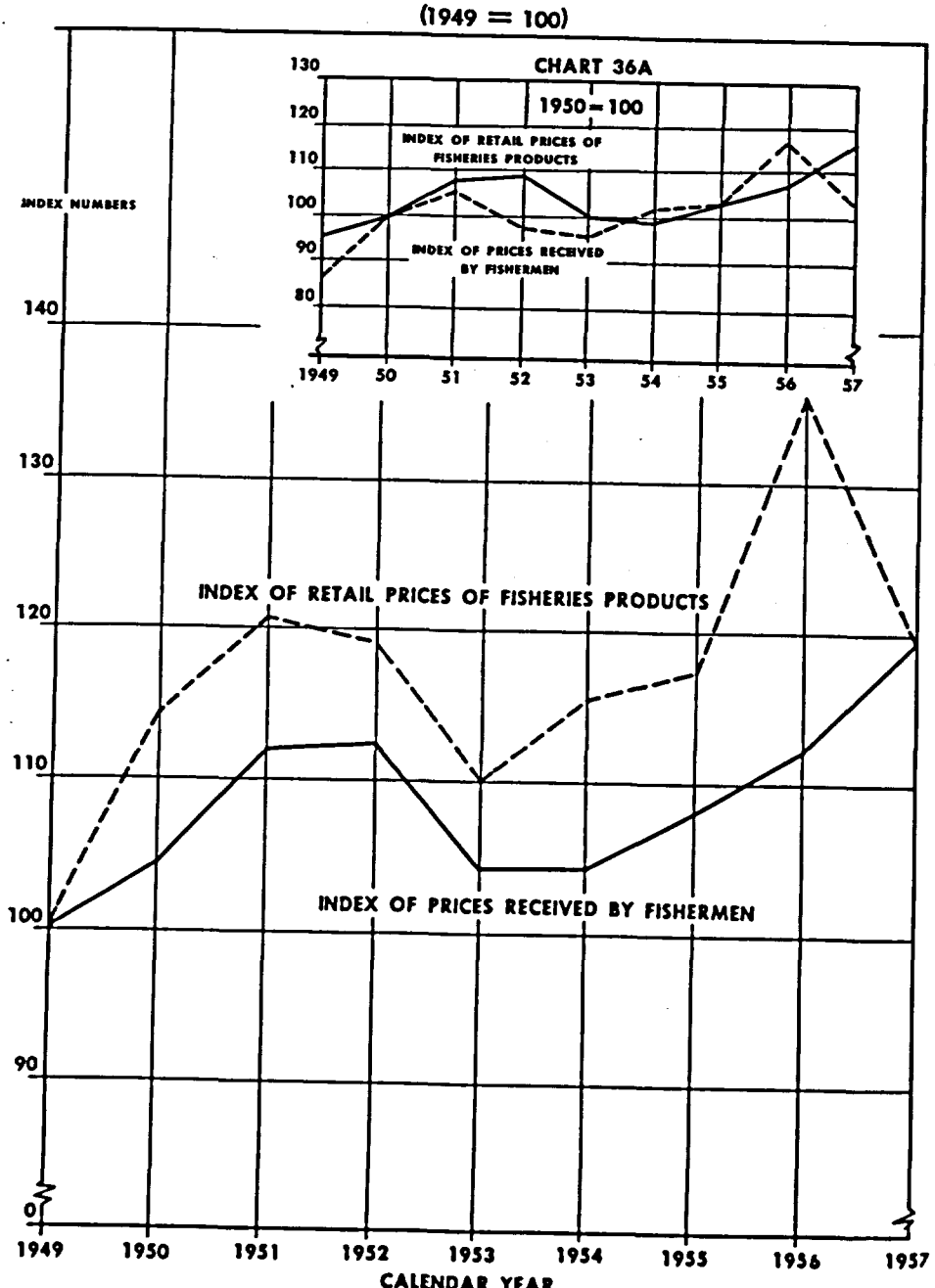
*Index of Fishermen's Prices for Canada excluding Newfoundland converted from 1935-39 base by recalculation.

[1] A high proportion of the salmon pack is retained in Canada in small pack-years such as 1956 and 1957. Of the total British Columbia canned salmon pack for the 10 years 1949 to 1958, close to one-half was exported.

CHART 36

INDEX NUMBERS OF RETAIL PRICES OF FISHERIES PRODUCTS AND PRICES RECEIVED BY FISHERMEN IN CANADA, 1949 TO 1957[a]

(1949 = 100)



a-Index of Fishermen's Prices for Canada excluding Newfoundland converted from 1935-39 base

by fishermen and an index of retail prices of fisheries products sold in the domestic market using the 1949 base which we have used in the analysis of the price spreads of farm products. In the fisheries the year 1949 was one of low prices and low output. For this reason we have, in some instances, used a base period other than the year 1949 for the analysis of fishery output and prices.[1] The important conclusion from Chart 36, which is not affected by choice of the base period, is that the data on fishermen's prices and retail prices do not reflect the overall widening of the spread which was so marked in the case of farm products. This shows up clearly in Chart 36A (inset), where the same indexes are shown with 1950=100.

6. Incomes, Investment and Output

We have been unable to trace the changes in the incomes of fishermen over the past 10 years. The only source of statistics from which to compare incomes of fishermen by regions is the 1951/52 Census of the fisheries.[2] From the Census data it is possible to derive the approximate net income per fishing enterprise.[3] The lowest incomes from fishing operations are found in the northern areas of the Prairie Provinces, a substantial part of the salt cod fisheries of Newfoundland, and the fisheries of the Province of Quebec. Generally higher incomes prevail in the Maritime Provinces, and the increase in the numbers of long-liners and draggers in recent years has brought about some improvement in incomes. The larger vessel operations on the Great Lakes, particularly Lake Erie, have afforded better incomes than in most parts of Canada, but fishing yields have suffered and the Lake Erie fishing has gone through difficult times. The highest average incomes are found in the British Columbia fisheries, and these have gained relatively in recent years. While conditions have changed since the Census, we have no evidence that the relative income position of fishermen in different areas has changed drastically.

There are other statistics which indicate changes in productivity and incomes in the primary fisheries. These include data on investment in fishing equipment, and on volume of landings in relation to prices.

The trend of investment in fishing equipment in Canada (excluding Newfoundland) has been upwards both in aggregate amount and in amount per fisherman (Chart 37). The number of fishermen has been declining since 1951, while the value of boats and gear has been increasing. The volume and value of landings have increased.

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1 We have used a five-year base period, 1946-50, for various fisheries statistical series. However, the price data for calculating index numbers of retail prices were not available for the years prior to 1949 and we have, therefore, used the single base year for this purpose.

2 Ninth Census of Canada 1951, Vol. IX *Fisheries*, Queen's Printer, Ottawa, 1954.

3 A few studies scattered over time and regions lend support to the conclusions to be drawn from the Census: e.g., D. R. Buchanan and B. A. Campbell, *The Incomes of Salmon Fishermen in British Columbia, 1953-54*, Economics Service, Department of Fisheries, Ottawa, 1957; *Newfoundland Fisheries Development Committee Report*, St. John's, Newfoundland, 1953; and a series of reports on the operations of long-liners and draggers by John Proskie, Economics Service, Department of Fisheries, Ottawa.

CHART 37

INDEX NUMBERS OF THE VOLUME AND VALUE OF LANDINGS, VALUE OF BOATS AND GEAR, AND NUMBER OF FISHERMEN, BY YEARS, CANADA, 1946 TO 1957[a]

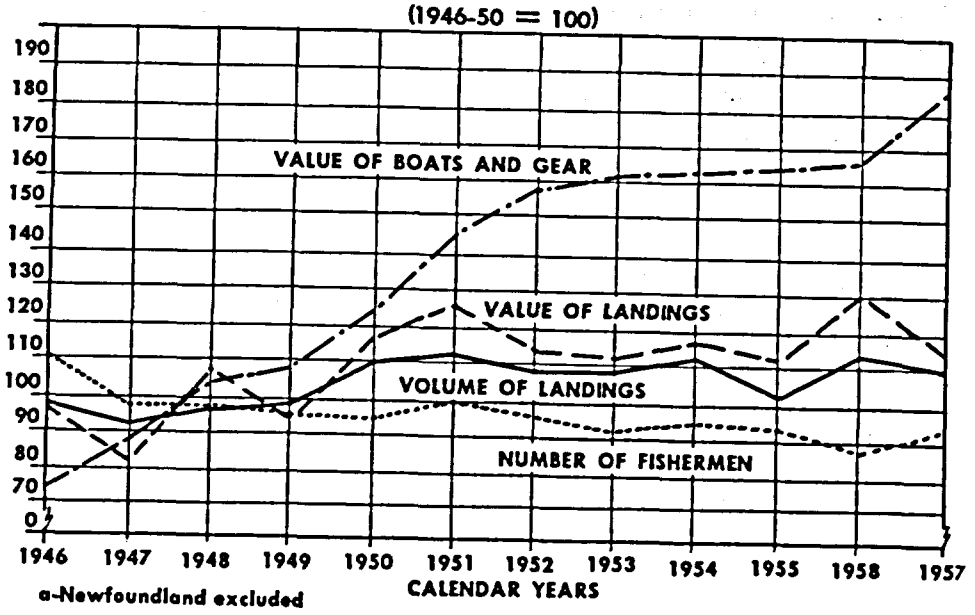


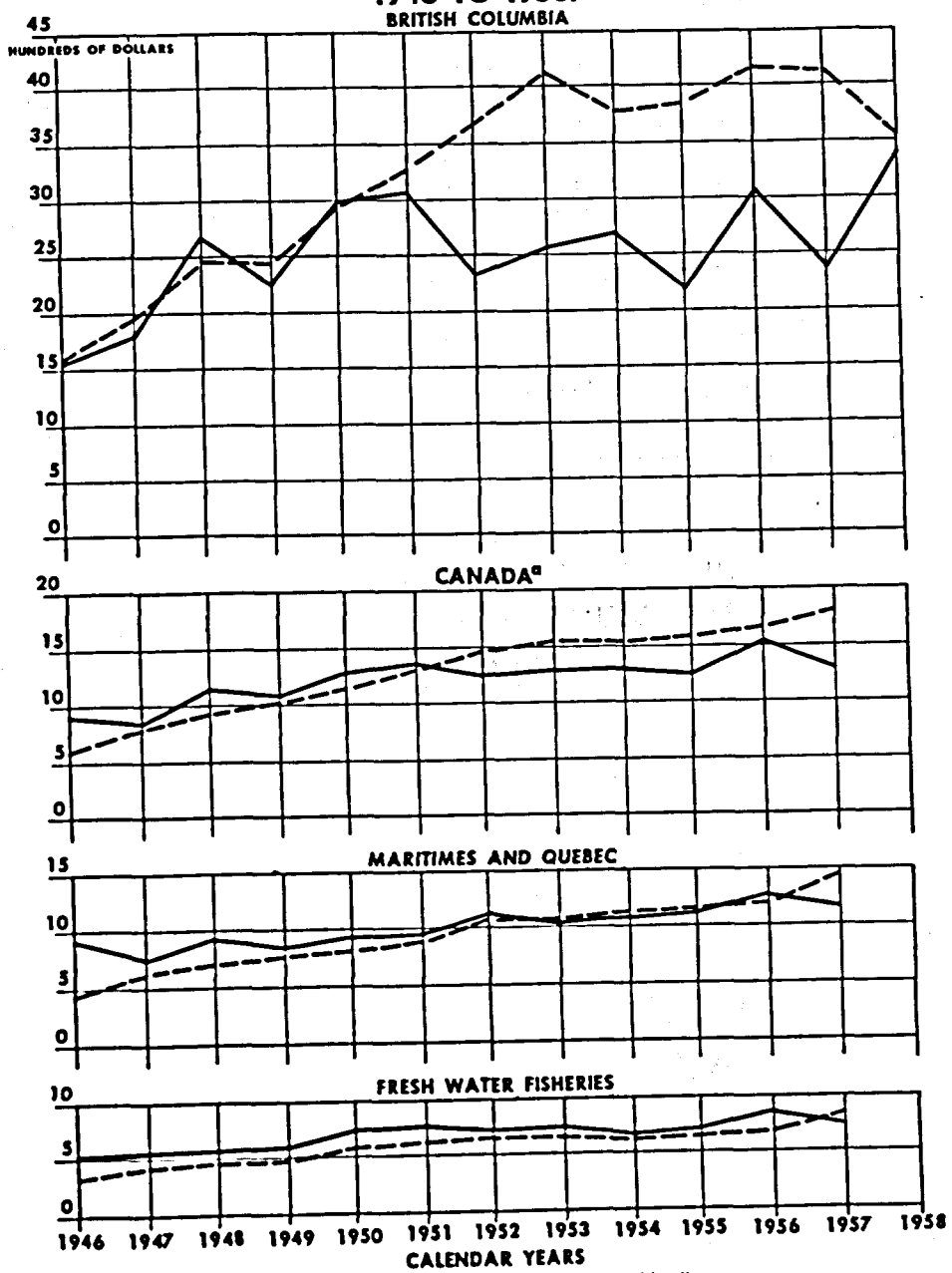
Chart 38 compares the regional values of landings and of boats and gear *per fisherman* in each year, 1946 to 1958. In British Columbia both the value of boats and gear and the value of landings increased from 1946 to 1951; since then the average value of landings per fisherman has levelled out. The increase in investment represents a considerable development of new, larger and faster craft to enable fishermen to get as large as possible a share of the fixed supply in a short-period fishing operation. The levelling out of gross value of output per fisherman is due in part to greater numbers fishing in the later years. In other regions (not including Newfoundland) value of landings per fisherman has moved in step with investment per fisherman, but Chart 38 makes clear the relatively low investment and value of output in the Maritimes, Quebec, and, particularly, in the fresh-water fisheries.

