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SOME GENERALIZATIONS ON EFFICIENCY
IN MARKETING, BASED ON EXPERIENCE
WITH MILK IN GREAT BRITAIN, 1938-52

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MY purpose this evening is to present five generalizations on factors related to efficiency in marketing, using milk as the commodity and Great Britain as the country from whose experience they will be drawn. First, the setting will be described. And next, the generalizations will be presented.

The setting as regards the marketing of milk is much the same in Great Britain as in the United States. Milk is produced on small diversified farms in Great Britain, 160,000 of them. The average number of cows per farm is twenty, about the same as in fluid milk-sheds in the United States. One-half of the milk moves to market through country plants, while the other half goes directly to city plants. This, too, is the situation in the north-eastern part of the United States.

In city distribution of milk, a few large dealers dominate the scene. In medium size and large cities in Great Britain, the typical situation is for the two largest dealers to distribute about 60 per cent. of the milk, and the three largest dealers about 75 per cent. In both countries the trend has been toward fewer distributors, the number declining by about one-half since 1940.

The most important method of distribution in both countries is delivery to homes. Usually the milk is pasteurized, and packaged in glass bottles. People use about the same amount of milk in both countries. In 1951 the average consumption of milk per person in cities and villages of England and Wales was five per cent. higher than in my home State of Connecticut.

The British have made remarkable strides in milk marketing in recent years. A visitor of twenty years ago, if he should return now, would hardly recognize the system of milk distribution. Much progress has been made even in the past five years. Some of the more important legislation affecting the quality and marketing of milk dates back only three years. The pedlar dipping raw milk from cans has disappeared from the large cities of Great Britain, and is rarely found in country villages. Over 99 per cent. of the milk sold in

London is pasteurized. For the country as a whole, over 80 per cent. of the milk is pasteurized. This compares with only 66 per cent. at the end of World War II.

Thus, the similarities in milk marketing in the two countries are impressive. What can be learned in one country seems likely to be adaptable to the other. Some of the differences to be taken note of, however, are as follows:

1. Prior to 1933, there were not any large-size producer organizations engaged in marketing fluid milk in Great Britain. The Milk Marketing Board for England and Wales, a producer-controlled organization which has made payments to farmers under the Milk Marketing Scheme since 1933, and performed many functions of the type carried out by co-operatives in the United States, is a quasi-government agency. There is provision for producer voting, but a minority which may oppose the activities of the Board must go along with the majority. Participation could be termed compulsory co-operation. Notwithstanding, the Board enjoys widespread producer support. In most milk markets in the United States, on the other hand, producers have been organized in co-operative associations since World War I, with voluntary membership and usually including a substantial part of the producers in each milk shed.

2. Consumer co-operative societies are important in distributing milk, and many other goods, in Great Britain. They distributed about 22½ per cent. of the milk in 1934, 25 per cent. in 1938, and 28 per cent. in 1951. Such societies are of little importance in milk distribution in the United States.

3. Prices paid producers for milk in Great Britain are announced by the Government each spring for a year ahead. In the United States the pricing system for milk and dairy products operates with daily, weekly, or monthly fluctuations that cannot be predicted in advance.

4. Retail milk prices have been subject to governmental price ceilings in Great Britain continuously since 1940. Milk was rationed from early in the war until January 1950. The sale of cream and the use of butter fat in ice cream has been prohibited since 1940. Other dairy products still are rationed to consumers. In the United States, on the other hand, price ceilings and rationing have been relatively unimportant, and fluid milk has never been rationed to consumers.

5. Government subsidies have been of considerable importance in Great Britain, the subsidy on milk amounting to 44 per cent. of the retail price in 1949. In the United States subsidies on fluid milk are not paid now, and were paid for less than three years during and immediately following World War II.

6. The transportation of milk from farms to first destination in Great Britain, either to country or city plants, has been planned as a unit by the Milk Marketing Board since the early 1940's. Production areas are zoned, and all the milk in given areas is assigned to certain dealers. All hauliers are under contract with the Board, and the Board arranges hauling routes so as to have a minimum of duplication. Producers have lost their right to choose their milk market, and distributors have lost their right to choose their suppliers. This plan, called farm rationalization, has been gradually tightened over the years. In the United States farm rationalization plans have not been carried out. Variable health requirements by city officials as regards farm inspection, variable prices among producers in given areas, and farmer loyalties to their producer co-operatives would be expected to make it more difficult to adopt farm rationalization plans in the United States than it was in Great Britain. Also, with relatively cheap gasoline and trucks, the farm transport cost is only about half as important in the total marketing spread in the United States as in Great Britain, so that savings from farm rationalization would be expected to be less.

