SOME PROBLEMS IN EXTENDING FEDERAL MILK ORDER REGULATION IN MICHIGAN

Thesis for the Degree of Ph. D.

MICHIGAN STATE UNIVERSITY

Stanton Putney Parry

1958

This is to certify that the

thesis entitled

Some Problems in Extending Federal Milk Order Regulation in Michigan

presented by

Stanton Putney Parry

has been accepted towards fulfillment
of the requirements for

Ph.D. degree in _____

Agricultural Economics

Gerald D. Quackenbush
Major professor

Date Aug. 1, 1955

SOME PROBLEMS IN EXTENDING FEDERAL MILK ORDER REGULATION IN MICHIGAN

By

Stanton Putney Parry

A THESIS

Submitted to the School for Advanced Graduate Studies of Michigan State University of Agriculture and Applied Science in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Department of Agricultural Economics

1958

ACKNOWLEDGMENTS

The author wishes to express his gratitude to the many people who assisted in this study.

Special appreciation must go to the author's major professor, Dr. Gerald G. Quackenbush, for his aid in developing the framework of this thesis and for the helpful suggestions during the course of its progress.

The author is indebted to Dr. L. L. Boger, Head of the Department of Agricultural Economics, whose financial assistance helped to make a graduate program possible.

Cooperation given the author in correspondence and interview by the city, county and district health department sanitarians, personnel of the Michigan Department of Health, Michigan Department of Agriculture, United States Department of Agriculture, the market administrators of various Federal order markets and leaders of several dairy cooperatives greatly facilitated the collection of the data used in this thesis.

Thanks are due to other members of the staff and to graduate students for their helpful suggestions made during the development of this thesis. The author especially appreciates the data freely furnished by Dr. Glynn McBride and Mr. Willard H. Blanchard.

Appreciation is also expressed to Mrs. Carolyn Piersma for typing the final manuscript.

Last, but not least, the author is grateful for the encouragement, patience and inspiration of his wife, Loraine, who always made the problems of graduate work seem worthwhile.

The author assumes full responsibility for any errors that remain in this manuscript.

Stanton Parry

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AN ABSTRACT

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Year 1958

Approved Harold G. Halvorsen

ABSTRACT

This thesis has considered some of the basic order provisions needed in case of Federal milk marketing regulation for the entire Lower Peninsula of Michigan. The provisions considered were as follows:

1. Delineation of the marketing area and the number of orders to effectuate regulation in the Lower Peninsula of Michigan.
2. Construction of classes of use.
3. Analysis of transportation differentials.
4. Consideration of a seasonal price plan.
5. Type of pooling arrangment and pool plant requirements.

It was hypothesized that these outlined provisions would need revision in moving from the present regulated and unregulated territory in Michigan to an expanded and merged order or orders embracing the entire Lower Peninsula of Michigan. In general, the following procedure was used in reviewing each provision:

1. The problem in each case was defined.
2. Criteria were erected for a theoretical framework in which to develop the analysis.
3. Finally, the criteria were analyzed to arrive at what was believed to be the best alternative provision for inclusion as part of the Lower Peninsula order.

One of the difficulties encountered in the analysis was the conflicts of interest between consumers, dealers, and producers. Also two types of problems were considered, one dealing

with equity and one dealing with efficiency. These conflicts and the problems of equity were difficult to overcome, but insomuch as possible definite recommendations were made in the light of the best available information, and with some commonly accepted equity objectives in mind. The recommendations were as follows:

The Market Area

It was recommended, on the basis of eight examined criteria, that there should be one order for the entire Lower Peninsula.

The Classification System

It was recommended that milk be classified in two use classes. This was based largely on the inspection requirements actually enforced on the major Lower Peninsula markets.

Transport Differentials

The best alternative transport differential system for the Lower Peninsula order appeared to be the f. o. b. price at Detroit less transfer cost to other zones set up by airline miles in the state. This appeared to approach the "perfect market" concept and provided for a decrease in price toward the Wisconsin large surplus area and the "Thumb" small surplus areas.

Seasonal Price Plan, Type of Pool and Pool Plant Requirement

The seasonal price plan recommended for the Lower Peninsula is the base and excess plan largely due to its effectiveness and prior acceptance in the state.

A market wide pool was recommended since it appeared to be the most equitable alternative.

Pool plant requirements were set up requiring minimum sales in the area and a specified percent of producer receipts delivered on routes to qualify a distributing plant as a pool plant or delivered to a distributing plant in the market area to qualify a supply plant as a pool plant under the order. This was considered necessary for proper functioning of the classified price system under the order.

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CHAPTER I

SOME PRELIMINARY STATEMENTS

Introduction to the Study

This thesis is a study of some of the basic provisions needed in an area wide milk marketing order or orders for the Lower Peninsula of Michigan. It is hoped that this analysis will be of benefit to leaders of producer cooperative organizations, the Dairy Division of the United States Department of Agriculture and others interested in the Federal order program as applied in Michigan.

The study is neither an argument for, nor against, the use of Federal orders nor for an order in a particular area of Michigan. The basis for Federal milk market orders has been established by Congress under the Agricultural Marketing Agreement Act of 1937, as amended, and the authority for government control of the milk industry has been backed by several United States Supreme Court decisions. One of the first of these was the State milk control case of Nebbia v. New York[1], where the court stated:

> Milk is an essential item of diet. It cannot long be stored. It is an excellent medium for growth of bacteria. These facts necessitate safeguards of its production and handling for human consumption which

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[1] Nebbia v. New York, 291 U.S. 516, 517 (1933)

> greatly increase the cost of business. Failure of producers to receive a reasonable return for their labor and investment over an extended period threaten a relaxation of vigilance against contamination.... The fluid milk industry is affected by factors of instability peculiar to itself which call for special methods of control.

The Nebbia case was very important in respect to both state and Federal regulation because it established the validity of price fixing under conditions existing in the early 1930's.[2] The first case dealing directly with a Federal milk order was that of the United States v. Rock Royal Cooperative, Inc. et. al.[3] which established the Constitutionality of several provisions of the Agricultural Marketing Agreement Act and of Federal order No. 27 (New York City Market). H. P. Hood and Sons, Inc. et. al. v. United States et. al.[4] upheld delegation of authority, price fixing and equalization provisions citing the Rock Royal case, settled the same day, as a basis for its decision.

Every milk order is issued by the Secretary of Agriculture at the request of, and with the approval of, the dairy farmers supplying a market with fluid milk when a showing can be made that such an order would tend to effectuate the purposes of the Agricultural Marketing Agreement Act.

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[2]Gertrude G. Foelsch and Hugh L. Cook, An Analysis of Federal Court Decisions Relating to the Marketing of Fluid Milk, Research Bulletin 200, University of Wisconsin, Madison, January, 1957.

[3]United States v. Rock Royal Cooperative Inc. et.al. 533 (1938).

[4]H. P. Hood and Sons Inc., et. al. v. United States 307 U. S. 588 (1938).

In the final analysis, whether separate orders for different areas of Michigan, one order for the Lower Peninsula, or any order at all is established, depends upon the wishes of the producers and their representatives in the area and upon the recommendation of the Secretary of Agriculture.[5]

Federal orders for the marketing of milk are not new in Michigan. The order for the Detroit milk market was established on September 1, 1951. Since that time orders have been drawn up for the Muskegon area, October 1, 1953; and for the Upstate Michigan area, November 1, 1955. On November 20, 1957 a promulgation hearing was completed for an order which would include all of the Upper Peninsula of Michigan and part of Wisconsin. The area currently under Federal milk order regulation in Michigan is shown in Figure 1-1.

Federal milk market regulation in the United States has been growing steadily since the first milk license was issued under authority of the Agricultural Adjustment Act of

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[5] In the long run the public also has an interest - Mr. Herrmann has explained this well when he said: "It would seem that considerations of public policy should be uppermost in our minds in fixing prices, for the public, through its elected representatives may will a milk control law into being or into oblivion." L. F. Herrmann, Head, Dairy Section, Marketing Research Division, United States Department of Agriculture, "Objectives and Standards in Determining the Price Dealers Pay for Milk: Considerations of Economic Theory and Public Policy," paper given at the International Association of Milk Control Agencies, Toronto, Canada, September 26, 1956.

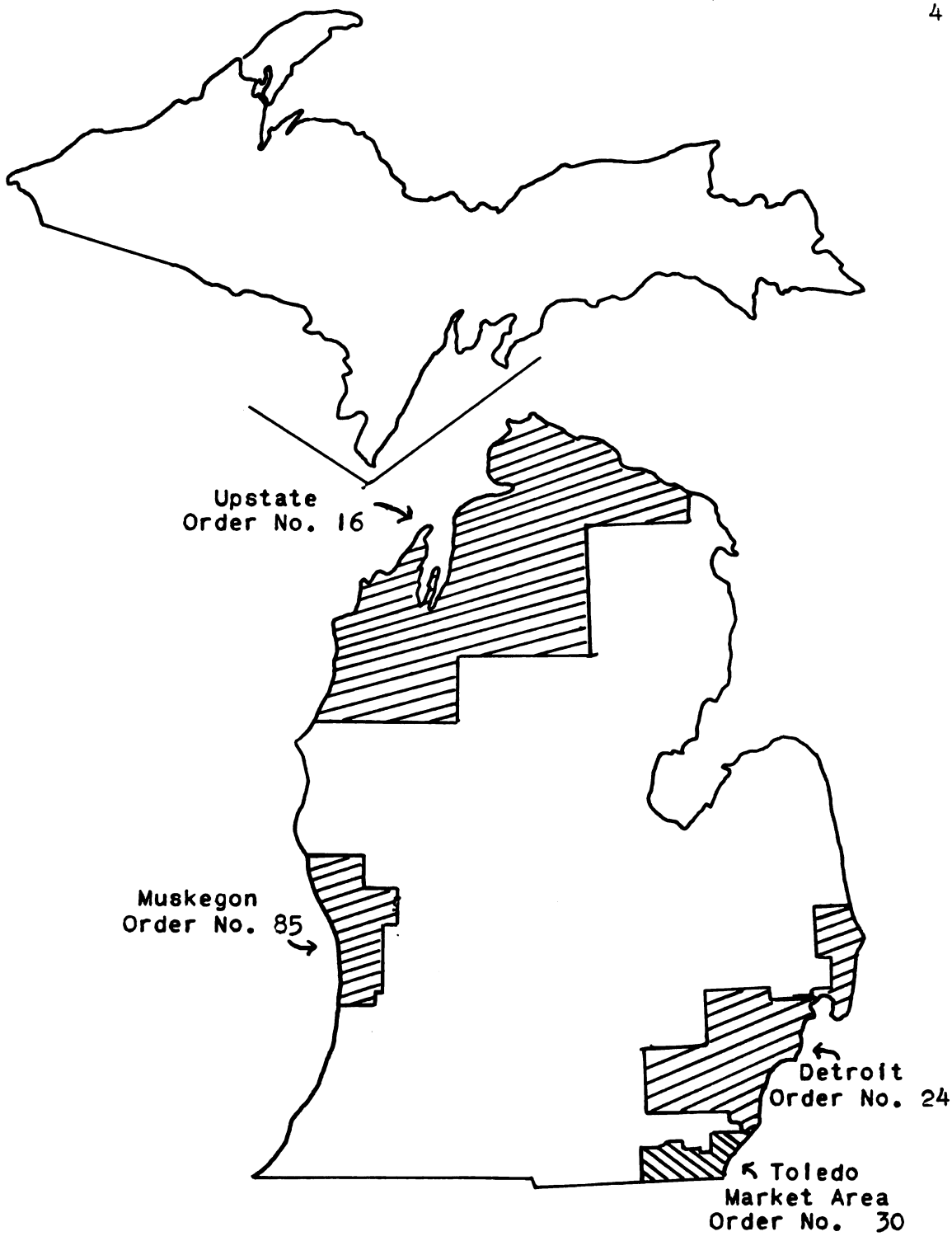

Figure 1-1 Area Status of Effective Federal Milk Market Orders in Michigan as of January 1, 1958.

1933.[6] The 1933 Act was amended in 1935 and again two years later as the Agricultural Marketing Agreement Act of 1937. Under these amended Acts, marketing orders replaced licenses. Although the legislation provides for the possible use of marketing agreements, the marketing of milk is usually regulated by marketing orders.

The Secretary of Agriculture is authorized to include in milk orders, regulatory provisions within the broad outlines of the statute. This statutory measure is therefore an example of enabling legislation which, standing alone, imposes no regulation but instead directs the issuance of regulations from time to time, whenever the evidence at a public hearing seems to justify them. This method of regulation is in contrast to regulatory statutes which merely enumerate certain prohibited practices.[7]

At the end of 1957 there were 68 milk markets or milk marketing areas with Federal milk market orders in the United States. This represents almost twice as many orders as were

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[6] The Act authorized marketing-agreement programs, which allowed the Secretary of Agriculture to enter into agreements with handlers of agricultural commodities in interstate commerce. When some handlers refused to participate in this program the Secretary was given authority to issue licenses which compelled all handlers to comply with the provisions of the marketing agreements.

[7] Marketing, The Yearbook of Agriculture 1954 (U.S. Government Printing Office), p. 262.

in effect in 1949. Table I-1 shows the number of milk licenses and orders in effect on January 1 of each year from 1934 through 1958. Note that the number of Federal orders increased substantially after 1948 until 1956. The same number of markets in 1956, 1957 and 1958 does not represent the true situation since there have been a number of order mergers in these years.[8]

Table I-1 Federal licenses and marketing orders regulating the handling of milk, 1934-1958[a]

(Number of Licenses and Orders in Effect)

Year	Licenses	Orders	Year	Licenses	Orders
1934	15	0	1947	1	30
1935	46	0	1948	0	30
1936	32	6	1949	0	35
1937	18	7	1950	0	39
1938	15	10	1951	0	46
1939	14	14	1952	0	50
1940	12	19	1953	0	49
1941	7	20	1954	0	53
1942	5	22	1955	0	63
1943	5	22	1956	0	68
1944	4	24	1957	0	68
1945	1	27	1958	0	68
1946	1	29			

[a]Data 1934-56 from Anthony S. Rojko The Demand and Price Structure for Dairy Products, Technical Bulletin No. 1168, A.M.S., United States Department of Agriculture, May, 1957, p. 140. Data for 1957 from Fluid Milk and Cream Report, A.M.S., United States Department of Agriculture, February 18, 1957. Data for 1958 from Fluid Milk and Cream Report, A.M.S., United States Department of Agriculture, February 20, 1958. All data as of January 1, each year.

[8]Three order combinations took place in 1957: Akron and Stark County, Ohio, orders merged February 1, Tulsa-Muskogee order merged with the Oklahoma City order into the Oklahoma Metropolitan order effective May 1, and the Kansas

The Need for This Study

Major milk marketing cooperative leaders and others interested in the marketing of milk in Michigan have indicated the need for considering an area wide order or orders for the Lower Peninsula of Michigan. The importance of this problem is shown by the fact that there were 179,002 farmers in United States selling milk under the sixty-one Federal orders reporting for the full year, 1957. An average of 89,926 thousand pounds of milk was received daily from these producers, or a total of 32.8 billion pounds for the year. This represents over one-fourth of the United States total milk production. In Michigan, the three operative Federal orders regulated an average of 13,573 producers in 1957 with annual producer receipts approaching two billion pounds, or approximately 36 percent of total Michigan milk production.[9] In addition, 58 percent of the population of Michigan and 33 percent of the fluid milk dealers were estimated to be located in these

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City order merged with the Topeka order on October 1. In addition, there were two major expansions in Federal orders in 1957: The New York City order (now The New York-New Jersey order) was expanded to include several Upstate New York and Northern New Jersey counties, and the Lima, Ohio order was expanded into the North Central Ohio order. Effective dates on these two orders were August 1, and July 1, respectively.

[9] Fluid Milk and Cream Report, A.M.S., United States Department of Agriculture, February 20, 1958, pp. 34-35, and Milk Production on Farms and Statistics of Dairy Plant Products, A.M.S., United States Department of Agriculture, February, 1958, p. 8.

market order areas as defined January 1, 1958.[10] Thus fluid milk producers, consumers, and fluid milk dealers are concerned with this program. An expanded Lower Peninsula order or orders combined with the proposed Upper Peninsula order will affect all of these groups. There have previously been no studies made dealing explicitly with problems of expanded Federal order regulation in Michigan, and no information was available to answer questions about this program submitted by the various interested groups.

The place of the State University, as a public institution, is to serve all the people. A study of a program as complex and of such tremendous scope as Federal milk orders can be of help to fluid milk producers and their cooperatives, milk dealers, milk regulatory agencies of the government, and the consumers of fluid milk and milk products. These groups are all affected in some way by the provisions of a Federal milk order program in their area (conflicts between these groups are explained in a later section of this chapter). This places a great responsibility on those who must make the decisions in regard to the program. It is believed that the University can contribute to the interests of society by a study of the Federal order program in Michigan:

1. Only limited resources are now employed by outside

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[10] Population estimates as of January 1, 1957, "Survey of Buying Power," Sales Management, Bill Brothers Publishing Corporation, New York, May 10, 1957.
Dealer data from Michigan Department of Agriculture, list of licensed dealers, October 20, 1957.

sources in studies of the Federal order program in Michigan. It is important to make preliminary investigations before holding a promulgatation hearing since once such a hearing is held, limited time and only information contained in the records can be used in arriving at a final decision on an order and its provisions by the United States Department of Agriculture.[11]

2. Only limited facilities and personnel are available by outside sources for research and little if any formal research is being conducted on problems of Federal milk order regulations as they might affect all the people.

3. The University can stress efficiency in its research since it is more apt to be an unbiased agency. Such stress on efficiency rather than on personal gains of any individual group could contribute to the general welfare.

4. The University is able to gather information from all the groups concerned, has facilities to analyze the data and personnel in many related fields which can contribute to the problem at hand.

Definition of the Problem

Although time limits complete coverage of all provisions for a Lower Peninsula milk order or orders, the most important ones are believed to have been considered in this thesis. The proposed provisions are examined in the following order and the entire framework is closely related.

1. Delineation of the area of the Lower Peninsula of Michigan to be regulated and the most effective

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[11] The concern for more advance study on this complex program was expressed in a recent paper given by Mr. Feddersen at a meeting of the International Milk Control Agencies. H. C. Feddersen, Deputy Director, Dairy Division, A.M.S., United States Department of Agriculture, "A Changing Concept of a Milk Market," Mimeograph of a paper given at the annual meeting of International Milk Control Agencies, Berkeley, California, July 10, 1957.

method of regulation--Closely interwoven with the problem of defining the marketing area is the question of whether this area should be regulated by one, two or several orders.

2. Construction of classes of use for the new order or orders.

3. Analysis of transportation differentials applicable to the uniform prices paid to farmers through the pool and used in determining minimum class prices to be paid into the pool by handlers.

4. Consideration of a seasonal price plan for the proposed order or orders.

5. Development of type of pooling arrangement and criteria for determining which plants and producers to subject to the pricing and equalization provisions under the new order or orders.

It is important to reiterate that these above listed provisions are closely inter-related and must be considered as a whole in construction of the proposed area wide order or orders.

Provisions on pricing of fluid milk and non-fluid milk classes, formula pricing of milk, supply-demand adjusters, negotiated pricing, and administration of the order, although important, are not covered in detail in this analysis. These are considered large enough problems for separate consideration in another study, while at the same time it is felt a contribution can be made by investigating the five closely inter-related provisions listed above and developed in the chapters which follow. These provisions are greatly affected by an extended order and it was felt worthwhile to concentrate on these outlined provisions in greater detail than would be possible had all order provisions been reviewed.

Hypothesis

It is believed that there is a need for detailed examination and tailoring of the five outlined provisions as they apply specifically to an expanded Lower Peninsula order or orders. It is hypothesised that these outlined provisions contained in present Federal order markets in Michigan will need revision, some of which may be major, when incorporating the existing regulated and unregulated territory into an order or orders embracing the entire Lower Peninsula of Michigan.

Methodology

The need, definition of the problem at hand, and the hypothesis of this thesis have been set forth in this chapter. The remaining portion of the thesis is devoted to elaborating on this hypothesis and analyzing the hypothesis in the light of economic theory, available data and thinking of leaders in the dairy marketing field.

Pertinent literature is reviewed and used to help formulate definitions and construct criteria in each of the chapters. Each chapter is treated as a separate entity to examine each of the five major provisions previously outlined (Provisions four and five are combined for analysis in Chapter V). The overall thesis is built on each individual chapter so that they become inseparable in making recommendations for the area wide order or orders. In general the following procedure is used in each chapter: (1) The problem in each case in point is defined; (2) criteria are erected for a

theoretical framework in which to develop the analysis; (3) finally, the criteria are analyzed in the light of the best available primary and secondary data and alternatives or recommendations are written for each particular case.

The data used to construct and analyze the criteria were obtained from the local city and county health departments of Michigan, the Dairy Division of the United States Department of Agriculture, the Market Administrators' offices of the Michigan milk order markets, and selected nearby out-of-State markets. Data were also obtained through correspondence and interviews with cooperative leaders and the Michigan Department of Agriculture. In addition, considerable aid was found in historical examination of Michigan orders and of several recently expanded or consolidated area wide orders in the United States. These data came from recommended decisions, final decisions, and the orders as written in the Federal Register.

In developing the material it was found that there were many conflicts of interest between consumers, dealers, and producers. In many cases these conflicts prevented a clear cut recommendation and several alternative situations are presented. It is realized that some of these problems dealing with "equity" will have to be worked out in the Congress, the courts, and through public hearings relative to the final acceptance of the proposed milk order and its provisions. Some decisions dealing with equity also have to be made by the United States Department of Agriculture in writing

order provisions and administering the program. Some of the most important conflicts of interest are presented in the section which follows.

Conflict of Interests

It is realized that there are at least two fundamental problems in a study of this type. One deals with efficiency (economic and technoligical) and the other with equity.[12] In addition it should be pointed out that there are also numerous non economic criteria which might be used in appraising the the institutions involved in such a study. Scitovsky defines economic efficiency and technological efficiency as follows:

> An economically efficient distribution of consumers' goods is one that distributes a given quantity of goods in best conformity with consumers' preferences; whereas a technologically efficient distributive system is one that performs the physical task of distribution at a minimum cost in terms of man power, equipment, and other resources.[13]

Efficiency is only one of the criteria by which economic organization can be appraised. Another one, perhaps of equally great importance, is the problem of equity. Equity deals with the distribution of wealth and income. "The economist cannot set up standards of equity as he sets up standards of efficiency; nor have objective or universally accepted standards

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[12] Tibor Scitovsky, Welfare and Competition (Chicago, Richard D. Irwin, Inc., 1951), p. 55.

[13] Ibid.

of equity been set up by anyone else."[14] There is even some question among economists of his right to deal with this problem at all.[15] Equity is considered to involve making value judgments without objective proof. Many economists realize today, however, that most economic problems have equity implications and they are concerned about making such judgments based on the best available information.[16]

The consideration of a Federal milk market order or orders for the Lower Peninsula of Michigan involves both efficiency and equity problems. For example, the delineation of the area or areas of the Lower Peninsula of Michigan to be regulated involves several equity problems. It is necessary to determine which handlers to bring under the system and which to leave unregulated. Certainly the selection will affect distribution of income between the groups of handlers. Which city markets are regulated also presents an equity or income distribution problem between producers now shipping to high price markets and those shipping to low price markets when a classified price plan is set up and when equalization occurs

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[14] Ibid., p. 59

[15] Lionel A. Robbins, An Essay on the Nature and Signficance of Economic Science, (2nd ed., London, McMillan and Co. Limited, 1946), Chapter 2 and 6.

[16] Lawrence W. Witt, Course Notes, Agricultural Economics 572, Michigan State University, Summer, 1957.
Tibor Scitovsky (Op. cit. pp. 62-63) states: "In our society, therefore, the economist must, whether he likes it or not, weigh both efficiency and equity considerations when he tenders on policy decisions....since most of his recommendations are bound to affect the distribution of welfare between individuals and between social classes, he must also have a sense of fairness and economic justice."

under a process of market wide pooling.

Changing transport differentials may reduce or increase total transport costs in the State making producers, handlers, and consumers better off, or worse off, but they may at the same time lead to a redistribution of income between these three groups which is clearly an equity problem.

When use classes are considered, handlers with different kinds of operations will be in conflict over the inclusions made in each class. Operating cooperatives, which are handling surplus with specialized equipment, will also be concerned over the selection of products in various pricing classes. Reclassifying may also affect consumers who use whole milk, flavored milk, buttermilk, egg nog, fluid cream, etc., in different proportions. Producers now supplying unregulated milk for products which do not come under the high price "ordinance" product line may find, upon reclassifying, that they no longer have a market for their unregulated milk until they meet new requirements.

A seasonal price plan which adds higher prices for fall production certainly affects distribution of income between producers from those with irregular production to those with more even production patterns. It can in turn promote efficiency in cooperative and dealer manufacturing plants where more even manufacture, with less emergency capacity is possible under such a plan.

The type of pool and pool plant requirements can mean a tremendous difference in income of various groups. Under

a market wide pool, producers formerly shipping to a handler with high Class I utilization would then receive the same price as those shipping to a handler with lower utilization. Handlers would also no longer (under a market wide pool) have the same incentive to restrict surplus milk. The percent Class I utilization and blend prices to producers for the entire market may decrease. Tough pool plant requirements can lead to higher returns for handlers and for producers already in the pool, while on the other hand, less rigid pool plant requirements may lead to a number of plants qualifying merely to benefit from equalization. These considerations, of course, all involve equity problems.

The above list does not exhaust the possible conflicts between groups which must be considered in this thesis. In general the economic objectives of the groups involved differ as follows:

I. Cooperatives (group of producers)

Objective.--gross or net return to members through bargaining power.

II. Individual producer

Objective.--his firm's net return or profit.

III. Individual consumer

Objective.--consumer gain, lower price for the same, or better quality product, more products or bigger selection of products.

IV. Handler (milk dealer)

Objective.--his firm's net return or profit.

V. Dealers' Trade Association

Objective.--gross or net returns to dealers through bargaining power.

These objectives are in conflict in most instances--Group I and V are in a bilateral monopoly position.[17] Groups I and II are composed of the same individuals, as are Groups IV and V. Between these two groups is the consumer whose welfare must also be considered. There are also conflicts within individual groups as for example, between near and distant producers.

Equity objectives are more difficult to enumerate for the various individuals and groups. However, through the years, some such objectives have become established by precedent. Examples of equity objectives are outlined below. This list is by no means exhaustive.

I. Cooperatives (group of producers)

Objective.--Power to will an order into being--the delegation of authority given to cooperatives to cast the votes of their producer members "en bloc" has been allowed under the act. This gives a large cooperative tremendous power over dealers, other smaller cooperatives, non member producers, and even its own member producers who may object to the order.

II. Individual Producer

Objective.--Uniform blend price to all producers for market milk of the same quality and place of

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[17] It is recognized that the two groups in Michigan are not completely organized. Michigan Milk Producers for example bargains for 84 percent of the milk in Detroit. However Stigler states that the same principles apply in both bilateral monopoly and in bilateral oligopoly situations. George J. Stigler, The Theory of Price, The Macmillan Co., New York, Revised Edition 1952, p. 241.

delivery--It has not been considered fair that one producer or one group of producers under the order should be responsible for the disposal of surplus on the market. Individual handler pools and market wide pools are therefore provided under the act. An individual handler pool pays each producer the same blend price based on this handler's average utilization of milk at all of his plants regardless of the use made of the individual producer's milk. Market-wide pools (which are easier to obtain under the Act) provide that a uniform blend price be paid to all producers regardless of the class use of the individual producer's own milk or that of the handler to which he ships.

III. Individual Consumer

Objective.--A "fair retail price" for packaged milk--Although resale prices are not set under the Federal order program, equity considerations such as a "fair price" for an ample supply of wholesome milk for the consumer seem to be understood by precedent. A "fair price" would seem to imply uniform retail prices for milk and milk products on all markets, given supply and demand conditions, varying only by transfer costs from surplus to deficit markets.

IV. Handler (milk dealer)

Objective.--Uniform Class prices to be paid by all handlers on the market--The same Class I price, for example, must be paid by all handlers for milk going into fluid consumption. This is regardless of the size of handler, type of producers, or consumers, or any other consideration, except location of country receiving station or butterfat differences.

V. Dealer Trade Association

Objective.--There does not appear to be a commonly accepted equity objective for dealer groups.

This thesis will attempt to handle both the efficiency and the equity problems where they occur. Equity problems will be handled largely by presenting alternatives and pointing out the expected consequences to the various groups involved. However, wherever possible, recommendations involving equity for proposed provisions of an expanded order or

orders will be made in the light of the best available information and based on some of the established rules or equitable objectives of the industry. It is realized that differences in interest and in the power of different groups may eventually lead to another decision. Actual short run equity decisions are handled by the market institutions--cooperatives or other handlers can propose changes in present provisions or even in the beginning recommend a promulgation hearing. Equity decisions in the short run also are continually being made by the Secretary of Agriculture upon information gathered in public hearing. In the long run, as previously mentioned, these equity problems will be handled by the public through their elected representatives in Congress, through their appointed and elected administrators, and through the courts.

CHAPTER II

THE MARKET AREA

Importance of the Market Area

The delimitation of the marketing area is the first important step in the construction of a Federal milk market order. Under the terms of the Agricultural Marketing Agreement Act of 1937, the regulation of milk applies to the purchase of milk for sale in a designated market area. Since the classified price plan and uniform prices paid to producers is applicable only to those producers and handlers operating in the designated market area, its boundaries must be precisely defined and the qualifications for participation clearly stated.

Definition of a Market

In everyday use and in economic theory the word "market" has been given many different connotations. It is necessary, therefore, that its interpretation as used in this thesis be plainly defined. Webster cites six different definitions of a "market": (1) a meeting of people at a stated time and place for the purpose of buying and selling; (2) a public place (town or building) where a market is held; (3) an act of buying or selling; (4) the region in which any commodity can be sold; (5) opportunity for selling or buying of commodities or rate or activity of sale; (6) a group of men

organized for the buying and selling of goods.[1] In addition, the term "market" in economic theory is often used to refer to the general condition or degree of competition under which buying and selling are conducted. Thus, we have a perfect market, duopolistic or oligopolistic market, monopolistic competition, and a pure monopoly with similar terms on the buying side.[2]

In agricultural marketing, a popular marketing text defines a market as "a trading area in which substantially homogeneous conditions of supply and demand are encountered."[3] Another states that a market is the mechanism through which exchanges are made. The term "mechanism" implies sphere or place of operation where there can be communication between buyers and sellers, and where there are facilities for trading.[4] In this paper, "market" will be used in this latter sense to indicate the physical area or areas within which price making forces for fluid milk operate. These will be areas where buyers and sellers (consumers and milk dealers respectively) will be in communication with one another and where exchange of packaged fluid milk will take place. Physical

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[1] Webster's New International Dictionary of the English Language. (2nd ed. Unabridged G. & C. Merriam Co. Springfield, Mass.) 1950.

[2] E. H. Chamberlin, The Theory of Monopolistic Competition, 6th ed. Cambridge, (Harvard University Press, 1950), pp. 3-10.

[3] F. L. Thomsen, Agricultural Marketing, (New York, McGraw-Hill Book Co., 1951), p. 87.

[4] Adlowe L. Larson, Agricultural Marketing, (New York, Prentice Hall, 1951), pp. 33-34.

characteristics of fluid milk and man-made barriers tend to limit this market area to less than a national market such as is found with some manufactured milk products as butter, cheese, evaporated, condensed, and dried milk products, but as will be pointed out later in this chapter, the so-called local "market" area for fluid milk has been changing rapidly in recent years. The problem of this chapter will be concerned with drawing the boundaries to a "market" area or areas for fluid milk in the Lower Peninsula of Michigan. In addition to the central fluid milk market area, there are tributary areas or milkshed regions from which milk is procured for sale in the designated area.

Alternative Criteria for Delineating Market Boundaries

The first step in defining market boundaries is to build a framework or criteria within which the area lines can be developed. The list of possible criteria is long, but some of the most important ones appear to be as follows:

1. Area where the same milk dealers compete.
2. Area of homogeneous sanitary standards.
3. Area where few route sales cross over designated boundaries.
4. Area where supply and demand factors are sufficiently related to result in uniform price tendencies.
5. Area where regulation is not imposed on large numbers of small dealers.
6. Area with uniform costs of production and uniform physical conditions in the milkshed.
7. Area with similar or closely related cooperative bargaining institutions.

8. Area within which regulation has been previously effective.

9. Inter-cooperative feelings toward area control, intra-cooperative membership relations between various markets and the opinions of individual producers and dealers toward the Federal order or orders.

A very real part of the definition of area boundaries is the number of orders to use in regulation of the area. In this respect the United States Department of Agriculture has said:

> The problem of defining the marketing area is interwoven with the problem of whether an area should be regulated by one or two orders. The degree of relationship between markets determines whether the area is regulated by one order or a series of orders.[5]

These criteria will be used, therefore, not only to delimit the market area, but to determine the number of orders to effectuate the purposes of the act.

Selection of Pertinent Criteria

One of the first tests of the adaptability of criteria is to examine them in use. Several of the above outlined criteria have been suggested in United States Department of Agriculture writings. A recent report to Congress on Federal milk orders indicated the prominence placed on the area where the same milk dealers compete, area of homogeneous sanitary standards and area with largely internal route sales. (criteria 1, 2 and 3):

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[5] Federal Milk Marketing Orders, A.M.S., United States Department of Agriculture Miscellaneous Publication No. 732, October, 1956. pp. 19-20.

> The marketing area is designed to include all of an area where the same milk dealers compete with each other for sales of milk, and where such milk must meet essentially the same inspection standards. Since only handlers doing business within the defined area must pay the minimum prices, it is important to draw the boundary line at points where there are relatively few route sales moving across the boundary.[6]

Mr. Forest, Director of the Dairy Division, brought out the adjudged importance of the designated criteria 4 and 5 in a paper given at the Midwestern Milk Marketing Conference:

> Within the marketing area supply and demand factors must be sufficiently related to result in uniform price tendencies but some group of producers or some handlers operating within any given tentative limits of an area generally are competing actively in adjacent territories. Frequently there is no clear-cut basis for setting the boundaries, and operation of some of these orders may show that deletions or additions are advisable. In connection with the definition of extensive areas we must guard against the imposition of regulation on large numbers of very small dealers. This is a danger when marketing areas include large amounts of rural territory.[7]

The government, therefore, apparently formally uses the first five outlined criteria in delineating the markets' periphery. The second criterion homogeneous health standards may be considered the most important. Mr. A. G. Mathis of the Marketing Research Division has said in a recent paper:

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[6] Federal Milk Marketing Orders, A.M.S., United States Department of Agriculture. A report prepared for Hearings of the Dairy Sub-Committee of the House of Representatives Committee on Agriculture, April 19, 1955. p. 10.

[7] H. L. Forest, "Considerations in the Development of City versus Area-wide Federal Orders", Proceedings Sixth Annual Midwestern Milk Marketing Conference, University of Kentucky, Lexington, April 4, 5, 1951. pp. 20-21.

> Probably the most definitive single criterion for homogeneity among neighboring markets is the comparability of sanitary regulations or the existence of reciprocity among markets that will allow handlers in each of the markets to sell packaged milk in the other market.[8]

Perhaps the third criterion has become the most difficult to use under current milk marketing conditions. Mr. Feddersen cites the problem in this case in point:

> It has become increasingly difficult to find an area of minimum over-lapping sales around any metropolitan milk market. With improved refrigeration and transportation and the widespread use of the paper package many milk handlers have extended their sales over wide areas. Marketing areas have become larger and the problem today is to find an area boundary that will provide regulation in the prices paid for milk for the principle urban centers without extending the regulation unnecessarily.[9]

The latter part of this statement seems to imply that another criterion would be uniform production characteristics and price making factors in the milkshed area. This would indicate that some thought should be given to criterion number six outlined in this chapter. Mr. Mathis has also indicated this possibility:

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[8] A. G. Mathis, Marketing Research Division, A.M.S., United States Department of Agriculture. "Possibilities For Area Pricing and Pooling", Proceedings Twelfth Annual Midwestern Milk Marketing Conference, Michigan State University, East Lansing, April 11, 12, 1957. p. 24.

[9] H. C. Feddersen, Deputy Director, Dairy Division, "Federal Milk Orders", paper given at the Arkansas Dairy Products Association Annual State Convention, Little Rock, February 9, 1956. p. 2.

> While 'market area' is now defined on the basis of consumer sales, the supply area might also be delineated to define the market. Since Federal orders regulate producer prices, not resale prices, this approach might be more logical, though perhaps less practical from an administrative point.[10]

It seems that this sixth criterion on supply area conditions is important in constructing an area wide order for the Lower Peninsula of Michigan where regions of supply and demand are intermingled throughout the region.

With the exception of health regulation, the importance of institutions was not stressed in these United States Department of Agriculture statements. However, the importance of two other institutional criteria should be incorporated in delimiting a market area. The first of these has been labeled criterion 7 and deals with the operation of cooperatives. It appears to be important in extending an area, to determine whether the producers are all members of one cooperative association or at least separate cooperatives which work closely together. That this is indeed considered in delineating an area is shown in the analysis of the Oklahoma Metropolitan area which is presented in the next section of this chapter. This has also been indicated by Mr. Colebank, a man closely associated with an actual order's administration:

> If one cooperative represents the majority of producers in several markets where the sales areas and supply areas overlap, it will probably be easier to consolidate the area under one order. Under separate orders problems will arise where producers of the same

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[10] Mathis, op. cit., p. 25.

> organization located in the same area will receive different prices, depending upon the level of prices and utilization in the particular markets. If producers are represented by different cooperatives in the various markets it will be more difficult to consolidate because the producers receiving the higher prices will not want to share those higher returns with producers in other areas.[11]

Another institutional consideration has been designated criterion 8; this deals with territory presently under Federal regulation. If part of an area has been under regulation for some time (especially the major city market) a precedent is set for order expansion. Nearby areas tend to tie their order or cooperative bargaining provisions closely to those of the major market since, in general, it sets the floor at least for pricing throughout the area and promotes uniformity throughout the nearby region.

The ninth criterion is concerned with the feelings of people involved under a Federal order program. It is realized that there are differences in the opinions of cooperative members toward Federal regulation and toward being regulated separately or by inclusion with the major market. For example, the members of the various out-state locals of the Michigan Milk Producers' Association may prefer to remain separate from the much larger Detroit local for purposes of regulation in order to preserve some political recognition as a separate

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[11] A. W. Colebank, Market Administrator, Chicago, Illinois, "Considerations in the Development of City Versus Area-Wide Federal Orders," Proceedings Sixth Annual Midwestern Milk Marketing Conference, University of Kentucky, Lexington April 4, 5, 1951. p. 14.

entity. The same differences of interest may occur between the dominant cooperative and the several smaller cooperatives operating in the out-state markets. Out-state dealers may also feel differently toward regulation or areas to be regulated than those on the dominant city market. Finally, individual producers will hold varying opinions on the problems and areas of regulation. The feelings of the various individuals and groups are important in the final delineation of the market area boundaries and in determining the number of orders to effectuate regulation. However, it is too difficult to document these opinions and attitudes for the purposes of this paper. Such opinions are constantly changing therefore documentation obtained for this thesis might not hold at the time of the public hearing for an order. In addition, these opinions and attitudes are also subject to persuasion. For example, dealer and cooperative educational programs on Federal order regulation could be effective in changing currently held opinions and attitudes of producers. For these reasons criterion 9 was considered beyond the scope of this paper. It does not mean that this criterion is not important in delineating market boundaries. In the final analysis it may be the most important consideration as these feelings are brought out in the public hearing and considered by the Secretary of Agriculture in arriving at his final decision.