7. Trends in Fishermen's Prices and the Volume of Landings

Although it might be expected that rising fish prices would stimulate fishermen to catch more fish, difficulties in finding the fish, catch restrictions, competition for a limited supply and poor weather adversely affect fishermen's efforts to increase their haul. In a period of rising prices the costs of fishing requisites

CHART 38

VALUE OF INVESTMENT AND VALUE OF LANDINGS: REGIONAL ANNUAL AVERAGES PER FISHERMAN: 1946 TO 1958.



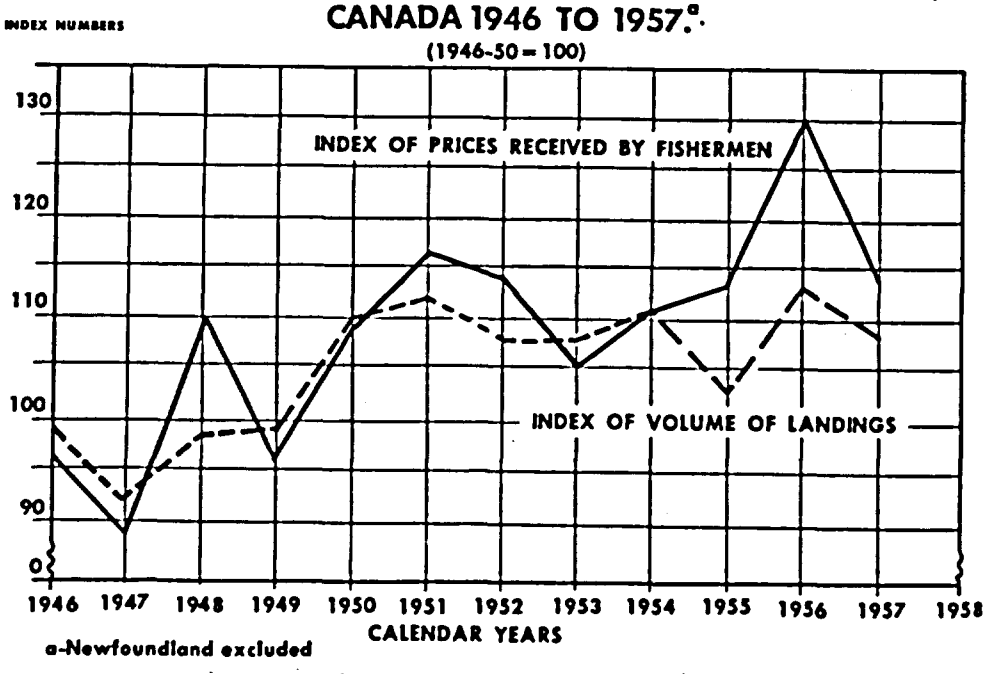
rise also and to an extent the incentive to increase the catch is thereby diminished. Furthermore, average prices may be affected by a wide year-to-year swing in the volume landed of low-valued species, like herring, or of high-valued species, like sockeye salmon. Over a 10-year period, however, some significance attaches to the difference in trend between average prices and average landings.

Index numbers of the annual volume of catch and annual average of fishermen's prices for all of Canada and for three regional fisheries are shown in charts on the following pages. In Chart 39, the indexes for the whole of Canada (except Newfoundland) show a rising trend in the average price per pound received by fishermen, and a tendency for the volume of landings to level after the year 1950.

Trends in prices and landings in the Canadian commercial fisheries are heavily influenced by the high prices realized for species of the British Columbia fisheries as depicted in Chart 40. The trend of annual landings in that province has been relatively stable in comparison with average fish prices. Landings from 1946 to 1958 fluctuated within a maximum of 17 percentage points from the average for the five years 1946-50, and although 1958 was a good year, the catch was, in fact, only 16% higher than in the base period. In the same period the trend in British Columbia fishermen's prices was much more steeply upward. The index on the 1946-50 base averaged 157 for the three years 1956-58. The index of landed prices was 78% higher in 1958 than in 1946-50. The salmon

CHART 39

INDEX NUMBERS OF PRICES RECEIVED BY FISHERMEN AND OF THE VOLUME OF FISH AND SHELLFISH LANDED, CANADA 1946 TO 1957.[a]

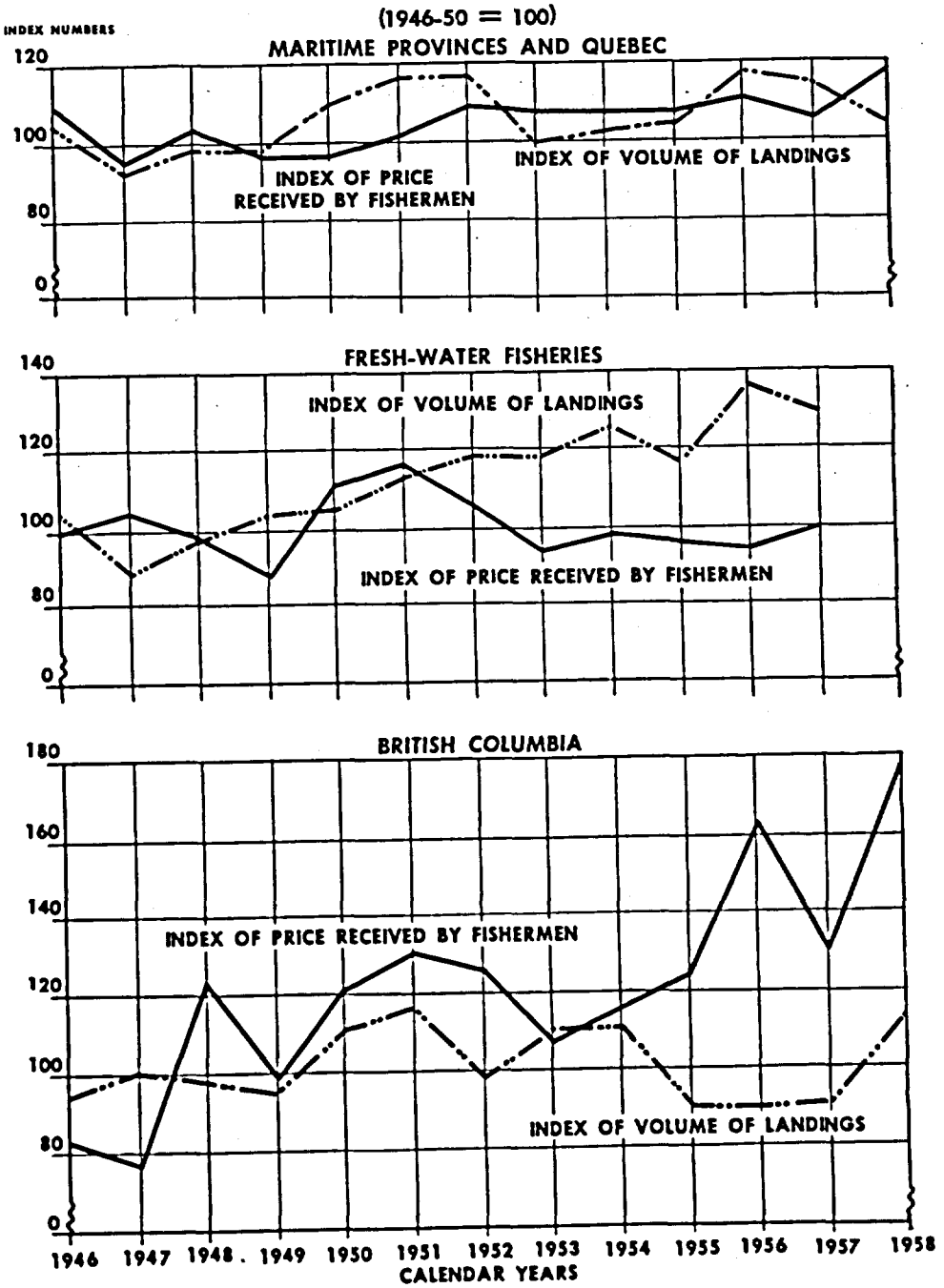


a-Newfoundland excluded

CHART 40

INDEX NUMBERS OF PRICE RECEIVED BY FISHERMAN AND OF THE VOLUME OF FISH AND SHELLFISH LANDED, BY REGIONS, 1946 TO 1958.

(1946-50 = 100)



species are a predominant part of British Columbia fish landings and are in the short run relatively fixed in supply. The proportion of the higher-priced salmons such as sockeye and spring salmon in the total salmon catch varies considerably from year to year and this has an effect on the price index.

In the Maritimes and Quebec, the annual volume of catch has more or less kept pace with a gradually increasing level of average fish prices, as indicated also on Chart 40. For both, the rate of increase over the past decade has been of the order of 12% to 15%.

Average prices realized by Canadian fishermen for fresh-water species are not greatly different now from 10 years ago, although the level did rise in the three years 1950-52. The level of landings did rise gradually over the decade, to 30% above the 1946-50 base for 1957.

8. Investment and Rates of Return in Fish Processing

According to the data we have compiled for seven fish processing companies, they conformed to the general pattern for food wholesaling, retailing and manufacturing corporations (see Part III, Chapter 3, Section 3) of declining rates of return on investment (shareholders' equity) during the period 1949-57. This was in contrast to other food processing (excluding fish processing) companies whose average yearly rate of return on investment showed little change over the nine-year period.[1]

The group of seven fish processors had an average return on investment after taxes of 8.1% for the nine years 1949-57, dividends from subsidiaries being included in the returns. This was about the same as the average rate of return (8.4%) for other food processing,[2] but over the period the annual averages of return on investment for the fish processing group have varied widely. The shareholders' equity in the seven fish processing companies increased by 34% between 1949 and 1957, compared to an average increase of 71.6% for the other food processing groups.[3]

The averages conceal a considerable diversity in rates of return on investment among the different firms and from year to year over th nine-year period. Some individual firms, particularly on the east coast, had rates of return (and increases in shareholders' equity) much higher than the averages here recorded.