7. As war-time economy measures, a shift was made from twice-a-day to daily home delivery in Great Britain, and from daily delivery to every-other-day delivery in the United States. In addition, many cities were zoned in Great Britain under a city rationalization plan, and only two, three, or four dealers permitted per street, depending on the type of plan which was adopted. These plans were adopted in most cities in Great Britain in 1942, 1943, or 1944. Beginning in 1948, city rationalization has broken down in all cities except London.

8. Probably the most serious problems in milk distribution in Great Britain are due to the lack of refrigeration. Less than 5 per cent. of the homes are equipped with refrigerators. Stores, which sell about five per cent. of the total volume of milk to the family trade as compared with 25 per cent. in the United States, do not have refrigeration for holding milk. Usually there is not any refrigeration in milk delivery vehicles. And only three per cent. of the dairy farms have mechanical refrigeration for cooling milk.

So much for the milk marketing set-up in Great Britain. Next, I would like to present five generalizations based on British experience which seem to me to be applicable to other countries and other commodities.

The first of these is this: Rationalization plans for the country handling of milk work best when of a comprehensive nature, and

when coupled with suitable price incentives not only as to transport but also as to utilization of the product.

There seems little doubt that rationalization plans for the transport of milk from farms to first destination have worked out well in Great Britain during the past ten years. Savings in hauling milk have amounted to about 30 per cent. Practically all producers favour continuance of the plans. Distributors, with a few minor exceptions, are satisfied with and endorse the new system under which the Milk Marketing Board zones production areas.

Three changes in farm rationalization, however, seem to be proved desirable by experience. Rationalization plans need to cover the handling and transport of milk all the way through to city plants, not simply to first destination. Plans should include provision for the optimum utilization of milk, including division between use as fresh fluid milk or alternative manufactured products as well as efficient handling in the uses decided upon. And lastly, the smoothness with which rationalization plans operate can be expedited by careful determination of a number of price differentials, including butter fat, sanitary, and location differentials.

Under more or less competitive conditions, errors in determining price differentials such as these are not so serious because purchasers will introduce their own schedules of price premiums or discounts over and above the formal price structure. When distributors' supplies are rigidly allocated under rationalization plans, the opportunity to apply price differentials individually is diminished.

It is particularly difficult to make economic determinations in Britain as to the optimum utilization of milk. As indicated previously, the sale of cream and use of butter fat in ice cream is prohibited, and most other dairy products are rationed. Wholesale and retail prices in alternative uses reflect top-level decisions of a few administrators rather than valuations of consumers. Even so, an approximation of 'real values' based on prices paid for imported dairy products could be made, and farm rationalization plans broadened to give greater consideration to the utilization of milk.

If farm rationalization should be tightened up and extended in these ways, which appear to be desirable in the British situation, attention must be given to where responsibility is placed for obtaining greater efficiency. One possibility is to assign the job to a government agency. But the goal of a civil servant, as pointed out in the report of a British investigating committee, is to 'lead a quiet life', not to engage in the rough and tumble of commerce. A more promising possibility is to make producers responsible for farm rationaliza-

tion, giving them the gains from correct decisions and charging them losses for wrong decisions. In England and Wales the Milk Marketing Board would appear to be the logical producer organization for this job. But to really place responsibility with them, a step away from guaranteed flat prices to producers is essential. The subsidy programme also would need to be operated so that incentives for efficiency in farm rationalization would not be eliminated by variable subsidies compensating for greater or less efficient transport and utilization.

The second generalization is as follows: co-operatives with economic, social, and political objectives are not likely to distinguish clearly among them, and consequently frequently do not obtain the maximum economic efficiency consistent with their social and political aims.

First, let us look at the reasons why the milk business of consumer co-operatives expanded relative to their competitors in the 1930's and 1940's. Among the reasons are that co-operatives recognized, at an early date, the desirability of pasteurizing milk. Many societies discontinued the sale of raw milk in the 1920's and 1930's. Leading the way, they gained many customers from other distributors. Co-operatives also were among the first to simplify their line of products and containers, excluding goods from delivery rounds and concentrating on milk, and eliminating the odd container sizes and concentrating on pints. Furthermore, they pioneered in the use of tokens for collecting from customers, and reduced credit losses materially during the depression conditions of the 1930's. In pre-war years consumer co-operatives generally were more efficient in distributing milk than their competitors, and were expanding more rapidly.