There appear to be at least eight criteria which should be reviewed in an analysis of the market boundaries of the Lower Peninsula order or orders.

Application of Criteria to an Expanded Order

A pre-testing of these eight proposed criteria can be made by reviewing an example of a recent merger of two Federal order markets. The Oklahoma City and Tulsa-Muskogee market merger was selected for this purpose. The criteria the Secretary of Agriculture used in determining the basis for a decision to combine these two markets are outlined below.[12]

1. One handler located in Tulsa distributed milk in the Oklahoma City market. This handler also packaged milk for a chain store which had several outlets in the Oklahoma City marketing area.

2. At least two Oklahoma City handlers had permits from the city of Tulsa and were disposing of milk in the Tulsa-Muskogee marketing area.

3. The producer cooperative association supplying the Oklahoma City marketing area had disposed of tanker milk to a Tulsa handler.

4. Outside the boundaries of the two marketing areas there were several communities which were served by both the Oklahoma City and Tulsa-Muskogee handlers.

5. There was reciprocity of inspection between the several municipalities in both marketing areas which have grade A ordinances.

6. There had, in the past, been little overlapping of procurement routes, but the advent of the tank type cooler and the transportation of milk from farm to market in an insulated tank truck had increased substantially the distance milk could be hauled and facilitated the ability of producers to shift from one market to another.

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[12] United States Department of Agriculture, A.M.S., Final Decision with Respect to a Proposed Marketing Agreement and a Proposed Order Regulating the Handling of Milk in the Oklahoma Metropolitan Marketing Area (Previously the Oklahoma City and the Tulsa-Muskogee Marketing Areas). (22FR 2151) April 2, 1957.

7. Greater shifting of milk between the two markets also occured because of the combination of the two bargaining associations, which furnish a major volume of milk to the Oklahoma City and Tulsa-Muskogee markets, along with an operating cooperative into the Oklahoma Milk Marketing Federation.

8. The decision also maintained that the cooperatives can better maintain their stated purpose of promoting market stability through joint supplies of milk in short periods and joint handling of surpluses under a single marketing order.

9. There had always been a close relationship between the two markets in respect to all major provisions which necessitated holding hearings in both markets whenever an adjustment to an order appeared necessary in either.

10. In opposition to the merger, handlers argued that the physical characteristics of the two milksheds varied. The Secretary pointed out that differences of production areas are of little consequence in determining whether orders should be merged since a milkshed is not regulated by the order.

11. These handlers also stated that the economy of Tulsa is different from that of Oklahoma City. The Secretary stated that the fact that per capita income in Tulsa is greater than in Oklahoma City, or that the two cities are served by different public utility companies, does not demonstrate that the regulation of both cities under a single milk marketing order would not tend to improve marketing conditions.

Note that our first criterion was to delimit the area where the same milk dealers compete; this was covered under points 1 and 2 in the Oklahoma Metropolitan decision. Criterion 2 deals with homogeneous sanitary standards. Point 5 in the Oklahoma Metropolitan decision substantiates this selection. The area where few route sales cross the designated boundaries, criterion 3, which is closely related to criterion 1, is ratified by points 1, 2, and 4 in the Oklahoma decision. Criterion 4 on uniform price tendencies is

emphasized by points 1, 2, 3, 4, and 6. The criterion against the inclusion of rural territory (number 5) was brought out in another part of the Oklahoma case in point. In the final delineation of the boundaries of the merged markets, when it was petitioned that several counties in Northeastern Oklahoma be included in the new marketing area, the Secretary rejected this request because the entire region was "predominately rural". The Secretary stated further that, "Extension of the marketing area to include these counties would have little effect upon marketing conditions in them or upon returns to producers supplying milk to the plants that would be brought under regulation."[13] He also pointed out that additional administrative problems would be created by the inclusion of a number of small milk dealers under regulation.

Criterion 6 on uniform production area characteristics was rejected in Oklahoma point 10, however, there seems to be some conflict in the Secretary's recommendation on this criterion since he apparently considered procurement area overlapping in point 6 under the Oklahoma order to be an essential criterion. The cooperative criterion (number 7) was emphasized in point 7 and 8 in the Oklahoma decision. While point 9 implicitly states that the order provisions of the two markets were closely related, this had resulted from pre-merger Federal regulation in the area. This provides some justification for including criterion 8 in the final analysis of the Lower

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[13] Ibid.

Peninsula area order or orders.

It appears from this brief analysis of an actual area merger that these eight criteria, which were considered, do cover the essential elements given attention by the Secretary in delimiting marketing area boundaries.

Fetter's Law of Markets

The boundary line between the territories tributary to two geographically competing real markets for like goods is a hyperbolic curve. The relation of prices in the two markets and transfer cost between them determines the location of the boundary line. In the case of the centripetal (buying) market discussed in this chapter, the boundary curve will change in location and in shape with changes in price. It will be curved around the market with the lowest price and thus take in a smaller area. It will curve away from the higher priced market and include a larger area. The higher the relative buying market price, the larger the area from which the sellers are attracted.[14]

The principles and problems of fluid milk market area determination for the Lower Peninsula of Michigan will be considered with reference to Fetter's theory and the eight criteria set forth above. The criteria will be examined in

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[14]For a more complete discussion of this, which is known as Fetter's law of markets - Frank A. Fetter, The Masquerade of Monopoly (New York, Harcourt Brace and Co., 1931, pp. 378-299) Also an article by the same author entitled "The Economic Law of Market Areas" - Quarterly Journal of Economics, May 1, 1924.

the following order:

Criteria 1 and 3	(Area where the same milk dealers compete and where few route sales cross over designated boundaries).
Criterion 2	(Uniform health regulations).
Criterion 4	(Uniform price tendencies).
Criterion 5	(Rural area regulation).
Criterion 6	(Homogeneous supply area conditions).
Criterion 7	(Extent of cooperative activity).
Criterion 8	(Previous Federal regulation).

I. Area Where the Same Milk Dealers Compete and Where There Are Few Route Sales Over the Designated Line. (Criteria 1 & 3)

As noted in the preliminary examination of the market criteria, the United States Department of Agriculture has stated that the delineation of market boundaries using these two criteria has become more difficult in recent years.[15] Market areas under Federal order programs also have been covering larger territory. One of the first such area wide orders was that regulating the Puget Sound area in Washington. This order was effective in May, 1951; following this, there were two large Texas orders. The North Texas area includes the cities of Dallas and Fort Worth and covers sixteen counties. The Texas Panhandle marketing area covers twenty counties. The Tri-State order (Kentucky, Ohio, West Virginia) contains parts of fifteen counties and the Upstate

[15] Feddersen, op. cit. (footnote 9 this chapter).

Michigan order includes thirteen counties. The New York-New Jersey order became area wide in 1957 with the addition of all or part of thirty-five Upstate New York and thirteen Northern New Jersey counties.

The trend definitely is toward such area wide regulation as fluid milk has become a wider marketable product from its processing area. Packaged milk now often moves many miles from the bottling plant to consumer. A fairly recent report on paper packaged milk showed that dealers in the North Central region of the United States distributed milk for maximum distances up to 450 miles from their bottling plants, and the most distant routes of the dealers surveyed extended an average of sixty-nine miles beyond the city limits.[16]

A recent hearing in Lansing on the possible extension of the Detroit order to Ingham County brought out that Lansing milk companies were selling a large volume of packaged milk in the Jackson city area approximately fifty miles away.[17] Another dairy in Carson City has a large part of the Lower Peninsula as its marketing area, with distributing points in twenty-eight counties in June, 1958.

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[16] Outer-Market Distribution of Milk in Paper Containers in the North Central Region, North Central Regional Publication No. 39 (Purdue Station Bulletin 600), Lafayette, Indiana, October, 1953, pp. 14-19.

[17] Notes taken by the author at a hearing on Proposed Amendments to the Marketing Agreement and to the Order for Detroit, Michigan Marketing Area. Held in Lansing, Michigan. Beginning on December 10, 1957.

Paper containers have contributed much to this change toward broader areas of distribution. However, also of importance are the widespread and improved facilities for refrigeration, a break down of health barriers, advances in truck transportation facilities, and greatly improved roads.

On the distribution side, a rapidly growing population, concentration of this population in inter-urban areas, larger home refrigerators, consolidations among handlers, and increased chain store distribution of packaged milk have allowed for increased volume distribution and promoted the movement toward distant market areas.

To test this criteria for market boundaries, it was desirable to know where packaged milk was moving within the Lower Peninsula, and to attempt to separate areas relatively free of outside packaged milk. Local city, county, and district health departments were contacted by a mail questionnaire in May, 1958, for information on the movement of packaged milk between jurisdictions. Each such department was asked to name all the handlers and their plant's location approved for sale of packaged milk in their departments' jurisdiction. The location of the outside handlers' plants were then plotted on Figure 2-1 and an arrow was drawn from this outside source to the city, county or district of jurisdiction in which this outside milk was sold. Intra-district, county or city movements are not shown on this map. The actual city to which delivery is made is not available but only the area into which milk was moved is shown. Forty-four

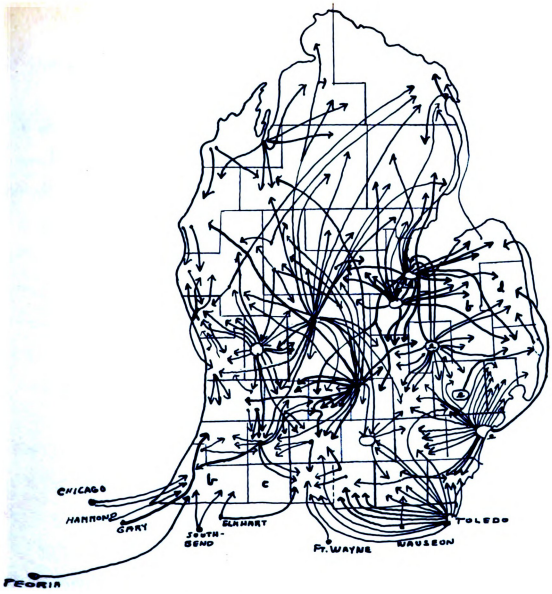

Figure 2-1 Shipments of Packaged Milk Between Health Department Jurisdictions. Lower Peninsula of Michigan, May, 1958[a]

SYMBOLS

— city, county or district Health Department boundary
O separate city departments
• processing plant

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[a]Point of location of processing plant end of arrow on actual city-point of arrow does not indicate where in jurisdiction milk is shipped.

[b]No full time Health Department.

[c]Department not functioning.

[d]No reply.

[e]No milk coming in from outside as of May, 1958

of the forty-five city, county or district health departments in the Lower Peninsula replied to this survey.

The results obtained have some short-comings; they do not show the volume moved across the health department area boundaries. Secondly, the lines themselves cover areas of various sizes from large district departments covering many counties in the Northern Lower Peninsula to single city departments in the Southern portion. The thumb area of the Lower Peninsula (Tuscola, Lapeer, and Huron counties) do not have full-time health departments. The same is true for the Southwestern counties of Berrien and Cass and for the Central counties of Montcalm, Gratiot, Ionia, and Clinton. In order to complete this void area on the map, data obtained from a detailed survey of dealers' sales of packaged milk made as part of a North Central Regional study on movements of packaged milk in May, 1952, was used to indicate the location of dealers selling into the areas without functioning health departments or in which the department did not reply to the mail questionnaire.[18] These data were brought up to date by interviews held with Mr. H. H. Varney, Director of Out-State markets, Michigan Milk Producers' Association and Mr. Robert Lyons, Michigan Department of Health.[19] In addition, Mr. James

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[18] Outer Market Distribution of Milk in Paper Containers in the North Central Region. op. cit., map.

[19] Interview with Mr. Robert Lyons, presently with the city of Lansing Department of Health, but until recently with Michigan Department of Health June 30, 1958 and with Mr. H. H. Varney July 1, 1958. Letter of July 9, 1958 from Mr. James H. Burrows, City Health Officer, Niles, Michigan.

Burrows supplied valuable information on shipments into Berrien County.

This information indicated shipments of packaged milk to the thumb from Flint, Saginaw, Bay City and Detroit. There was movement into the two Southwestern counties from Indiana cities and into the four-county Central Michigan area from Lansing, Grand Rapids, Saginaw, and several smaller Michigan cities. Although these data must be used with caution, as indicated above, it appears that inter-market movement of packaged milk is such that there is no advantageous place to draw a line separating individual milk markets in the Lower Peninsula. Using these same criteria it is not possible to separate the Southern boundary of Michigan from Northern Ohio and Indiana cities. Physiographic boundaries suffice to keep the North, East, and West free of inter-area transfers.[20] The Southern boundary is penetrated from Indiana and Ohio border cities. Toledo has especially heavy distributive systems into Michigan.

One order for the Lower Peninsula would be called for using only these two criteria (1 & 3), but based on the same limited evidence; inclusion of Toledo and other Southern

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[20] Although not shown in the map in Figure 2-1, the Upper Peninsula health departments were also contacted. Six of the seven offices in that area replied to the mail questionnaire. No movement of milk to or from the Upper Peninsula was reported by either Lower or Upper Peninsula health departments. On the other hand several processors were selling fluid milk from Wisconsin in the Upper Peninsula area.

boundary out-of-state cities would also have to be considered a possibility for area of regulation under a single order.

II. Health Regulations (Criterion 2)

In a recent study by the United States Department of Agriculture, it was found that there was an indication of a trend toward less restrictiveness in sanitary regulations.[21] Reports of restrictions repealed or successfully challenged in court outnumbered those upheld or newly enacted about 2 to 1 in 1946-54. The study concluded that the expansion of distribution areas has brought about a reduction in the number of obstacles.

The break down in local health barriers gained momentum from the Supreme Court's decision in the Dean Milk Company vs. City of Madison, et. al. concerning the milk ordinance of Madison, Wisconsin. The Court ruled, by a 6-3 vote, that the provision of the milk ordinance placing a five mile limit on pasteurization plants was a discrimination against interstate commerce.[22] This has lead to repercussions in Michigan where, for example, the city of Flint had a similar ordinance restricting the location of pasteurizing plants to those within two miles of the city. In the latter case, the Borden

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[21] Regulations Affecting the Movement and Merchandising of Milk, Marketing Research Report No. 98, A.M.S., United States Department of Agriculture, June, 1955.

[22] Dean Milk Company v. City of Madison et. al., 340 U.S. 349, 1951.

Company of Saginaw brought suit against the city of Flint to obtain a license to sell milk in that market from its pasteurizing plant in Saginaw. The judgment handed down on February 11, 1958, demanded that the city of Flint issue a license to the plaintiff for its Saginaw pasteurizing plant. After this trial the city ordinance was amended (April 19, 1958) to allow milk to come into the city from pasteurizing plants within thirty-one miles of the city. This would allow Borden's in Saginaw to sell milk from their Saginaw bottling plant in the city of Flint (subject to all other provisions of the ordinances of the city of Flint), but prohibits sales of Borden's paper packaged milk from their Bay City plant located over thirty-one miles from Flint; hence, the challenge may once again come to the courts. Although restrictive markets are not as common as previously, milk does not yet flow freely between all major markets in Michigan.

The cities of Detroit and Flint have fairly restrictive clauses in their city ordinances and these are rigidly enforced to require full farm inspection of all bulk and packaged milk moving into the area. They also require that all milk for distribution in their area come from pasteurizing plants within certain prescribed mileage limits from the city. There is relatively free flow of milk between the other various out-state large city markets (Table 2-1).

Lansing, Grand Rapids, and Saginaw allowed milk in from markets with certified health departments. Others spot checked some farms and the plants periodically before allowing

Table 2-1 Local inspection requirements for movement of packaged milk into Detroit and major out-state Michigan cities. June, 1958.

	Local Department Requirements			
	Pasteurizing Plants Within Prescribed Miles of City	Full Farm Inspection	Spot Check of Farms and/or Plants	Accept Markets With Comparable Inspection
Detroit (city only)	X	X		
Muskegon			X	
Flint	X	X		
Lansing				X
Jackson			X	
Grand Rapids				X
Battle Creek			X	
Saginaw				X
Bay City			X	
Kalamazoo			X	

a license for sale of milk within their jurisdiction.

Mr. Mathis of the Marketing Research Division, United States Department of Agriculture, wrote recently concerning health inspection as a market area criteria:

> Uniformity of inspection standards is one of the basic determinants of a market area because: (1) Federal orders allow differences between the Class I price and other class prices on the basis of the cost of meeting sanitary inspection; (2) a difference in requirements would hamper the movement of producer milk within the area. Some milk would be more

> desirable on the basis of quality than other milk. A uniform blend price would not be equitable to all producers.[23]

The first part of Mr. Mathis's statement is covered in Chapter III on use classes in this Thesis. However, it is important to state here that a field survey of the large out-state Michigan milk markets indicated that there was uniformity in respect to products required to come from the same inspected sources as milk for fluid consumption.[24] For all except the Detroit area cities, requirements specified that milk for fluid consumption of all types come from fully inspected sources, plus flavored milk, fluid skim, buttermilk, half-and-half, and fluid cream of all types. The Detroit area cities do not require that fluid cream be made from full farm-inspected sources.

In reference to Mr. Mathis's second point, it should be pointed out that although homogeneity of inspection requirements is fairly well developed among out-state Michigan cities and will undoubtedly improve with the uniform inspection standards under the new State Grade A Law,[25] there are

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[23] A. G. Mathis op. cit. p. 24.

[24] The out-state major cities included in the survey were Jackson, Bay City, Flint, Saginaw, Battle Creek, Lansing, Kalamazoo, Grand Rapids and Muskegon.

[25] Michigan Department of Agriculture, "Grade A Milk Law", Act No. 216 Michigan Public Acts. 1956 (Effective July 1, 1957) In June, 1958--66% of the Jackson producers, 80% of Flint, 100% of Muskegon, 100% of Lansing, 100% of Bay City, 99% of Saginaw, 75% of Grand Rapids, and 85% of Battle Creek, were grade A. Kalamazoo was under survey and Detroit is not yet an approved grade A market.

still very real restrictions on movement between Detroit order area cities. The city of Detroit does not accept packaged milk from the Detroit order area cities of Ann Arbor, Port Huron, or Pontiac, nor do the latter two cities in turn accept Detroit milk in their jurisdictions. There appear to be three main limits on movement of bulk and packaged milk between jurisdictions: (1) health barriers, (2) fear of reprisal competition by dealers entering another dealers' market, and (3) dealers and cooperative limitation on number of producers allowed to enter a given market.

Many of the health barriers have been broken down--however, one other possible health barrier should be discussed. One of the limitations on inter-market movement of milk could be a high required annual plant license fee. In Lower Peninsula major city markets, fees ranged from $5.00 annual total to $5.00 per hundredweight on average November production. Some plants reported paying as high as $3,000 for an annual plant license fee (Table 2-2). This occurence was limited, however, and in general it is doubtful if the license fee prevents much inter-area movement of milk.

Based only on this health regulation criterion, it would seem that the Lower Peninsula should be divided into two or more order areas. The restrictive Detroit area cities would be separated from the balance of the State and from each other. By the same line of reasoning, the restrictive Flint market would be separated into a single market area. However, the strength of this criterion for area separation is weakened

Table 2-2 Schedule of annual milk pasteurizing plant license fee charges in major Michigan cities, June, 1958.

City	Minimum Fixed Fee	Additional Fee- Amount indicated times average daily receipts for November	Example of charge for plant with 50,000 lbs. average daily receipts in November
Muskegon	$100	$5.00	$2,600
Flint	50	0.50	300
Grand Rapids	25	0.50	275
Port Huron	25	0.50	275
Bay City	None	0.25	125
Saginaw	50	None	50
Kalamazoo	50	None	50
Ann Arbor	15	None	15
Detroit	10	None	10
Lansing	5	None	5

Jackson--------Being revised - Annual charges as of June 26, 1958 $15.00 for milk plant plus $5.00 for each producer from which milk is received at that plant. New fee will be flat plant fee of $100.00 plus $50.00 for each independent distributor.

Battle Creek---No charge for local plants - outside plants selling in city limits pay $10.00 plus $5.00 per mile per year - one way from city limits of Battle Creek to city limits of sending plant.

Pontiac--------Charge for each plant $25.00 per year for 0-25 producers shipping to the plant plus $25.00 for each additional 25 producers or fraction thereof.

somewhat by the one way flow of milk allowed from these restrictive markets to the other out-state markets. The relatively free movement of packaged milk and uniformity of classification and inspection standards between the other out-state major markets would allow them to be grouped under one single order for regulation purposes.

Mr. Herrmann, in a recent talk before the Dairy Products Improvement Institute, stated, "While city health regulations, probably are becoming less restrictive, the growing importance of Statewide sanitary programs, in some instances at least, is raising new obstacles."[26] The Michigan Grade A Law requires that all out-of-state suppliers be inspected the same as in-state producers with cost of salary, travel, food, and lodging charged to the handler requesting inspection for sale of grade A milk in Michigan. However, the Michigan Grade A Law does not form a rigid line at the Michigan border since the Michigan Department of Agriculture does inspect these out-of-state shippers and milk is now coming into Michigan from Wisconsin, Indiana and Ohio.[27] The criterion on health regulations would not, therefore, by itself exclude bringing Northern Ohio or Indiana cities under one order with the Lower

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[26] "Trade Barriers in the Dairy Industry", Address by L. F. Herrmann, Head, Dairy Section, Market Organization and Costs Branch, Marketing Research Division, A.M.S., United States Department of Agriculture, before Dairy Products Improvement Institute, New York City, February 13, 1958.

[27] Interview with Mr. L. Littlefield, deputy director, Dairy Division, Michigan Department of Agriculture, May 7, 1958.

Peninsula of Michigan.

III. Uniform Price Tendencies (Criterion 4)

The map in Figure 2-2 shows the extent of overlapping between the major fluid milk markets' procurement areas in Michigan and nearby large out-of-state cities. The milksheds indicated are those outlined by the respective major cities' health departments in January, 1958. This overlapping would lead us to expect fairly uniform blend prices to producers in the fluid milk markets of the Southern portion of the Lower Peninsula. That such is not the case can be seen by referring to the iso-price contour maps in Figure 2-4. On the other hand, it is shown in Figure 2-5 that Class I prices are comparatively close throughout the Lower Peninsula area. This can be attributed to the bargaining carried on in all major Michigan cities (with the exception of Lansing and Kalamazoo) by the same producers' cooperative. Blend prices varied between markets due to differences in Class I utilization. Figure 2-3 which is used as a basis for considering Figure 2-4 and 2-5, indicates the difference in mileage between major markets in the Lower Peninsula.

Lower Peninsula blend prices for producers are shown in Figure 2-4. Part A of this figure indicates the relationship of these prices between Detroit, Detroit country receiving stations and major out-state Michigan markets. The difference in average blend prices received by producers in 1957 are recorded in Part B of Figure 2-4, with the markets arrayed by

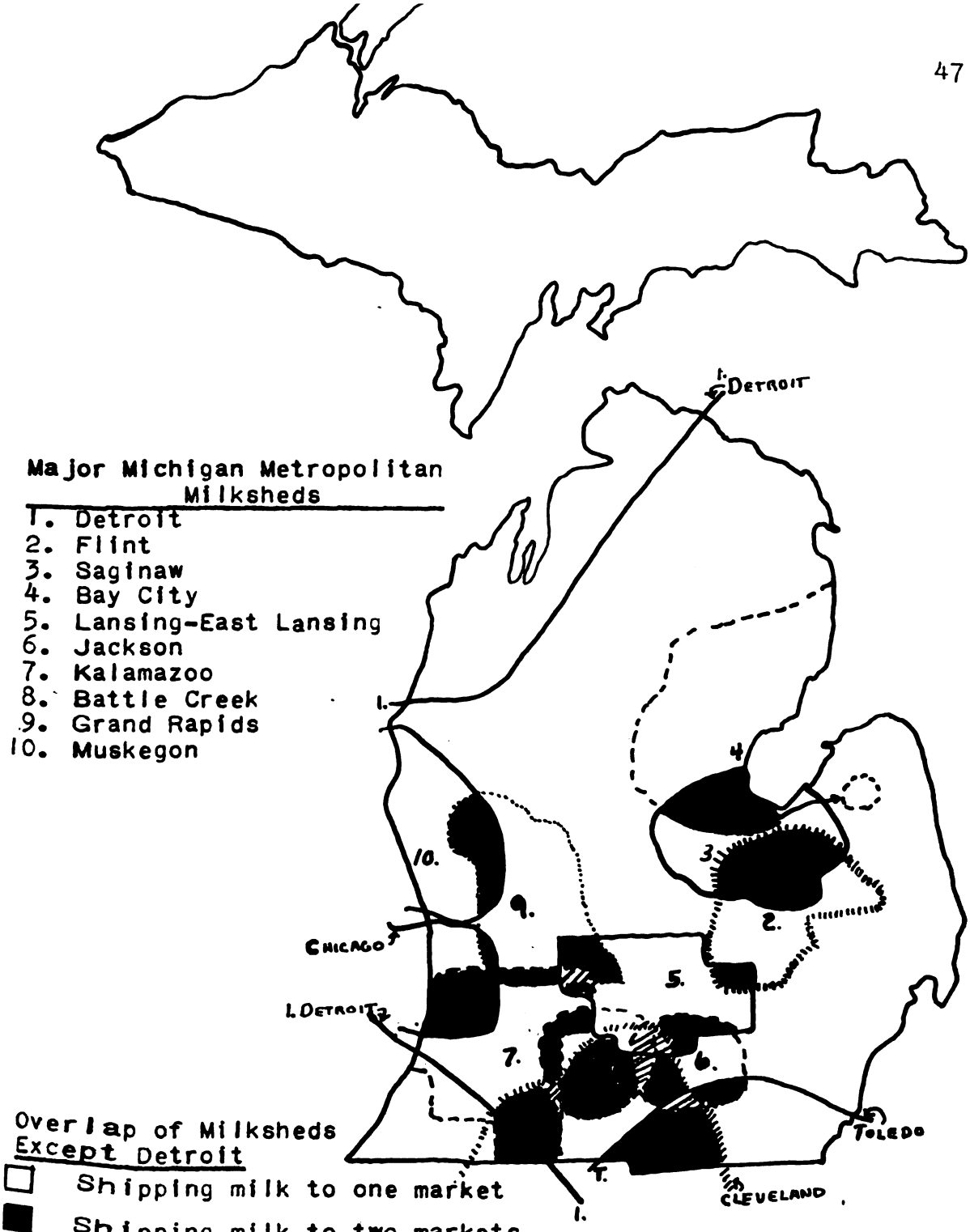
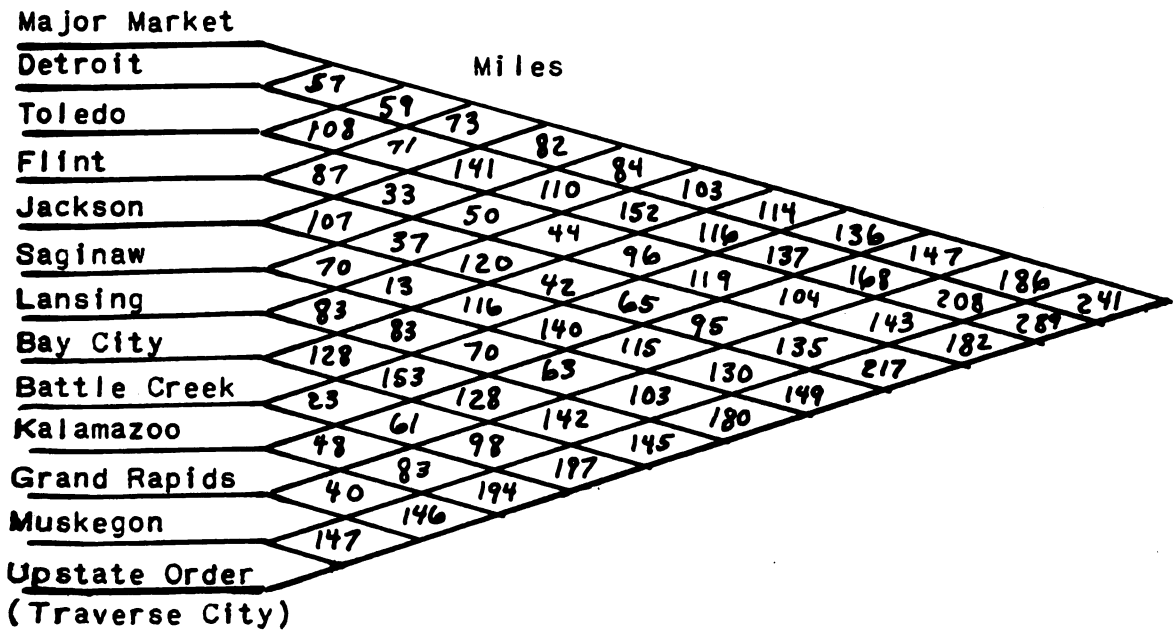


Figure 2-2 Overlapping of Procurement Areas For Detroit, Major Out-State Michigan and Nearby Large Out-of-State Milk Marketing Areas. January, 1958.[a]

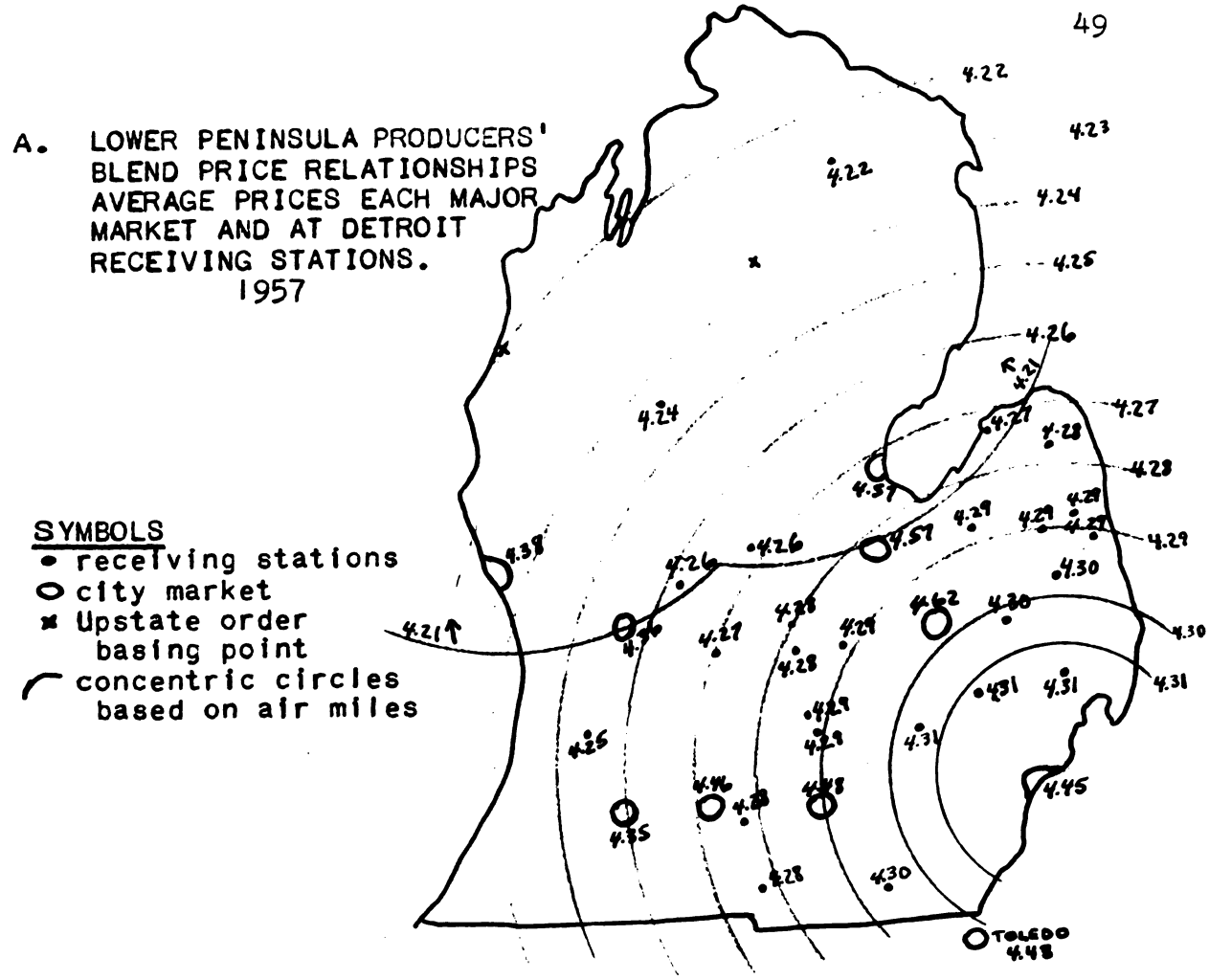
[a] Areas delimited by each local health department of cities indicated. January, 1958.



To read the table select two markets such as Detroit and Battle Creek, follow diagonally downward and to the right from the first market and upward and to the right from the second to the point of intersection which is in this case 114 miles. Distance for each to Detroit is read in shaded area. This same type of diagram is used to show price differences between markets in Figures 2-4 and 2-5.

Figure 2-3 Differences in the Highway Distance From Market Center to Market Center - Major Michigan Milk Markets and Toledo, Ohio.

A. LOWER PENINSULA PRODUCERS' BLEND PRICE RELATIONSHIPS AVERAGE PRICES EACH MAJOR MARKET AND AT DETROIT RECEIVING STATIONS. 1957



B. DIFFERENCES IN AVERAGE PRICES RECEIVED FOR 3.5 PERCENT MILK BY PRODUCERS-MAJOR MICHIGAN MARKETS AND TOLEDO, OHIO[a] 1957

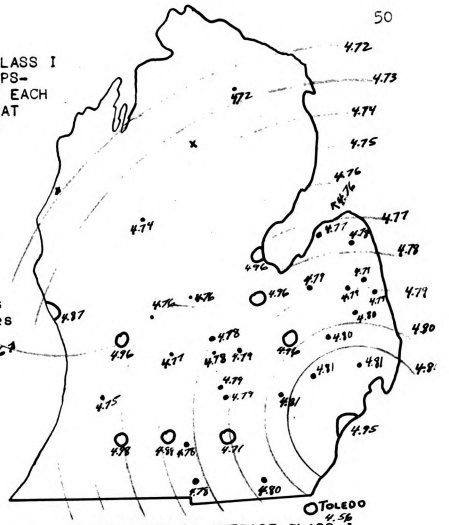
	Detroit	Toledo	Flint	Jackson	Saginaw	Lansing	Bay City	Battle Creek	Kalamazoo	Grand Rapids	Muskegon	Upstate Order (Traverse City)
Detroit		-.02	+.17	+.19	+.03	+.12	—	+.12	+.01	-.10	-.09	-.07
Toledo			+.19	+.05	+.14	—	+.14	+.03	-.08	-.07	-.05	-.24
Flint				-.14	-.05	—	+.09	-.16	-.27	-.26	-.24	-.22
Jackson					-	+.14	-.02	-.13	-.12	-.10	-.41	
Saginaw						+.09	-.11	-.22	-.21	-.19	-.27	
Lansing							-.22	-.21	-.19	-.36		
Bay City								-.10	-.08	-.25		
Battle Creek									+.01	-.14		
Kalamazoo										-.15		
Grand Rapids												
Muskegon												
Upstate Order (Traverse City)												

[a]Differences in price of each market from Detroit and from each of the other markets listed. The amount each of the Lower cities in the list is over (+) or under (-) the city above it in the list.

Figure 2-4 Producer Blend Prices For 3.5 Percent Milk Received at Detroit, Toledo, All Detroit Receiving Stations (see map appendix II) and Selected Major Michigan Markets; Also Differences in These Blend Prices Between Major Markets (Average Prices, 1957).

A. LOWER PENINSULA CLASS I PRICE RELATIONSHIPS- AVERAGE PRICES AT EACH MAJOR MARKET AND AT DETROIT RECEIVING STATIONS.
1957

SYMBOLS
- • receiving station
- O city market
- x Upstate order basing points
- concentric circles based on air miles



B. DIFFERENCES IN AVERAGE CLASS I PRICES PAID BY HANDLERS FOR 3.5 PERCENT MILK - MAJOR MICHIGAN MARKETS AND TOLEDO, OHIO[a]
1957

	Detroit[a]	Toledo	Flint	Jackson	Saginaw	Lansing	Bay City	Battle Creek	Kalamazoo	Grand Rapids	Muskegon[a]	Upstate (Traverse City)
Detroit[a]		-.39	+.40	-.25	+.25	-	-	-.08	+.10	-.04	-.07	-.11
Toledo	+.01		+.15	0	-	0	-.08	-	-.06	-	-.22	-
Flint	-.24	+.40		+.40	0	+.25	+.02	-.02	-.02	-.01	-.20	-
Jackson	+.40	+.25	+.40		-	+.17	+.27	-	-.09	-.12	-	-
Saginaw	+.32	-	-	-		0	-.08	+.02	-	-.20	-	-
Lansing	+.02	+.38	+.31	-.08	-.19		+.23	+.16	-.09	-	-	-
Bay City	-.02	+.31	+.20	-.20	-	-.09		-.20	+.05	-	-	-
Battle Creek	-.09	-.20	-	-	-	-.20	-		-	-	-	-
Kalamazoo	+.01	-	-	-	-	-	-	-		-	-	-
Grand Rapids	+.07	-	-	-	-	-	-	-	-		-	-
Muskegon[a]	+.03	-.01	-.08	+.07	+.03	+.38	+.31	-.09	-.19	-.20		-
Upstate (Traverse City)	+.07	+.01	+.15	+.01	+.01	+.02	+.23	+.16	-.09	-.20	-.12	

[a]Differences in prices of each market from Detroit and from each of the other markets listed. The amount each of the lower cities in the list is over (+) or under (-) the city above it in the list.

Figure 2-5 Class I Prices Paid By Handlers, F.O.B. Detroit, Toledo, All Detroit Receiving Stations, (see map appendix II) and Selected Major Michigan Markets. With Differences in Class I Prices Between Major Markets (Average Prices, 1957).

their distance from Detroit.[28] These producer blend prices do not vary in proportion to the distance from Detroit even though the paying prices at Detroit receiving stations, often located near these out-state markets, are directly related to the Detroit price, less transportation. Each city market is like a hill established on the equal-price contours from Detroit. This has enabled these markets to obtain supplies from nearby sources and to be selective of producers.