9. The Marketing Bill for Fish Consumed in Canada

An estimate of the marketing bill for fish and shellfish consumed in Canada indicates a 42% increase between 1949 and 1957 in the value to the fishermen of fish products consumed in Canada while the retail value increased by 68% over the same period. The "price spread", the difference between the retail value and the value to the fishermen, increased by 99%. The volume of fish

[1] Part III, Table 16.
[2] *Ibid.*
[3] Part III, Table 17.

marketed for domestic consumption increased by 35%.[1] From this we estimate that marketing costs per unit of fish marketed increased 47%, as a result of a 24% increase in the amount of services and a 19% increase in the price of a unit of marketing service.[2] Table 64 shows the estimates of the marketing bill for the period 1949 to 1957.

Table 64—Retail Value, Fisherman's Value and Marketing Bill for Fish Food Products Landed and Consumed in Canada, 1949 to 1957

Year	Retail Value	Fisherman's Value	Marketing Bill	Fisherman's Value as % of Retail Value
		($ million)		
1949	43.3	23.9	19.4	55.2
1950	49.7	27.9	21.8	56.1
1951	55.4	29.7	25.7	53.6
1952	58.9	28.4	30.5	48.2
1953	60.0	28.1	31.9	46.8
1954	62.0	29.1	32.9	46.9
1955	65.6	28.3	37.3	43.1
1956	63.8	31.6	32.2	49.5
1957	72.7	34.1	38.6	46.9

[1] This includes the effect of the shift to higher priced commodities.
[2] The methods of computation used were those detailed in the footnotes to Chapter 3 in Part IV.

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CHAPTER 2

REGIONAL SITUATIONS AND PROBLEMS

1. British Columbia Fisheries

Principal Species and Products

The five Pacific salmon species,[1] halibut, and herring are the most important species in the British Columbia fisheries; during the decade 1949 to 1958, salmon represented 66% of the value of British Columbia landings, herring 14% and halibut 11%. Halibut and salmon are superior, comparatively high-priced food fish; herring are small, low-priced fish caught in large volume and used mainly on the Pacific Coast for reduction into fish meal and oil.

The salmon species represent close to one-quarter of the value of all Canadian commercial landings. The proportion of the salmon catch retained for consumption in Canada is high in comparison with other fish species. Among Canadian food fish the salmon ranks first in its importance to fishermen's incomes and in its share of Canadian consumer expenditures on fish.

Practically all sockeye and pink salmon are canned. The other three species and steelhead trout are also canned but a considerable part of the catch is marketed in fresh and frozen forms, lesser amounts being put into mild-cured, smoked and dry-salted forms. Halibut is marketed in fresh and frozen dressed and filleted forms.

Restricted Supply

The flavour and other quality characteristics of salmon and halibut have been basically responsible for the demand for their products but another important factor maintaining their prices at relatively high levels has been the restricted supply. The annual catch of each species is limited in the interest of conservation by federal government "management" and by joint Canada-United States control commissions in waters outside national jurisdiction. The opening dates for halibut fishing and catch quotas for each area are set by the International Pacific Halibut Commission, and the season is closed when the quota is taken. Exploitation of Canadian salmon stocks in the ocean is prevented by agreement among Canada, the United States and Japan under the International Convention for the High Seas Fisheries of the North Pacific Ocean; salmon fishing is restricted to the periods when the spawning runs to the Fraser and other coastal rivers takes place. The number of salmon caught is dependent primarily upon the size of the spawning runs; spawning escapement from each run is managed by enforcing periodic closures of fishing and by restrictions on the use

[1] The five species are sockeye, pink, chum or keta, coho and spring salmon. The steelhead trout is usually grouped with the salmon species, being similar in appearance and habits to the Atlantic salmon.

of certain types of fishing gear. In international waters, the fishing of sockeye and pink salmon runs is controlled by the International Pacific Salmon Commission to provide for an approximately equal division of the catch between Canadian and United States fishermen as well as for the requisite spawning escapement.

High Production Costs

The increase in the prices of boats, gear, fuel and other supplies that fishermen must buy has been part of the general rise in the price level. Offsetting these increased costs, investment in more efficient boats and gear has tended to increase fishermen's productivity. Investment in such modern equipment has been particularly necessary in British Columbia because industrial wage levels are higher and employment opportunities more plentiful there than in the other major fishing areas. A high level of catch returns, therefore, has been necessary in British Columbia to counteract the tendency of fishermen to move into other industries if their returns from fishing fall below those in other occupations.[1]

Capital investment in the industry has also been stimulated by catch quotas and the short fishing seasons: competition among fishermen for a larger share of the catch has resulted in heavy investment in new and better boats and gear. This effort has been to a considerable degree self-defeating insofar as net gains in productivity for the industry are concerned: the increased number and efficiency of catching units has tended to reduce still further the length of time in which the limited catch is taken, and heavier landings by the newer, more modern boats have been at least in part at the expense of landings by older, less efficient units. Adaptation of boats for use in more than one fishery has served to lengthen the fishing season for such boats and their crews, but additional costs are involved. Furthermore, diversified or multi-purpose boats may be somewhat less efficient in any one fishery than a single-purpose boat.

A more complete analysis of the situation would take account of other relevant considerations such as the degree to which the various fisheries are complementary, the competition of fishermen of other nations, and the extent of off-season employment opportunities for fishermen. However, from the standpoint of the national economic interest, the British Columbia fishing industry is over-capitalized because the annual catch could be taken with a much smaller quantity of boats and gear. Despite the increased efficiency of modern fishing equipment and despite the high net incomes gained by some skilled or lucky fishermen in some seasons, British Columbia fishermen are faced with high average fixed costs of production and they are, in consequence, extremely vulnerable to such eventualities as a poor season's catch or falling fish prices.

The high fixed cost structure in the industry tends to add to the inflexibility of supply imposed by limited stocks and conservation management. Should the market demand for salmon or halibut weaken, no considerable immediate decline in fishing effort is likely to result, so long as some part of the heavy capital costs, over and above current operating expenses, can be recovered by continued fishing.

[1] According to the annual number of fishing licenses issued in the province, there has been no considerable change in the number of fishermen in British Columbia since 1950, apart from annual fluctuations of as much as 10% of the total. The numbers have averaged higher since 1950 than in the immediate postwar years.

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Seasonal production also involves higher processing, storage and marketing costs. The fishing companies in competition for raw fish supplies tend to provide sufficient capacity to handle the peak landings in the best fishing years—capacity to process in a few weeks the entire year's production, with plant and equipment necessarily idle or only partially used at other times of the year. Freezing capacity can be used, of course, for processing different species of fish throughout the various fishing seasons, but salmon canneries are highly specialized and only two or three operate on tuna, clams, oysters or herring for limited periods during the closed season for salmon.

Marketing Structure

The heavy capital cost of the modern canning and freezing equipment necessary to achieve the economies of large-scale production has led to concentration of processing activities. The number of salmon canneries in British Columbia was about 100 at the close of World War I; it is now 19, with ownership confined to an even smaller number of companies. British Columbia Packers, Canadian Fishing Company, Nelson Brothers and Anglo-British Columbia Company account for most of the British Columbia pack of canned salmon and, along with the Prince Rupert Fishermen's Co-operative Association, for the greater part of the frozen fish output.

This dominance of the secondary industry by a few large companies developed gradually and was largely completed before the beginning of the last decade, taking place through "horizontal" integration as companies grew by taking over other processing operations and through "vertical" integration as they invested in fishing fleets, net lofts and even shipyards, and extended their marketing activities into wholesaling. Production cost economies were not the sole reason, however, for the growth of these companies. Probably a modern plant with a few high-speed canning lines could achieve near-to-maximum economies of scale, and little could be gained by making the plant still larger, but various marketing economies and other advantages are available only to the larger diversified enterprises. Among these, as we have mentioned elsewhere in the report, is specialization of management for production, sales, and cost accounting. Sales economies are obtained by firms able to offer a full line of fish products and by-products; with adequate volume, the firm may be able to establish branch offices to service important markets, build up advertising and brand promotion programs, keep their products on retail shelves and spread these costs over a large number and volume of products. Furthermore, the firm that is able to provide boats and gear, and camp and packer services to fishermen is thus enabled to ensure itself a more dependable supply of raw fish.

To some extent the advantages obtainable by the large fishing companies are those attributable to monopoly power in buying labour services and raw fish and in marketing the products, although the existence of price leadership or tacit agreement in the pricing of fish products, allocation of markets, or other concerted action characteristic of an oligopoly is difficult to establish. The fishing companies have strengthened their position by membership in the Fisheries Asso-

ciation of British Columbia, which has been the bargaining agent vis-à-vis the fishermen's and shore-workers' organizations in determining the minimum season prices to be paid for net-caught salmon and the wage rates for company employees ashore and afloat. The Association also has carried out certain arrangements from time to time in connection with United Kingdom contracts for the purchase of canned salmon.

A strong organization, the United Fishermen and Allied Workers Union, representing both fishermen and shore-workers, has been negotiating prices for several years on purse-seine and gill-net caught salmon. Other unions, the Native Brotherhood of British Columbia and the Deep Sea Fishermen's Union of Prince Rupert, have been associated with the United Fishermen and Allied Workers Union in its negotiations.

Contracts are negotiated annually to establish the minimum prices to be paid to purse-seine and gill-net fishermen for the different salmon species, round weight basis. Scarcity of fish or a heavy demand by the fresh and frozen trade may raise the price above the minimum at times. Troll-caught salmon are not included in the contract; they are usually landed dressed and destined for the fresh and frozen market and consequently bring higher prices.

The greater part of the halibut not handled by the Fishermen's Co-operative Association is sold at auction. The skipper reports his "fare" or "trip" on the way into port and it is offered for sale on the halibut exchange. A seat on the exchange is necessary to take part in the bidding, and eight or ten buyers (fishing companies) are represented. However, the Co-operative offers an alternative method of selling fish if auction prices are considered unsatisfactory, and United States ports provide an alternative market to help keep the auction competitive.[1]

The processors sell to wholesalers, chain stores and foreign buyers either directly or through commission agents or brokers. Some fishing companies do their own wholesaling in certain areas and British Columbia Packers maintains its own sales offices in principal marketing centres. The Prince Rupert Fishermen's Co-operative Association has as its sales agency in Canada, the Fishermen's Co-operative Federation of Prince Rupert, and in the United States, Fishermen's Federation Inc. Part of its output is marketed in retail co-operative stores under co-operative brand names.

Processors' quotations on canned salmon and usually on fresh and frozen sales are free-on-board British Columbia plant or warehouse. The bulk of sales are carload lots, shipped on order. To an increasing extent, stocks are being held in storage in key centres to provide more satisfactory service to customers.

The foregoing has dealt with the general and regional characteristics of the British Columbia fishing industry. The two species we have selected for special study—canned sockeye salmon and Pacific halibut—were chosen because they are important to Canadian consumers and to British Columbia fishermen as well. A resume of our findings with respect to these commodities follows.

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1 British Columbia fishermen during the past five years landed on the average about one-eighth of their halibut catch in United States ports.

Canned Sockeye Salmon

Sockeye is the most valuable of the salmon species to the industry: it represented one-fifth by weight and one-third by value of the total British Columbia salmon catch during the decade 1949 to 1958. The average annual Canadian pack of canned sockeye during the same period was 461 thousand cases—29% of the average of all salmon species. These figures are heavily weighted by the phenomenal production of 1958. The 1958 sockeye pack was over a million cases—almost equal to the record pack of 1905.

The consumption in Canada of canned sockeye is currently about one pound per person per year, compared with slightly more than two-and-a-half pounds of canned salmon of all species. On the average somewhat less than one-third of the Canadian sockeye pack is exported.