The situation today is not so favourable for consumer co-operatives in Britain. Most of their competitors also sell pasteurized milk, and have streamlined their operations as to number of products and size of packages. Credit and collection problems are not so serious, so that the advantages of using tokens are lessened. Three additional factors have reacted unfavourably to their account; first, they did not rationalize city deliveries as did their competitors, and thus did not obtain the savings from zoning; secondly, they have obtained a greater proportion of high-cost customers in rural areas because of the over-all society policy of serving all members regardless of location; and thirdly, they did not develop sales of high fat and tuberculin-tested milk, which are profitable items, to as great an extent as their competitors. These decisions were made partly for social and political reasons. It appears probable that less attention to social and

political considerations would have increased the economic efficiency of consumer co-operatives during the past ten years. Moreover, when social and political objectives have conflicted with economic goals, delay and indecision in the choice of marketing policies have tended to reduce efficiency of operations.

A third generalization based on British experience in milk marketing is that large-scale government subsidy programmes are likely to be used in ways that reduce marketing efficiency. As indicated previously, the total subsidy on fluid milk in Great Britain reached a peak of 44 per cent. of the retail price in 1949. It has been reduced since then, and currently is about one-fourth of the retail price. There are about 17 different kinds of subsidies on milk in Britain, the exact number depending on the method of classification. Seldom are all of the types included in any tabulation of the total cost.

An example of a subsidy which probably will reduce efficiency over time is the production bonus plan. Under this plan small farmers receive higher prices for milk than large farmers, about three per cent. higher for an 8-cow producer than for a 16-cow producer, and a progressively lower price as the volume of milk sold increases. Such a system feather-beds the small producer, tending to lessen over-all production and marketing efficiency.

Transportation from country plants also is paid for by government subsidy under a system of higher rates for small shipments than large ones, higher rates for shipment in cans than in rail or road tankers, and higher rates for long hauls than short hauls. Government payments are made to country plants on the basis of higher unit rates for small volumes than large volumes. Payments are also made to maintain profits on plants which are closed and do not handle milk. Such payments make the recipients of government grants amenable to directives from administrators, but quite effectively remove price incentives for organizing operations so as to have maximum efficiency. I do not wish to advance the proposition that all subsidies interfere with marketing efficiency. The subsidy payments for free milk in schools, for example, are not in this classification. Nevertheless, there appears to be a tendency to follow more pricing plans which are inconsistent with efficiency when the required funds come from government grants rather than directly from consumers.

My fourth generalization is as follows: city rationalization plans bring important savings without any noticeable decline in the work pace of employees, but do result in a decline in service given consumers. Experience in Great Britain is particularly valuable in appraising plans for zoning city areas for milk distribution because of

the variety of conditions in the period since 1940. Rationalization plans were not carried out in several important cities such as Portsmouth, Manchester, Glasgow, and Edinburgh. In one city, Carlisle, a complete consolidation of all private dealers took place. In London, strict rationalization plans permitting only two dealers per street became effective early in World War II and continue in effect. Cities outside London which were rationalized have undergone a breakdown of zoning plans during the past four years. The saving from city rationalization in Great Britain was about 6 per cent. of the total marketing spread on milk between farm and consumer. Probably the saving was greater than would have resulted from comparable plans in the United States because vehicle costs relative to routemen's wages are much higher in Britain than in the United States.

The question has frequently been raised in the United States as to whether the theoretical gains from the zoning of city delivery areas would be lost because men worked slower and put forth less effort. In Britain, no evidence could be found which indicated that routemen and other employees were putting forth less effort than before. A few distribution managers said that they found their work less interesting under rationalization, and that they missed the competitive urge to expand, yet the over-all experience could not be summarized otherwise than favourable to rationalization.

As to consumer services, however, evidence was found of less satisfaction in rationalized than in non-rationalized or derationalized areas in two regards: first, the time of day when delivery was made was less satisfactory and, secondly, the number of unfilled orders for high fat milk was greater. The latter problem is largely one of pricing, and for the most part could be taken care of by the adoption of proper price differentials for butter fat. On time of day, it is evident that in areas where rationalization breaks down the milk dealers soon begin to start out earlier on the routes and to keep goods off the loads so that their routes can be completed promptly. In London, on the other hand, a frequent attitude is that 'under rationalization we have just so many customers. We can't lose them even if we start out late on the routes, and if we return late, so why not stay with a 7.30 starting hour and increase total sales by carrying more items on the delivery route?' Also, distributors are much less lenient with consumer credit in rationalized than in other areas. Apparently, some safeguards for consumers are necessary if rationalization is carried out, despite the general success of the plans.