Producers shipping to Detroit receive the f. o. b. price that city less a transport differential from the receiving station of delivery to Detroit (quoted at point of delivery). Theoretically, out-state markets would have to pay a price equivalent to the equal-price contours from Detroit. For example, in 1957 the Flint blend price would be expected to be near $4.30 for 3.5 percent milk. Actually, this price averaged $4.62 for Flint producers. Thus, other things being equal, Flint producers were receiving an average of 30 cents per hundredweight over Detroit producers. Although not as drastic, similar relationships were true for each of the other major out-state milksheds. This relationship enables the out-state markets to attract nearby shippers and to be selective on shippers, but requires a barrier to the number

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[28] In this case and for each of the following presentations the year 1957 is used since it is the most recent full year available and is considered to be a typical year. There were no major milk strikes or other abnormalities. Also, on the Federal order markets, negotiated prices were in effect for the full year (started on the Detroit market in April, 1956; the Muskegon market August, 1956 and the Upstate market July, 1956).

of shippers allowed on the market in order to preserve this relationship. These smaller milksheds have been enveloped by the large, expanding Detroit milkshed. They appear to have maintained this unequal price relationship because of (1) the economies of longer hauls, (2) health barriers, and (3) dealer and cooperative limitations on acceptance of new producers, especially under an individual handler-pooling arrangment.

The economies of long hauls.--This principle is important in giving small buying centers their own supply areas even where these centers are located in a route through which fluid milk passes to reach the major market.[29] In Figure 2-6, the gradient of delivered price of milk is shown as it would be if transfer costs were proportionate to distance. In such a case, the supply areas of small milk markets A and B would be indeterminate in extent, since all suppliers to the left of A would get the same returns from sales to A, B, or C and are indifferent as to which markets they supply. If the delivered price at A were to be higher than indicated in the diagram, the large market C would lose the output of all the territory left of A. On the other hand, suppose A's price was below that indicated--then A would receive no milk supplies. Part B appears more realistic and is the situation which helps produce a map of producer inter-relationship as shown with

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[29] Explanation from Edgar M. Hoover, The Location of Economic Activity, McGraw-Hill Book Company, New York, 1948, pp. 62-65.

Detroit and major out-state markets (Figure 2-2). In Figure 2-6 B the gradients appear as would be expected when transfer costs increase less than in proportion to distance. A and B each have a supply area to meet their own needs without interfering with through shipments of milk to C (the major market) from points to the left of A and of B under cheap long haul rates.[30]

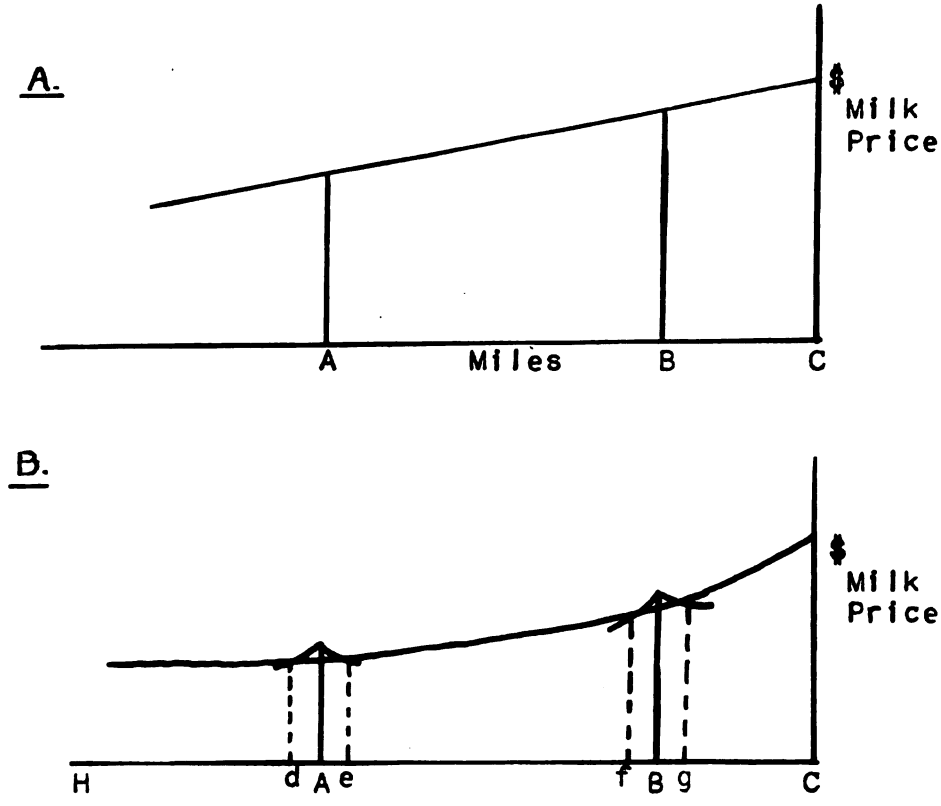

Figure 2-6 Comparison of Local Minor and Distance Major Market Price Relationships When Transfer Costs Are Proportional to Distance Along the Route (Part A) and When Transfer Costs Are Assumed to Increase Less Than Proportionate With Distance (Part B).

[30] A rather detailed consideration of transportation differentials is found in Chapter IV of this thesis.

Health barriers.--These were explained in the previous section and except for the specific cases of Flint and the Detroit area cities were no longer considered restrictive in the Lower Peninsula of Michigan.

Limitation to producers.--There are no data available on dealer acceptance of new producers on the city markets, but it is well known that such limitations do exist especially under an individual handler pooling arrangement. A survey of several of the major markets in January, 1957, indicated that the largest bargaining cooperative also limited membership. In each of the markets studied, membership was restricted to needs.[31] However, in the case of Detroit this limitation was not very real at receiving stations, other than those owned by the Michigan Milk Producers' Association. At other stations, when dealers took on shippers, the cooperative was eager to sign them on as members.

For at least these three reasons, price differences exist which do not reflect exactly the differences in transfer costs between these markets. However, it does not mean that there are not uniform price making tendencies with differences superimposed on this foundation. The overlapping

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[31] Markets surveyed by Professor G. G. Quackenbush, Michigan State University as part of North Central Regional "windshield survey" of selected Michigan Markets January, 1957. Those surveyed included Battle Creek, Detroit, Grand Rapids, Jackson, Muskegon and the Saginaw Valley markets. Detroit and Muskegon were Federal order markets with market-wide pools. The others listed had Association market-wide pools for all or a part of the market.

of procurement areas, as explained earlier, has promoted such uniformity, and the bargaining of one large cooperative in all but two of the major markets has promoted uniformity of Class I prices.

Figure 2-5 indicated that the handlers paying price for Class I has been more uniform then blend prices between markets and would seem to point toward the possibility of establishing uniform Class I prices at each of the major Michigan markets. The differences in blend prices have developed due to differences in Class I utilization in the markets. For example, Detroit's Class I utilization in 1957 was 69.0 percent while Flint had 79.6 percent Class I utilization. Both paid within one cent of the same Class I price, but Flint was almost thirty cents over Detroit in actual paying price to producers in that area.

Based on this criterion and using Class I prices it appears that Federal regulation of all of the Lower Peninsula major cities under a single order is a possibility. Uniform price-making tendencies are in effect on the market as procurement areas overlap, health barriers have decreased, and bargaining by one cooperative has resulted in fairly uniform Class I prices for handlers. Blend prices to producers now vary due to differences in Class I utilization in the various markets and because of the restrictions mentioned earlier; economies of long hauls, remaining health barriers and limitation on producer shifts between markets. Based on the uniform price tendency criterion and using blend prices the

recommendation would seem to preclude using more than one order for regulation in the Lower Peninsula territory. Additional information on uniform price making tendencies appears in Chapter IV on locational differentials at which point the relative importance of Class I and blend prices are discussed.

IV. Area Where Regulation is Not Imposed on Large Numbers of Small Dealers. (Criterion 5)

It is important to consider population centers in determining market boundaries. Handlers operating within intensive areas usually handle a large volume of fluid milk per dealer and are considered to be more easily regulated. In developing this criterion it was shown that the United States Department of Agriculture had warned against regulation of rural territory.

> In connection with the definition of extensive areas we must guard against the imposition of regulation on large numbers of very small dealers. This is a danger when marketing areas include large amounts of rural territory.[32]

Figure 2-7 indicates the density of population (persons per square mile) in each county of Michigan. The average density in the State was 131 persons per square mile. However,

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[32] H. L. Forest, op. cit. pp. 20-21 (see footnote 7, this chapter). However, many area wide Federal order market areas do include large amounts of rural territory. In the Final Decision on the New York-New Jersey order it was stated, "Rural territories need not be excluded as a matter of principle. From a practical operating point of view, however, rural areas may contribute little to the purposes or effectiveness of the regulation and present an administrative problem out of proportion to the benefits to be gained." (Final decision, Handling of Milk in the New York-Northern New Jersey Marketing area - 22 FR 4194, June 3, 1957).

50 or more persons per square mile

Figure 2-7 Michigan Estimated Population Density Per Square Mile By Counties January 1, 1957.[a]

[a]Population data used in calculations obtained from: Sales Management. (Survey of Buying Power) May 10,1957. Bill Brothers Publishing Co., New York Vol. 78 No. 9 pt. 3, pp.438-446.

the range was from four in Keweenaw County in the Upper Peninsula to Wayne County's 4,576 persons per square mile. In the Lower Peninsula, the range was from seven persons per square mile to 4,576. The map shows that the Northern portion of the Lower Peninsula has low population density throughout (unshaded area Figure 2-7). In 1837, when Michigan became a state, Detroit had a population of 9,763.[33] Today Detroit is the fifth largest city in the United States. In 1950, the metropolitan area had 1,849,568 people and the total Detroit milk marketing area, as defined under the milk order, had 3,122,957.[34] An estimated 3,900,000 were living in this defined marketing area in 1957.[35] There were twenty-eight other cities in Michigan in 1957 with over 25,000 population. All were located in the Southern portion of the Lower Peninsula. Eighteen of these were in the present Detroit order marketing area. Figure 2-8 shows the population in Michigan by counties on January 1, 1957. The figure also delineates the State Metropolitan areas. Note that these metropolitan areas are all south of a line extending west to east over Muskegon to Bay County. Ninety-one percent of Michigan's population also

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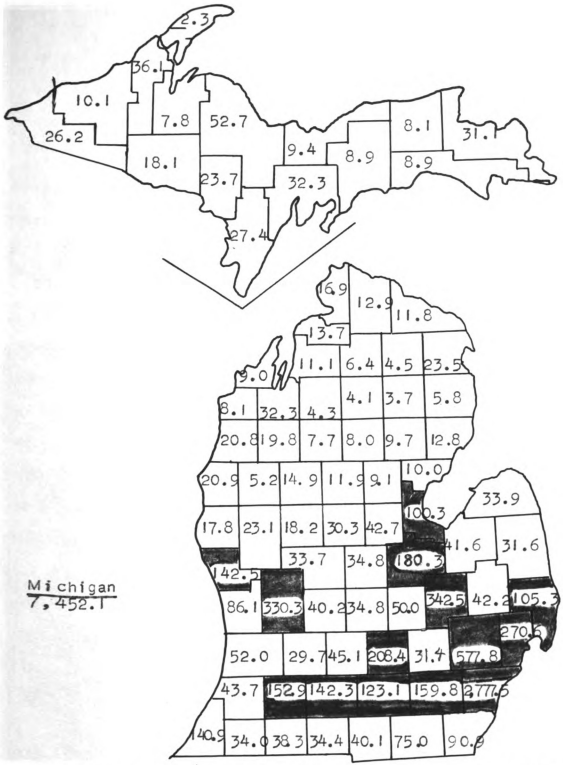
[33] Floyd R. Dain, Detroit and the Westward Movement, Wayne University Press, Detroit, p. 18., 1949.

[34] Federal Milk Marketing Orders, op. cit., p. 6.

[35] Estimated from data on minor civil divisions taken from Population Estimates in the Detroit Region, July 1, 1957, prepared by research department, Detroit Metropolitan Area Regional Planning Commission, 800 Cadillac Square Building, Detroit 26, Michigan.



■ Metropolitan areas over 100,000 population with central city over 50,000. Definition used by U.S. Bureau of Census.

Figure 2-8 Michigan Population Estimates By County[a] January 1, 1957 (000 omitted)

[a] Sales Management, "Survey of Buying Power", May 10, 1957 Bill Bros. Publishing Co., N. Y. Vol. 78 No. 9 pt. 3. pp. 438-446.

lies in the area south of this line. The southern portion of the Lower Peninsula is thus becoming a single super-city emerging from these distinct metropolitan areas. It has been stated that there are fourteen of these super metropolitan areas developing in the United States, of which Detroit is one.[36] The same source estimated that by 1975, 70 percent of all the people in the United States will live in these fourteen super-cities or "interurbias". According to this report, the Detroit area will extend north to Bay City, from Bay City west to Grand Rapids, south to Kalamazoo and back across the Ohio border to Detroit. What effect will this have on the milk industry? The Saal and Myrich article claims that it will lead to the development of more regional plants such as the new Sealtest plant in Lansing, Michigan, and a more extensive movement of milk between existing markets as the lines between markets become less and less distinct with the merging of formerly distinct metropolitan areas into one super-metropolis.

Table 2-3 indicates the estimated demand for fluid whole milk in the major Michigan milk markets and for the State in 1957. The annual requirement for fluid whole milk of over 2½ billion pounds (including 15 percent operating reserves)

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[36] Herbert Saal and Norman Myrich, "A Changing Population. What it Means to the Dairy Industry" American Milk Review. Urner-Barry Co., New York, January, 1958, Vol. XX No. 1, pp. 24-29, 101-102.

Table 2-3 Major milk markets in Michigan - estimates of their requirements for fluid whole milk, 1957

Market	Metropolitan Area Market Population[a]	% of State's Population	Estimated per capita consumption per day	1 & 3 Minimum Daily Requirements	Daily Operating Reserves	Total Market Daily Requirement for Fluid Milk
	Number	%	lbs.	lbs.	lbs.	lbs.
Detroit	3,900.000[b]	52.3	.80	3,120,000	468,000	3,588,000
Flint	342,500[c]	4.6	.84	287,700	43,155	330,855
Grand Rapids	330,300[d]	4.4	.84	277,452	41,618	319,070
Muskegon	228,600[e]	3.1	.84	192,024	28,804	220,828
Lansing-East Lansing	208,400[f]	2.8	.84	175,056	26,258	201,314
Saginaw	180,300[g]	2.4	.84	151,452	22,718	174,170
Kalamazoo	152,900[h]	2.1	.84	128,436	19,265	147,701
Battle Creek	142,300[i]	1.9	.84	119,532	17,930	137,462
Jackson	123,100[j]	1.7	.84	103,404	15,511	118,915
Bay City	100,300[k]	1.3	.84	84,252	12,638	96,890
Total State Metro. Areas	5,708,700	76.6%	.8127	4,639,308	695,897	5,335,205
Total State Population	7,452,100	100.0%	.819	1,464,456 6,103,764	915,565	7,019,329

[a]Population from Sales Management. "Survey of Buying Power" May 10, 1957. Areas are as noted and include those listed as Metropolitan Economic Areas - United States Census, 1950 and in addition Bay City, Jackson and Battle Creek areas which have become State Metropolitan Economic areas since that time. In order to be a State Metropolitan Economic Area it must have a central city of over 50,000 population. The area usually includes one county containing the central city and this area must have over 100,000 population.

Table 2-3 (continued)

[b]Estimate from data on minor Civil Divisions, included in Detroit Milk order area, by Detroit Regional Planning Commission, 1957 (roughly includes St. Clair, Macomb, Oakland, Wayne and Washtenaw Counties).

[c]Genesee County

[d]Kent County

[e]Muskegon and Ottawa Counties (Milk order area)

[f]Ingham County

[g]Saginaw County

[h]Kalamazoo County

[i]Calhoun County

[j]Jackson County

[k]Bay County

[l]No accurate Michigan Consumption figures for fluid milk are available. The latest United States data indicated in 1956 per capita consumption at 0.84 pounds of fresh whole milk per capita per day (Dairy Situation, DS 260, June, 1957, p.10). Detroit data for 1957 recorded 0.80 lbs. per day (Market Administrator report of 3,125,300 lbs. fluid whole milk add per day divided by 3,900,000 population estimate). Since Michigan Upstate markets are believed to have higher per capita consumption the United States figure is used for Upstate markets to provide a more conservative per capita estimate.

represents about 49 percent of the total milk produced in Michigan.[37] The 1957 fluid whole milk requirement was estimated to be 2,227.9 million pounds (excluding reserves). This compares favorably with the data released by the Michigan Crop Reporting Service.[38]

This brief analysis of concentration of areas of demand in Michigan indicates that only the southern portion of the Lower Peninsula would justify Federal regulation, based on the criterion against inclusion of predominantly rural area under regulation. The sparsely populated Northern Lower Peninsula violates this criterion and would not therefore (using this criterion) be recommended for Federal regulation. It should be pointed out, however, that the proposed Upper Peninsula and Northeastern Wisconsin Federal orders now under consideration by the United States Department of Agriculture is almost entirely rural territory. The present Michigan Upstate order is also almost all rural territory. Therefore,

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[37] Total milk production on farms in Michigan in 1957 was estimated at 5,436 million pounds. From Milk Production on Farms and Statistics of Dairy Plant Products, 1957, A.M.S., United States Department of Agriculture, February, 1958.

[38] The latest figure released by the Michigan Crop Reporting Service showed annual fluid whole milk for direct consumption in Michigan at 2,092.1 million pounds in 1956. Michigan population was estimated to have increased by 2.7 percent from 1956 to 1957 (estimates from Sales Management, "Survey of Buying Power," 1956 and 1957 annual issues, Bill Bros. Publishing Co., New York) Assuming per capita consumption in Michigan remained the same over the two years and the needs of the new population were met--then the 1957 estimate of commercial whole milk consumption would be approximately 2,148.6 million pounds.

there is some question as to the use of this criterion in the case in point. The reason cited by the United States Department of Agriculture for its fear of bringing predominantly rural territory under regulation is the desire to keep from having to administer many small dealers. In Michigan, there has been a considerable reduction in the number of licensed dealers. The number of licensed fluid milk plants dropped from 402 in 1955 to 335 in 1957, a net reduction of 67 plants.[39] In 1957, the sparsely settled region north of a line running from west to east over Muskegon to Bay County reported only 38 licensed fluid plants (Figure 2-9). This was the same number as reported in Kent county with the city of Grand Rapids, while the population of this whole Northern area totaled only approximately 12,000 less than the Kent County metropolitan area (Figure 2-8). As shown earlier in this chapter (Figure 2-1), this area is now serviced with packaged milk from many large dealers from the more intensive areas of population.

This criterion would point toward regulation of only the southern portion of the Lower Peninsula. In should be pointed out, however, that due to changing methods of processing and marketing of packaged fluid whole milk, fewer dealers are operative in both rural and urban areas and packaged milk moves freely to rural areas throughout the Lower Peninsula. In addition, in recent years the Department of

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[39] Michigan Department of Agriculture, records of licensed milk processors--list as of February 17, 1955 and as of October 20, 1957.

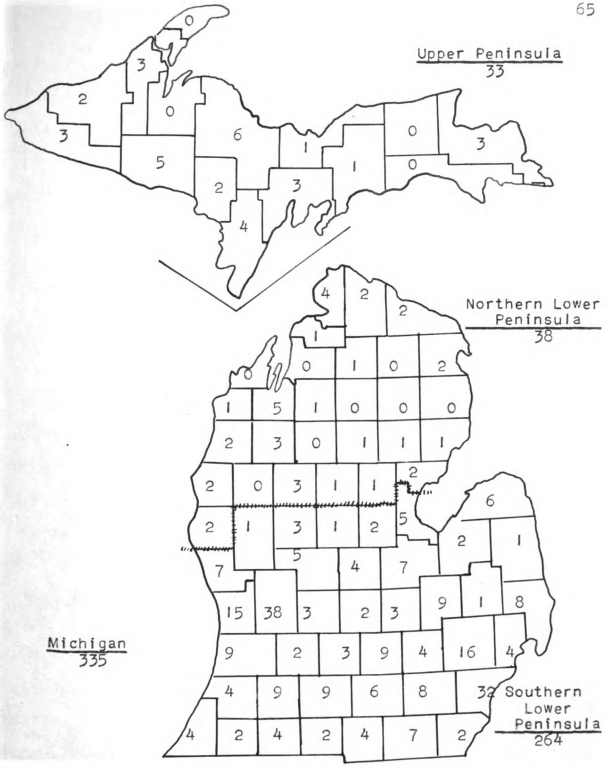

Figure 2-9 Michigan Licensed Fluid Milk Processors By Counties[a] October 20, 1957

[a] Michigan Department of Agriculture, List of Licensed Fluid Milk Processors, October 20, 1957.

Agriculture has brought rural territory under regulation including, for example, the present Upstate Michigan order area. This would appear to decrease the importance of this single criterion in delineating market areas, at least in the case of Michigan.

V. Supply Area Conditions (Criterion 6)

In the preliminary examination of essential criteria, there appeared to be some controversy in the Department of Agriculture over using supply area characteristics as a criterion for delineating market boundaries. In one portion of the Oklahoma decision it was stated that differences in production areas are of little consequence in determining whether orders should be merged since a milkshed is not regulated by the order. Earlier in the same decision the Secretary used the fact that there was overlapping of procurement areas as part of the basis for making his decision on uniting the two areas in Oklahoma.[40] Also Mathis was quoted as presenting a case for considering supply areas, since Federal orders do regulate producer prices.[41] That the Secretary of Agriculture does consider these areas of supply important is pointed out in the recent final decision for the expanded New York-New Jersey order area. The Secretary states in this decision:

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[40] Final Decision with Respect to Handling of Milk in the Oklahoma Metropolitan Marketing Area, op. cit. (22FR 2151).

[41] Mathis, op. cit., p. 25.

> Northern New Jersey (and similarly Upstate New York) consumes large quantities of milk all of which comes from a common production area serving both Northern New Jersey and the present marketing area, either from pool plants or from non-pool plants with which pool plants are intermingled throughout the production area. The present program of milk regulation in the New York milkshed involves establishment of a relatively high price for fluid milk disposed of in the present marketing area while at the same time does not provide a means of establishing a similar price for milk disposed of for fluid use in other centers of urban population, the largest of which is Northern New Jersey, which depend upon the New York milkshed for a supply of milk. Regulation in Northern New Jersey is necessary in order that the entire cost of the milk regulatory program for the maintenance of orderly marketing conditions in the entire area is paid not only by consumers in the present marketing area while the benefits of such a program accrue equally to the consumers in other urban centers of population depending upon a common milkshed for its supply of milk.[42]

One of the considerations of the hearing held for the New York-New Jersey order was whether a separate milk marketing order should be issued for Northern New Jersey or whether regulation in Northern New Jersey should be included under a single milk marketing order applicable both to Northern New Jersey and to the New York marketing area currently under regulation and that part of New York recommended for addition. The supply area conditions played a very real part in aiding the Secretary's final decision on this point:

> The territory consisting of Northern New Jersey, the present Order No. 27 marketing area and additional territory in Upstate New York possesses the essential characteristics of one market for milk, rather than two or more. The densely populated region consisting of New York City and surrounding urban territory

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[42] Final decision, Handling of Milk in the New York-New Jersey Marketing Area, op. cit., (22FR 4194)

> together with the major cities and their environs in Northern New Jersey constitute a contiguous urban area from the standpoint of general economic integration and interdependence. Milk for this entire territory is produced in a common production area. Plants and producers supplying milk for all parts of the territory are extensively intermingled and to a substantial degree the milk is interchangeable between the various portions of the territory.[43]

One of the important points to consider in the Lower Peninsula is whether regulation should be accomplished by one, two or more orders. For these reasons it seems important to consider the supply area conditions for Detroit and the other major milk markets of the Lower Peninsula territory.

The section on uniform price making tendencies showed overlapping of procurement areas with the supply of fluid milk for the major markets being obtained from a common supply area. Milk for fluid consumption is produced throughout the Lower Peninsula territory with the largest amount coming from the Southern portion. Throughout the state there is an intermingling of manufacturing and fluid milk producers. Figure 2-10 shows the principle milk supply areas based on the number of dairy farms reported in the Census of Agriculture of 1950 and 1954. There were 33,450 dairy farms in the Lower Peninsula in 1954, of which approximately 78 percent were located in an area south of a line running from west to east over Muskegon, Montcalm, Isabella, Midland, and Bay Counties. This same Figure (part B) indicates the number of cows per dairy farm by economic area. Economic areas were used in

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[43] Ibid.

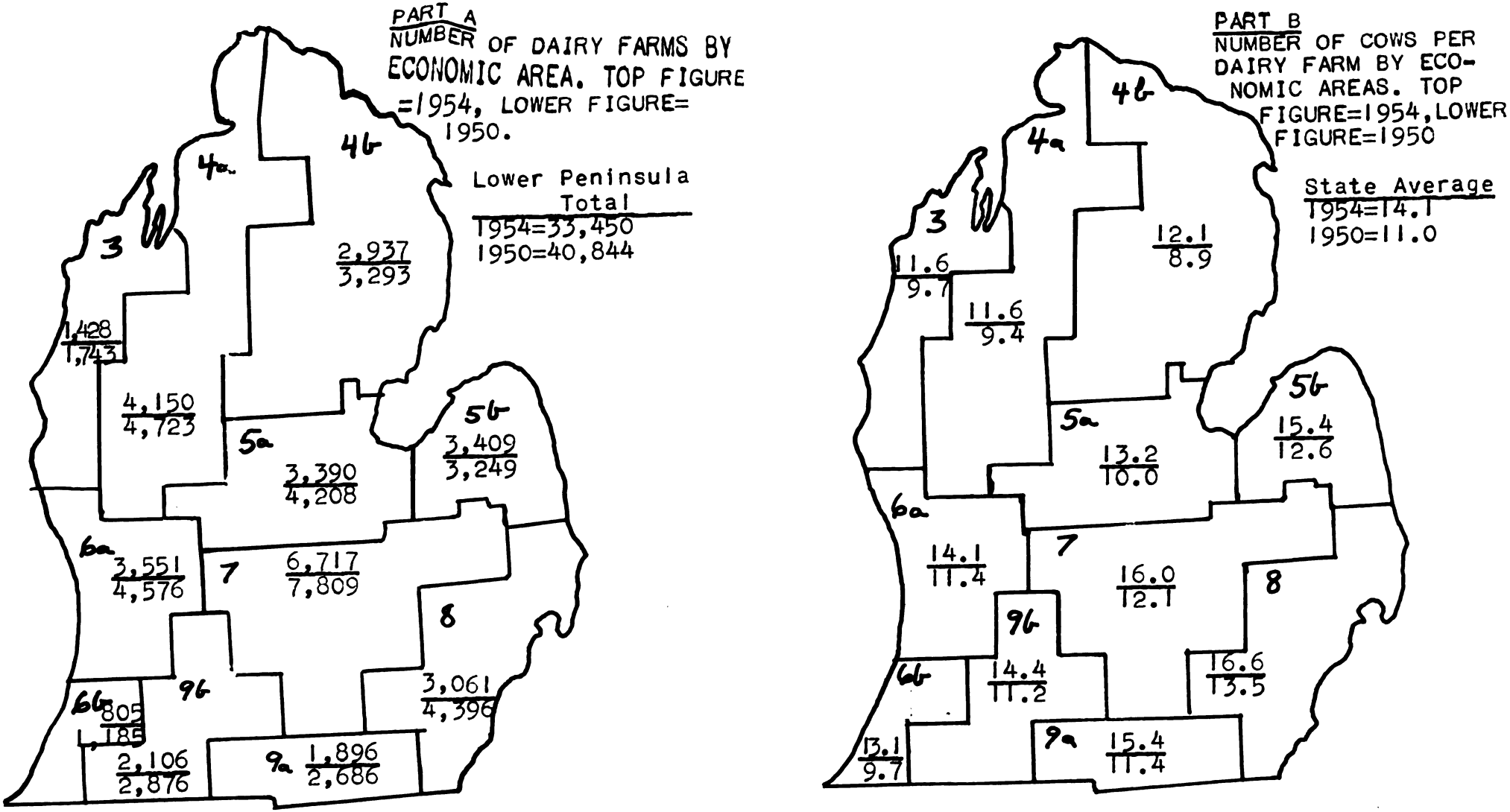

Figure 2-10 Characteristics of Lower Peninsula Dairy Farms By Economic Area-1954[a]

[a]A dairy farm, by census definition, is a farm from which milk and milk products amounted to 50 percent or more of the value of all products sold.

examining milk production characteristics of the Lower Peninsula since it is easier to interpret from these broad cartographically generalized areas than from county or smaller unit data.[44] The number of cows per dairy farm increased from 11.0 to 14.1 from 1950 to 1954, although this increase was prevalent statewide, it was largest in the southern portion of the Lower Peninsula. Despite these differences in intensities, dairying is important throughout the Lower Peninsula. A recent study on the types of farming in Michigan which delineated type of farming areas, based largely on sources of farm income, presented a map which included dairying as an important enterprise in ten of Michigan's fourteen Lower Peninsula type of farming areas.[45] An example of the changes taking place in the milkshed areas can be seen by examining data on the Detroit area milkshed. The achievements in milk production by Michigan farmers supplying the Detroit market the past ten years have been tremendous. Deliveries of milk

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[44]State economic areas represent groupings of counties within a state. The counties comprising a state economic area have similar agricultural, demographic, climatic, physiographic and cultural characteristics. Since the counties comprising each such economic area have relatively homogeneous characteristics, data for them may be used with reasonable accuracy to describe characteristics in each county making up the area. A more detailed explanation may be found in State Economic Areas (a description of the procedure used in making a functional grouping of the counties of the United States.) Bureau of Census, United States Department of Commerce, Washington, D.C., 1951, 96 pages.

[45]E. B. Hill and R. G. Mawby, Types of Farming in Michigan; Sepecial Bulletin 206, Michigan State University, East Lansing, September, 1954, p. 25.

per farm to the Detroit market as reported by the Michigan Milk Producers' Association show an increase of approximately 70 percent since 1947. Deliveries by all producers to Detroit in 1957 were nearly a half billion pounds (449,531,503) or 31.4 percent over 1952, the first full year that the Federal order was in operation, even though there was only a slight change in the number of producers supplying the market.

All of the major Michigan markets, including Detroit, and also the intervening rural territory receive their milk from a common production area. The overlapping of the procurement areas was shown in Figure 2-2. Figure 2-11 shows the location of Detroit and outstate Lower Peninsula fluid milk producers by county of location early in 1958. These data were obtained from a mail questionnaire sent to each of the fifty-two health department jurisdictions, forty-five of which were located in the Lower Peninsula, in January, 1958. Only one of these jurisdictions failed to reply for purposes of this study. Each department was asked to indicate the total number of fluid milk producers inspected by it on January 1, 1958. They also were asked to indicate the county of location of these fluid milk producers. Each reply was then summarized by county of location and the map in Figure 2-11 was then constructed. These data have some limitations. They do not include the number of Michigan shippers to out-of-state markets, neither do they show the few producers which may sell milk for fluid consumption in areas which do not

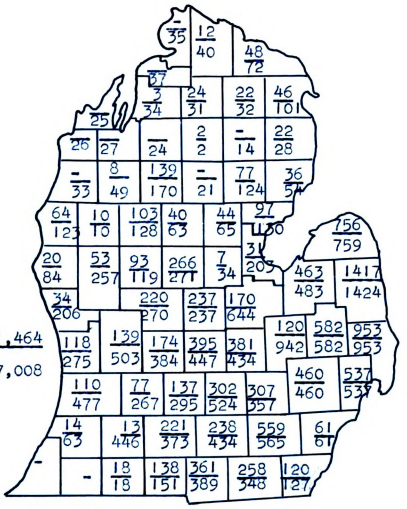

Figure 2-11 Inspected Fluid Milk Producers In The Lower Peninsula - January 1, 1958 (Underlined Numbers Apply to Detroit Area Inspection - Lower Figures to the Total Inspected Shippers Regardless of Department Inspecting and Includes Detroit Area Shippers).[a]

[a] (Detroit Area) includes shippers approved by the following Health Departments for sale in the Detroit area. Detroit City 10,787 (includes 98 Ohio and 9 Indiana shippers to Detroit.) (Ann Arbor-Washtenaw County) 78, Pontiac and Oakland County 268, St. Clair County 91, Macomb County 130, Wayne County 110. Data as of January 1, 1958 except Detroit and Wayne County for May, 1958. Total inspected shippers includes Detroit area plus the thirty-eight other Lower Peninsula authorized health office's reports of inspected shippers. (All except one county health department replying)-Two departments reporting were inactive and in addition there are ten Lower Peninsula counties with no full time health department. Two of these, Bay and Jackson, had city departments reporting which contain a large proportion of their respective counties population. The other eight are low density counties with most fluid milk production under inspection by an outside city market.

maintain a full time health department. However, this lack of local health inspection occurs only in low density areas and much of the milk in these areas is already under the inspection of some city market and is included in these data. Despite these shortcomings, this is the most complete and accurate information available on the location of Lower Michigan's inspected fluid milk producers. Detroit inspected shippers were located in all but eleven of Michigan's Lower Peninsula counties, and Detroit producers were reported in each of the major outstate markets' milkshed areas.

Table 2-4 shows the number of inspected Michigan fluid milk producers by major Michigan and nearby out-of-state metropolitan markets as of January 1, 1958. These data differ from those shown above in that producers are reported by major market regardless of county of location. Furthermore, Michigan producers shipping to the major out-of-state markets are included. In addition, the Detroit and the Muskegon data is from the respective Federal order office rather than from the individual health departments.

It has been shown in this section that the supply areas of Michigan have relatively common production characteristics, with overlapping and intermingling of the major supply areas in the Lower Peninsula. There is no sound economic justification, based on this common supply area criterion, for bringing separate areas under regulation thus providing differences in prices to neighboring producers in the common production area. Division of the Lower Peninsula into more than one order,

Table 2-4 Estimated number of Lower Peninsula fluid milk producers by major Michigan and nearby out-of-state metropolitan market, January 1, 1958.[a]

Market	Number	Market	Number
Detroit	12,251	Bay City	354[b]
Flint	800	Battle Creek	250
Grand Rapids	714	Jackson	192
Lansing	592	In-State Misc.	1,240[c]
Muskegon-Holland-Zeeland	569	Out-of-State	
Kalamazoo	407	Cleveland	530
Saginaw	426	Toledo	450
		Chicago	201[d]

[a]Detroit and Muskegon data are from respective Market Administrator's Offices and is the December, 1957 average number of producers. Other markets are the number of inspected shippers reported by the various health departments except as noted. Toledo, Chicago and Cleveland data are the number of Michigan producers shipping to those markets.

[b]The number reported by the health department was considered high by the Michigan Milk Producers' Association which serves 100 percent of that market. Therefore, data from that association was used to adjust this figure.

[c]The miscellaneous category are inspected shippers to small markets. They are not double counted with major city data. The Upstate order area accounts for 540 of these producers, Upstate Market Administrators office, December, 1957 average number of producers. The others are producers approved by minor health department jurisdictions throughout the balance of the Lower Peninsula.

[d]The Chicago data was obtained from Mead Johnson and Company, Zeeland, Michigan, the only Michigan handler shipping to Chicago (May, 1958).

for example with Detroit as a separate order, would place the entire milkshed of the Detroit market area in the neighboring order market area or areas. Based on the common supply area criterion, therefore, it could be recommended that the Lower Peninsula be regulated by one market order.

VI. Cooperative Activity (Criterion 7)

The importance of examining the cooperative institutional structure in an analysis of market area boundaries was stressed in the initial examination of this criterion early in this chapter. This section will analyze the cooperative structure in the Lower Peninsula to determine its affect on the delineation of the market area or areas and to aid in determining whether such regulation should be carried on with one, two, or more orders. The study will of necessity emphasize the Michigan Milk Producers' Association, since this is the largest dairy cooperative operative in the State. The Michigan Milk Producers' Association currently bargains for almost eighty-five percent of the producer milk delivered to the Detroit market and Association shippers are about the same percent of total shippers to Detroit. The relationship of Michigan Milk Producers' Association to the total Detroit market is shown in Figure 2-12. In addition to its bargaining function, the Association physically handled, in Association trucks or at Association receiving stations, approximately 1/3 of the producer milk delivered to the Detroit market in 1957.[46]

[46] 1957 Annual Report, printed in Michigan Milk Messenger, December, 1957. Fiscal year ending September 30, 1957.

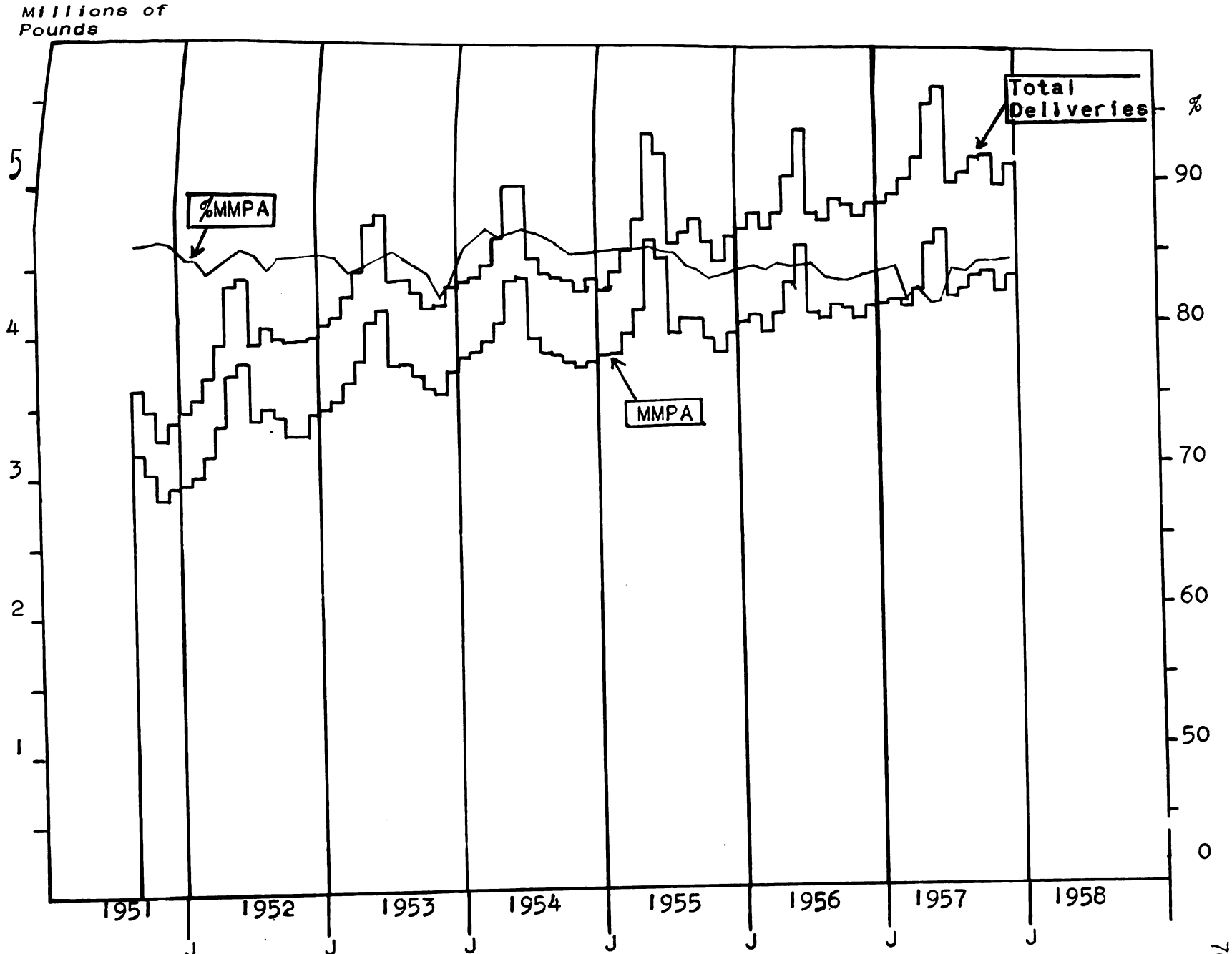

Figure 2-12 Michigan Milk Producers' Association and Total Market Daily Deliveries to the Detroit Order Market Area (Sept. 1, 1951-December 31, 1957)[a]

[a]Michigan Milk Producers' Association monthly report to members

Although the Michigan Milk Producers' Association is by far the largest cooperative on the Detroit market, there were several other cooperatives operating on the Detroit market in 1957. One of the largest of the others is the Michigan Producers' Dairy, an operating cooperative loosely affiliated with the Michigan Milk Producers' Association. Some members of the Michigan Producers' Dairy are also members of the Michigan Milk Producers' Association. In addition, there were also five other cooperatives on that market in 1957. These cooperatives "in toto" physically handled, at their receiving stations, an average of 37.4 percent of all Detroit producer milk in 1954 and almost 42 percent in 1957 (Figure 2-13).