Sockeye salmon are taken from late May into November. July, August and occasionally September are the months of heaviest catch. Usually three-quarters of the Canadian sockeye catch is taken with gill nets and almost all of the remainder with purse-seines, but seine gear accounted for more than one-half of the 1958 landings. Most sockeye fishermen deliver to company packer or collector boats on the fishing grounds, settlement being effected on a "round weight" (as caught) basis, usually at the contract minimum price for the season. The settlement with the fisherman may be a payment in cash (or by cheque) or it may take the form of a credit entry in the company's books. Within each species grades are established for the salmon. These are set out in the documents resulting from the negotiating processes between fishermen and buying firms. The grades are defined with respect to weight and the general appearance and condition of the fish. It is a matter for negotiation between fisherman and buyer to effect a satisfactory agreement on the grade determinations of each sale. Ordinarily the packer carries no ice, but ice or chilled sea water tanks are used at the cannery if the fish have to be held several days before processing.

Salmon is packed in tins containing 15½ ounces, 7½ ounces and 3½ ounces of salmon, minimum net weight—called "ones" or "talls", "halves" and "quarters" respectively. The pack is measured in standard 48-pound cases—the equivalent of 48 "ones", 96 "halves" or 192 "quarters". All canned salmon, whether imported or produced in Canada, must be inspected under the Canadian *Meat and Canned Foods Act,* Grade A quality being identified by the word "Canada" embossed on the top of the can. If a shipment is found by the government laboratory to be sound, wholesome and fit for human food, but not qualified for a certificate as Grade A salmon, an additional cover embossed "Grade B" must be cemented over the end of each can on which "Canada" is embossed. Grade A canned salmon may be labelled "Fancy", "Choice" or "Standard" or any similar designation, and there may be a considerable range in quality within the Grade A classification. The larger processing companies are able to sell salmon at the lower end of the "A" quality classification under minor labels, in some markets. This has put small firms at a disadvantage in obtaining or maintaining a share in the domestic market.

The raw material requirements for a 48-pound case of canned sockeye are from 68 to 70 pounds of sockeye, "round" or landed weight. Since almost all

of the sockeye is canned and since year-to-year changes in the conversion rate are likely to be small, statistics on the yearly average value per pound of sockeye landed in British Columbia provide a reliable basis for estimating the yearly raw material cost per standard case. We have used these pack-year average cost figures along with monthly averages of wholesale and retail price quotations for Grade A sockeye in Vancouver to compute annual fishermen-retail price spread estimates as shown in Table 65. (Also see Chart 41.)

These values are only approximate because of the inaccuracy of unweighted annual retail and wholesale price figures obtained from the monthly quotations. It has been even more difficult to compile statistics adequate for the computation of processors' and wholesalers' margins. Processors, season-opening quotations on sockeye f.o.b. plant or warehouse in British Columbia were usually $33.00 per standard case of 96 "halves" through the years 1949 to 1955, excepting for the pack-year 1951/52, when they were as high as $38.00, and the year 1953/54, when they were as low as $30.00. In more recent years, the packers' season-opening quotations have been around $38.00 to $39.00 per standard case. The data are accurate enough to indicate trends in processors' and wholesalers' margins over the past decade, as set out for alternate pack-years over the period 1950/51 to 1953-59 in Table 66.

Evidently, as the retail price rose during the decade, the fishermen's receipts and the combined wholesale-retail marketing margin increased. The packers' per cent of the retail value decreased during the decade, but in absolute terms it was at about the same level, $19.00 to $20.00 per case, at the end of the decade as at the beginning. During the past three years the packers' and fishermen's shares have been equal at 40% to 41% of the retail value, representing $19.00 to $19.50 per standard case of sockeye.

Table 65—Summary of Fisherman-Retail Spread on Cannd Sockeye Salmon, 1949/50 to 1958/59[a]

Pack-Year July 1–June 30	Vancouver Retail Price	Retail Equivalent Value Canned per lb. of Sockeye as Landed	Vancouver Wholesale Value of Canned per lb. of Raw Sockeye	Average landed Price of Sockeye	Fishermen -Retail Spread	Retailers' Share of Retail Value	Fishermen's Share of Retail Value
	(¢/½-lb. tin)	(¢)	(¢)	(¢/lb.)	(¢)	(%)	(%)
1949/50	39.0	53.5	51.8	18.0[b]	35.5	3	34
1950/51	39.0	53.5	51.4	20.1	33.4	4	38
1951/52	45.0	61.5	58.5	25.0[b]	36.5	5	41
1952/53	41.5	57.0	50.7	25.0[b]	32.0	10	44
1953/54	39.0	53.5	46.5	22.0[b]	31.5	13	41
1954/55	39.5	54.0	48.6	22.1	31.9	10	41
1955/56	47.8	65.5	57.8	24.1	41.4	12	37
1956/57	49.3	67.5	61.4	27.6	39.9	9	41
1957/58	49.5	68.0	60.8	28.2	39.8	10	41
1958/59	49.5	68.0	60.6	28.0[b]	40.0	11	41

[a] Adapted from price spread study of canned sockeye salmon in Volume III where a fuller explanation of procedure, etc. is given.
[b] Season minimum contract price.

CHART 41

RAW MATERIAL COST AND AVERAGE MONTHLY WHOLESALE AND RETAIL PRICES AT VANCOUVER OF CANNED SOCKEYE SALMON PER CASE OF 96 HALFPOUND TINS, 1949 TO 1958.

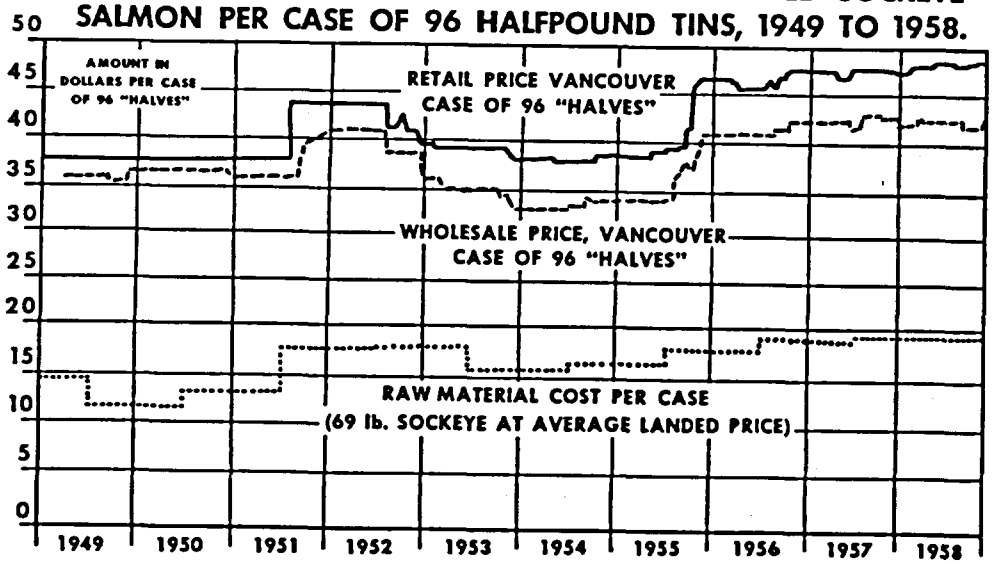

Table 66—Marketing Margins for British Columbia Canned Sockeye Salmon, Alternate Pack-Years 1950/51 to 1958/59

	1950/51	1952/53	1954/55	1956/57	1958/59
Dollars per Standard Case of 96 "Halves":					
1. Raw Salmon 69–70 lb. Price to Fishermen	$14.00	$17.25	$15.25	$19.00	$19.50
2. Processors' Margin	19.00	15.75	17.25	19.50	19.50
3. Wholesalers' Margin	3.00	2.50	1.75	4.50	3.50
4. Retailers' Margin	1.45	3.85	3.75	4.00	5.00
Total—Retail Value	$37.45	$39.35	$38.00	$47.00	$47.50
Per Cent Share of Retail Value:					
1. Fishermen's	37	43½	40	40½	41
2. Processors'	51	40	45	41½	41
3. Wholesalers'	8	6½	5	9½	7½
4. Retailers'	4	10	10	8½	10½
Total—Retail Value	100	100	100	100	100

It is apparent that, while the fishermen's price or raw material cost per case of sockeye has increased by about 50% during the decade, the cost of fishing equipment and the fishermen's "opportunity cost" have risen also. Processing costs also have been affected by rising wage rates and rising prices for tinplate and other materials, which are estimated to have increased each by about two-thirds over the decade. However, indications are that investment in modern high speed canning and other equipment has so increased the output per worker that

the effect of rising wage rates on unit costs of production has been largely offset. Nevertheless, as a result of the heavy capital investment in processing plant and equipment, fixed costs are high, making unit production costs particularly susceptible to changes in the volume of production. In small pack-years, the processors' financial statements may reflect losses but, conversely, in years of heavy salmon runs their unit costs of production should be greatly reduced, and good rates of profit realized.

Salmon oil and fish meal are processed from the offal or waste. Inasmuch as 68 to 70 pounds of raw sockeye are required per 48-pound case, the offal yield is more than 20 pounds per case. We have not attempted to place an exact value on the by-products obtained from this amount of offal, but it would be at present less than 50 cents. Consequently, the net yield per case from the by-products, after allowing for their processing costs, would be very small.[1]

It is common practice in the industry when heavy production years occur to carry over stocks into the following year in order to lessen the pressure of supplies on price and to maintain a continuous supply of the packers' branded products in Canadian retail stores, as well as to ensure at least minimum shipments to traditional export markets. The cost of holding sockeye salmon might well amount to $2.50 per case per year, counting storage, insurance and interest on inventory value. This cost needs to be set against the lower unit production cost of a heavy pack-year.

Packers' quotations are now made f.o.b. Pacific Coast. Consequently, Toronto or Montreal wholesale prices should be higher than Vancouver wholesale prices by at least the amount of the freight cost. The agreed freight rate on canned fish, boxed, from British Columbia to various Ontario and Quebec cities has been, since September, 1953, $2.00 per 100 pounds, minimum carloads of 60 thousand pounds. This represents a differential between Vancouver and Toronto or Montreal of about $1.00 a standard case or one cent on a half-pound tin of sockeye. Since the middle of 1953, wholesale sockeye price quotations in eastern Canadian cities usually have been higher than those in Vancouver by at least the amount of freight charges. In earlier years this was not always the case; Toronto wholesale prices were for some considerable periods often below those for Vancouver.

A witness stated at the Vancouver hearings that, in four out of 10 years, the retail price in Vancouver was equal to or greater than the retail price in Toronto.[2] According to the averages of monthly retail prices of canned sockeye as reported by the Dominion Bureau of Statistics, the Vancouver retail price was greater than in Toronto through most of the period from August, 1952, until early 1957. Montreal retail prices were usually above the corresponding Toronto quotations and only occasionally below the Vancouver retail price. Short-period discrepancies could be explained by lags in adjustment at Toronto to price changes at the Pacific Coast, but because Toronto wholesale prices after

[1] While there are considerable variations in yields obtained from offal, it appears that on the average one ton of offal yields about 340 lb. of meal and 18 gallons of oil. Fish meal is worth about $125 a ton and fish oil for industrial uses perhaps 75 cents a gallon.

[2] See brief by Mr. Homer Stevens, *Proceedings*, Vol. 3, p. 406.

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1953 were usually above those at Vancouver, by process of elimination we are inclined to the view that the lower retail prices at Toronto than at Vancouver resulted from lower retail markups in the Toronto stores.

Pacific Halibut

Halibut are large flatfish, caught mainly with line-gear on the continental shelf from the Strait of Juan de Fuca to the Bering Sea. Canadian fishermen over the period 1949 to 1958 landed an average of 22 million pounds a year in British Columbia ports, and since 1953 more than two million pounds a year in United States ports. Canadian fishermen accounted for 39% of the combined Canadian-American catch of halibut over the past 10 years and have increased their share of the catch from about one-third 10 years ago to 45% in 1958.