The fifth generalization which I am presenting for discussion is this: breaking the marketing job into small pieces and paying for

each piece individually tends to result in inefficiency in marketing.

In England and Wales there are separate allowances for operating country plants, hauling milk from country plants, collecting milk from railroad stations, wholesaling, and heat treatment or pasteurization. Total payments are the least for an integrated operation in which milk is received from producers. They are less for an integrated operation in which milk is received directly from a country plant than for one in which a city wholesaler intervenes. But the incentives for a dealer to do the whole job in the most efficient manner are removed by separate payments for each step. If the step is omitted, the payment is that much less. An incentive remains to do the individual steps as efficiently as possible, so as to make a profit on each one, but not to organize the whole job with as few steps as possible. In fact, the profit incentive is toward doing just as many steps as possible.

The idea that there ought to be enough money in the margin to pay all people who intervene between producer and consumer a 'living profit' lies behind the payment for individual steps in marketing. Accountants are called upon to break down the marketing job into its various parts, finding exact costs for each part. Administrators use the results in setting up payment rates for each separate step that might be performed, making their administrative directives more palatable. Presumably to take care of everyone along the way provides a measure of social justice. Thus, one could say that undue emphasis on the accountants' fine division of costs is the curse of marketing efficiency, the desire of administrators for an easy life is the curse of marketing efficiency, or that the search for social justice is the curse of marketing efficiency. None of these is entirely true, but there is an element of truth in each. And more than a dozen examples could be given from British experience in milk marketing, since the pre-war years, where decisions were made which favoured less efficiency rather than greater efficiency on the basis of one, two, or all three of these reasons. Losses through breaking the marketing job into small pieces and paying for each piece individually tend to increase over the years. In the first year little damage may be done, but by the tenth year the loss may be substantial.

In conclusion, I would expect that the five generalizations which I have based on British experience in milk marketing are applicable to other countries and in the marketing of other products. The approach in this paper has been to choose specific marketing problems; to look into the action taken to meet each problem, and the

results; and to draw from this experience some generalizations that are likely to be useful as problems of a similar nature are encountered elsewhere.

D. W. L. MATHEWS, *Staverton, Totnes, England*

I look at these questions from the farmer's point of view, and I would say that since we have had the Milk Marketing Board in charge of marketing in England, the whole business has gone much more smoothly, and the farmer has been assured of a market. There was a time when milk was going into areas where it was not wanted and had to be sold at completely unremunerative prices. Farmers went on strike. They held back their milk for a day at least! But only a few struck and the rest came in with the milk. But now we have the Milk Marketing Board, and from the producers' point of view we have there a body which is able to negotiate with the buyers on the farmers' behalf and leave the farmers to specialize on the production of the milk, which is their proper function.

E. M. H. LLOYD, *Ministry of Food, London, England*

I was puzzled about what exactly was implied by the phrase 'marketing efficiency'. I may look at it from the point of view of the Ministry of Food, as one of those officials who sit back and keep things going in a fairly routine, quiet sort of way. But actually we have had one of the biggest revolutions in milk marketing in the United Kingdom, and we are very glad to have such outside criticism as you give us. None of us would say the system is perfect, but all of us could say that there has been an enormous improvement compared with the conditions before the First World War. We have studied some of the developments in the United States and, as I see it—I may be wrong—there are two different concepts about efficiency. One starts from the premise of complete freedom of competition and the automatic working of the law of supply and demand according to the textbook. An example of that applied to milk is perhaps the system in some oriental cities where the cows are taken around to be milked at different houses and the price is settled each day by bargaining.

But the essence of organized milk marketing, where it differs from such methods, is that certain elements of public policy come in. One is cleanliness and the health point of view. Another is social policy. We in Britain have been impressed by the fact that the ordinary working of the economics of milk distribution did not ensure that

those who needed it most got the milk they needed—particularly expectant mothers and young children. Government policy in Britain has been much influenced by that consideration. The Advisory Committee on Nutrition which reported in 1937 emphasized that milk was more important than any other single commodity for promoting the health and strength of the rising generation. That has played an important part in the policy of deliberately subsidizing milk, and thereby ensuring that it is brought within the purchasing power of the whole population, particularly those who most need it. All our social surveys of milk consumption have shown that the larger the family and the more young children, the less is the consumption of milk per head in that family. But from the public health and public welfare points of view, the larger the number of small children in a family, the higher the consumption of milk ought to be. That has been the basis of our milk subsidy policy.