Not only is the Michigan Milk Producers' Association important on the Detroit market, but it is important in seven of the nine large Michigan out-state markets. Only in Lansing and in Kalamazoo are they an unimportant bargaining agency. Although they have reportedly signed up a substantial portion of the Lansing producers as members, they have not as yet been able to get dealers to bargain for a classified price plan on that market. Kalamazoo has an independent cooperative, the Kalamazoo Milk Producers' Association, Inc., which bargains for 55-60 percent of the milk in that city.[47] The independent Milk Producers' Association bargains for an

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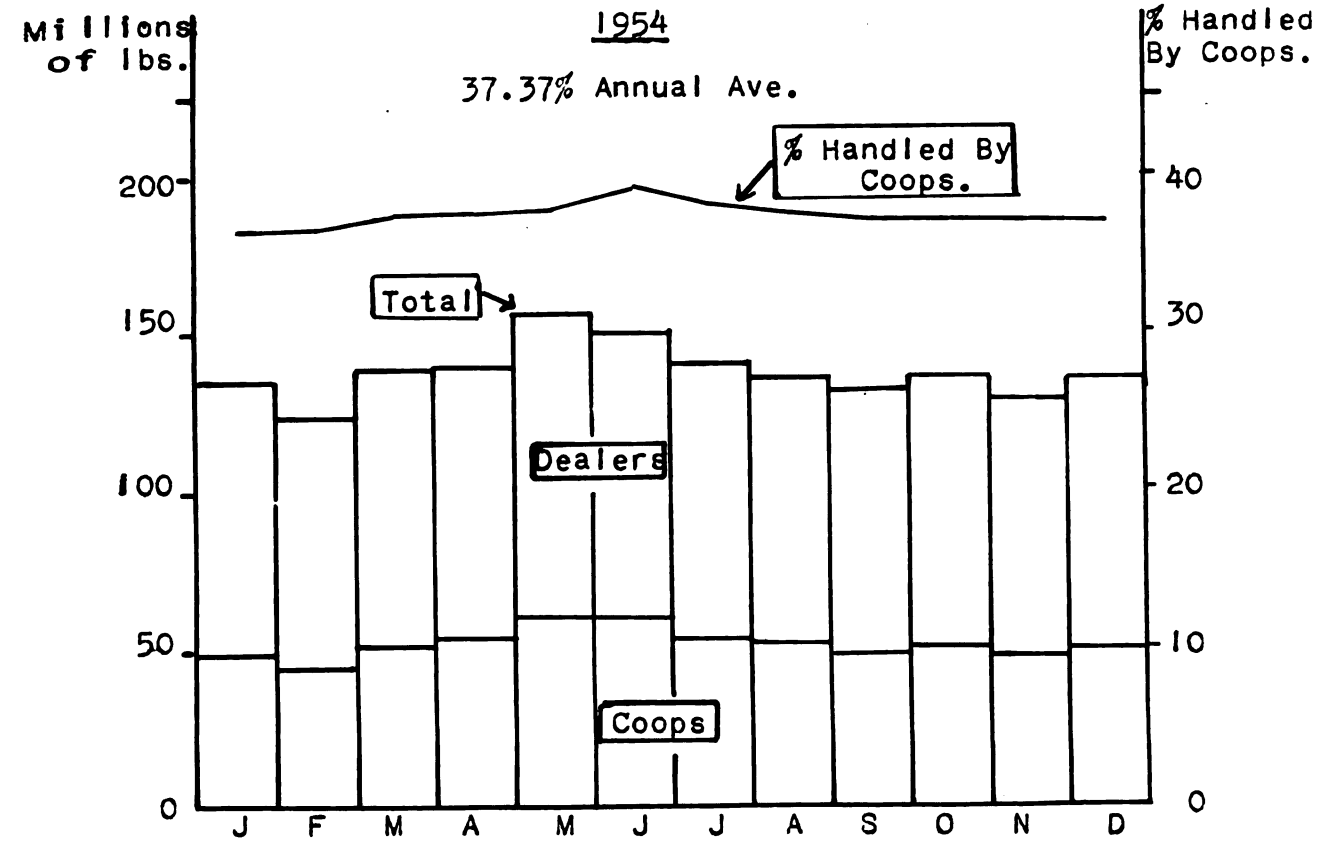
[47] Estimate by M. R. Bigelow, Secretary-Manager, Kalamazoo Milk Producers' Association--letter of May 13, 1958.



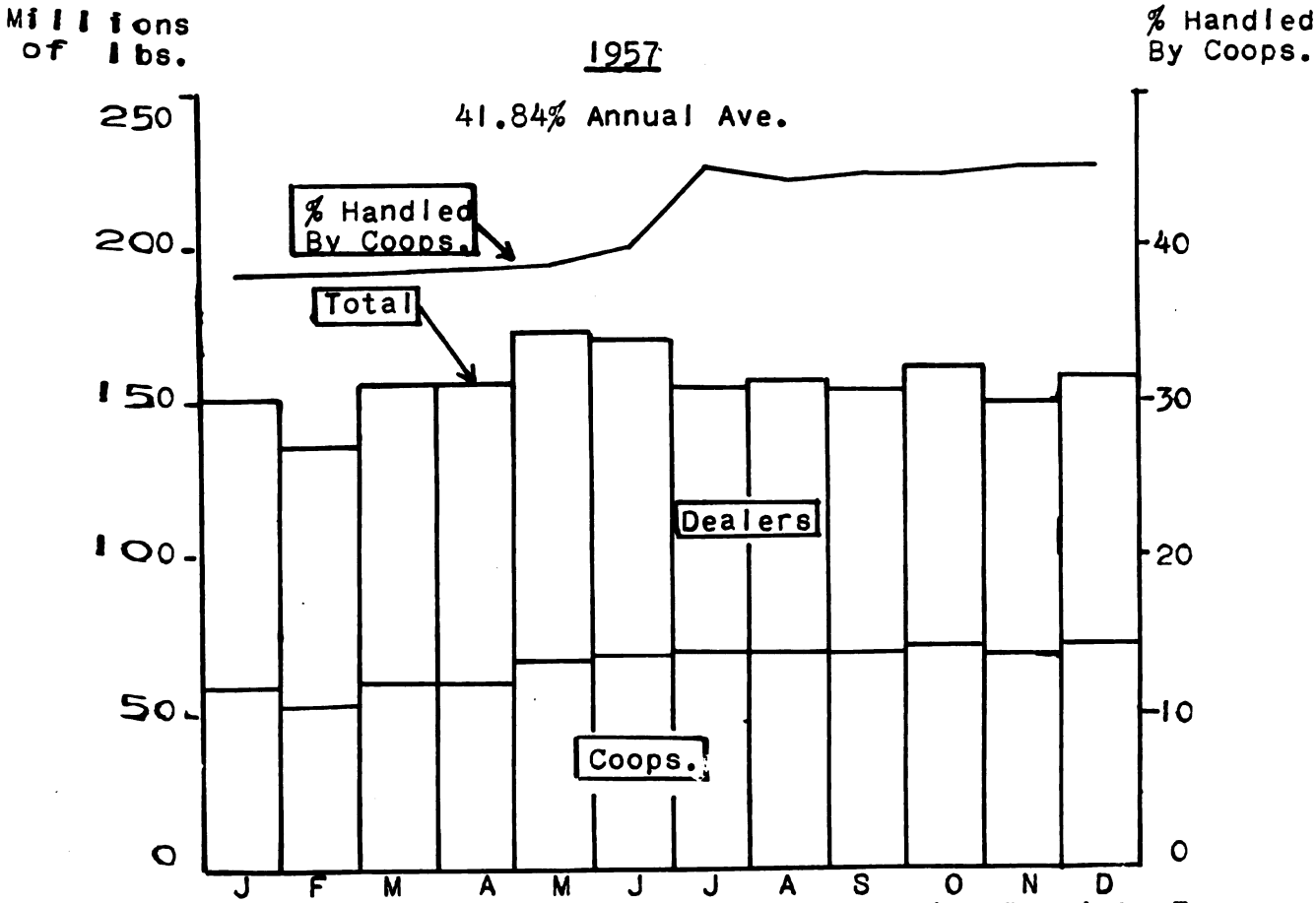


Figure 2-13 Monthly Cooperative and Dealer Receipts For Producer Milk-Detroit Markets[a] 1954 and 1957.

[a] Cooperative milk includes "cooperative bulk" later shipped to

estimated 45 percent of the milk in Grand Rapids.[48] The Michigan Milk Producers' Association bargains for approximately 40-45 percent of the milk on the Grand Rapids market.[49] Figure 2-14 shows the location of all Michigan Milk Producers' Association members shipping to fluid markets in the Lower Peninsula of Michigan. Note that the Association controls eighty-four percent of the Detroit market and approximately 100 percent of Battle Creek, Jackson, Muskegon and the Saginaw Valley markets (Saginaw, Bay City, Mt. Pleasant, and Midland).

It is not known what the opinion of the Michigan Milk Producers' Assocation members in out-lying locals is toward a combination with Detroit under a single order. Many may feel that they have lost individual recognition and power. Others may decline due to a difference in Class I utilization (and subsequent blend prices to producers) between the limited access out-state markets and pooling in a single state-wide order. Much will depend upon the educational program carried on by the cooperative to increase the producers' knowledge of Federal orders and of a state-wide order. Because of this it was, as mentioned in the review of criterion 9, not

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[48]Estimate from North Central Regional Survey results, op. cit. (footnote 31 this chapter).

[49]Estimate by H. H. Varney, Director Outstate Markets and Market Analysis, Michigan Milk Producers' Association, letter May 1, 1958.

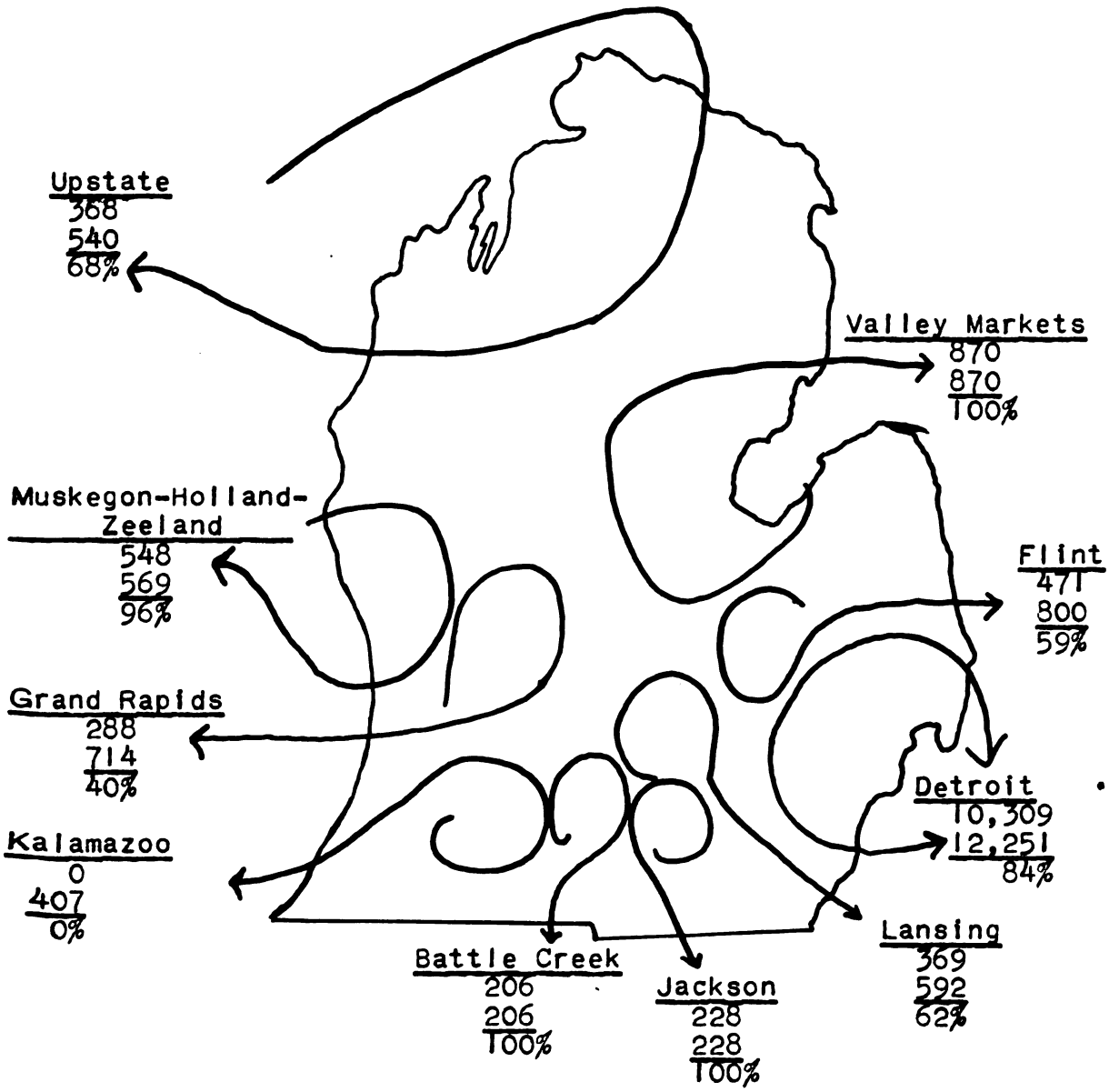

Figure 2-14 Michigan Milk Producers' Association Members by Lower Peninsula Markets and as a Percent of Total Fluid Milk Producers For Each Major Market. 1957-1958.[a] (The Top Number Equals MMPA the Lower Number Equals Total Producers On the Market.)

[a]Michigan Milk Producers' Association data as of November 7, 1957 and obtained from the Detroit office of the Association. Total fluid milk producer numbers obtained from Market Administrator's offices in Muskegon, Upstate and Detroit December, 1957 average. Other producer data from respective health departments (January 1, 1958) Except where MMPA is known to have 100% of the producers in which case MMPA data were used.

felt important to document member opinion in this study. However, a false move in measuring member opinion in this direction can be costly.

On August 1, 1957, the New York City order area, several Upstate New York counties and part of Northern New Jersey were combined under a single order. The Eastern Milk Producers' Cooperative had been fighting for a separate New Jersey order. Because of the cooperative leaders' stand against the proposed merger, over 600 central Pennsylvania producers resigned from Eastern in a body and formed five new independent cooperatives.[50] In addition to the possible differences in opinions and power of individual members within the large Michigan Milk Producers' Cooperative, there is the problem of maintaining working relations between cooperatives. The Michigan Milk Producers' Assocation and the Kalamazoo Milk Producers' Assocation have in the past worked together to try to obtain an order for the Battle Creek-Kalamazoo market. However, many of the smaller cooperatives in the out-state markets may not want to come under a single order with the dominate market and cooperative. The importance of minority groups' opinion is sometimes considered in deciding on a Federal order market by the Secretary, but is perhaps given lesser importance than it should receive.

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[50] American Milk Review, Urner Barry Co., New York, Vol. XX. No. 1, January, 1958, p. 113.

> One of the reasons advanced by proponents for a separate order for Northern New Jersey was that otherwise the interests of New Jersey producers would receive only incidental and secondary consideration since they were a small minority of the total number of producers whose milk would be subject to regulation under a single order for the combined New York-New Jersey area. It was argued that under a single order proposals advanced by New Jersey producers for order provisions designed to protect the interests of such producers would be likely to be voted down in a milkshed-wide referendum. The facts in this connection are that provisions of a milk marketing order are those found by the Secretary to be justified on the basis of evidence in the record of public hearings irrespective of whether such facts were presented by a majority or minority group of producers whose milk is subject to regulation under an order is controlling as to whether or not an order containing the terms and provisions found to be justified by the Secretary is to be issued, but not as to specific terms and provisions of the order.[51]

As stated earlier in the listing of criteria, the concept of equity and power within individual groups and between groups (criterion 9) cannot be documented in this paper but may very well be the basis in public hearing for putting an order into effect with separate parts of the state under separate order administration. Another inter-cooperative problem develops in considering the Toledo milk market, which has been shown to have a close tie-in with the Southern Michigan area. Toledo producers are represented by a large cooperative, the Northwestern Cooperative Sales Association, Inc.[52]

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[51] Final Decision with Respect to New York-New Jersey order, op. cit. (22FR 4194).

[52] The Northwestern Cooperative Sales Association, Inc. bargained for 90 percent of the milk on the Toledo market in

This Toledo cooperative also represents several other large Ohio markets. It is not known of course, what the final attitude of these two groups would be on merger but it would be difficult for two dominant cooperatives to bargain in the same Federal order market area. As pointed out in the initial examination of the list of criteria, Mr. Colebank, market administrator of the Chicago area, indicated the difficulty in separating markets in which the same cooperative was a bargaining agent. On the basis of this criterion, the entire Lower Peninsula, with the exception of Lansing and Kalamazoo, would be recommended for one order area and on the same basis Toledo and the other Ohio markets would be a separate order area.

Cooperative handling of surplus.--Another important consideration in respect to cooperative activity is the place and importance of the cooperative or cooperatives in handling surplus on the market. One of the points brought out in the previously mentioned Oklahoma Decision was that under a merged order the cooperatives could better maintain their stated purpose of promoting market stability through joint supplies of milk in short periods and joint handling of surpluses under a single marketing order.[53] In this case in point there were

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1957, although they do not handle any of this milk physically (Toledo has an individual handler pool under its order). This cooperative is also active in the North Central Ohio order marketing area. (Information supplied by Mr. Glen Wagner, Manager, The Northwestern Cooperative Sales Association, letter of June 2, 1958).

[53] Final Decision with Respect to Handling of Milk in the Oklahoma Metropolitan Marketing Area, op. cit. (22FR 2151).

three major cooperatives, but they had joined together and were operating as one under the Oklahoma Milk Marketing Federation.

The supply of surplus milk on the Detroit order market and on the various out-state markets is handled to a large extend by the Michigan Milk Producers' Association. Many of the out-state markets depend on the Detroit market for their long-time reserve supply and for much of their supply for seasonal balancing. This is accomplished by buying milk directly from producers or through the Association only to the extent that such purchases can be used entirely for fluid milk in the period of flush production and supplementing this with Detroit milk from the pool in times of short supply. The Michigan Milk Producers' Association maintains three principle manufacturing plants. Two of these are on the Detroit market at Ovid (Elsie operation included through 1957) and at Imlay City. The maximum capacity of the new Ovid plant is one million pounds of milk per day and at Imlay City 650,000-700,000 pounds per day. A third is maintained on a stand by basis for the Upstate and the Muskegon order markets at Scottville. In addition the Michigan Producers' Dairy, which is loosely affiliated with the Michigan Milk Producers' Association, has manufacturing plants at Adrian and Sebewaing which process surplus fluid milk. These plants in turn handle surplus fluid milk from other major Michigan markets as follows:

1. The Flint local and the Saginaw Valley (Bay City, Saginaw, Mt. Pleasant and Midland) local of the Michigan Milk Producers' Association use the Detroit surplus plant at Ovid for surplus disposal.

2. The Upstate order market and Muskegon, as mentioned previously, have the Scottville plant on a stand-by basis. This plant is currently manufacturing cheese, but also cream holding facilities and skim powder manufacturing facilities are available. Maximum surplus milk capacity is 110,000 pounds per day at this plant. These two markets currently contract with Remus Cooperative Creamery Company of Remus, Michigan for their surplus milk handling. In addition some Muskegon milk is sent to Mead Johnson and Company at Zeeland, Michigan for baby food.

3. Grand Rapids surplus for the Michigan Milk Producers' Association is also contracted to Remus.

4. Surplus milk from the Jackson market goes to the Michigan Producers' Dairy plant at Adrian.

5. Battle Creek milk is shipped under contract to the Constantine Cooperative Creamery Company, Constantine, Michigan.

State wide, there are very few large capacity facilities, for handling of surplus milk except those of the Michigan Milk Producers' Association. The most important ones not actually owned by the Michigan Milk Producers' Association include Michigan Producers' Dairy facilities, Lansing Dairy Company's Grand Ledge Manufacturing plant and McDonald Cooperative Dairy Company's Chesaning plant. It would appear that the most efficient method of handling surplus would be to concentrate out-state and Detroit surplus manufacturing facilities in a few large plants. Detroit facilities are now used directly to handle surplus milk from Flint and the Saginaw Valley markets. It was also stated that this does not represent the true amount handled by Detroit since many out-state markets operate close to Class I sales and depend on the Detroit market-wide pool for milk in periods of short supply. However, there appear to be sufficient surplus handling facilities

throughout the Lower Peninsula which could handle surplus for a separate out-state order. Based on this criterion alone one order or several orders are possible. If an additional criterion is considered on equitable handling of surplus by all producers throughout the State then one order would be recommended. It should be pointed out however, that there is inconsistency among the markets on the concept of equity when it comes to equal sharing of the burden of surplus. Neither does there appear to be any fixed rule under the Federal orders already enacted.

VII. Federal Regulation: (Criterion 8)

A steadily increasing amount of Michigan's fluid milk has come under Federal Regulation. In 1952 approximately 35 percent of the whole milk delivered by farmers to plants and dealers was under regulation by Federal order markets in Michigan. By 1956 this had risen to over 42 percent and in 1957 equaled 44.4 percent (Figure 2-15). An additional amount of Michigan's fluid milk production was under out-of-state Federal order market regulation. The Detroit order was the first Federal order in Michigan. It was effective September 1, 1951. Muskegon obtained an order effective October 1, 1953 and Upstate Michigan on November 1, 1955. An order for the Western Michigan Market area (Grand Rapids and Muskegon) was proposed at a hearing held in December, 1950. This was acceptable to the Secretary of Agriculture, but was refuted in

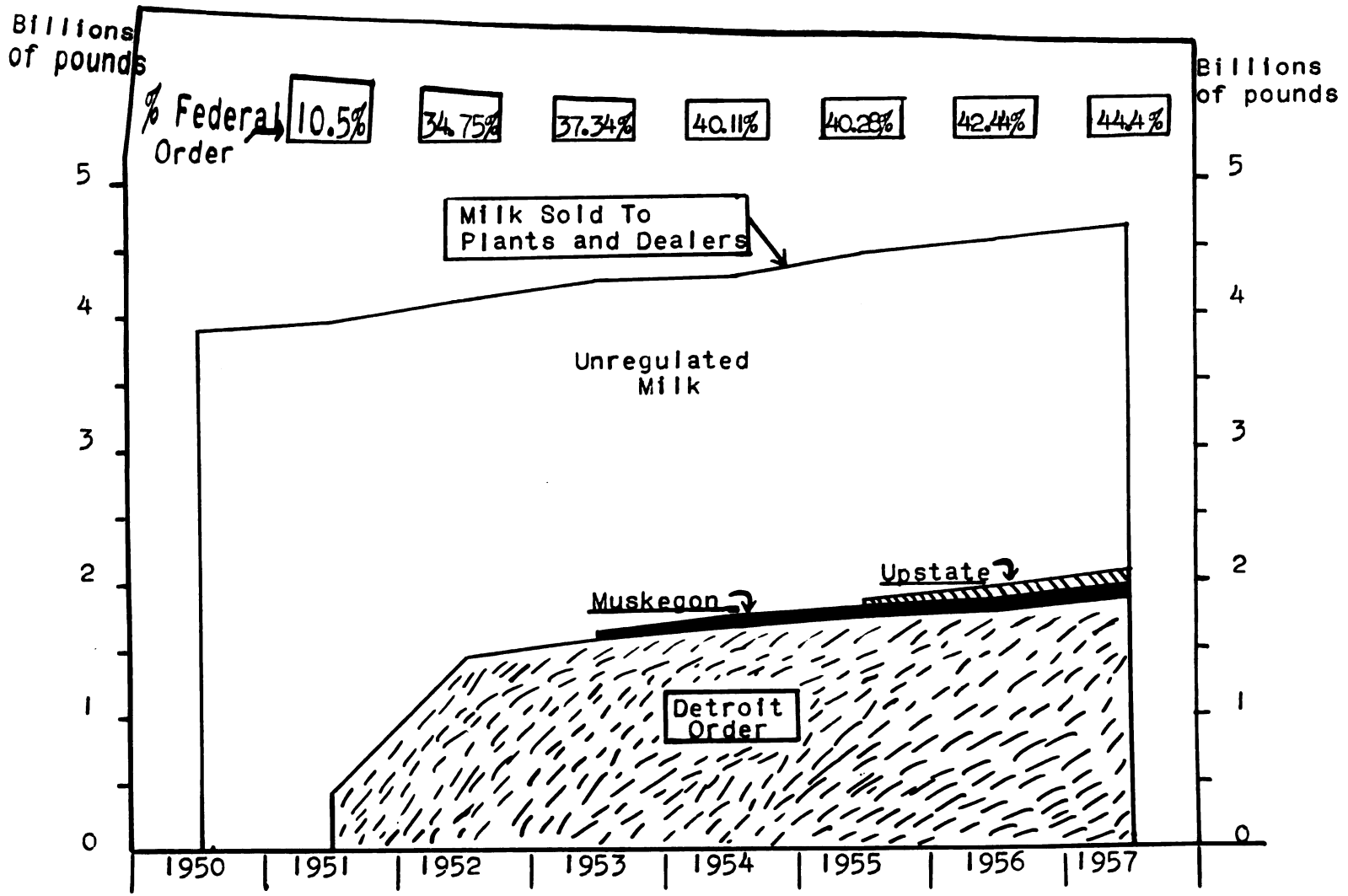

Figure 2-15 Amount of Milk Marketed Annually By Michigan Farmers Through Federal Order Markets In Michigan[a]

[a]1950-56 Dairy Statistics, Bulletin 218, A.M.S. United States Department of Agriculture October, 1957 p. 353 and p. 114. Milk sold to plants and dealers 1957 Individual Market Administrator's Offices Detroit order effective 9/1/51, Muskegon order effective 10/1/53, Upstate order effective 11/1/55. Total milk sold to plants and dealers from Milk Farm Production Disposition and Income, April, 1958.

referendum by producers.[54] Muskegon came under regulation later as a separate market. An order was proposed for Battle Creek and Kalamazoo in the fall of 1956. The Secretary also recommended that this area be put under Federal regulation, but it too was defeated in referendum.[55] Both the Muskegon-Grand Rapids and the Battle Creek-Kalamazoo proposed orders were defeated by very narrow margins. A promulgation hearing for the entire Upper Peninsula area plus part of Northern Wisconsin (Northland order) was completed on November 20, 1957.[56] A recommended decision proposing separate Upper Peninsula and Northeastern Wisconsin order markets was issued by the United States Department of Agriculture on May 28, 1958.[57] A hearing also has been held on the possible extension of the Detroit order area to include Lansing and Jackson

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[54]United States Department of Agriculture, A.M.S., Result of Referendum in Respect to Handling of Milk in the Grand Rapids and Muskegon Marketing Area. (16 FR 10,220, October 6, 1951).

[55]United States Department of Agriculture, A.M.S., Results of Referendum in Respect to Handling of Milk in the Battle Creek-Kalamazoo Marketing Area. (22FR 9,482, November 22, 1957).

[56]United States Department of Agriculture, A.M.S., Notice of Hearing (Escanaba, Michigan 22FR 7429, September 13, 1957 and (Green Bay, Wisconsin) (22FR 8852, November 2, 1957).

[57]United States Department of Agriculture, A.M.S., Recommended Decision in Respect to Handling of Milk in the Upper Peninsula and the Northeastern Wisconsin Marketing Areas. (23FR 3818, June 3, 1958).

plus scattered intermediate areas.[58] The original Detroit-Muskegon and Upstate order market areas with territory added by amendment and extensions proposed are shown in Figure 2-16.[59] In addition the proposed Upper Peninsula order and previous order areas defeated in referendum are outlined on this map.

In most instances Federal orders have become an accepted institution in the State. The three operative orders plus proposed territory additions and the proposed Upper Peninsula order area would bring approximately two-thirds of the entire land area of Michigan under Federal regulation. Most of the balance of the territory has been suggested for inclusion under Federal regulation either combined with an existing order or as a separate order area. It would appear, from the stand-point of administration and control, that the entire Lower Peninsula should be under one order even though a precedent has been set for separate orders throughout the state. There appears to be no advantageous place to draw a line separating the order markets for administration purposes. It has been shown in other sections of this chapter that the physical characteristics throughout the entire area are comparatively uniform.

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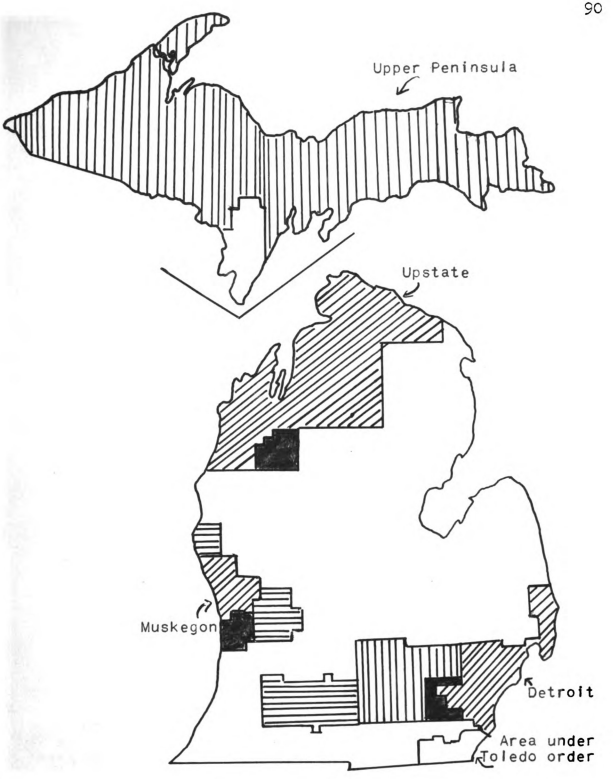
[58] United States Department of Agriculture, A.M.S., Notice of Hearing (22FR 9294, November 21, 1957).

[59] Area proposed for addition to Detroit contained in "Brief in Behalf of Michigan Milk Producers' Association," MMPA, February 3, 1958 submitted to A.M.S., United States Department of Agriculture regarding proposed amendment to Detroit order, hearings held December 10-17, 1957.



▨ orders in effect June 1, 1958

■ area added to original orders by amendment

▤ area under consideration-hearings completed.-Upper Peninsula as proposed in recommended decision (23FR3818, June 3, 1958)

▤ area considered and defeated in referendum.-area as of final decision

Figure 2-16 Area Status of Federal Milk Order Regulation In Michigan June 1, 1958 except as noted.

Recommendation:

In the beginning of this chapter eight criteria were listed for examination for the construction of the "market area" boundaries. The analysis of this chapter was conducted within the framework of these criteria. In summary, it appears to the author that a single order for the entire Lower Peninsula is possible and probably could be defended more strongly than several orders. Reasons for a decision on one order are:

1. Overlapping sales areas of dealers
2. Increased reciprocity of health regulation within the state
3. Overlapping of procurement areas
4. Some tendency for uniform Class I prices in past years
5. Few dealers in rural areas
6. Relatively uniform supply conditions
7. One major cooperative bargaining throughout the state
8. Greater ease of Federal order administration

These points would seem to point toward a single order. In addition, if it is desired that all the producers carry an equal share of the surplus, which could be an equity objective, a single order could help achieve this. The proposals in the remaining portion of the thesis are based upon a single order although portions of them might still be useful if more than one order is finally effectuated in the area.

Not all the criteria, of course, pointed toward a single

order and it should be reiterated that there can be strong arguments for more than one order. Although there was increased reciprocity of health inspection, it was shown that milk does not flow freely in both directions between all cities. Also, although there was a tendency for uniform Class I prices, producer blend prices varied between city markets due largely to differences in Class I utilization. Local producers and handlers might want to preserve this relationship as long as possible. In addition, there were many areas in the Lower Peninsula that were predominantly rural and although there was one dominant cooperative in the state there were several independent cooperatives which were important in their respective markets.

It must be pointed out again that in addition to the examined criteria there was one criterion on opinions and attitudes of the people towards regulation under a single order or several orders which was not investigated. In the final analysis, this unexamined criterion might well be the most important consideration and, although elusive for documentary purposes, should not be eliminated from final area recommendations made after a public hearing.

CHAPTER III

CLASSIFICATION SYSTEM

Importance of Considering Use Classes in An Expanded Area

If regulated areas are expanded and merged with other adjacent areas it becomes important to examine the classified price system of both the old and the new areas to select one system which is compatible with existing systems. Concurrently, the investigation should review the existing and proposed systems to obtain the best alternative plan or plans for the new market area or areas.

Historical Use Classes of Milk on Michigan Order Markets

In Federal order markets, Class I milk usually consists of whole milk and modified fluid milk products such as flavored milk drinks, buttermilk and concentrated milk. These products generally must be produced from locally approved milk. Most markets also include fluid sweet and sour cream in this top class. "Sanitary requirements for cream have been changed in many markets during recent years. As a result, cream has been shifted to Class I in most of these (Federal order) markets."[1] However, the Detroit market order has had fluid cream in Class II with manufactured products since the order's inception in 1951. Several attempts have been made to modify

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[1]Stanley F. Krause, Pricing Milk According to Use, FCS Bulletin No. 6, Washington, D.C., June, 1955, p. 14.

this situation and they are analyzed below, along with a study of use classes on the Detroit, Muskegon and Upstate Federal order markets.

Detroit.--Historical changes in the Detroit order concerning classification of milk are shown in Table 3-1. All classification proposals at the promulgation hearing for the original Detroit order included fluid milk and flavored milk for fluid consumption in Class I. Producers proposed that skim milk and buttermilk for fluid consumption be in Class I and handlers proposed that these products be in Class II. Representatives of health departments, of the larger cities involved, testified that such skim milk and buttermilk were required to be made from milk approved for fluid uses. Therefore, the United States Department of Agriculture concluded that milk required to meet the sanitary standards for fluid consumption and the products required to be made from such milk (flavored milk, skim milk and buttermilk for fluid consumption) should be in Class I. Testimony indicated that there were no farm inspection requirements for other than these four mentioned products. Cottage cheese, cream used for fluid consumption, or cream used in making ice cream, were required to be made in approved plants but the farms providing the milk used in these products were not inspected by health authorities. Testimony showed no specific difference in the quality of milk used to produce cream and cottage cheese for use in the marketing area and the quality of milk manufactured into evaporated milk, cheese and other products in the

Table 3-1 History of use classes Detroit milk order[a]

Effective September 1, 1951 (Inception)--

Class I — all skim milk and butterfat disposed of as fluid milk, flavored milk, skim milk or buttermilk and that not accounted for in Class II.

Class II — all skim milk and butterfat in: products for fluid consumption as sterilized flavored milk drinks or sweet or sour cream -- also ice cream, ice cream mix, cheese (including cottage cheese), dried whole milk, non fat dry milk solids, evaporated or condensed whole or skim milk, sweetened or unsweetened disposed of in bulk or in hermetically sealed cans, butter, livestock feed, dumped, and in shrinkage of producer milk up to 2% of receipts from producer or in shrinkage of other source milk.

Effective March 1, 1952 (amendment #1)

No change in use classes

Effective June 20, 1952 (amendment #2)

No change in use classes

Effective November 1, 1952 (amendment #3)

No change in use classes

Effective October 1, 1953 (amendment #4)

No change in use classes

Effective March 1, 1954 (amendment #5)

In Class I change all skim milk to read (including the skim milk equivalent of concentrated products).

In Class II add--or any mixture of cream and milk or skim milk containing 10 percent or more of butterfat. Add eggnog also.

[a]Section 924.41 Detroit Milk Market order No. 24 and subsequent amendments. See Federal Register Index--Appendix I.

Table 3-I (continued)

Effective November 1, 1955 (amendment #6)

In Class I add half-and-half; delete this cream mixture (half-and-half) from Class II.

Effective May 1, 1956 (amendment #7)

No change in use classes

Effective September 1, 1956 (amendment #8)

No change in use classes

various manufacturing plants in the milkshed. Handlers proposed that all products, other than those requiring farm inspected milk, be included in one class. The Secretary of Agriculture concluded that there did not appear to be any justification, on the basis of the quality of milk required for their production, for different classification for milk used to produce cream and the various manufactured products. Butterfat and skim milk used in: cream, in all manufactured dairy products, and in livestock feed and plant loss were therefore classified as Class II.[2]

In 1952, it was proposed that fluid cream be moved into a separate class. However, the Secretary of Agriculture stated:

> Testimony disclosed that fluid cream priced under the order must compete directly with cream from unregulated sources which is available to handlers and also may be sold directly at wholesale and retail in the marketing area. There was no showing that the marketing of fluid cream is sufficiently different from that of most other Class II products to result in significant price differences; separate classification would therefore, be meaningless.[3]

The next suggested change in use classification came in

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[2]United States Department of Agriculture, P.M.A., Final Decision with Respect to Proposed Marketing Agreement and Order Regulating Handling of Milk in Detroit, Michigan Marketing Area, (16 Federal Register, 5480, June 9, 1951).

[3]United States Department of Agriculture, P.M.A., Recommended Decision with Respect to Proposed Amendments to Marketing Agreements and Order Regulating the Handling of Milk in Detroit, Michigan Marketing Area, (17 Federal Register 7500, August 16, 1952).

a hearing held at Detroit, July 27-28, 1953. A proposal was made by handlers to move fluid skim milk from Class I to Class II due to alleged competition with packaged nonfat dry milk solids. Destructive competition was not brought out in testimony, but on the other hand, sales of fluid skim milk were shown to have increased. It was also stated in the recommended decision that:

> So long as fluid skim milk is required by health authorities to be obtained from inspected sources, such quantities as are sold must continue to be priced at such level as will encourage producers to supply inspected milk.[4]

The recommended decision based on a hearing held in Detroit on March 22-25, 1955 which resulted in the classification of half-and-half in Class I stated at the same time that:

> Such products as aerated cream and egg nog are not required to be made from milk for fluid use and are often purchased from non-handlers instead of being manufactured in the regulated handlers' plants. They should therefore remain in Class II.[5]

No testimony was offered at this hearing on a proposal to classify fluid cream in Class I. In respect to half-and-half, the Secretary of Agriculture said:

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[4]United States Department of Agriculture, P.M.A., Recommended Decision with Respect to Proposed Amendments to Marketing Agreement and Order Regulating the Handling of Milk in Detroit, Michigan Marketing Area, (18 Federal Register 7540, November 26, 1953).