Another species of halibut is caught on Canada's Atlantic Coast but British Columbia landings are preponderant and represent 80% to 85% of the total Canadian catch.

About two-thirds of the British Columbia catch is landed in the Prince Rupert area, and the balance farther south at Vancouver Island and mainland points. The halibut season extends from April into October as various areas are opened for fishing until their quota is taken, but the bulk of the catch is taken in four or five months; the fishing companies and the Prince Rupert Co-operative together receive and process landings of as much as eight or nine million pounds of halibut a month in May and June, followed by heavy but somewhat smaller quantities in the two or three succeeding months as quotas are filled and some of the boats shift into salmon fishing.[1]

Halibut are gutted when caught and beheaded before they are weighed in at the wharf. The grading system is established by the members of the exchange and is maintained on a uniform basis from year to year. "Large" halibut are those over 60 pounds in weight; "Medium" 10 to 60 pounds; "Chicken" under 10 pounds; and "No. 2", grey or damaged fish. "Medium" and "Large" comprise 85% to 90% of the catch. "No. 2" and "Chix" in 1958 at Prince Rupert brought five to seven cents a pound less than "Medium", and the price of "Large" was usually close to that of "Medium"—sometimes even lower. The average value of all halibut landings in British Columbia in 1958 was 20.7 cents a pound.

The auction system for purchase of halibut, to which we made references earlier, is unique in the Canadian raw fish marketing system. The skipper hails his catch to the exchange. He is able to do this because he can identify grades and quality, and bidders on the exchange can usually make intelligent appraisals of the value of the fish based upon their knowledge of fishing areas and of the skipper's ability to bring his catch to shore in good condition. The auction system and the operations of the exchange have brought a high degree of rationalization to the selling of the raw material. Prices are established and the grading system

[1] The halibut season in Area 2—from Willapa Bay off the coast of Washington to Cape Spencer in Alaska—was open from May 4 to July 2 in 1958 and again for seven days from August 31 to September 7. This is the area in which the British Columbia small boat or "mosquito" fleet operates.

makes possible an identification of the variations in the fish by weight and quality related to their ultimate values in the retail market. We have noted that halibut skippers appear to be satisfied with the general results of this system.

About two-thirds of the Canadian halibut catch, including landings by Canadian fishing boats in United States ports, is exported. We estimate the retention of Pacific halibut for consumption in Canada to have been about 8.5 million pounds a year, landed weight basis, over the nine-year period 1950-58—an average per capita domestic disappearance of less than three-fifths of a pound a year, or about one-third of a pound in terms of edible weight.

Halibut requires little processing except freezing; although there has been some increase in the amount of filleting, steaking and packaging done by the fishing companies, most of this is done at the retail, and to some extent at the wholesale, level. During the six years 1952 to 1957, two-thirds of the Pacific halibut was sold by processors in the frozen (headless) dressed form, and about one-sixth as fresh dressed. Frozen halibut fillets represented about 10% of landings; the production of frozen flitches and pieces gradually increased until it was equal to that of frozen fillets.

Halibut is the species usually used in fish-and-chips dinners and it is also a frequent item on restaurant menus. The requirements of this trade for fillets, steaks and portion packs may well have increased the amount of processing done by wholesalers and the fishing companies. The yield in filleting dressed halibut is 59% to 60% and in cutting steaks, according to various estimates, from 63% to 78%; consequently waste is an important element in the markup at any level at which the processing takes place[1].

The cost of transportation from Vancouver or Prince Rupert to Toronto or Montreal ranges from about two-and-a-half cents a pound via the largest (60 thousand pound) refrigerated freight cars to seven cents or more by carload express. The monthly wholesale quotations for dressed halibut at Toronto have consistently exceeded those at Vancouver by more than the maximum freight costs.

In Table 67, the retail value of halibut steaks at Toronto[2] equivalent to a pound of halibut as landed in British Columbia is computed as being the retail value of three-quarters of a pound of steaks. This involves an arbitrary assumption that the yield in steaks from dressed halibut is 75%. By this method, the fishermen's average price for the year or the wholesale price for dressed halibut can be substracted directly from the computed retail value to determine the price spread, and the cost of waste in steaking is eliminated from the comparison.

According to these data, year-to-year changes in the Toronto retail price and in the retailers' margin have not been as great as those in fishermen's average prices. The fishermen's share of the (Toronto) retail dollar has averaged slightly more than one-third, with quite wide variations either way. The retailers' share has been in the neighbourhood of 25%.

1 The heads are removed by the fishermen at the wharf before the fish are weighed in. Consequently, this offal represents no cost to the buyer, although ordinarily it is used for fish meal production.

2 Toronto retail prices are used because a complete series for Vancouver is not available.

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Fresh halibut steaks retail at prices considerably above those of frozen steaks. Frozen fillets, too, retail at higher prices, reflecting in part the waste and processing cost in filleting; chicken halibut are filleted at a lower raw material cost, medium halibut up to 40 pounds in size being used only to the extent that the demand for fillets requires. The cost of freezing halibut, including a small weight loss of perhaps 2%, would be near to four cents a pound. The cost of storage for a year would be perhaps 2¼ cents a pound; storage costs in total are considerable, because of the necessity to hold a large share of production up to a year before final sale.

Table 67—Summary of Fisherman-Retail Spread Frozen Halibut Steaks, 1950 to 1958[a]

Year	Average Retail Price Frozen Halibut Steaks at Toronto	Retail Equivalent Value for Steaks per lb. of Halibut Landed Weight	Toronto Wholesale Price Frozen Dressed Halibut	Average Landed Price for B.C. Halibut	Fishermen -Retail Spread	Retailers' Share of Retail Value	Fishermen's Share of Retail Value
	(¢/lb.)	(¢)	(¢/lb.)	(¢/lb.)	(¢)	(%)	(%)
1950	59.7	44.8	39.2	20.3	24.5	12	45
1951	68.6	51.5	42.4	17.0	34.5	18	33
1952	68.9	51.7	38.9	16.8	34.9	25	32
1953	66.2	49.6	35.3	14.7	34.9	29	30
1954	64.6	48.5	34.4	15.8	32.7	29	33
1955	61.9	46.5	31.7	13.0	31.5	32	28
1956	67.8	50.8	39.6	21.7	29.1	22	43
1957	70.6	53.0	39.4	16.3	36.7	26	31
1958	71.8	53.8	38.6	20.7	33.1	28	38

[a] Adapted from price spread study of frozen halibut steaks in Volume III where a fuller explanation of procedure, etc. is given.

2. The Atlantic Coast Fisheries

Principal Species and Products

On the Atlantic Coast, lobsters and various groundfish species, particularly cod and haddock, are the mainstay of the fisheries and are likewise among the most important of the fisheries products consumed in Canada. (See Table 62.) Herring and sardines (small herring) are caught in quantity in some localities, but the products—smoked, pickled and canned—are chiefly for export. Lobsters are sold alive or processed into canned, fresh (chilled), or frozen meat. Dried salted cod is produced for export, but the industry's largest market is now that for fresh and frozen fillets of cod, haddock, redfish (ocean perch), small flatfish such as plaice and various members of the flounder family (all marketed as "sole"), and a few other groundfish species. A considerable volume of cod and haddock fillets is processed into frozen blocks for later conversion into breaded fish sticks, cooked or uncooked, and re-frozen.

Conditions of Production

A great many Atlantic fishermen are "inshore" or small-boat fishermen, whose craft are too small to fish in rough weather or to venture more than a day or two from shore.[1] (The traditional method of "offshore" fishing was also a small-boat operation: the fisherman sat in a dory and fished with a hand-line, returning to a mother ship, a large schooner or "banker", at night with his catch, which was then split and salted down, to be dried later on shore.) The incomes of such fishermen are low, particularly in the salted cod fishery of Newfoundland and the Gulf of St. Lawrence, because of a limited catch per man and because salted cod usually has been a low-valued product. Inshore fishermen within reach of a filleting plant have an assured market for their catch, but such plants have to place their main dependence upon large trawlers or draggers in order to obtain an adequate year-round volume and variety of supply. A great many inshore fishermen engage in the lobster fishery, but although lobsters are a relatively high-valued species, the average net return to the fishermen is small because of the large number competing for a share of the limited catch, the cost of lines and traps, and the risk of loss or damage to gear from storms.

In some areas, of course, the inshore fisherman combines fishing with farming, woods work, or other occupations. Too often productivity is low in each occupation, with fishing still the main or surest source of income.

Modern draggers or trawlers and long-liners make possible a much greater volume of catch per fisherman and also offer a less arduous and dangerous existence than line-fishing from small craft. But they require a large concentration of capital—an investment per fisherman of up to 30 times the amount required in an inshore operation. Shortage of capital has delayed the modernization of boats and gear in the Atlantic provinces for many years but the situation improved after World War II with the growth of the fresh and frozen fish market and relatively favourable fish prices. Large filleting plants set aside capital for investment in modern craft to ensure themselves supplies of raw fish. Financial assistance by the federal and provincial governments also played an important part. A federal government subsidy of $165 a gross ton has been available since 1949 to fishermen and groups of fishermen for the construction of long-liners and draggers of approved sizes and types, and in all of the provinces provincial loan boards have assisted fishermen to finance new vessels, engines and other equipment.

Trawlers and small and medium draggers now supply close to 90% of the fish for the fresh and frozen industry. Much of the salted fish output still comes from fish landed by schooners and other smaller vessels.

Conservatism and political opposition to the modernization of fishing methods were also responsible for the slow development of the Atlantic industry, particularly during the depression of the '30's. The trawlers were said to be taking away the inshore fisherman's living, and to be damaging his gear and spoiling his fishing when operating in inshore waters.[2] Canadian draggers are prohibited

1 Although small-boat fishermen predominate by far in number, their output or contribution to the total catch is small in proportion. A high proportion of the total catch of groundfish of the Atlantic provinces is landed by the larger vessels: trawlers, draggers, and long-liners.

2 See brief by Mr. C. J. Morrow, *Proceedings*, Vol. 22, p. 3565.

by regulation from fishing within 12 miles from shore, the inshore fisherman's preserve, although foreign draggers cannot be prevented from fishing up to the three-mile limit.

Low prices, lack of capital, self-interest, local opposition and business conservatism also explain in part the small size and wide dispersion of processing operations many of which were and still are carried on by fishermen. The growth of a mass market in North America for frozen groundfish fillets was accompanied by the improvement, consolidation and concentration of filleting and freezing operations. Freezing operations require a greater investment in plant and equipment and present greater technical management problems than the production of fresh fillets. Frozen fish plants tend, therefore, to be larger in size, more diverse in production and more specialized in management; there is also some horizontal expansion in the form of branch plants, and vertical integration of fishing, processing and marketing operations through divisions of the same company. There remain many small fresh filleting operations in areas such as western Nova Scotia and southern New Brunswick which are most favourably located with respect to the mass market of the United States Atlantic seaboard. There are also many small operators engaged in the production of bloaters from herring, saltbulk from cod, and other cured products, as well as fisherman-family enterprises salting and drying cod in regions remote from a fresh fish market.

Out of some 300 fish processing establishments in the Atlantic region in 1957, 58% produced less than $100 thousand worth each in the year and together accounted for less than 7% of the total value of production by the 300 establishments.[1] There are no adequate statistics on the number of fish processing operations employing less than 14 people each.

Marketing Structure

The conditions under which Atlantic fishermen along hundreds of miles of coastline sell their fish are so varied that no generalization can provide an adequate description of marketing arrangements. Prices may be influenced in greater or less degree by various factors such as seasonal supply, the strength of demand, or the dominance of one or more large processors in a region. A large and efficient plant may be able to establish leadership in the setting of prices effective over a large extent of coastline—an ability likely to be enhanced if the firm can ensure itself a considerable volume of supply by owning or controlling a fleet of fishing vessels. Competition by plants for fish tends to become competition for fishermen, with price only one of several considerations influencing the fisherman's sale; other considerations include the extension of credit for gear and supplies by the fish buyer and provision of bait. Inshore fishermen are unable to deliver far from home or fishing grounds but the larger vessels can change their base of operation. Consequently, the existence of only one buyer at a given location does not preclude a considerable degree of competition for the fishermen's catch.