We are conscious that there are many respects in which there could be greater efficiency. I think that the development of rationalization which has been referred to has in a sense promoted market efficiency and reduced the actual cost. We are only too conscious, however, that by reducing competition we lose the spur of competition. If we could rely on competition, some distributors might be prepared to cut their prices in order to get a bigger turnover and oust their more inefficient competitors and thereby reduce cost. But that is not easy to reconcile with a publicly regulated monopoly. When monopolies are set up, considerations of equity and social justice, not to mention political pressure, sometimes come in.

O. J. BEILBY, *Department of Agriculture for Scotland*

On the subject of the price-fixing system, one effect of the operations of Milk Marketing Boards in England, Wales, and Scotland has undoubtedly been, from the point of view of production, that it has secured a virtual equalization of prices throughout the country. This compares with the substantial regional variations in prices existing before the operation of the milk marketing schemes. This is an important factor. It has brought about a considerable expansion of dairying in the more remote areas and on small farms, because the increase in price has been greatest in these cases. While the marketing boards have helped towards increased production it is perhaps arguable whether this has resulted in the best utilization of our agricultural resources. There is the contrary argument that these areas are not really suited to milk production, and are better suited to rearing cattle or sheep.

D. S. ANDERSON, *Dairy Branch, Production and Marketing Administration, U.S.D.A.*

It has been suggested that one of the main issues that might evolve from a comparison of milk marketing systems in North America and Europe is the extent to which duplication of marketing facilities and services should be restricted. If the decision were made that such restrictions were desirable, it would be necessary to decide who should do the restricting. The answer seems to be that it would have to be done by some government agency.

Why should duplication of marketing facilities be restricted? Those who suggest that it should be, commonly defend their position on the basis of 'efficiency'. The argument is that without 'duplication' fewer resources would be required for the marketing of milk.

I have no desire to go on record as being against efficiency. It may be, however, that there is some difference between North America and Europe in the need for it. For some years past our foreign trade balance has been favourable. We have been getting rid of more goods than we have been receiving from abroad. We have built up and maintained a larger military establishment than in the more distant past. In addition to all this, we have improved our general level of living. All this being true, why do we need to reduce to a minimum the resources devoted to the marketing of milk in the United States?

It might be argued that with fewer resources used for the marketing of milk the price to consumers could be reduced without a corresponding reduction in price to producers. This, it is generally believed, would benefit producers. But there are certain experiences which suggest that price reduction is not the only factor that causes consumers to buy. It has recently been stated that

to compete successfully with established foods, a new or modified food must offer some advantage. It must save labor in the home; possess some special flavor appeal or nutritional value; or it must undersell the established food with which it competes.

This listing, made by a woman, puts 'save labor in the home' at the head of the list. Some folks have speculated as to why concentrated fruit juices have been a 'boom' while concentrated milk has been a 'bust'. Perhaps the relative effect in 'saving labour in the home' had something to do with this difference.

As a result of a survey made of the handling of pre-packed produce, it was reported that

while bulk commodities still are more popular in low income areas because of lower prices, pre-pack sales are gaining in the middle and high

income areas. Over half the retailers felt that pre-packing does affect sales because of better quality, eye appeal and ease of preparation. Frozen food sales are highly dependent upon income area served by retailers—important in middle and high income areas where they are cutting into sales of fresh fruits and vegetables which are difficult to prepare.

In defence of the position that 'efficiency' may not be the best of all criteria for judging the worthwhileness of a marketing system in the United States, it can be mentioned that our resources are such that austerity may no longer be a virtue, and that it may be that efficiency merely results in transferring the performance of part of the necessary functions of marketing from the marketing system to the home. Perhaps of greater importance is the range in income that prevails among our people and the fact that people with different incomes want different kinds of marketing services. Even people with the same income may like differently coloured ties.

It would appear that we have accomplished a sufficient abundance of resources, given some degree of peace and security in the world, that the question in milk marketing is not that of achieving maximum efficiency but whether we can provide a method by which consumers can choose between luxury services on the one hand and low cost services on the other. While in many areas consumers may now make this choice, it is far from evident that those consumers choosing this luxury service pay for all the cost of it, while those consumers choosing the low cost service receive all the savings that should result from this desire for having fewer marketing services along with their milk.