[5]United States Department of Agriculture, A.M.S. Recommended Decision with Respect to Proposed Amendments to Marketing Agreement and Order Regulating the Handling of Milk in Detroit, Michigan Marketing Area (20 FR, 6622, September 9, 1955).

> Since the milk in the milk-and-cream mixture made in handlers' plants comes from sources approved for fluid use and is already a Class I item, half-and-half should also be in Class I.[6]

The order, effective November 1, 1955, was so modified to make this inclusion in Class I.

In the hearing held for the order as amended and currently in effect, the Michigan Milk Producers' Association proposed that a new Class III category be established which would include most of the manufactured products such as butter, nonfat dry milk solids, hard cheese and evaporated milk. They further proposed that Class II be revised to include fluid cream and the manufactured products, other than those in Class III, mainly, cottage cheese, ice cream, ice cream mix and condensed whole or skim milk. It was proposed that the Class II price be set at forty cents over the proposed Class III price. Evidence showed that the Detroit Class II prices were low in comparison with those of most Federal order markets in the Midwest and below the prices paid for manufacturing grade milk by plants specializing in the manufacture of butter and creamery by-products in Michigan and Wisconsin.[7] However, the Secretary recommended in his final decision that the manufactured milk utilization should not be sub-divided into two

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[6] Ibid.

[7] United States Department of Agriculture, A.M.S., Final Decision with Respect to Proposed Amendments to Marketing Agreement and Order Regulating the Handling of Milk in Detroit, Michigan Marketing Area, (21 FR 6133, August 16, 1956).

classes as was proposed by the Michigan Milk Producers' Association. He stated:

> It is apparent from the testimony that Detroit is essentially an open market for fluid cream, cottage cheese, and ice cream ingredients and that there is considerable distribution of all these products throughout the market by non-handler firms. Also, many of the handlers purchase these products from non-handler sources or make them from other source ingredients. It is also evident that most of the handlers who now choose to utilize producer milk in the production of all or a portion of these products whenever it is available could rearrange their operations so as to avoid utilizing producer milk. This would leave only a few handlers who would be obligated to pay the proposed higher Class II price for milk utilized in these products. In these circumstances, it appears that a separate Class II for these products at a premium price would be highly inequitable as between handlers, and would not achieve any substantially higher returns for producers.[8]

Once again the Detroit order use classes remained unchanged and they are currently essentially the same as at the order's inception.

Muskegon.--The use classes and the products included in these classes under the Muskegon milk order have not been modified since its beginning. The historical use classes of this order are shown in Table 3-2. It is important to note that the only major difference in this order from the Detroit order is its classification of sweet and sour cream in Class I.

During the Muskegon promulgation hearing, representatives of major health departments concerned, testified that milk sold for fluid consumption and that used to produce skim milk,

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[8] Ibid.

Table 3-2 History of use classes--Muskegon milk order[a]

Effective October 1, 1953 (Inception)	
Class I	all skim milk and butterfat disposed of as fluid milk, skim milk, buttermilk, flavored milk, sweet or sour cream and that not accounted for in Class II.
Class II	all skim milk and butterfat used to produce ice cream, ice cream mix, cottage cheese, whole or skimmed condensed or evaporated milk (sweetened or unsweetened) in bulk or hermetically sealed cans, cheese, dried whole milk, non-fat dry milk solids, or butter; in shrinkage of producer milk up to 2%; in shrinkage of other source milk; and in skim milk dumped or accounted for in livestock feed.
Effective May 1, 1956 (amendment #1)	
No change in use classes	
Effective May 1, 1957 (amendment #2)	
No change in use classes	

[a]Section 985:41, Muskegon Milk Market Order No. 85 and subsequent amendments. See Federal Register Index--Appendix I.

flavored milk, or cream sold for fluid consumption must be produced and handled in compliance with the same sanitation standards; therefore, fluid cream was classified in Class I with other fluid milk products.[9] Handlers proposed that a separate class be established for fluid cream for the purpose of pricing it at a lower level than fluid milk and other Class I products. This was in line with the past custom in the market of pricing whole milk used to make cream at a lower price. The Secretary stated that the problem was different where the skim milk and butterfat used in each product in each class was accounted for separately:

> Under this system the butterfat differentials is the major factor in determining the cost of cream. The handler butterfat differential provided by the order for Class I is somewhat lower than that proposed by the producers at the current prices of butter. As a result, even though a separate class is not established for cream, its cost to handlers will be no higher than the prices they proposed.[10]

With the exception of the cream classification and the classification of milk dumped or fed to livestock (producers had requested all such milk be Class II--the Secretary modified this to apply only to skim milk so utilized), there was no opposition to the proposed classification provisions. There have been no proposed changes in the classes of use in the Muskegon market since that time.

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[9]United States Department of Agriculture, P.M.A., Final Decision with Respect to Proposed Marketing Agreement and Order Regulating Handling of Milk, Muskegon, Michigan Marketing Area (18 Federal Register 4311, July 23, 1953).

[10]Ibid.

Upstate Michigan.--The history of changes in use classes and products included in these classes under the Upstate Michigan Order is shown in Table 3-3. The initial classification was the same as that of the Detroit order as amended effective, November 1, 1955, and currently used on that market. The products named in Class I (fluid milk, fluid skim, flavored milk, buttermilk, and half-and-half) were those which health authorities in the area required to be derived from milk approved for fluid uses. Cream, for fluid use, was not required to be made from milk approved for fluid use and was therefore classified as Class II utilization.[11] During the hearing there was considerable discussion on whether half-and-half should be considered as milk or cream. The Secretary's decision was that, since the skim or whole milk portion is from the same quality as that sold for Class I, half-and-half should be designated as a Class I product.[12]

No other changes were proposed until the hearing for Amendment 3 held on May 24, 1956. As a result of this hearing, the order was changed to include three classes of use. Class I products remained as previously outlined. Class II (an intermediate class) contained fluid cream, cottage cheese, ice cream, ice cream mix, evaporated and condensed milk.

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[11] United States Department of Agriculture, A.M.S., Final Decision with Respect to Proposed Marketing Agreement and Order Regulating the Handling of Milk in Upstate Michigan Marketing Area, (20 Federal Register 6610, September 9, 1955).

[12] Ibid.

Table 3-3 History of use Classes--Upstate Michigan milk order[a]

Effective November 1, 1955 (Inception)

Class I — all skim milk and butterfat disposed of as fluid milk, flavored milk, fluid skim milk, buttermilk, and half-and-half or other mixtures of cream and milk containing less than 18% butterfat; and not accounted for as Class II.

Class II — all skim milk and butterfat used to produce any product not specified in Class I; disposed of as fluid cream or for livestock feed or skim milk dumped in shrinkage of producer milk up to 2%; or in shrinkage of other source milk.

Effective March 1, 1956 (amendment #1)

No change in use classes.

Effective May 1, 1956 (amendment #2)

No change in use classes.

Effective October 1, 1956 (amendment #3)

Class I — all skim milk and butterfat disposed for consumption in fluid form as milk, flavored milk, skim milk, buttermilk and half-and-half or other mixtures of cream and milk containing less than 18% butterfat; and not accounted for in Class II or Class III.

Class II — all skim milk and butterfat other than those specified in Class I and Class III; disposed of as fluid cream; in shrinkage of producer milk up to 2%.

[a]Section 916:41, Upstate Milk Market Order No. 16 and subsequent amendments, See Federal Register Index--Appendix I.

Table 3-3 (continued)

Class III	all skim milk and butterfat used to produce butter, dry milk (whole or non-fat) or cheese (except cottage); disposed of for livestock feed or skim milk dumped and shrinkage of other source milk.

Effective August 1, 1957 (amendment #4)

Add to Class II, fluid milk products and cream in inventory at the end of the month. Otherwise no change in use classes.

Class III included butter, dry milk (whole or non-fat) or cheese (except cottage). The deputy administrator writes in the recommended decision:

> Skim milk and butterfat used in the production of butter, dry milk (whole or non-fat) and cheese other than cottage cheese, disposed of for livestock feed or accounted for as shrinkage of other source milk should be classified separately as Class III milk and be priced twenty cents per hundredweight less than the remaining uses now included in Class II milk. The price for Class II milk should be the basic formula price of the order.[13]

The reasons given for this third class were as follows:[14]

1. Upstate Michigan handlers maintained limited facilities for disposing of excess milk. Much of this was sent to unregulated manufacturing plants at a twenty cent discount from the regular Class II price.

2. Handlers were therefore accepting little milk beyond their fluid needs, and producers, through their cooperative association, were responsible for marketing most milk in excess of fluid needs. The cooperative association stated that they had realized a net return of approximately twenty cents per hundredweight less than the Class II milk price in disposing of this milk.

3. It was stated that since milk manufacturing plants in the area produced largely butter, non-fat dry milk and hard type cheese, provision for a price for milk used in such products at approximately the level that can be realized for it in the area will assist in orderly marketing of producer milk supplies.

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[13] United States Department of Agriculture, A.M.S., Recommended Decisions with Respect to Proposed Amendments to Marketing Agreement and Order Regulating the Handling of Milk in Upstate Michigan Marketing Area, (21 FR 6234, August 18, 1956).

[14] Ibid.

4. The handler pooling provision of the order was expected to deter handlers from increasing milk supplies solely for manufacturing purposes.[15]

Except for clarification of classification of inventories in Amendment 4, there have been no changes to these use classes since the three classes became effective October 1, 1956.

Comparison of Detroit with Nearby Michigan and Out-of-State Federal Order Markets

The Detroit Federal milk order is used as a foundation for revision of use classes for the expanded Lower Peninsula Michigan order.[16] The Detroit order is still the main core of the expanded territory; has been operated longer under regulation than the other Michigan order markets and has had its provisions copied by many of the local markets currently unregulated but proposed for inclusion in the expanded order area.

The major difference in use classification between Detroit and other nearby Federal order markets is its handling of fluid cream. Table 3-4 shows the use classification of Detroit and nearby Federal order markets. Note that Detroit is the only market with fluid cream in the same class as all other manufactured products. The most common classification is to put fluid cream in Class I. However, Chicago

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[15]The Upstate Michigan order was changed to a market wide pool on August 1, 1957.

[16]This study of use classes could also be used if two or more orders are finally erected; since such orders would of necessity have pricing provisions closely related.

Table 3-4 Use classification of major milk products, Detroit and nearby Federal milk market orders[a]

Milk and Milk Products	Detroit	Muskegon	Upstate	Toledo	Cleveland	Ft. Wayne	Chicago[b]	South Bend LaPorte
				(Classes)				
1. For Fluid Consumption								
Fluid milk	I	I	I	I	I	I	I	I
Flavored milk	I	I	I	I	I	I	I	I
Fluid skim	I	I	I	I	I	I	I	I
Buttermilk	I	I	I	I	I	I	I	I
Half-and-half	I	I	I	I	I	I	II	I
Sweet cream	II	I	II	I	I	I	II	I
Sour cream	II	I	II	I	I	I	II	I
2. Other Products								
Ice Cream	II	II	II	II	III	II	II	III
Ice Cream mix	II	II	II	II	III	II	II	III
Cottage Cheese	II	II	II	II	II	II	II	II
Hard Cheese	II	II	III	II	III	II	IV	III
Dried whole milk	II	II	III	II	III	II	IIIA	III
Non fat dried	II	II	III	II	III	II	IIIA	III
Evaporated milk	II	II	II	II	III	II	IIIA	III
Condensed milk	II	II	II	II	III	II	IIIA	III
Egg Nog	II	II	II	I	I	I	II	I
Butter	II	II	III	II	III	II	IV	III

[a]Source: Summaries of Federal Milk Marketing Orders, A.M.S., United States Department of Agriculture, Revised to November 7, 1957.

[b]Chicago market milk and milk products to bakeries, soup companies, etc. are classified as Class III sales. Also in Class III are frozen cream, plastic cream, and ice cream mix derived from Grade B. milk.

and Upstate Michigan put fluid cream in an intermediate class.

On the basis of the decisions to date, it seems that the Secretary of Agriculture will not put fluid cream in Class II above a Class III manufactured milk or move fluid cream into Class I use as long as the Health Department of the city of Detroit does not require sweet or sour cream to come from inspected sources. No proposal has been made by producers to put fluid cream into Class I. Handlers are content with cream of high quality being purchased at a low Class II price. If the inspection requirement is not enforced, than a reclassifying of cream to a higher price class will cause a shift from regulated handler manufacture to shipments to the market by non-handlers in greater amounts than at present. This will add to the amount of Detroit milk going to manufactured products and may lead to a lower quality product for the consumers.

As an alternative, the Michigan Milk Producers' Association has attempted to move fluid cream into an intermediate class priced between fluid milk and other manufactured products. The major reason given for not placing cream under full inspection is due to the lack of personnel by the Detroit Department of Health.[17] However, there seems to be sufficient inspected milk under present conditions to meet

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[17] In a letter to the author dated February 10, 1958, Mr. Russell Palmer, Head Health Inspector, Milk, City of Detroit Department of Health said, "The lack of personnel prevents our attempting to extend complete inspection to all farms involved in cream supplies."

fluid cream requirements (Figure 3-1).

Although not presently enforced, the health ordinance for the city of Detroit does call for sweet and sour cream to be made from farm inspected milk. "There appears to be no scientific reason for treating fluid cream differently from fluid milk on the basis of sanitary requirements".[18] As a matter of fact Dahlberg et. al. state that, "It is generally considered to be more difficult to process cream than milk to assure low bacterial counts and good flavor".[19]

Comparison of Detroit with Nearby Michigan Regulated and Unregulated Markets

Table 3-5 summarizes the different use classes and products in these classes in effect on all major Michigan markets with the exception of Lansing, which does not have a classified price plan. Muskegon and Upstate have been compared with Detroit along with other nearby Federal orders in the previous section. Except for cream, the remaining markets are in general quite similar to present Detroit use classes. Flint and the Saginaw Valley markets have the same

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[18] Interview with G. M. Trout, Professor of Dairy Manufacturing, Michigan State University, East Lansing, Michigan. July 7, 1958.

[19] A. C. Dahlberg, H. S. Adams, and M. E. Held, Sanitary Milk Control and Its Relation to the Sanitary, Nutritive, and Other Qualities of Milk, Publication 250, National Academy of Sciences, National Research Council, Washington, D. C., 1953, p. 82. This report showed that fluctuations in bacteria counts of samples of fresh pasteurized cream drawn in eight selected cities varied much more within the individual cities than for fresh pasteurized milk samples drawn in the same cities.

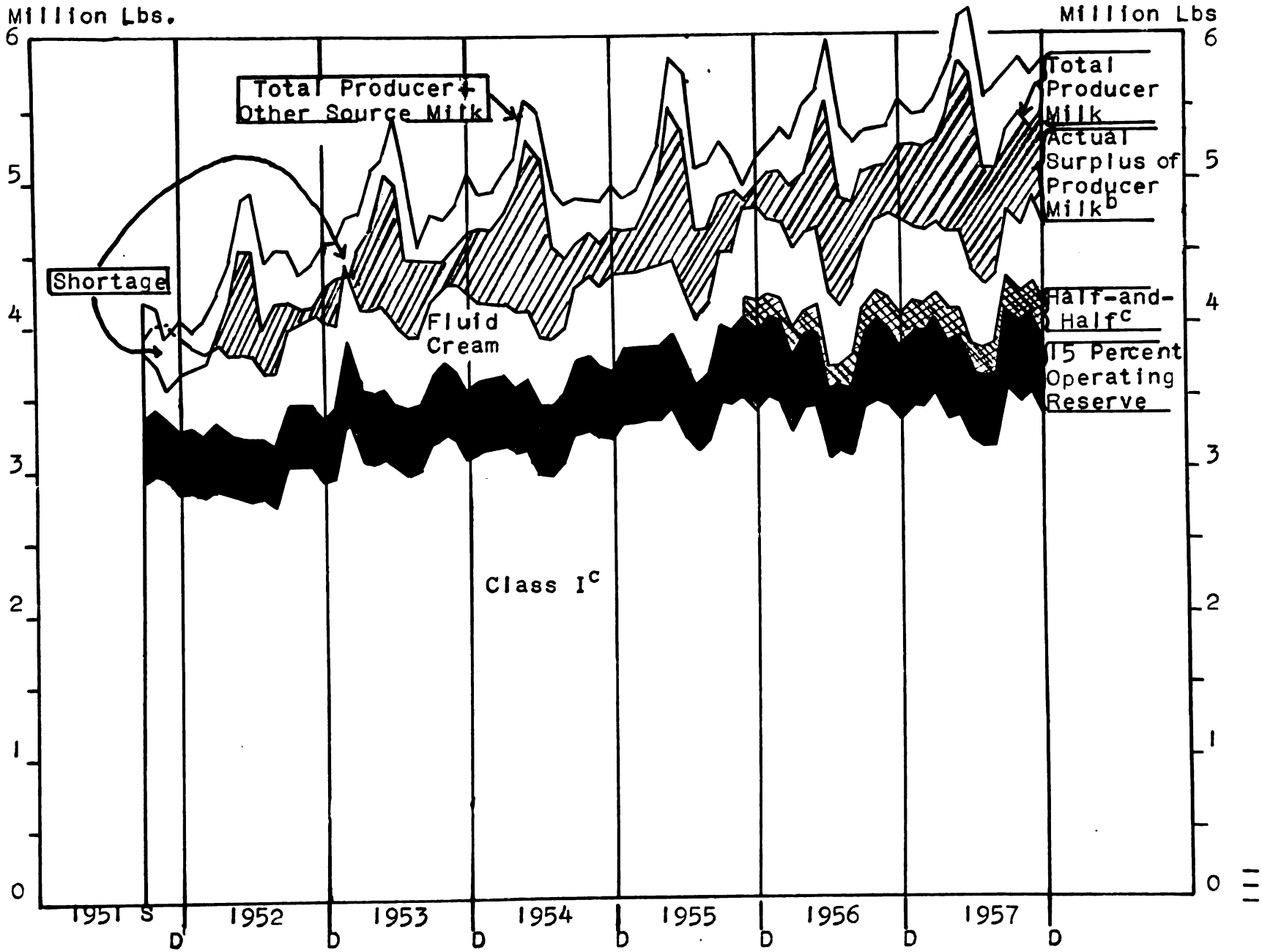

Figure 3-1 Utilization and Availability of Fluid Milk and Fluid Cream-Detroit By Months (1951-1957)

Figure 3-1 (continued)

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[a]Product pounds of milk--daily averages each month--all products converted to 3.5 percent milk equivalent.

[b]"Actual Surplus" milk available after supplying market with Class I products, fluid cream and allowing for 15 percent operating reserve.

[c]Half-and-half in Class I since 11/1/55 - here added back into fluid cream after subtracting from Class I for comparison purposes.

Table 3-5 Actual use classification of major milk products, Detroit and major out-State Michigan markets, 1958[a]

Milk and Milk Products	Detroit	Holland Zeeland Muskegon[b]	Upstate	Flint	Jackson	Saginaw Valley[c]	Grand Rapids	Battle Creek	Kala-mazoo
1. For Fluid Consumption									
Fluid Milk	I	I	I	I	I	I	I	I	I
Flavored milk	I	I	I	I	I	I	I	I	I
Fluid skim	I	I	I	I	I	I	I	I	III
Buttermilk	I	I	I	I[d]	II	I[d]	II	I	III
Half-and-half	I	I	I	I[d]	I	I[d]	II	II	II
Sweet cream	II	I	II	II	I	II	II	II	II
Sour cream	II	I	II	II	I	II	II	II	II
2. Other Products									
Ice Cream	II	II	II	II	II	II	II	III	III
Ice Cream mix	II	II	II	II	II	II	II	III	III
Cottage Cheese	II	II	II	II	II	II	II	III	III
Hard Cheese	II	II	III	II	II	II	II	III	III
Dried Whole	II	II	III	II	II	II	II	III	III
Non Fat Dried	II	II	III	II	II	II	II	III	III
Evaporated	II	II	II	II	II	II	II	III	III
Condensed	II	II	II	II	II	II	II	III	III
Egg Nog	II	II	II	II	II	II	II	III	III
Butter	II	II	III	II	II	II	II	III	III

[a]Source: Detroit, Muskegon and Upstate from respective orders as of latest revision to January 1, 1958. Kalamazoo data from Kalamazoo Milk Producers' Cooperative, May, 1958. All other markets from Michigan Milk Producers' Association, May 1958. Data for Kalamazoo for approximately 55-60 percent of the market under classified price plan. The Grand Rapids data are for approximately 40 percent of that

Table 3-5 (continued)

market. There is no classified price plan in Lansing; the only major market not considered here.

[b]Holland and Zeeland came under the Muskegon Federal order market May 1, 1957.

[c]Saginaw Valley includes Bay City, Saginaw, Mt. Pleasant and Midland. These are part of one MMPA pool.

[d]These have been in Class I only since April 1, 1958.

products in each use class as Detroit. Jackson differs by having buttermilk in Class II and fluid cream in Class I. Grand Rapids classifies both buttermilk and half-and-half in Class II. Battle Creek has half-and-half in Class II along with cream products. Other manufactured products are Class III. Holland and Zeeland have been under the Muskegon order since May, 1957 and have the same use classes as that market. Kalamazoo has another cooperative bargaining association and products included in that market's use classes differ considerably from Detroit and the other markets with half-and-half and fluid cream in Class II and fluid skim and buttermilk in Class III along with all other manufactured products. Only fluid milk and flavored milk drinks are in Class I in this market.

Of more importance, than present use classes of the unregulated markets, are the actual milk products required by the various major city health departments to be made of farm inspected milk. It has been shown in the previous review of Federal order decisions in Michigan that the United States Department of Agriculture categorizes in Class I, or the highest use classes, only those products requiring full farm inspection by the local health departments. For this reason, fluid cream in Detroit was not included in Class I, but in Muskegon it was so included. During June, 1958, the Chief Sanitarian at each of the major out-state Michigan city markets was asked, in a personal interview, to relate which milk products were actually required to be made from milk from

the same inspected source as milk for fluid consumption. This was asked in regard to enforcement regardless of what the city ordinance on that market might state. All of the major city markets outside the Detroit area were in agreement on the major products they were enforcing to come from fully inspected milk.[20] These products were as follows:

Fluid milk of all types
Flavored milk
Fluid skim
Buttermilk
Half-and-half
Fluid cream of all types

This would seem to indicate that a Federal order which included this Lower Peninsula area would require a high use class for fluid cream of all types. At the same time, such uniform inspection requirements would make it possible to obtain agreement on the use classes under a Federal order area including all of these cities. A major problem develops when these cities are included with Detroit area cities where the inspection of the farm sources of fluid cream is not required. However, it was shown in the previous section of this chapter that there is, under present circumstances, sufficient inspected fluid milk on the Detroit order market to provide that all fluid cream come from farm inspected sources. The first move for uniform classification for a single Lower Peninsula order would be to obtain a change in policy enforcement

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[20]These cities included Flint, Grand Rapids, Bay City, Saginaw, Lansing, Muskegon, Battle Creek, Kalamazoo and Jackson.

on the Detroit market. This may be accomplished by an interested handler making the request to the city of Detroit Health Department (the dominant department in the Detroit order area) and if necessary the request may be carried to the City Council. The excuse, given by the Health Department of the city of Detroit, on insufficient funds for additional personnel would not seem to be a good explanation at the present time since it has been shown that there is enough inspected producer milk available to meet the needs for fluid cream on the Detroit market. Although some cream comes from outside sources, which are not inspected and is purchased from brokers by small dealers, the Detroit Market Administrator reports that a large part of the fluid cream used on the Detroit market is from fully inspected milk.[21] Fluid cream under the order can be purchased at Class II prices as cheaply and with higher quality than obtainable elsewhere as manufacturing quality milk.

This proposal is made on the basis of the best available information recognizing that it may not be acceptable to some groups on the Detroit market. Historically Detroit has desired to be a Class I or fluid milk market as much as possible. This has resulted in a higher blend price to producers than on many large markets with a market wide pool. Placing cream in Class I would not lower the blend price.

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[21] Interview with Mr. George Irvine, Market Administrator, Detroit Federal Order Market, January, 1958.

However, forcing cream to be made from inspected milk would increase the possibility of a short supply and necessitate admitting new producers on the market, which in turn might lower the blend price if they became a permanent addition.

Recommendation:

This analysis has reviewed testimony and historical development concerning product classification and the use classes constructed for the Detroit, Muskegon and the Upstate Michigan order markets. In addition use classes and product inclusion were reviewed for the major out-state Michigan markets. The health departments of the major markets were also interviewed in regard to their inspection requirements for the various milk products.

The principle criterion which was used to determine product inclusion in the Federal order markets reviewed was the health requirements of the various local markets. This was prevalent throughout the recommended and final decisions written by the United States Department of Agriculture in connection with these three Michigan orders. Inspection requirements were therefore compared for all major Michigan markets. On the basis of this criterion, two groupings of the most important milk products were made. Group I required only plant or no inspection by the local department. On this basis the following groupings were made:

Group I	Group II
Fluid whole milk	Cottage Cheese
Fluid skim milk	Ice Cream
Chocolate milk	Ice Cream Mix
Buttermilk	Evaporated Milk
Half-and-half	Condensed Milk
Fluid cream, all types	Dried whole Milk
	Dried non-fat Milk
	Butter
	Hard Cheese

All of the out-state markets required the group I products to come from farm inspected sources. Detroit area cities differed by not requiring fluid cream from fully inspected sources. However, it is recommended that an attempt be made to require this full inspection of fluid cream on these markets. It was shown that sufficient supplies of inspected milk appear to be available in the Detroit area to meet this need. In addition, it was also shown that there is no scientific reason for treating fluid cream different from fluid milk on a sanitary basis. Only these two classes of use are proposed for inclusion in the Lower Peninsula order market.

Other criteria did not appear to be used in the development of use classes or products in these classes on the present Michigan order markets. The seasonal pattern of supply and demand may be an important consideration for placing flush season products in a lower use category when the flush season products, for example ice cream and cottage cheese, are required to come from fully inspected sources. Major Lower Peninsula markets do not require cottage cheese and ice cream to come from fully inspected sources and therefore under the

above classification they are already classified in the lowest price surplus use.

Transportation costs might be used as a criterion for placing fluid cream, for example, in a lower use class below Class I because of the reduced bulk in shipping this product to market. However, with fluid cream coming from fully inspected sources it is believed that most Michigan handlers would find it impractical to separate milk from cream in the production area and separation would be made at the pasteurizing plant with much of the skim separate going for fluid use. This is the method employed on all the out-state markets where cream now comes from inspected sources. Since there is no transport saving realized, there is no basis for placing fluid cream in a lower use class on the Lower Peninsula order market.

CHAPTER IV

TRANSPORT DIFFERENTIALS

Importance of Considering Transport Differentials in an Extended Order

As regulated areas are expanded and extended into adjacent areas, the transport differentials may need revision. Expanded areas are often combined with large segments of intermingled milkshed and consumption areas and a shift in the center of consumption may occur. Methods of milk pickup and transportation are also changing rapidly and the whole system of transport differentials may need examining and modifying.

This chapter approaches the problem of transport allowances by asking some deliberative questions about such items as: (1) the theoretical basis of transport allowances, (2) currently operative allowances in the Lower Peninsula markets, (3) criteria for developing transport allowances, (4) desirable consequences of such allowances, (5) alternative transport allowances, and (6) the best alternative in the light of the proposed Lower Peninsula order area. Transport differentials are one of the most important and difficult considerations which must be analyzed in this study.

What is the Theoretical Basis For Transport Allowances in Respect to Fluid Milk Markets?

Prices for fluid milk and manufactured dairy products in a single market area with its characteristic surrounding

milkshed offer a good theoretical beginning for a study of transportation differentials and for a good review of the problem. Assume that competitive conditions are such that the prices of each product are determined by the relative supply and demand for each product in the market. Differences in product prices reflect only differences due to quality, quantity of milk used in making the final product, and transfer costs of milk in different forms.

Recent United States Department of Agriculture data show the ratio of transportation costs of milk to an equivalent amount of cream is approximately 7 to 1, to skim milk powder 15 to 1, to American cheese 12 to 1, and to butter 25 to 1.[1] Because of these differences in costs of transporting fluid milk and an equivalent amount of manufactured milk products, farm prices for milk used in fluid form in the market area drop more rapidly than manufactured milk prices as we move from the urban market into the milkshed. Specialized zones of production would therefore be expected surrounding this consuming center much as von Thunen hypothesised in his development of location theory and as reported in Cassell's, in respect to milk marketing.[2] These zones are, of course, subject to physiographic and political boundary conditions (Figure 4-1).

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[1]Anthony S. Rojko, The Demand and Price Structure for Dairy Products, Technical Bulletin 1168, Agricultural Marketing Service, United States Department of Agriculture, May, 1957, p. 122.

[2]Originally published in Johann Heinrich von Thunen, Der Isolierte Staat in Bezrehung auf Landwirtschaft and Nationalokonomie, January, 1921. This portion used in many American texts on Land Economics. In Milk Marketing see John M. Cassells, A Study of Fluid Milk Prices, Harvard University, Cambridge, Mass., 1937, p. 20.

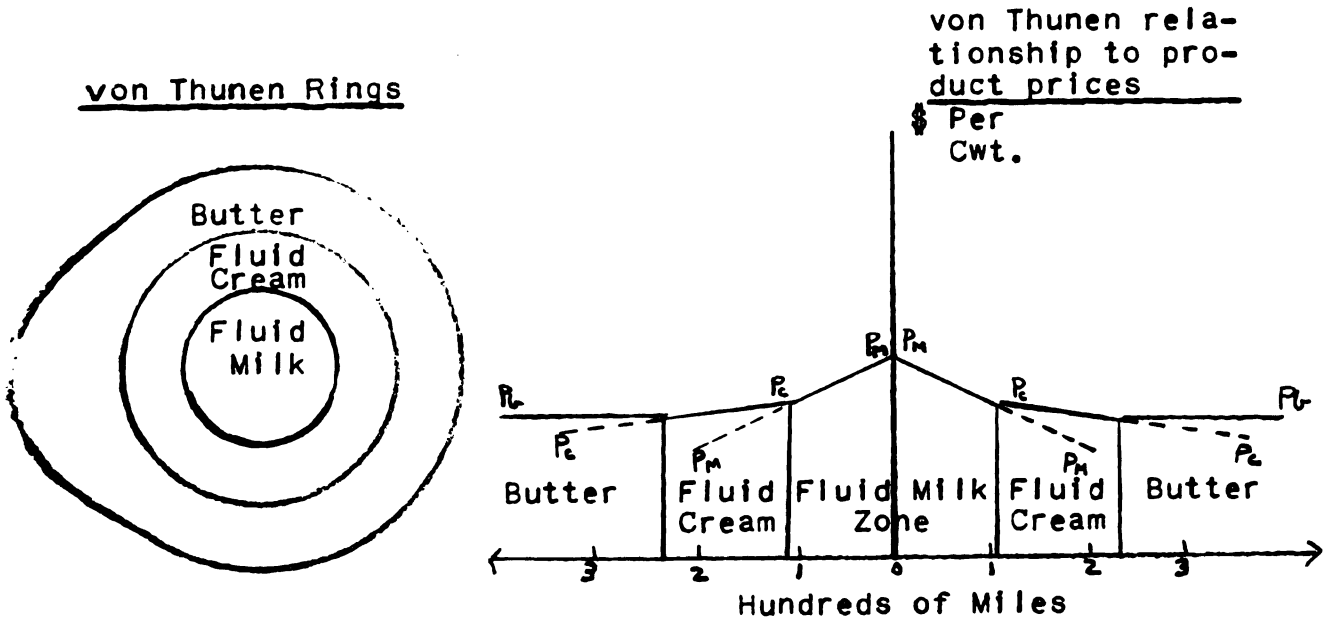

Figure 4-1 Theoretical Relationship of Price to Distance and Use of Milk Produced.

In practice, principally due to the seasonal nature of milk production, there is no sharp dividing line between the zone of fluid milk and manufacturing milk production. Neither must these areas of individual item production be contiguous; intermediate areas may be devoted to other products or even incapable of agricultural production. Prices in this single city market would be at equilibrium when the total supply of milk in the milkshed equals the demand in all the area milk outlets. When there are several urban market areas, and corresponding milksheds with dairy products free to move between markets, the prices of the milk products in the various areas would be expected to vary by the transfer cost between markets. The relationship between distance and prices of milk for fluid consumption and manufacturing milk when several markets are involved is illustrated in Figure 4-2.[3] In this

[3] Adapted from: Rojko, op. cit., pp. 202 and 203.

diagram, point U is assumed to be the most distant producing area while point Z is the most distant consuming center. The line UXYZ represents the location of many producing areas and consuming centers between the two extreme areas of production and consumption (U and Z). The price of milk used in manufacturing dairy products at the market Z tends to be higher than at producing area U by the amount WZ (which represents the cost of transportation of manufactured products from producing area U to market Z). Any point on line UVW represents the price premium on manufactured products over production area U reading the vertical distance above the base line UXYZ. At point X, the premium price is above the price in area U by VX. By contrast, prices of fluid milk are closely related between areas only when interregional movement of fluid milk products occurs, or can potentially occur. Barriers prevent movement in many areas.

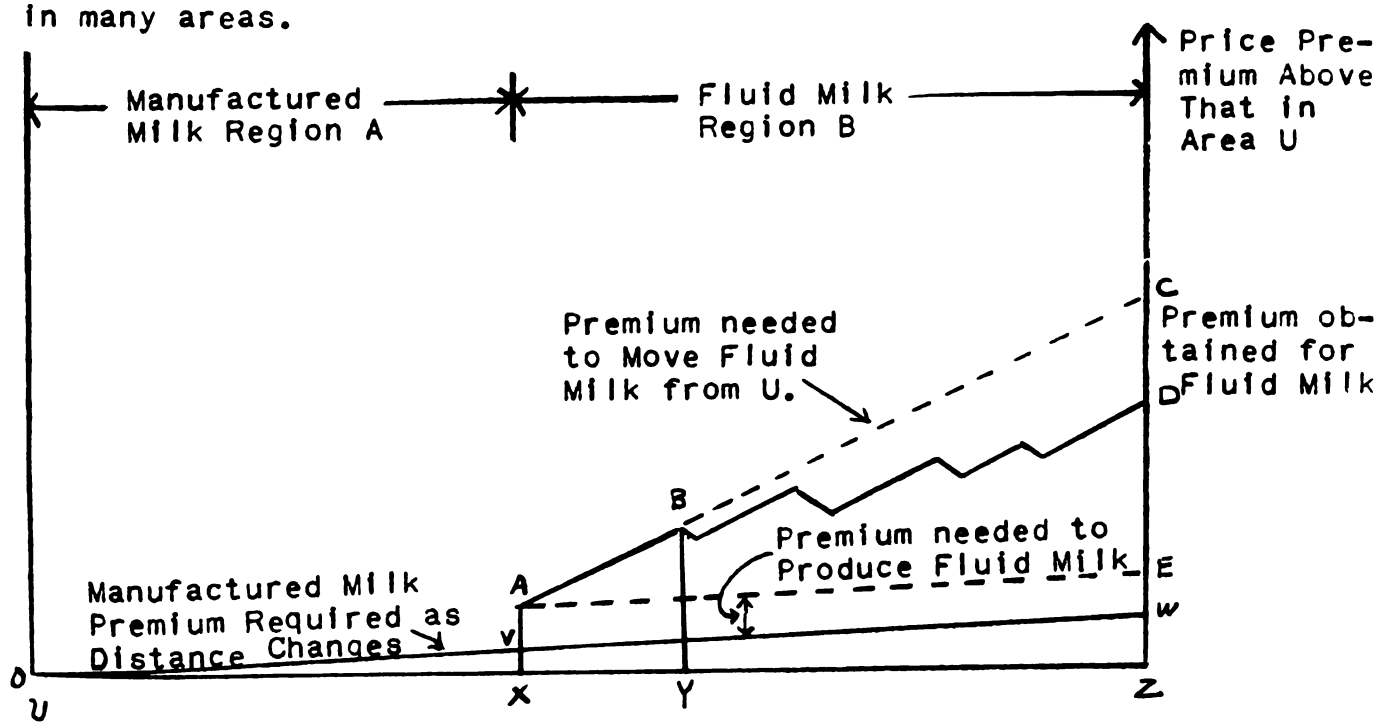

Figure 4-2 Relationship Between Milk Prices in Manufacturing and Fluid Milk Regions. With Price Premiums Applicable to the Specified Areas. U is the most distant producing area. Z is the most distant consuming area.

In Figure 4-2, Region A is a manufacturing milk (surplus) region while Region B is a fluid milk region. A farmer on the boundary between the two regions (X) is indifferent as to the use of his milk since he receives the same equivalent price in each outlet. The distance AV is assumed to be the premium needed to produce milk for fluid consumption over that for manufacturing purposes. If a close relationship exists between the two regions, the price of milk in the fluid region would be represented by line ABC, which equals the price of milk for fluid use in region A at point X plus the cost of shipping fluid milk of the same grade from point X to any point in the deficit region B. If the supply and demand situation in the fluid milk region is such that outside milk is not needed, then prices of fluid milk may be below the line ABC or, for example, correspond to the jagged line ABD. Prices for milk in region B cannot exceed the line ABC, in the absence of barriers, because of inshipments which can occur from region A. Nor can they go below the price line AE for any length of time, for it would then become more profitable to produce milk for manufacturing purposes. This theoretical presentation of a fluid milk market located on the edge of a surplus milk producing region appears to apply to the problem at hand.

What Are the Present and Historical Location Differentials Under the Various Michigan Orders?[4]

The Detroit Market

Present Class I.--A handler operating a "regulated

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[4]Data on individual markets from respective Federal orders as written in Federal Register (See Appendix I).

supply plant," located more than thirty-four miles from the Detroit City Hall, or a "regulated distributing plant," located more than thirty-four miles from the boundary of the marketing area, receives a transport differential with respect to milk received from producers and used as Class I utilization. A handler operating a "regulated distributing plant" also receives a transport differential with respect to milk received in bulk from a "regulated supply plant" or a "regulated distributing plant" located more than thirty-four miles from the marketing area if such milk is utilized as Class I (pro rating to milk in this category the total utilization of producer milk received at the plant). The applicable differentials based on the distance the plant is located from the Detroit City Hall are as follows:

Miles from City Hall	Location Differential
35-50 miles	14 cents
51-70 miles	15 cents
71 miles and over	1 additional cent for each 20 miles or fraction thereof

Present Class II.--There is no handler transportation differential allowed on Class II milk.