[1] D.B.S. preliminary estimate.

In contrast with the auction system used on the Boston fish market, "season" prices for groundfish are in general use along the Canadian Atlantic Coast, varying from one region to another and from the summer season to the winter season. A premium of a cent a pound or more is commonly paid in the winter, where winter fishing is carried on, to ensure a greater volume of supply during the months of more difficult fishing. Furthermore, although the fish may be marketed in various fresh, frozen and cured forms, each with a specific market value, in general the same price is paid to fishermen for a particular species in a given locality regardless of the final utilization. Nevertheless, the cost of processing and the final market value do affect the regional price. For example, at a particular time in 1958, a landed price of two cents a pound was paid for cod at various Newfoundland filleting plants, compared with two-and-a-half cents in northern New Brunswick in the same season, three cents at Louisbourg, Nova Scotia, and three-and-a-quarter cents at Halifax and Lunenburg. Much of the cod catch in Newfoundland and the Gulf of St. Lawrence goes into salted fish production while a considerable proportion of Halifax and Lunenburg cod is marketed as fresh fillets at prices above those for frozen fillets.

The raw fish marketing procedure at the many private and public wharves and docks scattered throughout the Atlantic provinces varies considerably between areas and between species. Sales of the groundfish species are effected between the individual fisherman and a buyer. Although current prices at important fish landing points are collected by officers of the Department of Fisheries of Canada and are quoted over fishermen's broadcasts as well as appearing in local newspapers, sudden changes in these prices part way through a season are not uncommon. While there are a number of commonly accepted categories of fish for each species, which might be called grades and for which separate prices are established, these categories have no legal definition. The weight of each fish is the chief criterion, although the state or condition of the fish is also taken into account; indeed on occasion when storms or vessel breakdowns dog the track of the returning skipper, the catch of a whole trip may be dumped or be fit for fish meal use only. For cod, the categories are steak, market and scrod in descending order by weight, and a category unacceptable for food use called cull or shack fish. In a particular area the steak and market categories may be combined and, since there is no official basis for these categories in a grading system, the fisherman where he must deal with a single buyer either accepts the categories offered or takes his fish elsewhere; this involves extra travel with his boat. From time to time, variation in the weight ranges or the state or condition of the fish within a category may reflect changes in the competitive situation in bidding for the raw material.

There are many variations in the status of buyers. For the whole of the fisheries in the Atlantic region the number of persons engaged in buying fish is substantial. The Province of Nova Scotia requires fish buyers to be licensed and the numbers so recorded for that province run from 400 to 500. Many of these, of course, buy for particular companies; some buy and assemble independently and ship to processing plants by hired truck; others both buy and carry out their own transportation.

A number of filleting plants are branches of United States firms, and others have sales affiliations in the United States. Sales in Canada are made directly or through agents to wholesale houses and chain stores. However, Ocean Fisheries Limited owns and operates both wholesale and retail outlets in central Canadian urban centres including Montreal, Toronto, Ottawa, Brantford and St. Catharines. The ownership and control of the wholesale and retail outlets is of considerable significance because of the concentration of population in the region and the high proportion of total fish consumption it represents. Further, an unpublished study made by the federal Department of Fisheries a few years ago indicated that at the time of the study as much as 40% of urban fish consumption was accounted for by restaurant and institutional meals. Control of wholesale outlets on this account therefore takes on even greater significance.

The first co-operatives established in fishing areas in the Maritimes were lobster canneries. These production co-operatives gradually extended their activities to other branches of the fisheries and they developed into general fishery co-operatives. At one time the number of co-operatives was substantial but in more recent years consolidation and the decline in the inshore fishing has resulted in a drop in number to around 30 today. The central organization, the United Maritime Fishermen, was established in 1930 and it soon took over the marketing functions previously carried out on a regional basis by county associations. Fishermen members are given an advance at the time of delivery; the balance of returns, after deduction of operating expenses and a 1% deduction for a reserve or revolving fund, is distributed at the end of the year or marketing season. Rope, twine and other supplies are sold to members at prevailing market prices, but at the end of the accounting period any overcharge, after deduction of costs and reserves, is refunded on a patronage basis.

The fishermen's co-operative movement in Quebec was strengthened by formation of a central organization, the Quebec United Fishermen in 1939, with headquarters at Montreal. As an ancillary development, associated credit unions, their assets consisting mainly of shares and deposits owned by fishermen members, are particularly strong in Quebec. At one time the Prince Edward Island Fishermen's Central Co-operative Association Limited represented local co-operatives in that province but that organization is no longer in existence.

Lobsters

The lobster catch in the Atlantic provinces has been about 47 million pounds a year over the past 10 years; landings in 1958 were close to 43 million pounds—about the same as in 1949. The annual value of the catch to fishermen increased gradually from about $12 million to a peak of $18 million in 1956. It was nearly $16 million in 1958.

On the basis of export statistics and "official" conversion figures,[1] we estimate that somewhat more than one-half of the catch is marketed in the shell,

[1] Conversion figures for live to canned lobsters are subject to extreme variation. On the average, these would be about 160 pounds of live lobsters required to yield the standard case of 96 5-ounce tins of canned lobster; 435 pounds, live weight, to 100 pounds of lobster meat. As observed, the recovery rate for meat from live lobsters varies widely, being low, for instance, after the moulting period. Also catch statistics may understate the actual catch by a considerable margin because of the continuance of illegal fishing; considerable amounts of undersized and out-of-season lobsters may be canned without being recorded in landings statistics.

about one-third as fresh and frozen meat, and less than one-sixth as canned lobster. Apparently there has been little change over the past decade in the proportion sold alive or fresh boiled; exports in this category at more than 21 million pounds were about the same in 1956 and 1957 as in 1949 and 1950. Exports of fresh and frozen lobster meat, at about three million pounds in each of the past three years, were more than double the 1949-1950 figures, and exports of canned lobster, at one million pounds, were a little more than one-half of those in 1949 and 1950.

The computed live weight equivalent of all lobster exports during 1956, 1957 and 1958 was approximately 38.5 million pounds a year. This would leave about eight million pounds, live weight, for consumption in Canada, or half-a-pound per capita per annum.

Nova Scotia has accounted for nearly one-half of the total catch of lobsters at times but recently for about 40%. New Brunswick produces nine or ten million pounds a year, or about 20% of the total. Prince Edward Island's landings are usually eight or nine million pounds, Newfoundland's four or five million, and Quebec's two to three million.

The lobster fishery is intensive, taking perhaps two-thirds of the legal-sized stock each year. Closed seasons of varying times and lengths have been established in the different fishing districts more or less to coincide with the periods when moulting occurs (when the water is warmer and growth more rapid) and with the winter season where winter fishing is difficult or impossible. Peak landings occur in May and June, when the season is open for northern areas, with a considerable volume also in August and September. Bay of Fundy areas have a winter season, landings being concentrated mainly in December and January.

The fishermen fish from inboard-powered boats about 30 feet in length with homemade traps of lath and twine, weighted with flat stones and baited with salted herring or cod heads or any available bait, fastened 10 or more in sequence by rope leads to a long line buoyed and anchored at each end. The line is hauled daily if weather permits, frequently by use of a power take-off from the engine, and the traps emptied, re-baited, and dropped again over the side. Delivery of the lobsters is made to the cannery wharf or to the buyer or agent on the wharf. Throughout the Maritime provinces, there are a large number of buyers, including United States buyers. We observe later that there are wide seasonal and year-to-year variations in prices. In part this may be interpreted as a highly competitive market, particularly sensitive to short-run changes in the supply and demand situation; it is undoubtedly characteristic of the United States market which has a dominating influence.

In some areas, fishermen ship their lobsters through a pool or a co-operative, receiving payment, less handling and transportation costs, *pro rata* after the shipment has been marketed.

Grading at the wharf is a simple procedure; the fisherman uses a small rule to measure the lobster from the rear of either eye socket to the rear of the body shell to ensure that it is of the minimum legal size or larger. The maimed and smaller lobsters are sold to canners and processors, generally at lower prices than obtained for "market" size. Lobsters that are not to be

processed or shipped immediately are kept in "floats" of wooden crates each holding 110 to 120 pounds, moored on a line from the wharf and floating submerged in the water.

The live lobsters are shipped in the crates by truck or boat to market. Lobsters will live out of water indefinitely if kept cool, but fresh water is lethal to them, consequently they must be kept from direct contact with melting ice during shipment.

Because of the heavy investment required for freezers and frozen storage capacity, there are only three large frozen lobster processors and a few smaller operators in the Atlantic region, some making use of custom freezing and public cold storage facilities. There are a great many lobster canning plants; in 1956 there were 70. A lobster cannery does not represent a very large capital investment; the equipment is essentially a boiler, a can sealing machine and one or two retorts capable of maintaining the tinned meat at 240°F. for the required time. A great deal of meat is sold fresh (chilled, not frozen) and this similarly does not require expensive specialized machinery.

Dealers in live lobsters often operate a cannery to process maimed, weak or under-sized lobsters in conjunction with their business. Meat processors may find it advantageous to use liver, roe, and bits of meat from the legs and other edible parts to produce canned lobster paste and lobster tomalley. Local workers are used in the canneries—mainly women, whose manual dexterity is an asset in removing the boiled meat from the shell and packing it in tins. Much hand labour is required but the prevailing wage rates for women are low in many areas where the canneries are located and the labour cost is small in relation to the high value of the product.

The market price for live lobsters is subject to wide seasonal variations—low in summer when landings are high, and high in the winter season when few lobsters are being caught. The price to fishermen in one locality has varied from 30¢ a pound to 80¢ within one year. During the lobster marketing season, prices at the main buying points are published in local newspapers and reported daily over the radio. These prices are collected by fisheries officers and reported to the Canada Department of Fisheries regional office. Some dealers or processors lengthen the season by holding live lobsters in tanks through which sea-water is pumped. Conley's Lobster Limited at St. Andrews, New Brunswick, have a pound capable of holding a million pounds of live lobsters, sheltered on the inside of a bay at Deer Island; their main business is the year-round shipment of live lobsters. Pound operators must be licensed, of course, to ship lobsters during the closed season in their area.

Lobster canneries must have a permit to operate, issued after federal Department of Fisheries inspectors have certified that certain minimum standards are met in respect to equipment, operating methods and sanitation. A processor of fresh or frozen lobster meat must also comply with the sanitary requirements and the regulations of the *Meat and Canned Foods Act*. Standards for four grades of canned lobster, "Extra Fancy Quality", "Fancy", "Standard" and "Sub-Standard", are specified in the regulations and canned lobster is graded by the Department of Fisheries inspection laboratory.

Canned lobster is packed in three sizes of cans, containing respectively, two-and-a-half, five, and ten ounces *drained weight* of lobster meat. The standard case is one of 96 5-ounce tins, or the equivalent. The amount of cooked meat put into the 5-ounce tin before sealing is six-and-one-eighth ounces; i.e., 36¾ pounds of cooked meat are required per case. Much of the fresh and frozen meat is packaged in the 10-ounce tin but larger and smaller packs are also produced. In freezing cooked lobster meat, the weight loss is about 3%.

No representative raw material cost can be determined for lobster meat and canned lobster for a number of reasons. The recovery rate of meat from live lobsters may vary between 20% and 30%. The wide seasonal difference in prices means a high cost for canned lobsters in regions dependent upon the winter fishery. At times, fresh, frozen or canned meat is processed from market-size lobsters, or the price paid for "canners" is as high as that for "market" lobsters. In some districts nearly all of the lobsters landed may be market-size because the minimum legal size is three or three-and-three-sixteenths inches.