The problem, then, is to devise a method under which consumers are given free choice as to whether they have luxury service with milk at higher prices associated with this luxury service, or whether they have less service and lower prices. To bring such a method into existence would be difficult. There is no organized group that wants it, just as there is no organized group in the United States pushing for efficiency. There are, on the contrary, strong forces working against affording a free choice among the different kinds of service at prices which will be commensurate with the true difference in cost. In addition to these forces there are the technical problems of ascertaining the difference in cost between providing luxury services on the one hand and few services on the other. There is also the bothersome habit of reduction in costs showing up, under the present competitive system, not as decreases in published price lists, but as discounts of sundry kinds, advertising displays, cabinets, or trinkets. Custom and tradition—abetted by fixed investment in facilities and in jobs—also stand in the way. The home delivery system of milk distribution

arose because of the need for quick and regular delivery of a perishable commodity to homes at a time before automobiles were more frequently owned than houses. When home delivery of milk started in cities, groceries and meats were also delivered from store to home, refrigerators were far less common in homes, and the quality of milk had not reached the high level it has now attained.

Three economic groups generally question the desirability of giving the consumer free choice among different kinds of marketing systems for milk: the dairy farmers, because of what they have been told, the milk distributors, and the workers in milk distribution because of what they have invested in facilities and in jobs. The farmer has been told that more fluid milk will be consumed if a specified number of bottles is deposited on the consumer's doorstep each or every other morning. He has also been told that only if the distributor gets sufficient money from consumers, will he have sufficient funds to pay dairy farmers for their milk. This would seem to be a truism—but it does not prove that resale price fixing and especially resale price fixing that limits consumer choice is necessary to do this. That the milk distributor who has his capital in home delivery equipment or the worker whose job is in home distribution should see merit in limiting milk selling to this system is reasonable. But limiting the choice of consumers to one system does not seem compatible with present income distribution, consumer desires, or available resources.

If we start from the premise that a worthwhile marketing system is one that gives consumers the widest possible choice of the kinds of services they want and assures that consumers will pay for these services in accordance with the amount of service received, then restriction of duplicated facilities is not the greatest step that can be made toward improving the present system of marketing milk in the United States. As our production capacity per person increases, we should strive not for austerity but for more pleasant and gracious living—with all assurance that those who live most pleasantly are not subsidized by those who live less well.

D. E. HIRSCH, *Dairy Section, Co-operative Research and Service Division, Farm Credit Administration, U.S.D.A.*

It has been suggested that I make a few comments about the milk marketing situation in this country, especially as it concerns dairy co-operatives.

Dairymen in many countries have found it necessary to attack certain marketing problems through the medium of collective action.

Approximately two-fifths of the milk sold for fluid consumption from farms in the United States is marketed by producers' co-operatives. Most of the co-operatives' volume is marketed by price-bargaining associations, and only one-seventh of the total sales for fluid use is actually physically handled at one or more marketing stages by the co-operatives. Thus, producers' associations in the United States play a vitally important role in marketing milk for fluid consumption, but not as dominant a part as that of similar organizations in certain other countries.

In an ideal market, supply and demand for fluid milk would be equal at all times. It is impossible to maintain such a balance under actual conditions. First, the supply of milk varies considerably from one season to another during each year, yet producers want a market for all of the milk that they do not need on their farms. Second, the demand for milk customarily changes little seasonally yet fluctuates considerably from day to day, and consumers want enough milk to meet their fluid needs every day of the year. The total supply of milk cannot be adjusted rapidly to meet fluctuations of effective demand because milk production depends on biological factors over which man has only partial control. Sudden changes in demand for milk characteristically effect changes in price rather than changes in supply. Milk production can be decreased very rapidly, but it can be increased substantially only at a slow rate. Thus, long-range planning is necessary in forming price plans for milk.

Milk is a perishable product and, as a result, most individual producers have a limited choice of markets. The choice for farmers' co-operatives in the United States, however, has widened remarkably in the last several decades as the result of improved transportation conditions. Yet, even if no artificial barriers to the intra-State or inter-State movement of milk existed, the perishability and bulkiness of the product would be limiting factors in selecting markets. Our present pattern of sanitary regulations makes the cost of producing milk for consumption in fluid form appreciably higher than that for utilization in manufactured dairy products. If a producer cannot be assured of a reasonable return on the investment in farm facilities necessary to meet fluid milk sanitary requirements, and to pay for the additional and more skilled labour, he is not likely to produce milk for fluid consumption.

Thus milk is a perishable, bulky product, the average daily supply of which must exceed average demand by from 15 to 20 per cent. or more in order to ensure enough milk to meet the days of greater demand. The supply cannot be increased rapidly and fluctuates

seasonally with little regard to demand conditions. There is also a large number of producers who individually have little bargaining power because no one of them can affect significantly the total market supply. The producers cannot store their milk on their farms but must sell it for what they can obtain. This may result in severely fluctuating prices and an unstable market. As a result, price negotiation has always been the primary function of bargaining co-operatives.