Present Producer Location Differential.--Deductions for location differentials are made on all milk received from producers or cooperatives or plants according to their location from the Detroit City Hall. Prices quoted at first point of receipt, therefore, are Detroit less this differential. Rates

which are applicable are the same as set forth under the Class I handler differential above.

Historical Review.--The Detroit location differentials have always been equal for both producer and handler. Handler credits apply only to Class I, as has been the case from the beginning. Deductions for producers apply to all milk received from them at country stations although part may be added back by the amount that the excess price exceeds the Class II price (seventeen cents under present order). The historical rates under the Detroit Order are shown in Table 4-1.

Other Michigan Markets

Muskegon.--This market has had no transport differentials since the order's inception.

Upstate Michigan.--Effective November 1, 1955, a handler location adjustment was allowed for milk which was received from producers at a fluid milk plant located more than ninety miles but not more than 100 miles, by shortest highway distance, from the court house in either Gaylord or Traverse City. This milk had to be utilized as Class I and the price in this zone was the effective Class I price less $0.18. Beyond the 90-100 mile zone the differential increased by one additional cent for each additional ten miles or fraction thereof. In making payments to producers or cooperative associations a handler was allowed to deduct, with respect to all milk received by him from producers at a plant located more than ninety miles

Table 4-1 Historical changes in the Detroit order's mileage schedule[a] (September 1, 1951-January 1, 1958)

Sept. 1, 1951			Nov. 1, 1952			Mar. 1, 1954			Sept. 1, 1956		
Zone #	Miles	Rate	Zone #	Miles	Rate	Zone #	Miles	Rate	Zone #	Miles	Rate
1	35-49	$0.14				1	35-50	$0.14	1	35-50	$0.14
2	50-57	.15				2	51-60	.15	2	51-70	.15
3	58-65	.16				3	61-70	.16	3	70-90	.16
4	66-73	.17				4	71-80	.17	4	91-110	.17
5	74-81	.18				5	81-90	.18	5	111-130	.18
6	82-89	.19				6	91-100	.19	6	131-150	.19
7	90-97	.20				7	101-110	.20	7	151-170	.20
8	98 and over	.21	8	98-105	.21	8	111-120	.21	8	171-190	.21
			9	106-113	.22	9	121-130	.22	9	191-210	.22
			10	114-121	.23	10	131-140	.23	10	211-230	.23
			11	122-129	.24	11	141-150	.24		No Maximum	
			12	130-137	.25	12	151-160	.25			
			13	138 and over	.26	13	161-170	.26			
						14	171-180	.27			
						15	181-190	.28			
						16	191-200	.29			
						17	201-210	.30			
						18	211-220	.31			
						19	221-230	.32			
							No Maximum				

[a]Handler-mileage differential from section 924.60 in Detroit order--first effective September 1, 1951. Dates equal dates of order revision (see appendix I.)

from either Gaylord or Traverse City, the amount per hundredweight applicable under the handler schedule above.

On March 1, 1956, the producer location adjustment was revised to read: A handler may deduct with respect to all milk received by him from producers (or assigned as associated producer milk) at a plant located more than ninety miles from either Gaylord or Traverse City the amount per hundredweight applicable under the handlers schedule above.

Effective October 1, 1956, both handler and producer location adjustments were changed (in line with the Detroit order change of September 1, 1956). The new provision allowed deductions on the Class I price (in case of handler) or deductions on all milk (in case of producers) received from producers at a fluid milk plant located more than ninety miles but not more than 110 miles, by shortest highway distance, from the court house in either Grayling or Manistee. The amount deducted from the effective price in the 90-110 mile zone equaled twelve cents. One cent additional was allowed for each twenty miles or fraction thereof over 110 miles. The Detroit provision previously cited (September 1, 1956) reduced the location differential for plants more than 50 miles from Detroit. This increased the Detroit prices applicable at plants nearest the Upstate marketing area by six to nine cents in relation to prices f. o. b. Detroit.[5] Therefore to keep

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[5]United States Department of Agriculture, A.M.S., Recommended Decision with Respect to Proposed Amendments to Marketing Agreements and Order Regulating the Handling of Milk in Upstate Michigan Marketing Area, (21 FR 6234, August 18, 1956).

Upstate order prices in line with Detroit a change was recommended in the amount of differential charged on the Upstate market. The reason for changing the Upstate basing points to Grayling and Manistee is well given in the recommended decision:

> The basing points used for measuring location adjustments should be changed to points nearer the southern boundary of the marketing area. The geographic location of the marketing area is such that location adjustments have practical application only to the Southward. Use of Traverse City and Gaylord as basing points provide substantial adjustment to handlers located relatively short distances from the marketing area while handlers with plants within the area compete with each other at greater distances.[6]

Non Regulated Major Lower Peninsula Markets.--There are no transport differentials allowed at any of the out-state city markets. Receiving stations are maintained at only three markets and these stations are located within the respective city limits with no transport allowances necessary.

What Criteria May Be Used In Developing a Transport Differential?

There are many criteria which may be considered in developing transport differentials; some of them are outlined below. The list is by no means exhaustive nor are all of these worthy goals for society. It should also be pointed out that no transport allowance could satisfy all groups or meet all of the outlined criteria, most of which involve equity problems.

1. A transport differential may affect equity of prices of near and distant producers.

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[6] Ibid.

2. --can affect distribution of income between dealers and producers.

3. --may affect dealers' ability to compete on resale.

4. --affects prices paid by consumers.

5. --will affect location of supply of milk for fluid consumption and boundaries of the milkshed.

6. --affects allocation of milk supply to different consuming centers.

7. --can affect location of surplus milk for manufacture.

8. --affects inter and intra-cooperative relations.

9. --can be used to encourage or discourage the supply of fluid milk on various markets.

10. --can be part of strategy of cooperative to get control of transportation and physical handling of market milk, a bargaining weapon.

11. --affects efficiency in terms of: mode of transportation, location of manufacturing plants, and receiving stations.

What Should a Transport Allowance Do?

In addition to considering the possible criteria which might be used in evaluating a transport differential, it is important to select from these some standards which might be the most acceptable for construction of a transport differential under a Lower Peninsula order.

The United States Department of Agriculture seems to have the following basis for Federal order transport allowances (referring to Federal order markets with country receiving stations);

> The Federal orders provide location differentials below the established minimum price. These differentials reflect, not necessarily exactly, the cost of transporting bulk milk from any point within the supply area to the city processing plants. The

> purpose of the differentials is to make it possible for handlers to procure milk throughout the supply area at a delivered cost that is uniform with that of other handlers.
>
> While location differentials are based mainly on the cost of transporting whole milk, other factors may be taken into account, such as convenience, availability, regularity, certainty or seasonal uniformity of supplies, existence of competing markets and the historical relationship of prices within the supply area.[7]

This criterion seems to consider it a "fair" equity principle to allow handlers to purchase milk at the same delivered cost. This is in line with criterion 3 listed above since this criterion would allow dealers (other things being equal) to compete on resale. It also preserves the "perfect market" concept with differences in these prices between the deficit and surplus area varying by approximately the transfer cost between the two areas.

Another objective of transport allowances, not explicit in the United States Department of Agriculture reference cited but seemingly important in criteria 5, 6 and 7 outlined above, is to protect the principle of best alternative. The general principle governing exchange and specialization is called the principle of best alternatives. It may be stated as follows:

> In his endeavor to obtain the commodities he desired, an individual has two possible alternatives. He can either produce the commodities for himself directly, or he can produce some other commodity and exchange it for what he wants. Which alternative he will choose will depend on which is the easier way of getting the commodity he wants, for it is the easier way (least cost way) that he will follow.[8]

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[7] Regulations Affecting the Movement and Merchandising of Milk, Marketing Research Report No. 98, A.M.S. United States Department of Agriculture, June, 1955, p. 61.

[8] K. E. Boulding, Economic Analysis, Harper & Bros., N. Y., 1948, pp. 28-46.

The same principle applies in trade between countries and regions. It is the comparative advantage an individual or country has over another, not the absolute advantage, that will determine where production will take place. In constructing a transportation differential for the Lower Peninsula Michigan order, it would seem desirable not to upset this principle any more than necessary to accomplish the other objectives of efficiency and commonly accepted equity criteria.

The efficiency objective is also important. The transport differential rates set under the order should be such that total transport cost on the market will approach a minimum. This would be accomplished when the transport differentials under the order promote shipments by producers to consuming centers closest to their farms with a minimum of cross hauling or unnecessary distant hauling. Besides proximity of production for fluid use, the allowance should keep manufacturing plants located near the outer edges of the milkshed to take advantage of reduced bulk and perishability in shipping manufactured products.

Several other criteria were also listed in the previous section, but they promote the personal gain of some individuals or groups over others and are not commonly accepted objectives. The three criteria as expressed in the "perfect market" concept, the law of comparative advantage and the efficiency criterion seem to be the most commonly acceptable objectives of a transport differential.

What Are Some Alternative Location Adjustment Provisions Which Might Be Part of a Lower Peninsula Order?

There are innumerable methods and combinations of methods which might be employed, but the following are considered the most important. In each case the alternative will be described and then examined in light of pertinent criteria. Although these transport differentials are constructed with one Lower Peninsula order in mind, in many instances the alternative might be worthy of consideration under a city type order as with Detroit, or under two or more orders for the Lower Peninsula area. Because of the equity problems involved, selection of the best alternative would undoubtedly vary as between groups. However, an attempt is made to list some of the consequences which might be expected from the use of each suggested alternative under a Lower Peninsula order and what appears to be the best alternative is selected using the commonly accepted criteria as presented in the previous section.

1. Rates That Reflect Actual Cost and Vary in Proportion to Distance

This first alternative would apply as part of most transport considerations whether under one order, or two or more for the Lower Peninsula, and regardless of what points were accepted as basing points. This alternative proposes deducting transport differentials from producers and crediting handlers at a rate reflecting the actual cost of transportation. The exact rate to be used would be constructed on evidence obtained in public hearing. There is a wide disparity in the results

of studies on milk transport costs. Cost examples from New York, the United States Department of Agriculture and a recent Detroit hearing would indicate that the present Detroit differential is too low.[9] However, at the time the Detroit and Upstate differentials were changed to add one additional cent for each twenty miles beyond a base zone instead of the previous one cent for each ten miles, it was stated by some

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[9]United States Department of Agriculture, A.M.S. Final Decision With Respect to Proposed Amendments to the Tentative Marketing Agreement and to the Order Regulating the Handling of Milk in the New York Metropolitan Marketing Area and in Northern New Jersey. (22 FR 4194) June 14, 1957. Costs of hauling on the New York Market from country plant to city by tank truck were estimated at a fixed cost of ten cents per hundredweight and a variable cost of 1.4 cents per hundredweight per ten miles. For the average zone (200-210 miles) this would amount to an average cost of thirty-eight cents per hundredweight or 1.9 cents for each ten miles to that zone.

Recent United States Department of Agriculture data compares closely to this. Regulations Affecting the Movement and Merchandising of Milk, Research Report No. 98, Agricultural Marketing Service, United States Department of Agriculture, June 1955, p. 91. This study showed that dealers' buying price for fluid milk increased an average of 1.92 cents per hundredweight per ten miles increase from a point in Wisconsin. This price was also compared with rates charged for large volume haulers. The study showed that their rates varied from 1.75 cents to about 2.0 cents per hundredweight per ten miles distance.

From A Brief in Behalf of Michigan Milk Producers' Association submitted in the matter of proposed amendments to Detroit Order, February 3, 1958. A proposal was made at the hearing for amendment to the Detroit order to raise the schedule of rates by two cents, thereby deducting sixteen cents at the 34-50 mile zone and one additional cent for each additional twenty miles. Testimony was entered that the Michigan Milk Producers' Association, which is the largest single hauler on the Detroit market, has charged two cents above the established rates for hauling milk from receiving stations into the marketing areas. In this brief, submitted by the Association, the association agreed that the schedule of rates did not accurately reflect the cost of operating transport equipment. In addition, they admitted that the reason for wanting to hold the rate at the present low level was to prevent the lowering of producers' Class I prices.

handlers that even these new rates were too high.[10]

Once again an equity problem develops since increasing the transport differential under present order conditions or for a new order or orders would increase dealers' profits and reduce producers' blend prices. The most equitable and probably acceptable treatment is to use cost data somewhat near the average costs on the market for the most efficient handler. This seems to be the way the problem has been answered by the United States Department of Agriculture. After considering the wide variation in cost data, the Secretary ruled in the Detroit decision that, "It is concluded that a general reduction should be made to reflect the experience of the most efficient full scale hauler, but not to levels attainable only under the most favorable circumstances."[11] The rates may be allowed to taper as distance increases, to reflect economies of long hauls, but should not taper below actual cost of shipment as determined by the average costs of the most efficient handler.

2. Adjust Size of Zones or Rates Within Zones Which Apply to Supply Plants

This suggestion would use more zones for example than are now operative under the Detroit order where there are

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[10] United States Department of Agriculture, A.M.S., Final Decision With Respect to a Proposed Marketing Agreement and Proposed Amendments to the Order Regulating the Handling of Milk in the Detroit, Michigan Marketing Area. (21 FR 6133, August 16, 1956).

[11] Ibid.

twenty mile intervals between zones. Such an adjustment would tend to bring transport differentials on milk from various points in the milkshed to the central market closer to the actual hauling cost from that zone. For example, the schedule of location adjustments, under the Detroit order currently provides for no location adjustment for deliveries inside the thirty-four mile zone from Detroit City Hall, while a fourteen cent allowance is made for milk from the Ortonville supply plant in Oakland County and the Richmond plant in Macomb County, both are just outside the thirty-four mile limit. The use of more zones or an adjustment in rates to prevent abrupt differential deductions is an applicable consideration under a new Lower Peninsula order or orders, or even with present orders. The use of more and smaller zones or an adjustment of the rates would provide more equitable payments for producers shipping to various supply plants or direct to the city market and would make handler's credit for Class I usage more realistic between supply plants. These have been considered "fair" objectives in our preliminary examination of criteria.

3. Using Different Zone Differentials for Handler's Credit On Class I and for Producer's Location Adjustment on All Milk

Dr. Spencer of Cornell University believes that it is an error to attempt to use the same set of zone differentials for adjusting handler's Class I prices and producer's uniform prices. He states that,

> Class I prices should be adjusted on the basis of differences in current transportation charges on fluid milk shipped from plants at different distances from the market. Blended or uniform prices to producers delivering to plants in different zones should be adjusted in accordance with average or blended transportation charges on both fluid milk and milk used for manufacture.[12]

This is explained below by applying his suggestions to a Detroit order example (Table 4-2). Based on the classification of milk received at various Detroit supply plants in 1957 and using United States Department of Agriculture and New York cost data to arrive at location differentials for different classes of milk, producers delivering to nearby stations (35-50 mile) would have 15.2 cents deducted from the uniform producer price. Those producers delivering to a distant plant such as at Hillman would receive only 19.9 cents less than the uniform Detroit delivered price. Such a policy would shift income from producers in nearby zones whose milk was used largely for Class I to those in distant portions of the milkshed with lower Class I utilization. This suggested plan might be equitable under individual handler pool conditions. However, a market wide pool is suggested for the proposed Lower Peninsula order and would present an inequitable situation as under the Detroit example.

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[12] Leland Spencer, Problems of Milk Pricing on the New York Milkshed and Possible Solutions, Bulletin AE 1058, Department of Agricultural Economics, Cornell University, revised April, 1957, Mimeo, 37 pages, pp. 16-17.

Table 4-2 Utilization of milk received at pool plants in different mileage zones and estimated zone differentials. Using different transport costs on Class I milk and on manufactured milk. (Detroit, 1957)

Mileage Zones	Percentage of Receipts Used In[a]		Location Differentials (cents per cwt.)[b]		
Miles	Class I	Class II	Class I	Class II	Weighted Ave. For Adjusting Uniform Price
	Percent	Percent	Cents	Cents	Cents
35-50	94	6	-16	-2	-15.2
51-70	50	50	-18	-2	-10.0
71-90	74	26	-21	-3	-16.3
91-110	62	38	-24	-4	-16.4
111-130	23	77	-27	-5	-10.1
131-150	62	38	-30	-6	-20.9
151-170	36	64	-32	-6	-15.4
171-190	26	74	-35	-7	-14.3
191-210	--	--	---	--	-----
211-230	34	66	-41	-9	-19.9

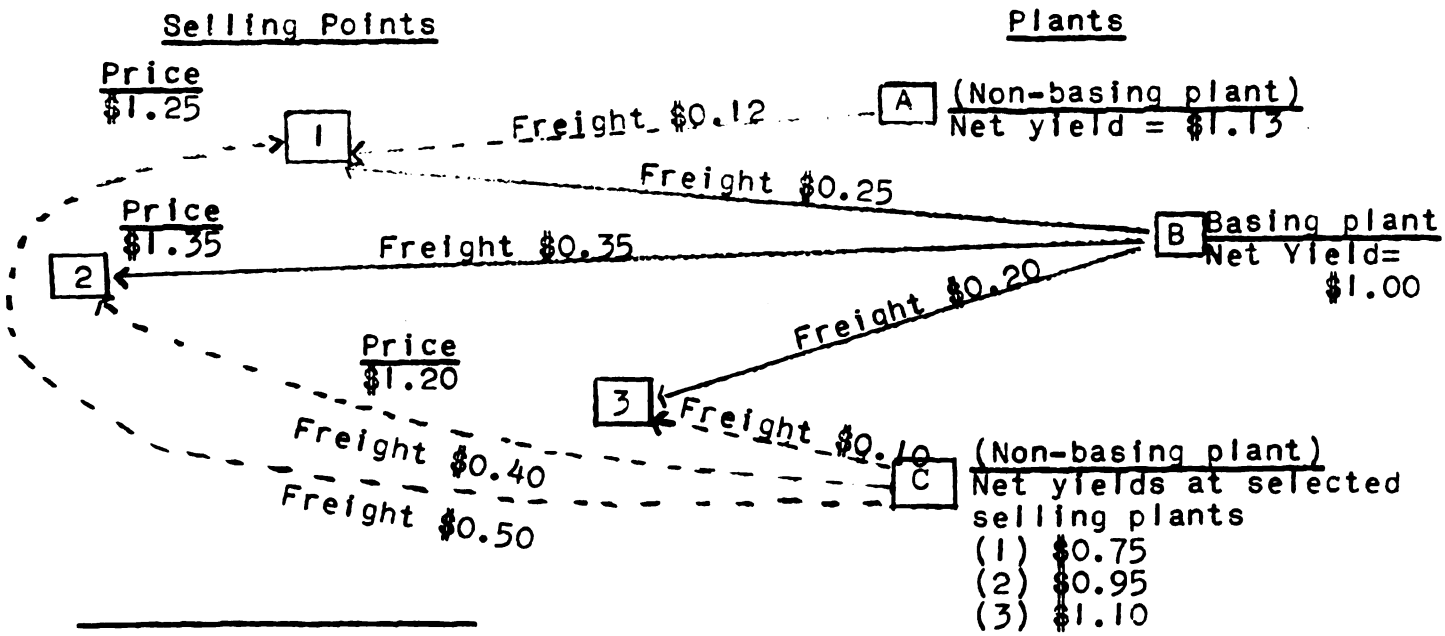
[a]Computed from Detroit Market Administrator's Office, Grand Market Summary, 1957.

[b]Based on New York data which corresponds closely with similar United States Department of Agriculture computations. The Class I differentials are based on an estimated increase of 1.4 cents for each ten miles of distance in cost of transporting fluid milk from supply plants to distributing plants in the city. In addition there was a ten cents per hundredweight fixed cost charge regardless of location. The Class II differentials are based on an assumed cost of .4 cents for each ten miles distance in cost of transporting cream and dried skim milk or other manufactured products made from 100 pounds of milk. It is also assumed that these Class II products are moved into this consuming center.

4. The Basing Point System

The basing point technique of pricing makes it possible for any number of sellers, no matter where they are located, and without any communication, to quote identical delivered prices for any specified quantity and quality of product to every possible destination in the United States. It is only necessary that one or a few base prices, governing the entire industry, be announced. This enables each competitor to use the formula (applicable base price plus specified extra charges of marketing plus applicable freight).[13] There may be one basing point for deliveries (single basing point system) or a number of basing points of which one governs a particular destination.

An example of a single basing point system is herein presented. Note that plants located at non-basing point locations will quote the same prices at selling points 1, 2 and 3 as does the basing point plant "B". Net yields of the



[13] Fritz Machlup, The Basing Point System, The Blakiston Co., Philadelphia, Pa., 1948, p. 7.

non-basing point plants vary however. The example at plant "A" (of net yield) indicates phantom freight. This is also true when plant "C" sells to selling point 3. However, plant "C" has freight absorption when selling at points 1 and 2.

Multiple basing points are similar with the price at any selling point being the lowest combination of basing point plant price plus freight from this basing plant to selling point. However, with a multiple basing point system "base" plants as well as "non-base" plants will receive varying net yields. If each producing plant is also a basing plant, so that there are no non-base plants in the industry, the system is called a plenary basing-point system. It thus varies from a multiple basing-point, under which there are usually more "non-basing" point plants than "basing" point plants. The larger number of basing points does not change the essence of the system as a device by which a large number of competitors can calculate and quote identical delivered prices for any number of destinations.[14]

5. Application of the Basing Point System Under Federal Orders

(a). Single City Basing Point (Modified).--Actually the system of transport adjustment under the Detroit order is a modified single basing point system (base price set at selling point rather than at one point of production). The price is quoted f. o. b. Detroit for all producers. The actual net producer price, however, depends upon his location from this

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[14] Ibid, pp. 16-17.

basing-point and is determined by subtracting from the Detroit price the applicable transport differential depending upon the location of the receiving station to which the producer ships his milk. This type of locational adjustment is the one which is most commonly used under the Federal order program. With proper size zones and amount of transport differentials (Sections 1 and 2 above) this is an equitable plan for producers and handlers. In the case of Detroit, located in the southeastern portion of the state, it has preserved the "perfect market" concept with prices decreasing toward the Wisconsin and out-state Michigan surplus areas. Under an area wide order, this system might be more difficult to use as the sole basis for setting transport differentials. A modification of this single city basing point is to use a point mid-way in the milkshed as the basing point. This is used with the New York-New Jersey order. Prices are quoted with plus differentials toward the city from this point and minus differentials away from the city from the base point. The price at the base point is near the average for the milkshed. Such a system offers no apparent advantage over the single city as a base point. Although the suggestion was not accepted, largely due to tradition, the New York Milkshed Committee recommended eliminating it from the order on that market.[15]

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[15] Report of the New York Milkshed Committee, Transmitted to the United States Department of Agriculture and to the New York State Department of Agriculture and Markets, January, 1954, pp. 21-22.

(b). Basing Point Each Major City in Lower Peninsula Area.--This alternative would place each of the large Michigan cities as a base point. It is also a modified basing point system with prices reduced from the selling point. This method recognizes the shifting of centers of consumption under an area wide order.

Class I prices in the Lower Peninsula have become relatively uniform. In 1957, Class I prices were shown to have varied from $4.71 in Jackson to $4.98 in Kalamazoo. Flint and the Saginaw Valley markets had a Class I price of $4.96. The Detroit negotiated Class I was $4.95 and Grand Rapids $4.94. Battle Creek Class I price was $4.88 and Muskegon $4.87. This relationship was shown in Figure 2-5. The Jackson price is believed to be below the other major out-state cities due to competition in that area of milk coming from Lansing, which does not have a classified price plan, and where apparently dealers "buy at the blend and sell at Class I". Ohio distributors also compete actively in the Jackson area. This relatively uniform Class I price has developed from bargaining by the Michigan Milk Producers' Association and the Kalamazoo Milk Producers' Cooperative, in all of the Lower Peninsula markets (except Lansing). If Class I prices were set uniformly at each of the major markets and transport allowances deducted on all milk beyond a certain distance to the major market, a fairly efficient method of overall transport cost could probably be effected.[16] Assuming a market wide pool

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[16]For additional information on efficiency in milk marketing and allocation of production using several methods see:

and uniform blend prices at each market in addition to uniform Class I prices, producers would have an incentive to ship to the nearest market since greater transport differentials would be deducted on shipments to a more distant market.

This system would tend to make Class I rates too high, if all city rates were at the same level, in the direction of the Chicago and Wisconsin area attracting milk from those areas to the detriment of Michigan producers. One of our criterion listed earlier considered it equitable to allow handlers to purchase milk at the same delivered costs. Costs of handlers between the various markets would now be uniform but are out of line with another criterion. The "perfect market" concept was not taken into account since no allowance was made for transfer cost differences between surplus and deficit areas. Such maladjustment in prices (provided no barriers were erected) would merely attract milk from the Wisconsin surplus areas since the Michigan Class I price at cities in the western part

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Milk, Report of Reorganization Commission for Great Britian, Ministry of Agriculture and Fisheries, Economic Series No. 44, 1936, His Majesties Stationary Office, London. Three methods are discussed to lower overall transport costs. (1) Give sufficient incentive to producers to send milk short distances only; (2) Give an inducement to buyers to purchase milk close at hand, and (3) To control the flow of milk by a milk control board in such a way as to ensure none traveled further than was necessary. The third method was advocated in Great Britian.

Also see D. O. Hammerberg, L. W. Parker and R. G. Bressler, Jr. Efficiency of Milk Marketing in Connecticut, University of Connecticut, Bulletin 237, February, 1942.

of the state would be higher than the Wisconsin price plus transfer cost. This assumes the Class I prices at the balance of the states' major cities will be the same as that at Detroit. The same relationship will occur with producer blend prices under a market wide pool as proposed for the Lower Peninsula order.

(c) The Center of Montcalm County.--This has been suggested for use as a basing point in event of an area wide Lower Peninsula order. Montcalm County would act as a true basing point with transport differentials added as one moves away from this center. The importance of Montcalm County as the center of manufacturing shippers was shown in a recent study of manufacturing milk supplies in Michigan.[17] This would place Montcalm County as the center of the Michigan surplus milk area. Let us examine this relationship to Class I prices under Michigan and various nearby Federal order markets.

Concentic circles from Montcalm County would provide the highest Class I price in Detroit which would be true according to precedent and as expected moving from a surplus to a deficit area. However, the plan would call for increased prices from Montcalm County toward the west, north and south. This presents a problem which is uneconomically sound. The small surplus area in this case encounters a larger surplus area in

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[17]Glynn McBride, "Manufacturing Milk Supplies", Quarterly Bulletin of Michigan Agricultural Experiment Station, Michigan State University, East Lansing, Vol. 40, No. 1 pp. 113-124, August, 1957.

Wisconsin. The higher priced milk on the west and north of Michigan would induce Wisconsin buyers, paying a Lower Class I price, to package and ship milk across the Lake or through the Upper Peninsula across the new Mackinac bridge. Chicago on the south has also had a low Class I price for milk, historically, due to its favorable situation next to the Wisconsin reserve area. Montcalm plus prices push the Class I prices higher toward this market also and would encourage Chicago dealers to move into Michigan.

Since the eastern and southeastern directions are the only economically feasible ones from Montcalm, it offers no advantage over the present Detroit minus basing point which in effect does decrease toward the surplus area of both Montcalm and Wisconsin. Class I price relationships between Michigan and nearby Federal order markets are shown on Figure 4-3 along with the conflict between the Montcalm minor and Wisconsin major surplus areas. This indicates the problem of using Montcalm as a basing point for a Lower Peninsula order. The Wisconsin basing point will be examined in the next section.

(d). Basing Point, Eau Claire, Wisconsin Plus Transfer Costs.--The United States Department of Agriculture has made an extensive study of barriers to the movement of milk.[18] This study considered geographic price structure and found a relationship between prices paid by dealers for milk for fluid consumption

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[18] Regulations Affecting the Movement and Merchandising of Milk, Op. Cit.

Figure 4-3 Inter-Order Class I Price Relationships, Actual Average "Order Prices" For 1957.[a]

[a] Transfer cost estimated at two cents per each ten miles for equal price lines out of Eau Claire, Wisconsin.

and the distance from the region of greatest surplus (centered in Eau Claire, Wisconsin). There were two other local surplus regions in the United States with low Class I prices relative to this Wisconsin surplus area. These low points occured in Vermont and Upstate New York, and on the West Coast. The analysis showed that the dealers' buying price for fluid milk increased an average of 1.92 cents per hundredweight for each ten miles increase from Wisconsin.

This method of basing point pricing using Wisconsin as the center contradicts that presented for Montcalm County. However, the new proposed Upper Peninsula and the Northeastern Wisconsin order areas have prices indirectly set in this manner. The recommended decision for these orders proposes zone pricing. Prices of Chicago and Milwaukee were used to set Class I prices in this area since they were considered to be the dominant price influence in the area. The Eau Claire, Wisconsin price based on its location from Chicago would be approximately forty cents under the Chicago order Class I in 1957. The Chicago order Class I price in the Northeastern Wisconsin area had been averaging seventy-four cents over the basic formula price. The Milwaukee price was also directly related to Chicago and had been averaging eighty-six cents over the basic formula price. The differential allowed for movement into a surplus area decreasing at the rate of two cents for each fifteen miles under the Chicago order beyond the first seventy mile zone. On setting the differential for the Northeastern Wisconsin order, the recommended decision had this to say:

> Other than this zone differential ($0.74 near-in portion in Wisconsin order area and $0.84 most northerly portion of Wisconsin area.) there is no need to provide any reduction in the Class I price for plants at distant locations. This is an area where substantial volumes of milk in excess of local requirements are produced and as a consequence producer prices approach a minimum. To the east is Lake Michigan, to the south Chicago and Milwaukee establish competitive prices higher than here provided, and to the north this decision establishes Michigan Upper Peninsula prices higher than those here provided. To the west the nearest regulated markets, Minneapolis-St. Paul and Duluth Superior, are also at higher levels.[19]

In effect, this order uses Wisconsin as the center of the surplus area and increases prices on Class I milk for movements from this area. The order for the Upper Peninsula proposes three price zones. These zones were indicated in Figure 4-3, which also showed the location of the order marketing areas of Michigan and other nearby Midwest orders and Class I pricing in these areas for 1957. The reason for the proposed method of zone transport differentials is well summed up in the recommended decision:

> The influence of the Northeastern Wisconsin market should be reflected in the level of the Class I price under the Michigan Upper Peninsula order. The Wisconsin area is not only a source of alternative supplies of milk but provides considerable direct consumption for sales from Wisconsin plants. The Michigan Upper Peninsula area is however, quite extensive geographically, and some portions are much farther from the Wisconsin production area than others. As a consequence transportation costs from Wisconsin points are substantially higher in certain parts of the area.[20]

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[19] United States Department of Agriculture, A.M.S., Recommended Decision With Respect to Proposed Marketing Agreements and Orders Regulating the Handling of Milk in Michigan Upper Peninsula and Northeastern Wisconsin Marketing Areas, (23 FR 3818), June 3, 1958.

[20] Ibid.

The Zone I differential, over the basic formula, was thus set at an annual average of $0.94, Zone 2 at $1.14 and Zone 3 (the most distant from Wisconsin) at $1.34. This would seem to reflect an approximate difference of twenty cents for each 100 miles and is close to the estimated $1.92 cents per each ten miles as reported in the United States Department of Agriculture Marketing Research Bulletin No. 98.[21]

For plants which might be regulated under the Upper Peninsula order, yet outside the market area in Wisconsin, Minnesota or Lower Michigan, transport differentials from the Zone I price (using Ironwood or Iron Mountain as base points) to the west toward Wisconsin or the Zone 3 price (using St. Ignace as base point) to the south toward the Lower Peninsula of Michigan are allowable. These differentials allow two additional cents deduction for each twenty miles beyond the 50-70 mile zone. At the 50-70 mile zone the deduction is ten cents. The close relationship of the estimated Upper Peninsula order prices to the Wisconsin surplus area (for example, Eau Claire) were shown in Figure 4-3. These estimated prices were constructed using the basic formula price in 1957 with annual differential suggested in the recommended decision. It has been previously shown that Milwaukee and Chicago prices are so adjusted to this Wisconsin surplus area. Indirectly, due to the location of Detroit in the southeastern portion of the Lower

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[21] Regulations Affecting the Movement and Merchandising of Milk, Op. Cit., p. 91.

Peninsula, the order prices of that market are also related to the Wisconsin surplus area. Based on a concentic ring from Eau Claire passing through Detroit in 1957, estimated order prices would have been predicted to be $4.36--actually they were $4.37. Negotiated Class I prices were, of course, higher but are not considered in this section since they have not been set for all markets, vary considerably between markets, and take into account other things besides transfer costs between markets (for example bargaining power plays a big part).

A system using Eau Claire or some similar point in Wisconsin would seem equitable. It would approximate the "perfect market" concept of uniform prices over the area, with prices in the deficit area higher than prices in the surplus area by the amount of transfer cost between the two areas. This is considered an acceptable objective. In addition it would maintain the traditionally higher Detroit prices and would help to ameliorate the problem of outside milk replacing Michigan producers because of poor alignment of prices between the deficit and surplus areas. Some possible modifications to the Eau Claire base point are discussed in the next section.

(e) Some Possible Modifications of the Eau Claire Basing Point.

(1) "St. Ignace plus" differentials and "Chicago plus" differentials.--One might suggest using road miles instead of air miles in computing transport differentials from the Wisconsin surplus area to the two points of entrance (St. Ignace and Chicago) to the Lower Peninsula area. Air miles could then

be used from these points to calculate the actual pricing zones. Such a modification appears more realistic since it is the distance by highway which will lead a dealer to decide whether to come into the Lower Peninsula of Michigan with Wisconsin milk. The Eau Claire base point in this case will not determine the place of origin of movement, but milk would be expected to come from the intensive production areas of Wisconsin nearest to the Upper Peninsula via United States highway No. 2 across the Mackinac bridge (In this case Shawano appears to be the center of intensive production in Northeastern Wisconsin), or south through Chicago around Lake Michigan and north on United States highway No. 31 into Lower Michigan (in which case Chicago, on the edge of the Wisconsin surplus area could be used as a base point). This relationship is shown in Figure 4-4 A.

Whereas Class I prices set by air miles from Eau Claire increased prices across the Lake and through Michigan from west to east, the road miles would increase prices from St. Ignace south and from Chicago to the northeast. Lake Michigan in this case is assumed to be a natural barrier as it has been historically. The St. Ignace pricing would be similar to the Upstate order price relationship with the present Detroit order; however, prices in that case are decreased as the movement is toward the south from Grayling and Manistee. The recommended decision for the proposed Upper Peninsula order uses St. Ignace (or Upper Peninsula Zone 3 prices) minus a transport differential into the Lower Peninsula. An increase in

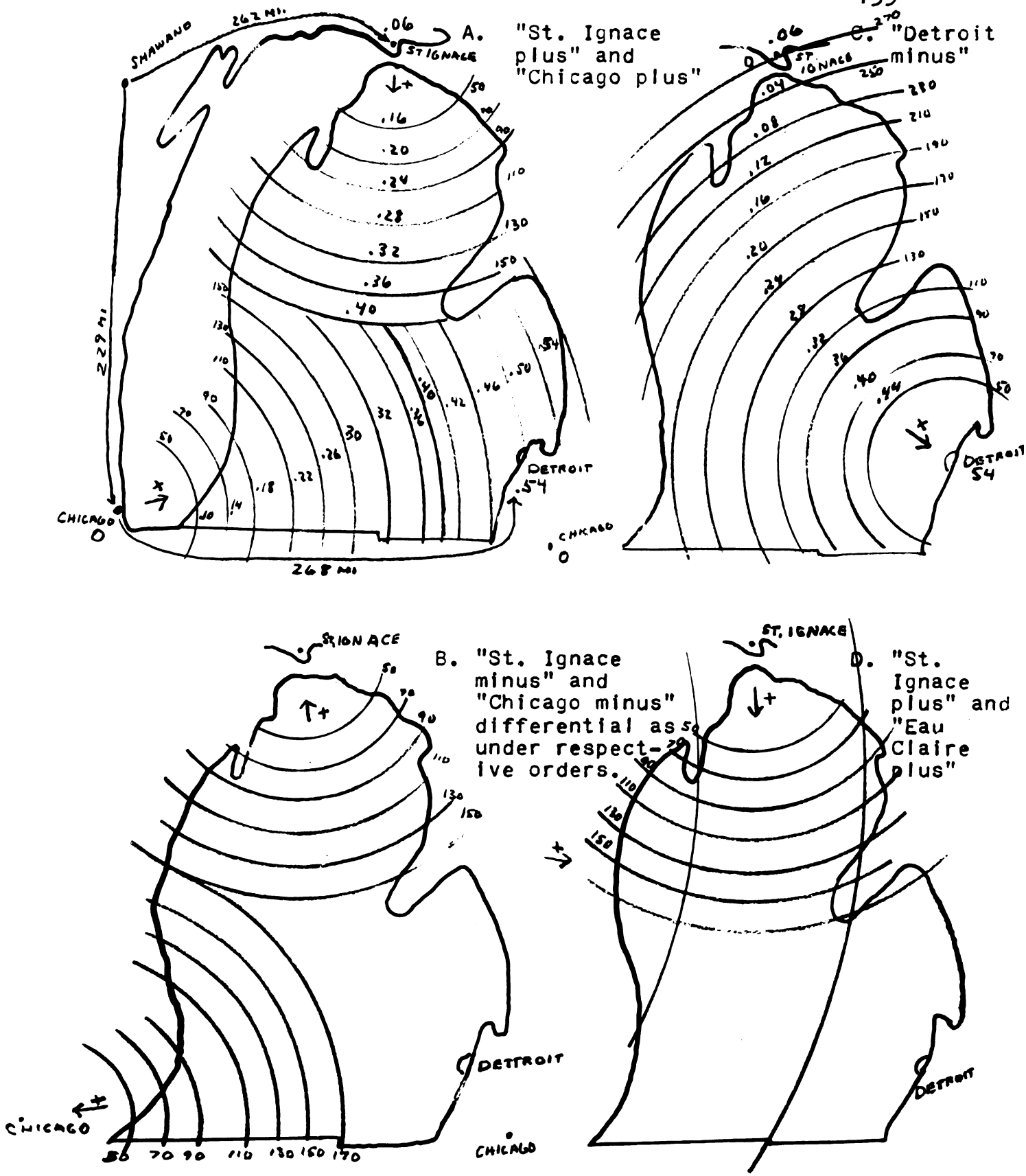

Figure 4-4 Modification of the "Eau Claire Plus" (Wisconsin Surplus Area) Basing Point For Setting Class I Paying Prices in Lower Michigan.

price from St. Ignace south toward Detroit appears more realistic using the concept of the "perfect market". "Chicago plus" differentials increase price to the north and result in higher prices toward the local surplus areas in central Michigan and the "thumb" area of Michigan. It would provide for as high a price in the "thumb" surplus area as in the city of Detroit thus giving Detroit dealers no incentive to remove milk from that area. Milk could be purchased as cheap or cheaper in Wisconsin by paying the Wisconsin Class I price (in this case f. o. b. Chicago price) plus transfer costs.