We have, however, used Montreal wholesale and retail prices and reported prices from Souris, Prince Edward Island, to compute sample price spreads at various times, using an arbitrary recovery rate of 23% in converting live lobsters to boiled meat, or 160 pounds, live weight, to the standard case of canned lobster. The quoted prices being those for "market" size, it was arbitrarily assumed that the landed price for "canners" was three-quarters that for "market" lobsters. The data, as indicated in Table 68, show that the Souris fishermen's share of the retail dollar spent for canned lobster in Montreal was slightly more than 40%. The retailers' margin was from 8% to 16%.

Cod Fillets

The production of cod fillets and blocks in the Atlantic provinces has been in excess of 70 million pounds a year for the past three years, representing almost one-half of the total fillet production. Five-sixths of the cod fillets were frozen. The annual volume of production increased gradually from 35 million pounds in 1949 to 72 million in 1957, an increase of more than 100%. In the same period, the Canadian Atlantic production of fillets and blocks from all groundfish species increased by 125% from 65 million pounds in 1949 to 147 million in 1957; cod lost ground to haddock, redfish and flatfish.

About one-third of Atlantic cod landings is currently being processed into fresh and frozen fillets and blocks, the conversion rate for cod into fillets being about one-third and total cod landings having been recently in excess of 625 million pounds. Some cod is shipped in the headless dressed form for conversion into steaks, and the balance is cured—some lightly smoked or turned into boneless salted cod for the North American market but most salted and dried for export to traditional markets in the Caribbean, South America and southern Europe.

Newfoundland fishermen are especially dependent upon cod; it has comprised 60% to 65% of the value of their landings in recent years. Their cod landings make up approximately two-thirds of total cod landings for the Atlantic region, and the Newfoundland cod fillet production, almost all frozen, is usually

Table 68—Summary of Fisherman-Retail Spread, Canned Lobster, Selected Years, 1949 to 1958[a]

Year	August 1 Retail Price at Montreal	Mid-July Wholesale Price at Montreal	June Landed Price for Live Lobsters at Souris P.E.I.	Raw Material Cost[b]	Retailers' Share of Value	Fishermen's Share of Retail Value
	(¢/5-oz. tin)	(¢/5-oz. tin)	(¢/lb.)	(¢/5-oz. tin)	(%)	(%)
1949.....	70.6	65.1	24	30	8	42.5
1956.....	88.1	74.0	30	37	16	42.0
1958.....	96.6	81.5	33	41	16	42.4

[a] Adapted from price spread study of canned lobster in Volume III where a fuller explanation of procedure, etc. is given.

[b] We have adjusted the fishermen's price to obtain the raw material cost equivalent to a 5-oz. tin at retail. Before making the adjustment we have taken the price for live lobsters as three-quarters of the price quoted in order to take account of the lower price paid for "canners" than for "market" lobsters.

more than one-half of the total. Much of the cod goes into dried salted production or into saltbulk for drying in plants in Newfoundland or on the mainland in Nova Scotia.

The domestic disappearance of fresh and frozen cod fillets[1] currently amounts to less than one pound per head of population per year. The total figure has been decreasing somewhat, from 16 million pounds in 1950 to less than 12 million in 1957, the latter figure being about one-sixth of the Canadian production. In contrast the Canadian production of fish sticks, begun in 1954 and using frozen blocks mainly of cod and haddock, had grown to nearly six million pounds by 1957. This represented a displacement of ordinary fillets and other varieties rather than an increase in the consumption of fish. The Canadian production of fish sticks was for domestic consumption because of prohibitive customs duties on exports to the United States; the raw material, frozen blocks and slabs, would be included in the domestic disappearance figures for frozen fillets and blocks.

A witness at the Halifax hearings referred to the sale in Canadian chain stores of fish sticks that were apparently packed in the United States.[2] A number of Canadian plants pack fillets and other products in labels supplied by their United States owners, affiliates or customers. Such packs are imprinted "Product of Canada"—sometimes in small letters. The Canadian customs duty of 22½% ad valorem on fish sticks from the United States is a strong deterrent to their entry. In consequence, fish sticks bearing labels of United States firms that are found in Canadian stores are likely to be a Canadian-made product.[3]

[1] Annual production minus exports, with allowance for changes in stocks.

[2] *Proceedings*, Vol. 13, pp. 2096-2100.

[3] Canadian breaded fish sticks, cooked or uncooked (containing added oil from the cooking or breading), are subject to a customs duty of 30% ad valorem upon entry into the United States. Groundfish fillets and blocks enter the United States under a customs duty rate of two-and-a-half cents a pound, except for an annual quota from all sources which is admitted at one-and-seven-eighths cents a pound. The quota is set at 15% of the average aggregate apparent annual consumption of such fish in the United States during the three calendar years preceding the year in which the imported fish are entered. The 1958 quota was 35,892,221 pounds; the 1959 quota is 36,919,874 pounds.

Cod are caught by small and large craft with line gear or dragnets. They are gutted before being stowed in ice below decks, and are culled or graded on the plant wharf as they are being unloaded and weighed in. The size categories, as we said previously, vary according to local practice, but the intermediate grade, "market" cod, is usually from about four to ten or twelve pounds weight. Steak cod in the larger sizes are not well suited for filleting and in many places are split for salting and drying if not sold fresh or frozen dressed.

The inshore fisherman typically lands his fish at the plant wharf the day it is caught. Quality would be improved if he carried ice in which to pack his catch, but this is seldom done; ordinarily, the price received would be the same whether he used ice or not.

While no grades are officially established for the raw fish materials the Department of Fisheries of Canada has recently instituted a voluntary program of inspection and quality grading of fish on the wharf and in the plant. Frozen products meeting clearly defined quality, processing and packaging specifications may be marked with a "Canada Inspected" label on the wrapper or container. Inspected fish to be marketed fresh as whole fish, fillets or steaks may be identified by having the words "Processed Under Government Supervision" marked on the wrappers, labels or containers.

The raw material cost in filleting cod is determined by the price paid by the plant for raw fish and, to a limited extent, by the efficiency of the filleters and skinners in getting the maximum yield of fillets. The yield may be as high as 38% or 39% from large fish, but the estimate in general use is 33% for fillets and 1% or 2% less for blocks, which involve a little additional waste in ensuring that the pin bones are removed from the nape of the fillet. Thus, for raw fish prices of two cents to three cents, raw material costs would be from six to nine cents per fillet-pound. Small-sized cod ("scrod") bring the fisherman a cent or one-and-a-half cents less than the larger "market" cod but the recovery rate is somewhat lower in filleting small fish. Nevertheless, the raw material cost is reduced to some extent by the use of scrod in filleting.

The filleting line includes filleters and skinners, who are usually men, and candler-inspectors and weigher-packagers, who are usually women. The use of mechanical skinning machines and, lately, of filleting machines in the filleting plants has increased during the past 10 years and, at least in some plants, improved equipment, greater mechanization of operations and the growth of worker and management skills have increased the value of output per worker. In this respect plants have been very unequal in their progress. Wage rates in the region have apparently increased by about 40% since 1949. In some plants the effect of this on costs apparently has been completely offset; in others, costs have been too high or selling prices too low and they have been closed down or taken over by new management.

The waste in filleting, representing two-thirds of the landed weight of cod, or two pounds of waste per pound of fillets, is used for the production of fish meal for poultry and animal feed, the yield being one ton of meal from about five tons of offal. The rate paid by fish meal plants for waste fish and offal varies

widely but might average $8.00 to $10.00 a ton. This would amount to three-quarters of a cent or more per fillet-pound for the two pounds of waste in filleting—a reduction in the raw material cost to the processor.

An informed estimate suggests a labour cost of filleting cod at four to five cents per fillet-pound and the overhead costs at a like amount. These, in conjunction with a raw material cost of eight or nine cents, would yield an f.o.b. plant cost of 17 to 19 cents a pound. It may be that other species filleted have had to bear more than their proportionate share of overhead costs because cod fillet prices have been under relatively heavy pressure on United States markets from foreign supplies and from consumer preference for haddock and other filleted species.

We have computed approximate annual raw material cost figures from the seasonal prices paid for cod at Halifax and annual retail and wholesale prices of Atlantic cod fillets at Toronto from the monthly price quotations published by the Dominion Bureau of Statistics—frozen cod fillets for the period 1952 to 1958 and fresh cod fillets for 1955 to 1958. The results appear in Table 69. The retail price of fresh cod fillets was 50% or more above that of frozen cod fillets, and the retailers' markup on fresh fillets about 35% compared with 20% on frozen. The fisherman received the same price for his cod whether it went into fresh or into frozen fillets. Consequently, his share of the retail value of fresh cod fillets (about 20%) was smaller than his share of the value of frozen fillets.

Haddock Fillets

Haddock are of smaller average size than cod but the flesh is similar. Most of the catch is taken with drag-nets and the existing stocks, in contrast with cod, are so intensively fished that no general increase in the catch is likely in the future. Haddock landings in the Atlantic provinces first increased and then decreased, in total, during the past decade; the average has been about 128 million pounds a year for the last five years. The Canadian east coast production of fresh and frozen haddock fillets and blocks has averaged more than 40 million pounds a year recently (80% frozen), of which about two-thirds was exported, leaving close to 14 million pounds a year for domestic consumption—less than a pound per capita per year (edible weight). Nearly all haddock is filleted, but eight or nine million pounds a year, landed weight, is sold as fresh and frozen dressed, and smoked haddock (the true "finnan haddie") might take a little more than a million pounds.

The value of haddock landings to Atlantic fishermen is between four and five million dollars a year. Prices range from two-and-a-half to three cents a pound in Newfoundland and from five to six-and-a-half cents at Halifax, prices being often a half-cent or a cent higher in winter months. Haddock are sorted in two categories according to size at the time of sale by the fishermen. The categories or grades are designated "large" and "scrod" haddock, the latter bringing one-and-a-half to two-and-a-half cents less than the large in the market. As with other groundfish these buying categories are traditional and not official grades.

Table 69—Summary of Fisherman-Retail Spread, Fresh and Frozen Cod Fillets, 1952 to 1958[a]

Year	Average Retail Price at Toronto	Retail Equivalent Value per lb. of Market Cod Landed Weight	Toronto Wholesale Price of Frozen Cello 5's	Average Landed Price of Market Cod at Halifax less Value of Offal	Fishermen -Retail Spread	Retailer's Share of Retail Value	Fishermen's Share of Retail Value
	(¢/lb.)	(¢)	(¢/lb.)	(¢)	(¢)	(%)	(%)
			A. Frozen Packaged Cod Fillets, 1952-58				
1952	38.6	12.9	27.8	3.5	9.4	21	27
1953	34.8	11.6	25.2	3.0	8.6	22	26
1954	33.5	11.2	25.6	3.2	8.0	24	30
1955	30.8	10.3	24.4	3.0	7.3	21	29
1956	29.8	9.9	24.8	3.2	6.7	17	32
1957	30.2	10.1	24.9	3.0	7.1	18	30
1958	31.4	10.5	27.9	3.0	7.5	11	29
			B. Fresh Unwrapped Cod Fillets, 1955-58				
1955	44.8	14.9	28.2	3.0	11.9	37	20
1956	44.9	15.0	29.2	3.2	11.8	35	21
1957	45.5	15.2	30.3	3.0	12.2	33	20
1958	51.4	17.1	33.4	3.0	14.1	35	18

[a] Adapted from price spread study of cod fillets in Volume III where a fuller explanation of procedure, etc. is given.

Much of the small haddock, sometimes landed and filleted "in the round", goes through filleting machines and into frozen blocks or slabs for the production of fish sticks. Filleting is carried out with the same equipment and personnel used in filleting the other groundfish species. The recovery rate is one or two percentage points higher than that for cod, except when a great deal of scrod is being processed. When the skin is left on haddock fillets the yield is in excess of 40%.