Nearly one-third of our total volume of milk sold for fluid consumption from farms is subject to regulation by Federal milk market orders. During the depression years of the early 1930's, the bargaining power of producers diminished to such an extent that Federal assistance was sought to bring some stability to otherwise chaotic markets. The programme has continued to expand as additional groups of producers have requested its extension to other marketing areas.

The primary function of many price bargaining co-operatives changed materially when Federal orders became effective. They no longer arrange for the sale of their producer-patrons' milk to individual-processors and distributors. Instead, they represent their members in presenting evidence at hearings held to consider proposed changes of sale conditions. Ordinarily they do not negotiate with buyers relative to prices paid to producers although, at times, they may seek premiums above the minimum prices established by the Federal procedures. Co-operatives play a key role in the development and operation of the Federal milk market orders. Although the participation of a co-operative is not required by law, there are no Federal order markets in which at least one co-operative was not active prior to establishment of the order. Administrative decisions are based on evidence submitted at price hearings and co-operatives represent producers by submitting pertinent evidence.

In addition to the primary function of price negotiation or representation, most of our bargaining co-operatives in Federal order markets perform one or more of a number of secondary services. These may be classified under three general categories :

1. Assuring accurate and prompt payment for milk.
2. Advising on general production problems and on making necessary adjustments in milk production to comply with consumption requirements.
3. Providing a dependable market outlet for milk.

Under the first of these general headings come the following functions :

1. Assembling and handling milk.
2. Paying producers.
3. Taking milk weights or tests or checking dealers' reported figures.
4. Auditing dealers' plant records.

The extent to which bargaining co-operatives in the United States perform these and other functions varies considerably between markets and between associations. The auditing by or for co-operatives of dealers' records is much more common among unregulated than among regulated markets.

The second of our general categories includes the following functions:

1. 'At cost' handling of farm supplies.
2. Advisory service regarding farm production problems.
3. Encouragement or promotion of artificial breeding dairy co-operatives.
4. Seasonal pricing plans to provide above-average payments to producers whose milk shipments conform most closely to the local pattern of consumer consumption requirements.
5. Adjusting supplies to market needs by buying milk from non-local sources during the period of short supply, allocating supplies of local milk or—during the flush production season—processing or otherwise disposing of the quantities of milk not needed locally for fluid uses.

The third general service follows from the other two. Many co-operatives arrange for a place to deliver the milk at all times and guarantee payment in relation to value.

It is evident from this discussion that each Federal milk marketing order in the United States represents a joint effort by Government and local milk producers. The Government endeavours to operate primarily in the public interest, whereas co-operatives are especially concerned with the interests of their producer members. While the Federal order programme thus clearly affects the conditions of sale for fluid milk producers, it has no direct bearing on the processing or distribution of fluid milk. It is not designed as an instrument to increase marketing efficiency beyond the point at which the producer relinquishes physical control of his product, although its provisions affect the plant utilization of milk and thereby affect efficiency to some extent.

I believe that most dairy marketing economists in the United States would agree that some elimination of competitive duplication

in our fluid milk industry would be desirable. At the present time there is nothing to indicate that such duplication is likely to be reduced on a national scale by the concerted efforts of co-operatives. Thus it appears that, in the short run at least, government intervention is the sole alternative. This might be effected through direct policing action—limitation of the number of concerns, division of sales territories, and similar measures—or by programmes that would encourage sanitary standards and other marketing conditions having the effect of rather gradually eliminating wasteful duplication. We have come a long way toward more efficient milk marketing in the United States and I believe that the latter kind of approach is desirable. Much of the economic and social progress of this nation has been due to the interaction of competitive forces and we do not want to remove the inefficiencies of competition at the cost of losing its benefits.

L. J. NORTON, *University of Illinois, Urbana, Ill., U.S.A.*

I listened fairly closely to Mr. Johnson, and I did not detect a very critical note in his reactions to the British system. I gathered that the consumers do object somewhat to the city rationalization system. The best evidence on that fact is that the system has been abandoned everywhere except in London. If I am wrong about that, Johnson can correct me. Then, under his third and fifth points, his conclusion, if I got it correctly, was that subsidies did lead to certain inefficiencies. I should be glad if he would confirm whether I have drawn the proper conclusions from his paper.