It is 262 road miles from Shawano to St. Ignace. At the estimated cost of moving fluid milk reported in the United States Department of Agriculture Research Bulletin No. 98.[22] (Approximately two cents for each ten miles); then the price at St. Ignace should be an estimated fifty-two cents over the f. o. b. price at Shawano. Chicago on the other hand is 229 miles from Shawano and the price in that city, using the same estimated transfer costs would be approximately forty-six cents over Shawano. Assuming that the Chicago price was zero, then the St. Ignace price would be six cents higher. An indifference point is reached mid-way in the state where dealers buying in Wisconsin can ship from either the Chicago or St. Ignace entrance at the same amount of transfer cost. This method uses the "perfect market" concept and could be considered for inclusion as a transport provision under the Lower Peninsula

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[22] Regulations Affecting the Movement and Merchandising of Milk, op. cit. p. 91.

order. It does have the limitation mentioned above of providing a higher price toward the local Lower Peninsula surplus areas.

(2) "St. Ignace minus" differentials and "Chicago minus" differentials.--This method would set Class I prices into Michigan using terms established under the Upper Peninsula and the Chicago orders. That such is unrealistic can be seen by referring to the map in Figure 4-4 B. This suggestion decreases Class I prices in the direction of the large Detroit deficit consuming center. One of the lowest prices in Michigan would be at Detroit under this method of pricing. The upper portion of the Lower Peninsula is not a surplus area and this does provide some basis for decreasing prices from this area south in order to provide local milk for the area (The present Upstate order decreases Class I prices to plants 90 miles from Grayling or Manistee). However, under the "perfect market" concept prices should decrease toward the entrances to the Wisconsin surplus area and not increase as herein presented.

(3) "St. Ignace plus" differentials and "Detroit minus" differentials.--This suggested system decreases price toward the surplus area of Wisconsin at both the northern entrance and toward the Chicago entrance to the Lower Peninsula. In addition it provides for the possibility of movement across Lake Michigan to western Michigan (Figure 4-4 C). It would appear to be a realistic method of pricing although it does not fully reflect the "perfect market concept". It is actually a misnomer to call it "St. Ignace plus" since the Shawano price

relationship between Chicago, St. Ignace and Detroit would lead to the "Detroit minus" differential becoming the dominant price in the area. The point of indifference would occur just north of St. Ignace. This "Detroit minus" differential also provides for a lower price toward the local surplus areas of the Lower Peninsula. Using the "perfect market" concept for setting prices as explained in part I of this section with Shawano, Wisconsin as the base point, the St. Ignace price would be six cents over the Chicago price. The Detroit price would be fifty-four cents over the Chicago price, using two cents per ten miles transfer cost and based on Detroit's location 268 road miles east of Chicago. The use of "Detroit minus" differentials leads to a point of indifference, as explained earlier, near St. Ignace compared to the half-way point in the Lower Peninsula using "Chicago plus" and "St. Ignace plus". Thus it might also better provide for a supply of milk for Detroit and southern Lower Peninsula cities than the "Chicago-St. Ignace plus" method.

(4) <u>"St. Ignace plus" differentials and "Eau Claire plus" differentials</u>.--This fourth possible method of setting transport differentials has approximately the same affect as part 3 above. However, "Detroit minus" differentials provide for more local price differences. For example "Detroit minus" decreases Class I prices toward the local surplus areas in central Michigan and toward the "thumb" area of Michigan. Prices also decrease toward the Chicago and St. Ignace entrances to the Lower Peninsula. "Eau Claire plus" differentials

increase toward the Chicago entrance and provide the same price at the "thumb" local surplus area as for Detroit (Figure 4-4 D). For this reason, part 1, "St. Ignace plus" differentials and "Chicago plus" or part 3, "St. Ignace plus" and "Detroit minus", appear to be the most realistic methods of setting Class I price differentials. The latter method would appear to be more favorable since it provides for lower prices toward the local surplus areas. In either case it should be pointed out that the Detroit f. o. b. Class I price must be set considering the Wisconsin price plus transfer costs in order to make this system of transport differentials function.

(5) Blend prices under a surplus area basing point.-- Class I prices affect the ability of dealers to compete on resale. Low Class I prices relative to transfer costs between markets make it profitable for dealers to move into that market. Producer blend prices on the other hand attract or repell the producers between markets. Producer blend prices would expect to be related to changes in Class I price by distance even though this relationship is often obscured by the variation in percent Class I utilization between markets. The relationship of blend prices under various Federal order markets is shown in Figure 4-5. There appears to be less relationship between the various order markets in respect to blend prices based on transfer costs than for Class I prices. This can be partially attributed to producers' inability to know blend prices between markets not in close proximity and their inability to transfer their milk as readily as dealers

Figure 4-5 Inter Order Blend Price Relationships Actual Average "Order Prices" For 1957[a]

[a]Transfer cost estimated at two cents for each ten miles for equal price lines out of Eau Claire, Wisconsin.

can transfer packaged fluid milk.

A transport differential should apply to blend prices as well as Class I prices to direct producers to markets where needed. The United States of Agriculture bulletin reported before showed the producers' blend price from Eau Claire, Wisconsin was below the calculated Class I price.[23]

> Blend prices were shown to vary 1.35 cents per hundredweight per ten miles versus the 1.92 cents per ten miles on Class I. This was explained by the fact that the blend price is an average of the Class I price, which increases rapidly with distance, and a manufacturing class price which increases very little with distance. Blend prices do not represent prices at which milk for fluid consumption is available for shipment to other markets. Even if arbitrarily high Class I prices maintained by regulations are in effect or sanitary regulations are used to exclude 'other-source' milk, producers are likely to make adjustments by changing markets or expanding output in such a way as to make blend prices competitive with nearby markets.[24]

Blend prices under a Lower Peninsula order with a market wide pool will be uniform and will be based on the entire area's percentage of Class I utilization. However, Class I prices will vary if set under a surplus base point system dependent on location from this base point. This same variation should be reflected in producer prices in movement toward the surplus area. No producer location differential will be allowed under the proposed Upper Peninsula order, but an individual handler pool will be operative on this market with the differences in Class I prices in the various zones reflected

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[24] Ibid.

in blend prices to producers. Because a market wide pool is recommended on the Lower Peninsula market and because of the extreme distances involved it would appear that producer differentials should be allowed on all milk equal to those transport differentials set for handlers' on Class I.

(6) F. O. B. farm pricing[25]-All previous discussion of alternative methods of constructing transport differentials have assumed that such differentials would be added to the price at the city from a surplus point or subtracted from the city price at some receiving station. Another method of pricing which is often suggested is to set the rate f. o. b. farm. Under a true f. o. b. farm pricing plan the prices paid to a producer would be based upon his location regardless of where he shipped his milk. An f. o. b. farm pricing plan would require that a transport differential be determined for each farm. The allowance would have to be large enough to encourage handlers to pay the transfer costs of moving this milk from the farm to the handler's plant. Since the farmer would receive the same price at his farm regardless of where his milk was delivered, he would not be influenced by the amount of the transport differential to ship to one receiving plant or city market than to another.

F. o. b. farm pricing is not recommended for consideration with the Lower Peninsula order for the following reasons:

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[25]For further development of f. o. b. farm pricing see E. E. Weeks and Associates, Location Differentials in the Puget Sound Milkshed, Bulletin 577, State College of Washington, December, 1957.

1. A transport allowance would have to be set for each farm or group of farms. This would not seem to be administratively feasible on a market which would have an estimated 16.000 producers shipping to the major consuming centers.

2. A problem is presented in determining handlers' transport differentials. Under the present Michigan orders, where transport allowances are computed, handlers are allowed transport differentials only on Class I milk. The Class II milk price then applies f. o. b. the receiving station or point of first delivery. With f. o. b. farm pricing Class I and Class II prices would have to vary by distance, since it would be impossible to separate out Class I responsibility by location of production.

3. Farm-to-plant hauling rates are currently determined by negotiation between the individual producer and the hauler, with the rates varying by local conditions. To put this portion of the farm-to-city hauling rate under an order program would present a difficult task and is one apparently not desired by the United States Department of Agriculture.[26]

4. F. o. b. farm pricing would not seem to have merit if the f. o. b. farm price were set from some point of surplus milk production as discussed under the Eau Claire, Wisconsin and Montcalm County basing points. There would seem to be little justification for setting the f. o. b. farm price at a surplus basing point price plus transfer costs to the farm when in reality, under the "perfect market" criteria, price would be the surplus area's price plus transfer costs to the deficit consuming center. Setting the price in this manner at the farm would not alleviate the problem of later having to set a transport differential from the farm to the central city.

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[26]H. L. Forest, Director Dairy Division, A.M.S., United States Department of Agriculture, Washington, D.C., "New Problems Accompany New Dimensions of Milk Markets," Paper given at the annual meeting of New England Milk Producers' Association, Boston, Massachusetts, October 31, 1957.

(7) No location differential.--This alternative provision would eliminate both producer and handler differentials. All handlers would, therefore, pay the same price for Class I and Class II milk regardless of the distance of their receiving plants from the major market. Producers would receive the same price at any plant to which they ship their milk. Each producer would have to pay the cost of hauling milk from his farm to the receiving station (as is true under present provisions). The handlers delivered cost of milk however would vary according to location of his producers. This would be an inequitable situation and violates the basic principle which is behind establishment of transport differentials under Federal orders. It is considered desirable that handlers be allowed to procure milk throughout the supply area at a delivered cost that is uniform with that of other handlers on the same economic market. For this reason a location differential is considered necessary under the Lower Peninsula order.

(8) Direct delivery premiums.--This refers to premiums paid by handlers directly to producers delivering milk to specified locations reflecting factors other than those associated with varying transportation costs. It is largely used to equate the prices for handlers with receiving stations to those who receive milk directly without the additional receiving station expense. Most of the large out-state markets receive all of their milk by direct delivery to the city. At the same time direct deliveries to Detroit are on the increase. Table 4-3 shows that there has been a great

change in the amount of milk delivered to the city plants in Detroit. In 1954, 19 percent of total producer milk was delivered directly while in 1957, almost 26 percent of producer milk on the Detroit market was shipped direct to the city plants. For Class I milk these percentages were of course higher due to the higher proportion of nearby milk used in Class I utilization. With Class I milk, 24 percent was delivered directly in 1954, while 34 percent arrived direct in 1957.

Table 4-3 Percent of producer deliveries and of Class I milk received at each zone - Detroit, 1954 and 1957.[a]

Mileage Zone from Detroit City Hall	Percent of milk deliveries			
	1954		1957	
	All producer milk	Class I	All producer milk	Class I
Direct deliveries	19.04%	24.03%	25.72%	34.06%
35-50	12.79	16.39	8.04	10.91
51-70	14.29	15.14	8.99	6.58
71-90	18.26	18.93	19.25	20.75
91-110	20.38	17.38	19.41	17.42
111-130	7.18	3.73	7.94	2.62
131-150	3.82	2.32	6.39	5.79
151-170	1.92	0.88	0.85	0.44
171-190	1.61	0.59	2.21	0.84
191-210	-	-	-	-
211-230	0.71	0.61	1.20	0.59
	100.00	100.00	100.00	100.00

[a]Source: Detroit Market Administrator's Records.

Another important change which has taken place in the Lower Peninsula supply area is the great reduction in the number of country receiving stations. Only three of the large outstate markets now have receiving stations and all of these are located

in the cities which they supply. At the end of 1957 there were only twenty-five receiving stations in the Detroit pool (Appendix II). Since that time there have been two further reductions. The Michigan Milk Producers' Association Tuscola station was closed on March 31, and the Detroit Creamery Brighton station on February 28, 1958.[27] In 1930, it was estimated that there were over seventy-nine receiving stations for the Detroit market.[28] The reduction in recent years has been very drastic and may lead to complete elimination of such stations in the future. For this reason and because no precedent has been set for direct delivery premiums in Michigan it is not recommended for inclusion under the Lower Peninsula order. Such direct delivery premiums are allowed under the New York-New Jersey order, but basis for these had been set historically and under the order only those dealers in cities which had previously paid such premiums were required to do so under the order.[29]

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[27] Detroit Market Bulletin, Monthly report from the Market Administrator's Office, Detroit, April 1958.

[28] J. T. Horner, "Trends in a Typical Large Industrial Center," paper given at the American Institute of Cooperation at East Lansing, Michigan, July 8, 1940. Estimate given for 75 percent of the market.

[29] United States Department of Agriculture, A.M.S., Final Decision With Respect to Agreement and Order Regulating the Handling of Milk in New York and in Northern New Jersey, (22 FR 4194, June 14, 1957).

Recommendations:

Several alternative methods of constructing transportation differentials have been considered in this chapter. These alternatives were examined in the light of several criteria considered the most commonly acceptable for construction of a transport differential under a Lower Peninsula order. A basing point centered on the large surplus area in Wisconsin seems to be the most equitable for all groups concerned. However, it is recommended that it be somewhat modified to use the "Detroit minus" differentials. The reason for the change will be brought out below. It was shown that this Wisconsin base point had been taken into account (although not explicitly) in construction of Class I prices under many of the Federal milk orders in the Mid-west and was explicitly used in setting Class I prices under the new proposed Upper Peninsula order. This method of pricing would seem to mitigate some of the problems of prices set using other methods which violated the "perfect market" concept.

The Detroit minus differential is recommended for the following reasons:

1. This method decreases Class I prices toward the Wisconsin surplus area's entrances to the Lower Peninsula via St. Ignace and Chicago.

2. This system does not have to assume that Lake Michigan is always to remain a barrier to shipments from Wisconsin since it also provides for a lower Class I price in that direction.

3. The plan provides for a decrease in price toward the local Michigan surplus areas in central Michigan and in the "thumb" area and assures producers in those areas that their milk will have a market at order prices.

The plan has some limitations which should be recognized. First, it does not represent exactly the "perfect market" concept which has been shown to be an important criterion. The equal price lines are convex toward the large surplus area rather than convex toward the deficit area. The equal price lines do allow price to decrease in the same direction as the "perfect market" concept. Secondly, this method provides lower prices in cities directly north of Detroit than justified using the "perfect market" concept. It should be pointed out that this may be justified on the basis of the location of these large out-state Michigan cities in the vicinity of the local surplus area.

The author wishes to reiterate that there are actually many sound arguments which could be advanced for using the "perfect market" concept of "Chicago plus" and "St. Ignace plus" differentials. However, it presents one fundamental difficulty since it does not allow for a decrease in price in the "thumb" local surplus area. If the Class I price in this area was maintained at a rate equal to or above Detroit, it would lead dealers to ignore this supply of nearby milk. Wisconsin milk could be purchased at a lower price at the f. o. b. Chicago price less transfer costs.

The recommended method of setting price differentials under the proposed "Detroit minus" differential plan is shown with hypothetical price relationships on the map in Figure 4-6.

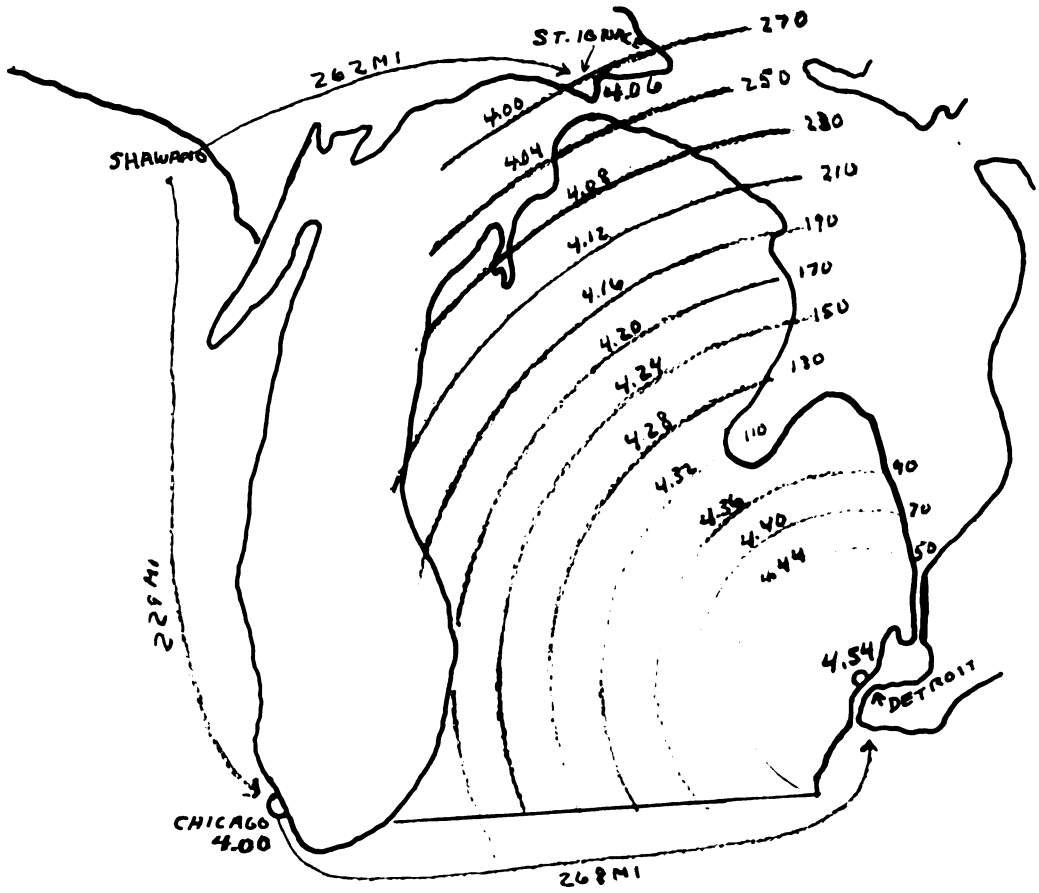

Figure 4-6 Price Relationship at Various Portions of Michigan's Lower Peninsula Using the "Detroit Minus" Transport Differential.

This is the same relationship as shown in Figure 4-4 C. Using a "perfect market" concept, St. Ignace Class I would be six cents over Chicago and Detroit would be fifty-four cents over Chicago (transfer cost assumed to be two cents for each ten miles). If the Chicago price was $4.00, then the price at St. Ignace would be $4.06 and the price at Detroit $4.54. Producers delivering to any plants located within twenty mile radii of Detroit would be paid, for milk for Class I use, the price f. o. b. that city less transfer costs into the area. The St. Ignace base point is not used in this method of setting prices since the point of indifference would be near that city

and the Detroit buying price would be dominant throughout the Lower Peninsula. There would be no incentive for Wisconsin dealers to ship into the Lower Peninsula from that point with the price set as established with this method.

The blend price would be reduced by the same differential as advocated for handlers' on Class I, as under present Michigan orders. The producer transport differential should apply to all milk received at plants located in the designated zones.

CHAPTER V

SEASONAL PRICE PLAN, TYPE OF POOL AND POOL PLANT REQUIREMENTS

Seasonal Price Plan

A seasonal price plan must be selected which will fit into the existing structure of Michigan markets incorporated in the Lower Peninsula order. The plan must at the same time provide sufficient incentives for uniform production of milk to encourage a level supply seasonally and thereby increase producer returns, increase efficiency of handlers surplus manufacturing facilities, and provide a stable supply and price to consumers.

Michigan Order Market Experience

Figure 5-1 shows the consumption of milk in Detroit by months since the Federal order's inception. Note that Class I (fluid milk and fluid milk products) sales have been fairly uniform from month to month with an upward trend in consumption. Class II sales (utilization of remainder of the producer milk in fluid cream and manufactured products) have varied considerably from month to month. Figure 5-2 is constructed to show the seasonal sales pattern of Class I milk on the Detroit Market.[1] The seasonal relatives for a five

[1] Index of seasonal relatives--constructed by taking the median of five year percent of 12 month moving averages of monthly average of daily Class I sales.

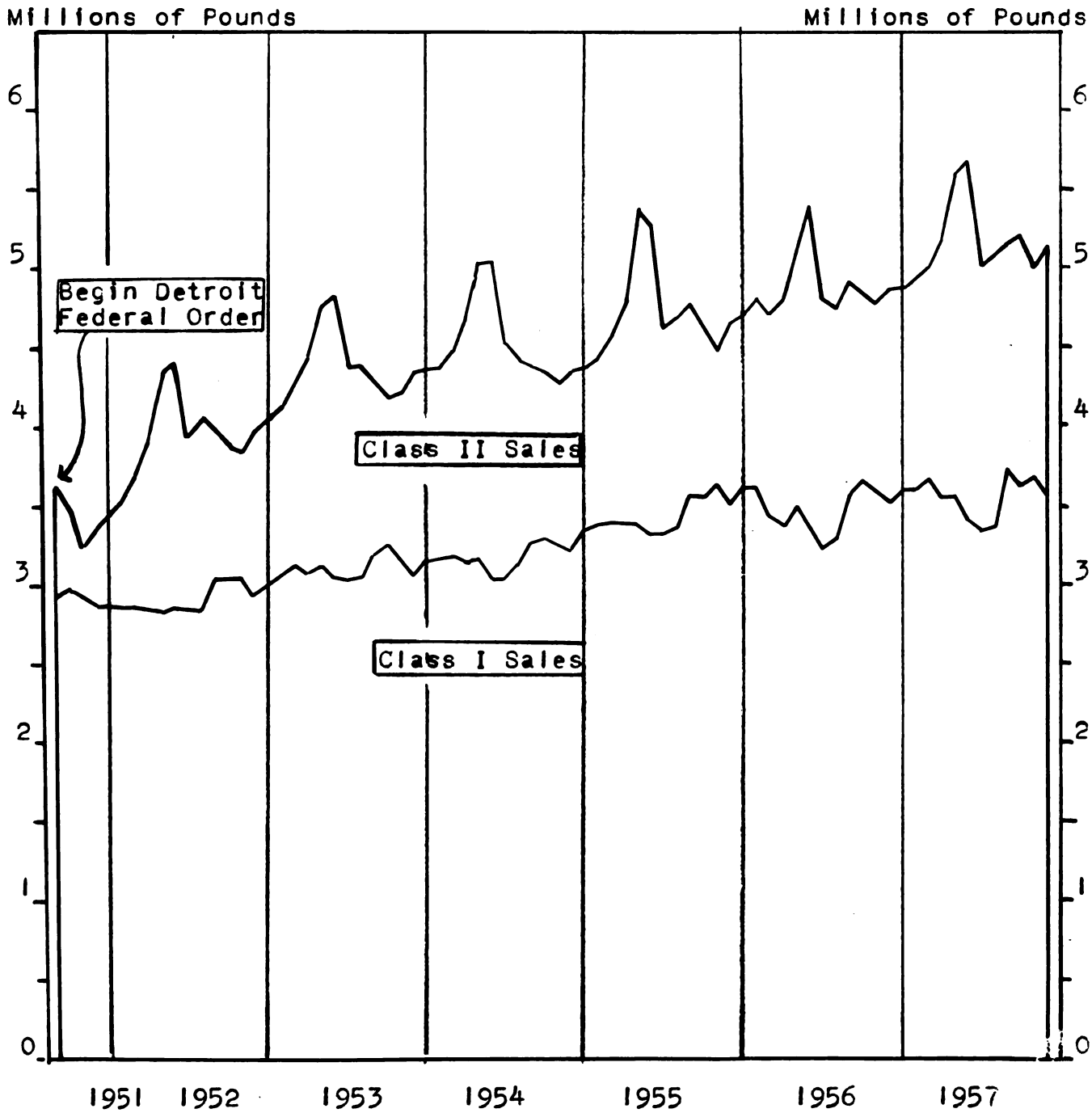

Figure 5-1 Class I and Class II Sales of Producer Milk - Detroit Order Market[a] (Sept. 1, 1951-Dec.31, 1957)

[a]Monthly average of Dairy deliveries of producer milk. Data from Detroit Market Administrator's Office.

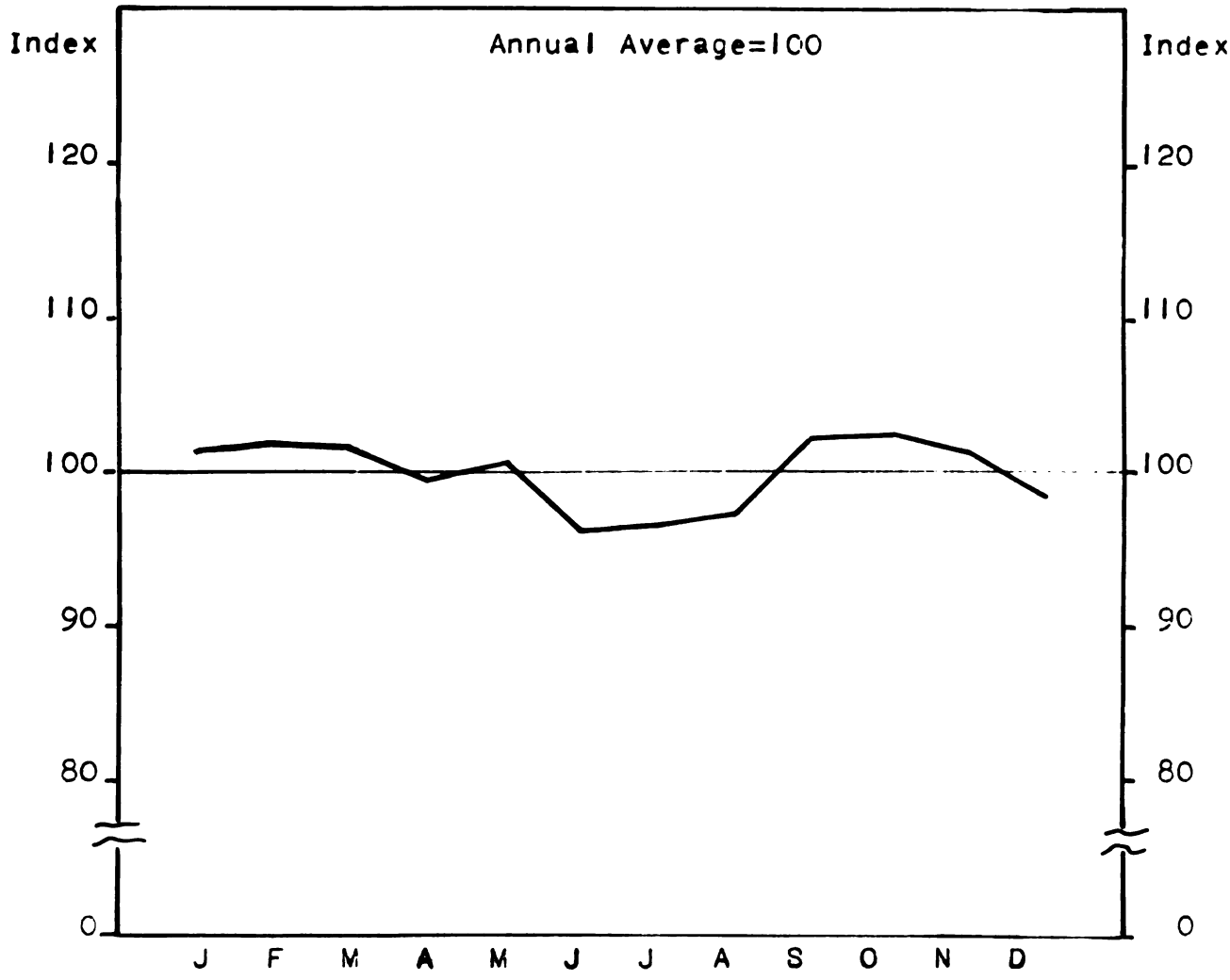

Figure 5-2 Index of Class I Sales of Producer Milk-Detroit[a]

[a]Seasonal relatives, adjusted medians percent of centered 12 month moving average, original data monthly average of daily Class I sales, Source, Detroit Market Administrator's Office.

year period shows that Class I sales varied only from a high of approximately 2½ points above normal to a low of 4 points below.[2]

The relatively uniform Class I sales and wide variation in seasonal deliveries of producer milk has tended to create a surplus in the spring months on markets which have just sufficient fall supplies. There is much inefficiency from having such a seasonal surplus on a market. Extra receiving stations, hauling equipment, and manufacturing plant capacity must be maintained although operated at much less than capacity much of the year. Farmers, of course, have loss through lower prices for manufactured milk than for milk moved into fluid consumption. To combat this problem, seasonal price plans of many types have been experimented with on most fluid milk markets. Detroit's base and excess plan was first used in January, 1923 and has been used continuously on that market since 1930. It was included as a provision in the Federal order for Detroit when it became effective in 1951. It can be shown that this plan has also been very effective. At the Detroit promulgation hearing it also was brought out that, when the base and excess plan of payment was re-introduced in 1930, milk deliveries to the market in the highest production month were 175 percent of deliveries in the lowest month. After 10 years of operation (1940), milk receipts in the highest production month were only 126 percent of the lowest

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[2]Normal as used in this chapter means--if the same amount was utilized or produced each month of the year.

month. The war caused some change in seasonal production and by 1949 the high month was 134 percent of the low month. It was stated that,

> If the seasonal variation of 1930 had prevailed in 1949, and November deliveries had been only adequate for market needs (115 percent of Class I utilization), deliveries in June would have been over 201 percent of Class I and in volume over 60 million pounds of milk in excess of Class I needs.[3]

It was concluded that this would have completely demoralized the market. The plan was apparently very effective prior to the Federal order and it can be demonstrated that it has been effective since that time. Figure 5-3 shows the seasonal index of milk deliveries by Detroit Federal order producers compared with milk production for the balance of Michigan. It is clear that the Detroit producers have a less erratic pattern of deliveries than the State's monthly production less Detroit. In June, Michigan production less Detroit was 28 points over normal while in November it dropped to approximately 19 points below normal. For Detroit producers, the variation was from 10 points over normal in June to about 6 points below in November.

This same favorable pattern can be seen for Detroit when compared with other nearby Federal order markets (Figure 5-4). In this case Detroit is contrasted with the other two

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[3]United States Department of Agriculture, P.M.A., Recommended Decision With Respect to Proposed Marketing Agreement and Order Regulating Handling of Milk in the Detroit, Michigan Marketing Area. (16 FR 2084, March 6, 1951).

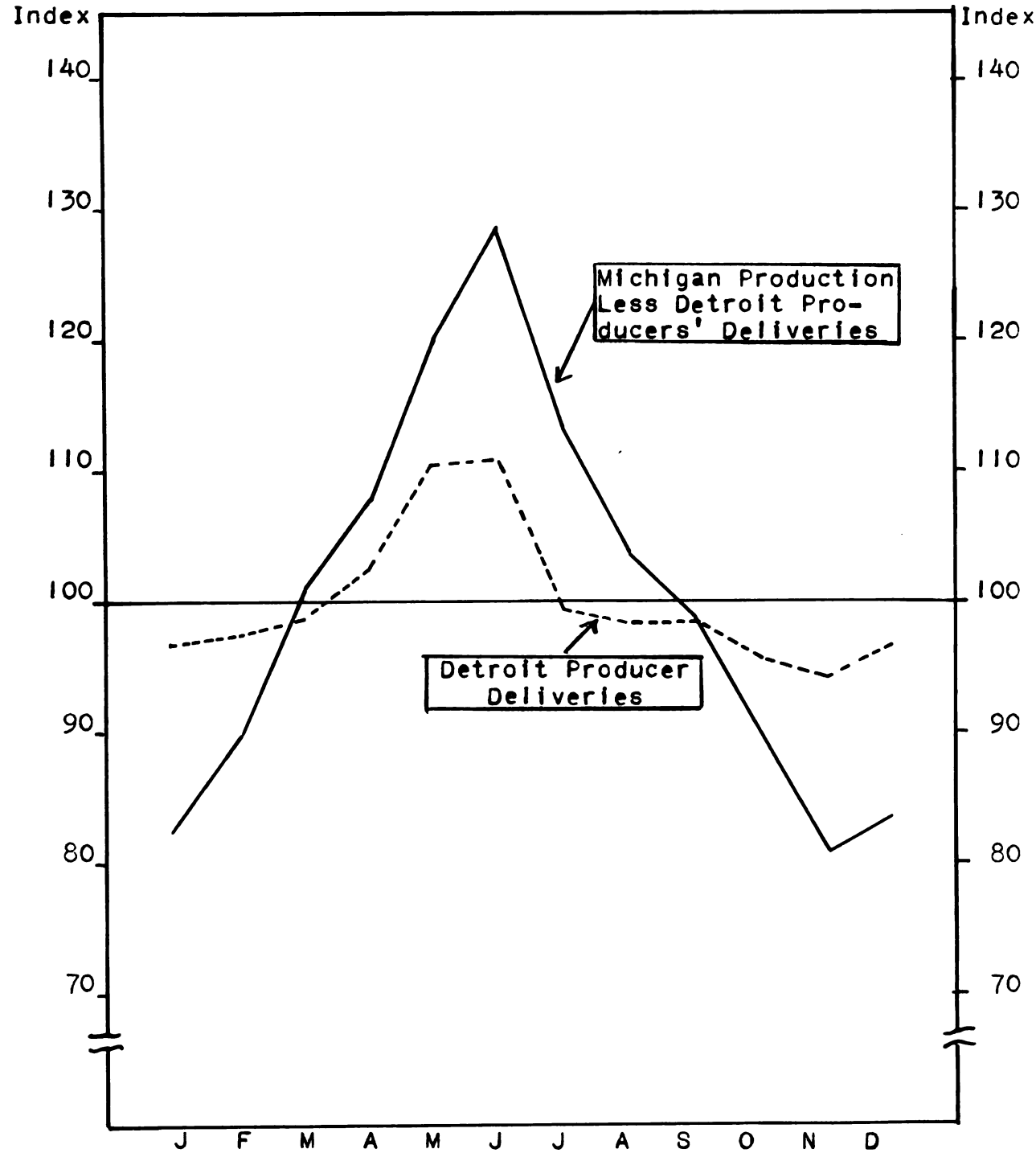

Figure 5-3 Seasonal Index of Milk Deliveries to Detroit and Michigan Production Less Detroit - (July 1952-June, 1957)[a]

[a]Monthly average of daily deliveries to Detroit Order Market and of Michigan farm production less Detroit deliveries. Adjusted medians of percent of centered 12 month moving average. Original data from: 1-Detroit Market Administrator's Office, 2-Michigan, 1956, 1957 from Milk Production on Farms and Statistics of Dairy Plants A.M.S. United States Department of Agriculture February 28, 1958. Data 1951-1955 from Michigan Agr. Statistics, Michigan Department of Agriculture, July, 1956 and June, 1957.

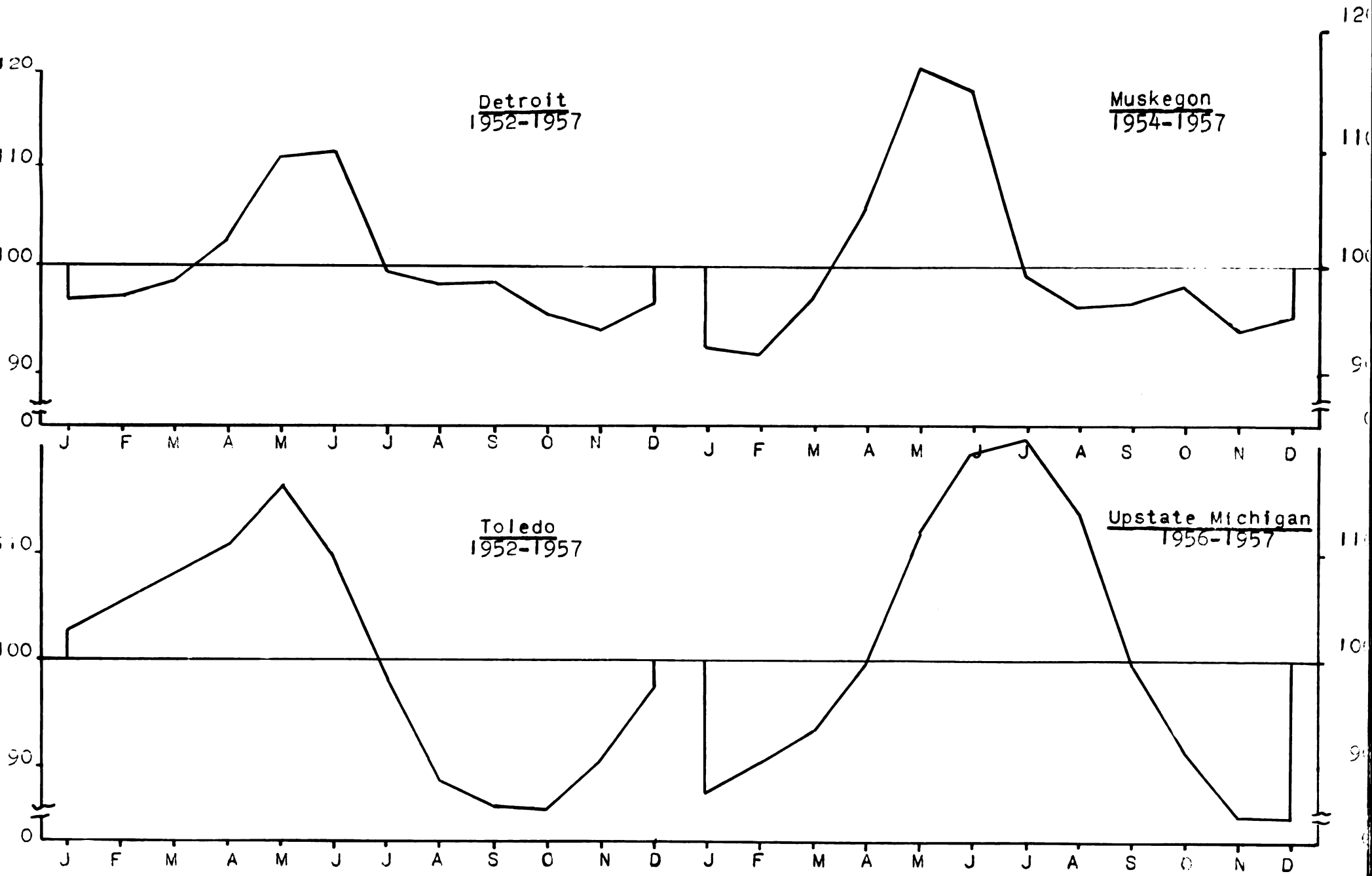

Figure 5-4 Seasonal Index of Producer Milk Deliveries to Detroit, Toledo, Muskegon and Upstate Federal Order Markets - Dates as Indicated Since Orders Effective (Adjusted medians of percent of centered 12 month moving average).

Michigan Federal order markets and with Toledo, the nearest out-state Federal order market. Muskegon has had a base and excess plan since 1929 when the market was organized by the Michigan Milk Producers' Association. This plan has also been used since the beginning of that market's Federal order in October, 1953. It has a more variable seasonal pattern than Detroit.[4] The Upstate market has very uneven producer deliveries and does not have either a base and excess or a fall premium plan. However, this uneven production pattern is perhaps more efficient on the Upstate market, than it would be on most other United States markets, because of the unusual consumption pattern in the area. At the time of the promulgation hearing concerning the Upstate Michigan order neither a seasonal difference in the Class I differential nor a seasonal price plan were included. It was stated at that time that:

> The greatly increased demand which characterizes the Upstate area in late June, July and August minimizes the need for any such plan (base rating plan was under consideration). In May and early June there is seasonally excess milk to be disposed of for manufacturing, but the flush of production does not occur until June, when such excess is consumed locally as soon as the resort season opens.[5]

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[4]This can be accounted for in part by the erratic use of the base and excess plan prior to Federal Regulation of the Muskegon market. In November, 1943 the market went off the base and excess plan. The plan was resumed again in February, 1946, but from October, 1946, through February, 1947 the market was again off the base and excess plan.