The labour cost of filleting haddock is slightly higher than that for cod—perhaps by half-a-cent per fillet-pound. The raw material cost at a landed price of five-and-a-half cents, assuming a recovery rate of 36%, would be about 15¼ cents per fillet-pound, or 15 cents after allowance for the value of nearly two pounds of offal (at $7.50 per ton) used in fishmeal production. Addition of processing costs of, say, nine cents would bring costs f.o.b. plant to about 24¢ per fillet-pound. This figure could not be claimed to be representative because of the wide variety of plant costs and of regional and seasonal landed prices for haddock. We have computed samples of price spreads on fresh haddock fillets, using an average figure for the annual price to fishermen at Halifax and approximate annual wholesale and retail prices at Toronto. These are shown in Table 70.

3. The Fresh-Water Fisheries

Principal Species and Products

The areas in Canada providing commercial supplies of freshwater fish species are the Great Lakes (Ontario), a large number of lakes in Manitoba, Saskatchewan and Alberta, and Great Slave Lake in the Northwest Territories. More

than a dozen species are caught, with a landed value in total of $12 million to $14 million a year; the most important species are, in order of total landed value, whitefish, yellow pickerel, blue pickerel and lake trout. Perhaps 90% of the catch of these species is sold in the United States, mainly in the fresh or frozen dressed forms although there is a growing production of fillets. The amount of fresh-water fish marketed in Canada is small and the quality is frequently poor.

Table 70—Summary of Fisherman-Retail Spread Fresh Unwrapped Haddock Fillets, 1950 to 1958[a]

Year	Average Retail Price Fresh Fillets at Toronto	Retail Equivalent Value of Fillets per lb. of Haddock Landed Weight	Toronto Wholesale Value of Fillets per lb. Landed Weight	Raw Material Cost of Fillets per lb. of Haddock Landed Weight	Fishermen -Retail Spread	Retailers' Share of Retail Value	Fishermen's Share of Retail Value
	(¢/lb.)	(¢)	(¢)	(¢)	(¢)	(%)	(%)
1950	43.3	17.3	12.3	6.0	11.3	29	35
1951	55.6	19.5	14.2	5.5	14.0	27	28
1952	60.6	21.2	14.6	5.5	15.7	31	26
1953	58.8	20.6	13.7	4.8	15.8	34	23
1954	59.1	20.7	13.9	4.8	15.9	33	23
1955	57.9	20.3	12.9	4.3	16.0	36	21
1956	59.7	20.9	13.6	5.0	15.9	35	24
1957	61.1	21.4	13.9	4.8	16.6	35	22
1958	67.8	23.7	15.6	5.3	18.4	34	22

[a] Adapted from price spread study of haddock fillets in Volume III where a fuller explanation of procedure, etc. is given.

Conditions of Production

Fresh-water fishing methods and conditions vary widely. Little fishing can be carried out on the Great Lakes in the winter season but, where the lakes freeze over on the prairies and in the Northwest Territories, a winter fishery is carried out on the ice distinctly different from the summer fishing from boats. Some men may engage in one fishery but not the other and many are part-time farmers or trappers. Typically the capital investment in fishing equipment per man is low, and much of this is supplied by the fish buyer or packer at the lake who receives the fish and dresses and packs it in ice in shipping boxes for the journey to market.

The gear in general use is the gill-net, set from boats in the summer or through holes in the ice in winter. The fishing boats on the Great Lakes are mainly closed-in-steel-hulled "fishing tugs" 50 to 70 feet long, although many motor launches and sail boats or rowboats are also used. On the prairie lakes motor-driven boats or rowboats are also used, usually about 32 feet long, as well as 20-foot skiffs. On Great Slave Lake the trend has been towards larger boats 35 to 45 feet long with a deckhouse to shelter the crew, capable of carrying up to five tons of fish.

The winter fishery is carried on with horse or tractor-drawn sleighs or cabooses, motor trucks, and tracked snowmobiles called "bombardiers". Aircraft are used for transportation from some of the more remote lakes, or in

winter a tractor train of sleighs with a heated caboose for the crew may haul the catch 60 or 70 miles to the railway over routes that would be impassable in summer.

The amount of processing of products is limited chiefly to packing by small operators at the lakes and freezing by dealer-processors in the larger centres such as Winnipeg. These may also do some curing or filleting. Filleting operations are carried out at some lakes, one of the advantages being the reduction in transportation costs achieved by discarding the waste before shipment.

The handling of the winter catch depends upon whether it is to be sold fresh or frozen. Fish for the frozen trade may be dressed immediately and allowed to freeze on the ice. For better quality, however, it needs to be quick-frozen after rapid transit to a modern plant. Fish for the fresh market is loaded into a heated caboose or snowmobile, frequently being dressed after it arrives at the base camp. From there it is shipped out by truck or railway, or it may be flown out to railhead if no road is available.

Because the prairie lakes are scattered and distant from market the cost of transportation and the maintenance of quality are serious problems. The volume of production from many lakes is too small for economical handling or processing.

Fish production from some lakes has declined or ceased because of the depletion of the stocks, infestation by parasites or other reasons. The depredations of the sea lamprey have seriously reduced the catch of lake trout and whitefish from the Great Lakes. The provincial governments have jurisdiction over the fresh-water fisheries and they have been involved, along with federal government agencies, in conservation programs which culminated in the joint Canada-United States Great Lakes Fishery Convention establishing a commission to study problems and administer the various conservation projects. Representatives of the provincial and state governments concerned and of the two federal governments are members of the commission.

Marketing Structure

Regional marketing patterns differ considerably. Fishermen may sell direct to consumers or to pedlars who do so, but the larger part of the catch is sold to dealers or processors who may also be wholesalers and exporters. Much of the winter production of frozen fish from the prairie lakes is bought by traders who put the fish into cold storage and sell it as the demand arises. In the Niagara peninsula fishermen's co-operatives pack or process the fish for sale to exporters or wholesalers, and processors or wholesalers buy from the fishermen. Fishing companies on Great Slave Lake supply the fishermen and buy the fish to ship it by truck after processing to railhead near the Peace River and thence by refrigerated car to Chicago or New York. Sales are made through brokers or commission agents in the principal markets; also the dealers or fishing companies may themselves act as wholesalers or sell direct to United States importers.

The market demand for fresh-water fish is strongly influenced by the Catholic and Jewish religious holidays. The predominant demand for whole and fresh fish rather than filleted or frozen fish is also a result of Jewish preference. Irregular supply also plays a part in causing sudden price variations, particularly in

the fresh fish market. The substantial measure of control over supply, including importations, by two or three large United States firms may also be a factor affecting prices.

In Saskatchewan about one-half of the commercial fish production is handled by the Saskatchewan Fish Marketing Service. Fishermen are encouraged to form co-operatives but the Service will operate on any lake or in any fishing area at the request of a majority of the fishermen. The products marketed are fresh and frozen dressed and filleted fish, principally whitefish and lake trout. The Service operates plants, warehouses and other facilities provided by the Department of Natural Resources or by fishermen's co-operatives, as well as its own, returning all proceeds to the fishermen after deduction of processing and marketing costs.

In order to provide greater price stability to the primary producer the Government of Saskatchewan has instituted a guaranteed initial price for each species set for each lake or fishing area in accordance with the production and marketing costs of the area. The policy is administered by the Department of Natural Resources with the Fish Marketing Service acting as its agent. A further feature of the Saskatchewan system of fish marketing is the government's collection of a levy on sales of fish outside the province. This levy is regarded in part as a return to the government and the public for the use of a common property resource.

Whitefish Fillets and Dressed Whitefish

Whitefish are found in most of the lakes of the inland region, from Ontario to the Yukon. Data on annual Canadian landings are not very accurate but the volume is around 25 million pounds a year, about one-fifth by weight and nearly one-third by value of all fresh-water fish landings.

Whitefish exports for the 10 years 1949 to 1958 averaged 17.4 million pounds a year of fresh or frozen, whole or dressed fish, and one million pounds of fresh or frozen filleted whitefish. These figures combined, using conversion rates,[1] represent an annual average export equivalent to about 23 million pounds landed weight. This is more than 90% of total average whitefish landings. Domestic disappearance thus appears to be about two million pounds a year.

By arrangement with provincial authorities all whitefish shipments destined for export are required to be inspected by federal Department of Fisheries officers. Shipments to Canadian markets will be inspected if a request is made, but there is nothing to prevent consignments rejected as unfit for export from being diverted to Canadian destinations for sale to Canadian consumers.

The season of marketing in conjunction with the seasonality of demand affects the price greatly. The average price received for whitefish by Great Slave Lake fishermen is much higher in winter than in summer, for example; the summer fishery there has to sell fresh white-fish in competition with heavy production from the Great Lakes and prairie sources, but in winter Great Lakes landings are small and the Great Slave industry is better organized to ship out fresh fillets in winter than are most of the prairie producers.

[1] Whitefish are sold mainly dressed with the head on. Recovery rates vary, but 15% may be lost in gutting, and 45 to 50 pounds (or more) of fillets are obtained from 100 pounds of whitefish in the round.

Lake Erie fishermen receive higher average prices for whitefish than other Ontario producers, perhaps because of their proximity to the larger Canadian and United States markets and the consequent high proportion of the catch sold fresh rather than frozen. The prices usually reflect also an established market preference for fish from certain lakes. Whitefish from some of the prairie lakes have flesh of a darker hue, and the market prices received are lower in consequence.

Owing to the market preference for dressed fish, the market price for whitefish fillets does not usually reflect the difference in edible weight nor the additional cost of filleting, which may amount to 10 or 12¢ per fillet-pound. Consequently, it is uneconomic to fillet fish that can be sold as first quality fresh dressed whitefish. Most whitefish fillets are frozen and most are cut from low-priced raw fish or cut at the source of supply where the consequent saving in transportation costs may be considerable. Frozen fillet production now represents about one-eighth of total whitefish landings.

The monthly wholesale-retail price spread on fresh dressed whitefish in Toronto between 1950 and 1958 (computed from the official quotations) has ranged between 25% and 55% of the retail price. The average spread for the year 1958 was close to 25 cents a pound or 42% of the retail price average of 58.7¢. At the end of January, 1959, Toronto wholesale price quotations for fresh dressed whitefish ranged from 60 to 90¢ a pound for Great Lakes whitefish and from 15 to 25¢ for the same from the western provinces. The Toronto retail price for fresh dressed western whitefish was 43 to 45¢, indicating a spread of 20 to 30¢ a pound or a markup of from 45% to 67% of the retail price. These markup figures in part reflect the high risk of spoilage in handling fresh fish; the highest markups were registered during the summer months.

The Toronto average retail price of 58.7¢ may be compared with retail prices for fresh dressed whitefish in Winnipeg ranging between 25 and 59¢ a pound during 1958, the average being about 33¢ in the last four months of the year and probably somewhat higher in the spring. Refrigerated express rates from Winnipeg to Toronto would represent a transportation cost of from four-and-a-half to six-and-a-half cents a pound, according to the size of the shipment.

The average value of whitefish to the fishermen from all Manitoba lakes during the 1957-58 season was 13¢ a pound, but the prices at different lakes varied widely. Thus, at Island Lake fishermen received four-and-a-half cents (for whitefish to be filleted), on Lake Winnipeg they received 25¢ in the summer and 20¢ in the fall, on Lake Winnipegosis in the summer, 10¢, and at Moose Lake, 12¢. The Moose Lake price, for instance, represented about 36% of a late-1958 Winnipeg retail value of 33¢ for fresh dressed whitefish or, assuming that Moose Lake whitefish was shipped to Toronto, about 20% of the Toronto average retail price. Assuming the average retail price of western whitefish to have been near to 45¢ a pound in Toronto, the Moose Lake fisherman received about 27% of the Toronto retail value of his product.

ALL OF WHICH WE RESPECTFULLY SUBMIT FOR YOUR EXCELLENCY'S CONSIDERATION

Chairman

Secretary

September 11, 1959.