STEWART JOHNSON (*in reply*)

Mr. Mathews said that he thought that the Milk Marketing Board was doing a good job for farmers in England and Wales, and Mr. Hirsch emphasized the role of co-operatives in the marketing of milk in the United States. To elaborate on these two points, I think it is well to keep in mind that producer co-operatives were virtually non-existent in England and Wales prior to the adoption of the Milk-Marketing Scheme in 1933. There were a few small operating co-operatives, handling a very small percentage of the milk, but no large producer bargaining co-operatives such as in most fluid milk sheds in the United States. The Milk Marketing Board, a quasi-government organization, was established to administer the scheme. During my study in Great Britain, one of the surprising things to me was the widespread support of the Board out in the country. It is true that part of this support was undoubtedly due to 'perpetual inflation' in the farm price of milk, a doubling between 1938 and

1946, and a rise of either five, six, or seven per cent. every year since 1946. Even so, it appears to me that an important factor accounting for widespread producer support is that the Milk Marketing Board in England and Wales has operated democratically. It is thought of by farmers as their own organization in much the same way as U.S. dairymen feel toward their co-operatives in the New York and Chicago milk sheds. In visiting a number of farmers in England last spring, stopping at farms chosen at random and without prior introduction, I did not find a single farmer who was critical of the Milk Marketing Board.

Mr. Lloyd commented on the nutritional gains from giving cheap milk to children and expectant mothers. There is no doubt that the subsidy programme resulted in great increases in milk consumption—something like an increase of 75 per cent. per person, on the average, since before the war. The importance of differential subsidies in increasing consumption may be over-emphasized, however. Many of the consumers we interviewed in our study were feeding the entire family on 'cheap milk' supposedly sold for consumption only by children under five and expectant mothers. Nevertheless, if we want to carry over British experience to the 'Brannan plan' in the United States, there seems little doubt that consumers use up much larger quantities of a perishable food like milk if retail prices are cut sharply by a system of government subsidies.

On location differentials I would not altogether agree with the argument, described by Mr. Beilby, against the raising of producer milk prices in outlying areas away from London. Producers near London now receive a much smaller premium over distant producers than was true before the war. But hauling costs have not risen so much as most other costs since 1940, and the total difference in the farm milk price between regions is about the same as the difference in hauling costs at the present time. Much stronger seasonal incentives than before the war appear to give nearby producers an adequate return for more even production seasonally than the more distant producers. It is true that the system of providing these differentials appears to be unduly complicated, but their net result seems justifiable.

Mr. Norton was correct in stating his impression that I had found that subsidies generally led to inefficiency in marketing. One exception, among the seventeen or so different kinds, was the subsidy for free milk in schools. And this subsidy, being supported by both major parties, probably is going to become permanent in Britain. But other subsidies, such as that for the production bonus, under

which small farmers are paid a higher price than farmers with high production, lead toward inefficiency. To divide the marketing job into little pieces, to find exact costs for inefficient and efficient ways of doing each piece, and then to pay differential rates so that the efficient and inefficient make equal profits—such a procedure seems to me to be nonsense. Now they do not quite do that with the production bonus, but that is the philosophy behind it. There are many other examples—the subsidy to producer dealers, the system of lower rates for large-volume than for small-volume country plants, the higher rate of payment for shipment of milk in cans than in tanks, and so on. An all-inclusive allowance, without subsidies, between the farm and city plants, and between city plants and the consumer, leaving producer organizations and dealers to choose the most efficient methods, would seem to me to be much more likely to promote efficiency.

Mr. Anderson commented on the lack of price differentials in the United States associated with services performed. I agree with his point in general, although it appears to me that store differentials and volume discounts for home delivery are fairly common in many U.S. markets. There is less variation in the retail price of milk in England. The retail price of milk is the same throughout the country, and the same at stores as for home delivery. But even in England some discounts from ceiling prices appear in the price structure. Four types are: patronage dividends of consumer co-operatives; volume discounts to the restaurant trade; price-cutting by producer retailers; and a discount below the ceiling price for sterilized milk in Birmingham.

And lastly, a few remarks on the breakdown of city rationalization plans in areas outside London. The British Government withdrew its official backing of city rationalization in the spring of 1948. Registrations for rationing milk, which provided the 'teeth' for enforcement of rationalization plans, ended in the spring of 1950. In London the dealers' association continued rationalization plans by agreement as to retaliation measures against those who might want to drop the plan. Outside London, where in most cities small dealers were more numerous relative to the population, competition in new housing estates soon developed. Young couples with children were assigned to these areas of new construction. They purchased large quantities of milk. They were intermingled in so far as their former milk dealer and dealer preferences were concerned. Only in London was a basis satisfactory to dealers arrived at for dividing up these new residential areas. And competition for customers in these new areas soon spread to the entire market.