[5]United States Department of Agriculture, A.M.S., Final Decision with Respect to the Proposed Marketing Agreement and Order Regulating the Handling of Milk in the Upstate Michigan Marketing Area. (20 FR 6610, September 9, 1955).

Due to the Class I sales pattern brought about by the large invasion of the Upstate area by tourists during the ordinarily flush season months, a base and excess plan might lower available milk supplies in this area during the summer months and cause an increase in manufacturing during the fall months which in other markets are usually months of short supply. Upstate producer deliveries were 20 points over normal in June and July and almost 15 points under normal in November and December compared with Muskegon which was about 18 points over normal in May and dropped to 6 points under in November. Detroit was 11 points above normal in the high month of June and 6 points below in the low month of November. Toledo depends only on a seasonal differential in price and production varied from a high of over 16 points above a seasonal normal to a low of 14 under in the low month of October. This pattern is probably accentuated by Toledo and Detroit competing to some extent in the same production area of Michigan with those producers with the most uneven production patterns shipping to Toledo (by choice) and the more level producers shipping to the Detroit market with its base and excess plan.

Not only has the base and excess plan worked effectively in the Detroit case, but it has become the accepted plan for the leveling of seasonal production in many Federal order markets throughout the United States. On March 1, 1958, 36 of the 68 Federal order markets had a base and excess plan compared to nine with fall premium plans. Twenty-three had either no seasonal price plan or only a seasonal price differential. The importance of this plan in recent orders is

indicated by the revelation that 19 of the 24 orders, which are currently in effect and which have been established in the last five years (January 1, 1953-December 31, 1957), include the base-excess plan in their provisions. In addition, all of the recent order expansions and market combinations in the year 1957 included this provision. This included the North Central Ohio Order, the New York-New Jersey Order, the Akron-Stark County Order, the Greater Kansas City Order, and the Oklahoma Metropolitan Order.[6] Major city markets in Michigan with a base rating plan in addition to the Federal order markets of Muskegon and Detroit are Jackson, the valley markets(Bay City, Midland, Mt. Pleasant and Saginaw), Grand Rapids, Battle Creek and Kalamazoo.

Recommendation

It is recommended that the base and excess plan be included in the Lower Peninsula order. A large number of producers, who will be regulated and now produce under the Detroit or Muskegon order, have bases established as do many out-state city markets where there are cooperative bargaining agencies. The plan is therefore well accepted in the State, and its expansion for complete producer coverage will not be too difficult. It was shown that the Upstate resort area would probably not benefit from a base and excess plan. However,

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[6] Summaries of Federal Milk Marketing Orders, A.M.S., United States Department of Agriculture, revised to March 1, 1958.

with the complete Lower Peninsula under Federal order regulation and with the base and excess plan the most favorable seasonal price plan for most of the markets it would not seem beneficial to separate this area for individual consideration. Ample supplies from the other markets would be available at the order prices during the heavy tourist months. It has been shown that it has been successful in Detroit in accomplishing its objective to lower seasonal extremes of production. Finally it has become widely accepted as a working device throughout the Federal order program.

Type of Pool

Another very important consideration in formulating a Federal milk order for the Lower Peninsula of Michigan is the selection of the type of pool and the requirements for deciding which plants and which producers to make a part of this pool.

There are essentially four types of pools:[7] individual handler, zonal, market wide (or in the large case a state wide market pool) and the association pool. Each has advantages

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[7]Another type of pool, not considered here, but used in California is the individual plant pool. In this case milk is pooled according to physical receipts at an individual plant and the group for which returns are averaged consists of those producers whose milk actually arrives at that plant. D. A. Clarke, Jr. Fluid Milk Price Control in California: A report to the Joint Legislative Committee on Agriculture and Livestock Problems. University of California, Agricultural Experiment Station, Berkeley, California, June, 1955. p. 89.

and disadvantages which are reviewed below:

A. The Individual Handler Pool

(1) Advantage

a. All producers selling to the same firm receive equal prices.

b. The plan is easy to administer with little extra costs of administration over those involved in the operation of individual plant pools.

c. It tends to limit surpluses.

(2) Disadvantages

a. The possibility exists for non-uniform treatment of producers shipping to different handlers. There is no problem as long as producers who ship to handlers with relatively low blend prices (as a consequence of low Class I sales), are free to transfer to firms with higher blend prices. Under this competitive arrangement prices paid by all firms will tend to be uniform. But such freedom is not apt to exist as each handler attempts to keep within fluid requirements by limiting the number of producers. If one firm handles more Class II (manufacturing class milk) than the others, the producers supplying these plants would receive lower prices than producers supplying plants with higher fluid use.

b. A form of discrimination occurs for handlers who utilize the surplus milk on the market. Such surplus is inevitable even in tight supply markets during the flush season of production; yet the handler, who manufactures, is penalized for carrying this surplus.

c. In order to keep receipts close to Class I sales, handlers may cut off producers especially during the flush seasons.

d. Inefficiencies may develop in the handling of surplus, with an individual handler pool, since the surplus is usually handled in many small firms. Assuming economies of scale, under a market wide pool the surplus would tend to concentrate in a few large plants.

B. Zonal Pools[8]

(1) Advantage

a. Provides for uniform treatment of all producers in the same zone. The zone may be set on uniform production areas or it may be set for individual major milk markets, distance from major market or some other similar criteria.

b. On certain markets and in certain zones it may tend to limit surplus more than for a market wide pool described below.

(2) Disadvantage

a. Discriminates against producers on the basis of location. For example two neighbors on the opposite sides of the zonal lines would receive different prices depending on the utilization in their respective zonal pool.

b. Surplus manufacturing facilities may have been established historically in one area or one market may have been responsible for the disposal of surplus. In such a case this pattern may bring about lower prices in the zonal pool handling the surplus relative to others because of this historical arrangement. For example the Detroit market now handles much of the surplus for the rest of Michigan. A zone set up for that area and including all bottling and supply plants for that market in one zone would bring a lower blend price to producers because of the lower percent Class I utilization than for the other zones set up in the State.

c. It would tend to attract more surpluses than the individual handler pool.

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[8]Zonal Pools have not been used under Federal order programs nor has the author been able to find a specific example of such a pool. However, it is included here as a possibility which might be used under Federal Regulation in an area wide order where production and/or consumption characteristics differed.

C. Market Wide and State Wide Pool (Modification of B. except a larger area is involved)

(1) Advantage

a. The wider the base of the pool, the smaller is the possibility for discrimination against any producers. Therefore the state wide pool would tend to be more "equitable" than either of the other two types. If there were no barriers erected which restrict freedom of entry to the pool, a state wide pool would thus provide a mechanism making uniform blend prices to all producers possible.

b. The reserve supply of milk may be more efficiently handled by consolidating the reserve supply in plants most distant from the market and may have large plants specializing in manufacturing surplus milk on the market.

(2) Disadvantage

a. The mechanics of establishing appropriate transport allowances would probably be more complex under this type of pool.

b. The pool would tend to attract surpluses as does any market-wide pool and may lead to weak merchandising of milk in fluid outlets. Handlers are under no pressure to maintain their paying price to farmers by maintaining high Class I sales, since they pay a market blend price. They may even be reluctant to release surplus milk when a fluid market is in need, if they are set up with the primary objective to manufacture and need to maintain high manufacturing volume to break even. The purpose of being in the pool is to enable them to pay blend prices equal to the fluid market for manufacturing milk with the aid of the pool. This occurs where the pool plant requirements are not strict.

c. Producers who were supplying markets with high percent Class I utilization may find a reduced blend price due to overall lower state wide percent Class I utilization. The exact amount will depend largely on the pool plant requirements of such a pool.

D. Association Pool

(1) Advantages

a. Association pools usually include the members of a producers' association supplying a fluid milk market. Producers in such a pool are paid a weighted average of the class prices paid by handlers who purchase milk from the association. When one producers' association represents almost all the producers in a market the association pool approaches a market wide pool and has the advantages listed above associated with that type of pool.

b. Association pools may operate along with an individual handler pool or a market wide pool on a Federal order market. In the first instance, a cooperative member would receive a blend price computed from the class utilization of all the handlers to whom the association sold member milk. This would probably be considered an advantage to cooperative members. All members of the same association receive an equal price for the same quality milk. An association pool operating under a Federal order with a market wide pool is considered a "super pool". The super pool has been used when higher Class I prices for member milk have been negotiated. Repooling of this milk allows a blend price to producer members over the minimum set using order class prices. This would probably be considered advantageous to the producer members, but is throught to be disrupting to the Federal order program.[9]

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[9]For information on the use of the "Super-pool" under the Federal order program see: United States Department of Agriculture, A.M.S. Dairy Situation, October, 1957, pp. 23-26. Also H. L. Forest, "Implications of Super-pools for the Future of Federal Milk Order Pricing"-paper given by H. L. Forest, Director of Dairy Division, United States Department of Agriculture, at University of Wisconsin Farm and Home Week Program at Madison, Wisconsin, February 5, 1958.

(2) Disadvantage

a. Association pools have at times found difficulty maintaining a classified price plan which is essential for pooling. This has been especially true when heavy surpluses of milk were available on the market. Under such conditions non-participating handlers can buy their supplies near the blend of the association pool. With high Class I utilization these handlers can undersell handlers buying from the association since these outside handlers do not have to account to their producers for the actual Class I sales or price.

b. When an association pool approaches a market wide pool in scope, it of course, inherits all the disadvantages of that type of pool as explained above.

Fifty-two of the 68 Federal order milk markets had market wide pools in 1958.[10] Thus this type pool is more popular nation-wide than the individual handler type pool which is used on only sixteen markets. The Agricultural Marketing Agreement Act of 1937 tends to favor the market wide pool, since to construct such a pool as an order provision requires approval by only two-thirds of the producers compared with three-fourths of the producers' approval needed for an individual handler type pool. These two types of pools seem to work in opposite directions; the market wide pool attracts surpluses and the individual handler pool repels surpluses. With an individual handler pool as was pointed out above, each dealer desires to keep his purchases to a minimum so that his sales of Class I milk will be a high proportion

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[10] Summaries of Federal Milk Marketing Orders, op. cit.

of his total sales. This will enable him to pay a high price to his producers and to be selective of the producers in the process. Although there is little comparison looking at only two individual handler markets (Toledo and Upstate Michigan),[11] it is perhaps no coincidence that they have higher Class I utilization than their neighboring Federal order markets (Table 5-1). In 1956 all the individual handler markets in the United States had approximately 85 percent Class I utilization, while all market wide pools had only about 73 percent Class I use.

That Detroit has been handling much of the surplus for the total area of Michigan can be seen by reference to Table 5-2, which shows the percentage of Class I utilization by Michigan major markets by months in 1957. The average percentage utilization for Detroit was 69.0 for the year 1957. For the balance of the markets the average was 78 percent Class I utilization.

Recommendation

The problem of pooling or averaging payments to producers is primarily one involving equity. Equity under our previous definition meaning a policy which results in uniform treatment of all parties involved. Based on quality, plant pools are less equitable than individual handler pools, which are less equitable than zonal pools, which are less equitable than

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[11] The Upstate market has had a market wide pool since August 1, 1957.

Table 5-1 Percent of producer milk in Class I use - Michigan and nearby Federal order markets.[a] (1951-1957)

Market	Type of Pool	1951	1952	1953	1954	1955	1956	1957
		%	%	%	%	%	%	%
Detroit, Mich.	M	84.7[b]	74.1	71.1	70.1	72.7	71.5	69.0
Upstate, Mich.	H	-	-	-	-	84.1[c]	77.9	80.2[e]
Muskegon, Mich.	M	-	-	79.9[d]	77.5	80.0	78.0	75.8[f]
Cleveland, Ohio	M	75.6	68.4	66.1	65.3	69.0	72.1	73.5
Toledo, Ohio	H	83.0	85.4	81.6	84.5	85.5	88.7	88.9
Fort Wayne, Ind.	M	72.8	60.7	54.7	49.8	60.2	57.0	61.0
Chicago, Ill.	M	54.6	53.5	46.6	47.5	51.6	49.2	47.0
South Bend-LaPorte	M	83.6	83.5	75.6	70.4	76.3	75.4	70.8

[a]Dairy Statistics, Statistical Bulletin 218, A.M.S., United States Department of Agriculture, October, 1957, p. 354. 1957 data from individual order annual market reports of each listed market.

[b]Effective September 1, 1951.

[c]Effective November 1, 1955.

[d]Effective October 1, 1953.

[e]Changed to market wide, August 1, 1957.

[f]Does not include Holland-Zeeland market. Added May 1, 1957.

Type of Pool
M=Market Wide
H=Individual Handler

Table 5-2 Percentage Class I utilization by Michigan major markets by months, 1957.[a]

	Type of Pool[b]	J	F	M	A	M	J	J	A	S	O	N	D	Ave. 1957
Kalamazoo[c]	A	79.3	78.9	76.9	73.5	69.2	61.9	63.9	64.7	70.7	74.5	80.2	74.0	72.0
Battle Creek	A	69.1	69.2	69.1	72.6	64.8	62.0	75.9	75.9	72.0	76.7	86.9	77.4	72.5
Flint	H	83.4	81.0	78.7	75.8	71.4	64.6	76.1	79.0	83.5	90.3	92.5	85.4	79.6
Grand Rapids[d]	A	67.3	67.6	65.1	62.9	58.0	55.5	62.4	66.6	63.6	60.4	61.8	59.1	62.4
Holland-Zeeland[e]	M	n.a.	n.a.	n.a.	n.a.	87.5	85.1	97.0	96.9	97.4	96.6	95.0	89.8	93.0
Jackson	A	78.6	76.2	78.0	86.4	77.7	76.5	87.3	87.8	88.4	90.6	95.2	89.7	84.1
Muskegon	M	78.4	79.1	77.3	71.7	66.9	64.6	80.4	84.9	77.8	75.8	79.4	75.8	75.8
Valley	A	82.3	81.8	79.6	79.8	77.7	72.2	87.8	88.3	81.8	86.6	89.2	82.6	82.4
Upstate[f]	H	81.2	79.0	75.6	73.2	66.3	67.2	92.5	93.4	76.7	86.9	89.0	82.2	80.2
Detroit	M	73.6	73.3	73.0	68.4	63.9	59.8	66.9	66.1	72.4	69.6	73.9	69.6	69.0

[a]Note: Inclusions in Class I vary slightly see Table 3-5. Source: Kalamazoo, from Kalamazoo Milk Producers' Cooperative, Inc. Upstate and Detroit from respective Market Administrator's Office. Other markets from Michigan Milk Producers' Association records.

[b]Type of Pool: A=Association, H=Individual Handler, M=Market Wide.

[c]Data for 55-60% of the market.

Table 5-2 (continued)

[d]Data for 40-45% of the market.

[e]Eight month data, Holland-Zeeland added to Muskegon Federal Order Market on May 1, 1957. Prior data not available.

[f]Changed to Market-wide August 1, 1957.

a state wide pool. Chapter II proposed a market area composed of the entire Lower Peninsula of Michigan. A market wide pool in this area thus is for all intents and purposes a State wide pool. The problem of transport differentials has been discussed in Chapter IV with this type of Lower Peninsula pool in mind.

In the new market order proposed for the Lower Peninsula of Michigan it would not seem to be desirable to provide for an individual handler type pool. Such an arrangment could lead to inefficient handling of the market's reserve supply, which is now largely concentrated in Michigan Milk Producers' Association and Michigan Producers' Dairy manufacturing plants.[12] A market-wide pool cn the Detroit market has promoted this concentration. It would create an unnecessary burden on this cooperative and its producers to change this situation. With a state market wide pool, this consolidation of surplus is made possible since all producers share the entire Class II utilization of the market. Therefore, a market wide pool for the entire Lower Peninsula of Michigan is recommended for inclusion in the new order.

Pool Plant Requirements

Under a proposed market wide pool for the entire Lower

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[12]In 1957, 365,581,278 pounds of Detroit inspected milk were shipped by handlers on the Detroit market to non-handler plants. The largest part of this (an estimated 95 percent) was transferred to the Michigan Milk Producers' Association plants and to those of its affiliated Michigan Producers' Dairy. Total Class II utilization for all purposes in 1957 was 606,463,865 pounds of milk.

Peninsula it is important to set up performance requirements for producers and plants to participate in this pool. It is commonly known that market wide pools tend to attract surpluses unless some such check is set up. Examples of the protection needed are cited in a recent United States Department of Agriculture publication:

> A plant engaged in supplying short-season requirements of dealer-pool markets may find that these outlets alone enable it to pay producers as much as the marketwide pool blend price. If in addition, this plant can become part of the market wide pool without any obligation to supply the market's fluid milk needs, it can draw equalization payments, possibly exceeding its payments into the pool on account of its outside sales during the short season.
>
> There is another type of case, involving a plant possessing extensive manufacturing facilities and located in the milkshed of a market having a market wide pool. Such a plant may persuade its producers to meet the health standards in order to qualify the plant for the pool--possibly exerting unusual efforts on nonprice methods of milk procurement to influence producers to do so. The plant's objective, and opportunity for profit, lies in being able to buy its milk at the manufacturing class price, and to pay its producers the market blend price. In pricing the manufacturing class it may not be possible to set a price high enough to discourage a specialized manufacturing plant of this type from entering the pool, but low enough to assure that other handlers will not reject seasonally surplus milk.[13]

The two types of plants discussed above have little or no interest in supplying the fluid milk requirements of the market in which they are a part of the pool. They may not even

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[13] Regulations Affecting the Movement and Merchandising of Milk, Marketing Research Report No. 98, A.M.S., United States Department of Agriculture, June, 1955, pp. 51-52.

furnish fluid milk during the short supply season.

> This results in pressure to raise the Class I prices, even though the supply may be adequate as measured by the ratio of pool receipts to Class I sales. Marketwide pools, therefore, are under compulsion to adopt 'performance requirements' or some other device that will enable them to attract a sufficient supply of milk while ensuring that the plants in the pool will supply milk to the market.[14]

For the first step in investigation of pool plant requirements, it would be well to review briefly the history of Detroit pool plant requirements, later the other Michigan order markets will also be analyzed. The reason for discussing the Detroit requirements is the same as mentioned in the chapter on classes of use. The Detroit Federal order market was the first under Federal regulation in Michigan. Many of the provisions in the Detroit order formed the basis for construction of operating provisions on many of the other Michigan markets either under Federal regulation or cooperative bargaining. In addition the Detroit marketing area will be a large portion (volume-wise) of the new Lower Peninsula order. Table 5-3 shows the development of the Detroit pool plant requirements since the order's inception. Under the Detroit order, prior to the November 1, 1955 amendment, there were two major categories of milk plants which were subject to regulation. This has continued to be the case historically on this market. The first category was composed of plants from which milk was distributed directly on routes in the marketing area.

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[14] Ibid, p. 52.

Table 5-3 Historical changes in pool plant requirements under the Detroit marketing order.

Effective September 1, 1951

Pool plant not defined as such. A handler was described as a person who operated a pasteurizing or packaging plant from which Class I milk is distributed on routes in the marketing area. Or a person who operates a supply plant approved by area health authorities and which ships at least 10 percent of its dairy farm supply of milk to a distributing plant described above in each of the months of November and December.

Effective November 1, 1954

A handler is also a cooperative association with respect to milk customarily received by a handler (see 9-1-51 above), which is diverted to a person not a handler for the account of the association.

Effective November 1, 1955

A pool plant as well as a handler was defined at this time: Handler, (a) any person who operates a pool plant, (b) any person who operates a non-pool plant from which Class I products are disposed of on a route in the marketing area, or (c) a cooperative association with respect to milk customarily received at a pool plant which is diverted to a non-pool plant for the account of the association.

Pool Plant defined as (a) any distributing plant in which milk is pasteurized for distribution in the marketing area and from which Class I milk is disposed of during the month on routes in the marketing area. However, the total quantity distributed during any of the months March through August on all routes operated inside or outside the marketing area must equal 45 percent or more of the receipts from producers, or from other plants with milk approved for fluid use. During the months of September through February this must be 55 percent or more. A pool plant is also defined as (b) any supply plant approved by the Department of Health of area cities from which during the month not less than 25 percent or the call percentage,[a] which ever is

[a]Note; A call percentage is the percentage of net receipts at a supply plant which a supply plant is required to ship to a distributing plant in order to qualify as a pool plant. A call percentage may be issued by the Market Administrator for any month except April, May, June or July. No call percentage of less than 25 percent can be issued. The call percentage may be reduced at any time during the month when it appears that more milk is being delivered to distributing plants than is needed to fulfill their Class I requirements. This reduction of course can not go below the minimum of 25 percent under the order.

Table 5-3 (continued)

higher, of its dairy farm supply of milk, less any milk disposed of from the plant as Class I is moved to a distributing plant. A plant which has shipped the required percentage during each of the months of October through January, will be a pool plant for each of the following months of February through September, if it ships the percentage provided for in any call which may be issued by the Market Administrator.

These were referred to as "distributing" plants and were fully regulated under the order if they distributed 600 pounds or more of Class I products per day in the defined marketing area. The second category consisted of plants which assembled milk from producers for bulk shipments to distributing plants. These were referred to as "supply" plants. In order to be fully subject to the classification, pricing and payment provisions of the order and to participate in the market wide pool, a country supply plant had to be approved by one of the designated health authorities and to ship milk to distributing plants equal to 10 percent of total quantity received from producers during the months of November and December. Any plant making such shipments remained qualified as a pool plant during the succeeding ten months.

The recommended decision for the November 1, 1955 amendment stated that these standards did not adequately define the plants which constituted the regular and dependable supply of fluid milk for the Detroit market.

> Only those plants which are, in fact, operated in such fashion as to be regular suppliers should be subject to the complete regulation of the order and entitled to participate in the market wide pool.[15]

On the basis of this recommendation the requirements for a pool plant were spelled out in more detail as indicated in the

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[15]United States Department of Agriculture, A.M.S. Recommended Decision With Respect to Proposed Amendments to Marketing Agreement and Order Regulating the Handling of Milk in Detroit, Michigan Marketing Area. (20 FR 6622, September 9, 1955).

November 1, 1955 order (see Table 5-3). Specific percentages of milk were required to be delivered each month as Class I on routes in the area by distributing plants and the requirements to qualify as a supply plant under the pool was also tightened as the percentage required was moved to a minimum of 25 percent.

This recommendation also provided that plants be allowed to qualify on a combination basis:

> This principle of combining plants for maintaining pool qualifications should be extended to cover all plants for which a handler is responsible for the marketing of milk rather than being confined to the plants actually operated by such handler....this extension of the concept of plant systems is based upon the same logic as the combining of plants operated by a single handler (which is also allowed under the Detroit order). Otherwise, the handler could keep all the plants for which he is marketing milk qualified, though he might be forced to make uneconomical shipments in order to do so (for example in periods when the entire supply of producer milk is not needed, it is more economical to draw on those country plants which are farthest from the manufacturing plants for city plant requirements and divert to manufacturing plants that milk which is received at the country plants nearest to them.[16]

It was also recommended that country plants wishing to qualify in the future as pool plants should be permitted to do so either individually or as part of the marketing system. The Department of Agriculture said:

> It is obvious that a plant system can qualify a new plant by limiting the shipments from plants already in the system. Therefore, any requirement that each plant qualify individually would have no practical effect, and any transportation saving which may be available through the operation of a system of plants

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[16] Ibid, inclusions in parenthesis are authors own comments.

> should be operative at the outset. Permitting a new plant to become a pool plant as part of a marketing system also avoids even a nominal distinction between new plants and those which have historically served the market. The pooling provisions should depend entirely upon present service to the market rather than upon historical association with it.[17]

The recent United States Department of Agriculture bulletin on trade barriers for milk said:

> The requirement that a plant sell some milk in the marketing area in order to become regulated (and entitled to participate in the market wide pool) is ineffectual in screening out plants whose interests in the pool has little or nothing to do with supplying the market's requirements for fluid milk, or with the levels of prices established by the order. Consequently, some orders have adopted requirements that a plant sell a specified percentage of its milk in the market in order to qualify.[18]

This appears to have been true in the history of the Detroit order market. The same type of arrangement is used in all current Federal order provisions in Michigan, although the percentages in each case differ (Table 5-4). The most stringent provisions of the three orders for a distributing plant to qualify for a pool plant are found under the Detroit order, while the qualificiations for a supply plant to qualify as a pool plant are tightest in the Upstate Michigan order area.

An examination was also made of the pool plant provisions of expanded or merged Federal order markets to try to determine a pattern of pool plant requirements for such

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[17] Ibid.

[18] Regulations Affecting the Movement and Merchandising of Milk, op. cit., pp. 53-54.

Table 5-4 Brief summary of current Michigan Federal order pool plant provisions with comparisons (January 1, 1958)

Detroit (current provisions effective November 1, 1955)

a. Any distributing plant from which fluid milk is distributed on routes in the marketing area. Forty-five percent of producer and other source receipts must be so distributed during the months of March through August. During the months of September through February this must be 55 percent or more.

b. Any supply plant approved by area health departments from which during the month not less than 25 percent or the call percentage (issued by the Market Administrator), whichever is higher, of its farm supply of milk is moved to a distributing plant. If it meets the required percentage during each of the months of October through January, it will remain a pool plant for February through September provided it meets any issued call percentage.

Muskegon (Current Provision effective May 1, 1957)

a. Pool distributing plant if 20 percent or more of the total milk received at such plant during the month is disposed of in the marketing area as fluid milk products.

b. Pool supply plant if 20 percent or more of total producer milk received is transferred during the month to distributing plant (paragraph (a) above).

c. Approved plant operated by cooperative, if 75 percent (50 percent in May and June) or more of the member producer milk is received at the pool plants of other handlers.

Upstate Michigan (Current Provision effective August 1, 1957)

a. Distributing plant from which disposition of fluid milk products on routes in the marketing area equals or exceeds the smaller of (1) 20 percent of producer receipts or 150,000 lbs., and (2) the total disposition of fluid milk products on routes during the month exceeds 50 percent of producer receipts and receipts from supply plants.

b. Supply plant from which during the month 50 percent or more of producer receipts is moved to a pool distributing plant. A supply plant which was a pool plant during each of the months July through January shall continue for each of the following months of February through June.

large orders. The only evidence obtained from this study was that requirements vary considerably between orders and are apparently regulated by the different local conditions (Table 5-5).

Compensatory payments and allocation procedures.--Another issue which should be considered briefly in relation to pool plant requirements is compensatory payments and a companion provision whereby outside purchases of milk are allocated to lower class uses.

Mr. Luke stated in a recent paper on compensatory payments the real basis for these payments:

> Compensatory payments have no other purpose under the order program than to insure the effectiveness of a classified pricing program. Congress has authorized milk to be classified and priced in accordance with its utilization. This cannot be done on a selective basis. Part of the milk entering a market cannot continue to be regulated and subject to classified prices if another part of it can enter freely, without price fixing of any kind, and displace priced milk whenever it is advantageous to do so. Some provision to prevent this seems to be not only incidental but absolutely necessary to permit a classified pricing program to be effective.[19]

To date the provision most often used is the compensatory payment and allocation procedure. The use of this plan is controversal, but until another plan is devised (beyond the scope of this study) it is recommended for use with the Lower Peninsula order market. Its use under the Federal order

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[19] H. Alan Luke, "Development of Compensatory Payments in Fluid Milk Markets," paper given at the Midwestern Milk Marketing Conference, Knoxville, Tennessee, April 9, 1954.

Table 5-5 Brief summary of pool plant definitions under 1957 merged or expanded Federal orders

Market	Definition
Akron-Stark County (February 1, 1957, merged)	A regulated plant is any plant at which milk is received from dairy farmers and from which milk is packaged and distributed for fluid use on routes wholly or partially within the marketing area.
Oklahoma Metropolitan (May 1, 1957, merged)	a) Any milk processing plant approved by area health authorities from which any milk is distributed on routes in the marketing area. b) A supply plant where inspected milk is received and all or part is transferred to distributing plant described in (a).
North Central Ohio (July 1, 1957, expanded)	a) A distributing plant which disposes of more than 10,000 pounds of fluid milk products in the marketing area during the month. b) A supply plant which ships fluid milk, fluid skim or cream on more than seven days during the month to a "regulated distributing plant". In general such status may be maintained during January through August if the plant had qualified for at least three of the months of September through December.
New York-New Jersey (August 1, 1957, expanded)	Plants qualify as a "regulated plant" for pool participation after area health approval, either by (1) express designation of the Secretary for those plants

Table 5-5 (continued)

	previously qualified and coming in under the new order--in which case it is called a regular pool plant, or (2) by the manner of disposing of fluid milk in the market. In this case if it meets the required percentage of fluid utilization it becomes a temporary pool plant.
Greater Kansas City	
(October 1, 1957, merged)	a) Any distributing plant approved by area health authorities from which specified minimum percentages of receipts are sold for fluid use in the marketing area. b) A supply plant becomes a pool plant by shipping a specified percentage of producer milk to regulated distributing plant.

programs in the United States is shown in the following paragraph.[20] In March, 1958, sixteen of the sixty-eight Federal orders had individual handler pools which do not have the need for compensatory payments (using other source milk under an individual handler arrangement would only drive down the producers' blend price and decrease the handler's bargaining power for selective producers). Forty-two Federal milk orders with market wide pools have a compensatory payment arrangement. The ten remaining markets have not incorporated this feature into the order. The methods used to assess the payment also vary: In twenty-six markets, it is the difference between the Class I and Class II price (manufacturing price). Another market calls for the compensatory payment to be the difference between the Class I price of milk, and the blend price. In the remaining fifteen markets with compensatory payments, the payment is the difference between the Class I use and the blend price in deficit production months. In other months on these fifteen markets the compensatory payment is the difference between the Class I and the manufacturing price. Concerning allocation provisions, all of the sixty-eight Federal order markets move other source milk into lowest use classes during all or for some portion of the year.

Recommendation

It is recommended that pool plant requirements be maintained under the Lower Peninsual order so that manufacturing

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[20] Summaries of Federal Milk Marketing Orders, op. cit.

plants and reserve plants for other markets cannot enter the Lower Peninsula market, to the disadvantage of the Lower Peninsula pool price, unless they can prove by actual performance that they constitute a supply for the Lower Peninsula fluid milk market. For this reason it is recommended that pool plants requirements be as follows:

(1) Distributing plant to be a pool plant

To qualify, 300 points must be distributed in the marketing area (one point being defined as one half-pint of cream, one pint of half-and-half or one quart of any other Class I product). This would approximate the present Detroit minimum requirement of 600 pounds and equal that under the Muskegon order. The Upstate area requires only 100 points but it is felt that the difference would be made up by definition of wider marketing area and by including fluid cream in computing points. Those handlers in the Lower Peninsula area not meeting these requirements would not be primarily in the business of distributing fluid milk and would amount to a very small portion of the total distribution in the area.

It is necessary to set some performance requirements in order to prevent a country supply plant or a plant primarily engaged in milk manufacturing from becoming pool plants by merely bottling and distributing 300 points per day on a route in the marketing area. This can be done by requiring that the total distribution of milk from the plant on all routes (inside or outside the marketing area) amount to at least 50 percent of the receipts of milk from producers and

from country plants. This is the average amount now required on the Detroit market although because of seasonal variation in production, the minimum shipments required are 45 percent from March through August and 55 percent during September through February. This requirement would also be similar to that of the Upstate order. At the time of the final decision of the present Upstate order, it was stated that:

> The performance standards for distributing plants should apply only to plants primarily engaged in route disposition of half of their receipts from qualified dairy farmers and from other pool plants during the month. Plants not primarily engaged in route distribution of Class I milk may qualify as supply plants.[21]

The present order therefore, requires that a distributing plant wishing to qualify as a pool plant (1) dispose of milk in the marketing area equal to the smaller of 20 percent of a plant's producer receipts or 150,000 pounds; and (2) total disposition of fluid milk on all routes during the month equals or exceeds 50 percent of receipts of fluid milk products from qualified dairy farmers and supply plants. Since the entire Lower Peninsula would be the new marketing area, point number 2 would then read, 50 percent of receipts during the month in the marketing area and the 20 percent and 150,000 pounds requirement can be eliminated. Muskegon requires only 20 percent disposition in the area to be a pool

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[21] United States Department of Agriculture, A.M.S. Final Decision with Respect to the Agreement and Order Regulating the Handling of Milk in the Upstate Michigan Marketing Area (22FR 4816, July 9, 1957).

plant which was stated at the promulgation hearing to be high enough to insure that any handler participating in the market wide pool had a substantial part of his total sales in the marketing area. At the same time, it was indicated that the 20 percent requirement did not appear likely to necessitate significant readjustment by any plant operator.[22]

It is recommended that the 50 percent requirement be put into effect in this area along with all the Lower Peninsula region since there appears no justification for different treatment in the Muskegon area. It may be desirable to allow present plants in that area a reasonable time to meet the new requirements. It may also be desirable to vary the 50 percent requirement from 45 percent during the spring and summer months and 55 percent during the fall and winter months. However, it should be pointed out that the summer months are not surplus months in the Northern Lower Peninsula with the heavy tourist trade.

(2) Supply plant to be a pool plant

Although there are no country supply plants as such, supplying Michigan markets outside of the Detroit market, three receiving stations operate as supply plants inside city boundaries. These are all owned by the same cooperative association which also operates eight of the twenty-three Detroit receiving

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[22]United States Department of Agriculture, A.M.S. Final Decision in Respect to Proposed Marketing Agreement and Order Regulating the Handling of Milk in the Muskegon Marketing Order (18 FR 4311, July 23, 1953).

stations. Because of the importance of the Detroit country receiving stations relative to receiving stations in the rest of the state, it is recommended that the Detroit requirements for a supply plant be operative throughout the Lower Peninsula area.

It is believed that these performance requirements will permit free entry to the market but will keep pool requirements so that only those supply and distributing plants contributing to Class I sales will come under regulation. As stated earlier in this section, compensatory payments should apply on other source milk as should the requirement on allocation of other source milk to the lowest use classes in series.

CHAPTER VI

SUMMARY AND CONCLUSIONS

This thesis has considered some of the basic order provisions needed in case of Federal milk marketing regulation for the entire Lower Peninsula of Michigan. The provisions considered were as follows:

1. Delineation of the marketing area and the number of orders to effectuate regulation in the Lower Peninsula of Michigan.
2. Construction of classes of use.
3. Analysis of transportation differentials.
4. Consideration of a seasonal price plan.
5. Type of pooling arrangement and pool plant requirements.

It was hypothesized that these outlined provisions would need revision in moving from the present regulated and unregulated territory in Michigan to an expanded and merged order or orders embracing the entire Lower Peninsula of Michigan. The pertinent literature was reviewed and employed to help formulate definitions and construct criteria in each of the chapters. In general, the following procedure was used in each chapter:

1. The problem in each case in point was defined.
2. Criteria were erected for a theoretical framework in which to develop the analysis.
3. Finally, the criteria were analyzed using the best available information in each case to arrive at what was believed to be the best alternative provision for inclusion as part of the Lower Peninsula order.

The data used to construct and analyze the criteria were obtained from personal interviews and/or correspondence with local health departments, from the United States Department of Agriculture, from Market Administrators of Michigan order markets, from cooperative leaders, and from the Michigan Department of Agriculture. Historical data were also obtained from the recommended and final decisions concerning these orders as published in the Federal Register.

One of the problems encountered in the analysis was the conflicts of interest between consumers, dealers, and producers. Also, two types of problems were considered, one dealing with equity and one dealing with efficiency. These conflicts and the problems of equity were difficult to overcome, but insomuch as possible definite recommendations were made in the light of of the best available information and with some commonly accepted equity objectives in mind.

The Market Area

The first provision analyzed was that concerning the delineation of the market area. For this purpose the term "market" was defined. "Market," in this paper, was used to indicate the physical area or areas in which price making forces for fluid milk operate. These were areas where buyers and sellers (consumers and milk dealers, respectively) were in communication with each other, and areas where exchange of packaged milk would take place. Eight important criteria were delimited for analysis of market boundaries in the case of the Lower Peninsula order:

1. Criterion 1 Area where the same milk dealers compete.
2. Criterion 2 Area with uniform health regulations.
3. Criterion 3 Area where few route sales cross over designated boundaries.
4. Criterion 4 Area with uniform price tendencies.
5. Criterion 5 Limited rural area regulation.
6. Criterion 6 Homogeneous supply area conditions.
7. Criterion 7 Extent of cooperative activity.
8. Criterion 8 Previous federal regulation.

Another criterion on opinions and attitudes of people towards regulation under an order or orders was not investigated due to the difficulty of documentation, but it was pointed out that this might very well be one of the most important considerations in delineating the final territory.

It was recommended, on the basis of the eight examined criteria, that there should be one order for the entire Lower Peninsula. This conclusion was reached on the basis of the following findings:

1. Overlapping sales areas of dealers.
2. Increased reciprocity of health regulations within the state.
3. Overlapping of procurement areas.
4. Some tendency for uniform Class I prices on all major markets in the past few years.
5. Few dealers in rural areas.
6. Relatively uniform supply conditions.
7. One major cooperative bargains for a large percentage of the fluid milk on all except two of the major Lower Peninsula markets.
8. Greater ease of Federal order administration.

Not all the criteria, of course, pointed toward a single order and it should be reiterated that there could be strong arguments for more than one order. This was shown by the fact that milk did not flow freely in both directions between all city markets, producer-blend prices have varied widely between city markets, many areas in the Lower Peninsula were predominantly rural and several independent cooperatives were important in their respective markets along with the one dominant cooperative throughout the state. The author arrived at this conclusion for one order realizing that there was one unexamined criterion on peoples' opinions and attitudes toward regulation under one, two, or more orders which might well be the deciding point in the public hearing.

The Classification System

The next provision examined was the milk classification system for a Lower Peninsula order. Historical data were gathered on operative Michigan Federal order markets and a comparison of these markets' classification of milk and milk products was compared with nearby Federal milk market orders and with Michigan out-state major city markets. In addition, the basis for classification of the products was studied in order to find a standard criterion for development of use classes. The most important criterion was found to be the health inspection requirements for the various products. For this reason the chief sanitarian at each of the large Lower Peninsula city markets was interviewed to obtain information

on actual inspection requirements on these markets.

On the basis of this criterion, and with the information obtained from these major markets, two groupings were made of the most important milk products. Group I required that milk come from fully inspected farms. The second group required only plant or no inspection by the local department. On this basis, the following groupings were recommended:

Group I	Group II
Fluid whole milk	Cottage Cheese
Fluid skim milk	Ice Cream
Chocolate milk	Ice Cream mix
Buttermilk	Evaporated milk
Half-and-half	Condensed milk
Fluid cream of all types	Dried whole milk
	Dried non-fat milk
	Butter
	Hard Cheese

All the out-state markets require that Group I products come from farm inspected milk. Detroit area cities differed by not requiring fluid cream from fully inspected sources. It was recommended that an attempt be made to require this full inspection of fluid cream on these markets since it was shown that sufficient supplies of inspected milk appear to be available in the Detroit marketing area to meet this need. It was also shown that there was no scientific basis for treating fluid cream differently from fluid milk on a sanitary basis.

Transport Differentials

The next examined provision deals with transport differentials. Transport differentials were examined by asking some deliberative questions about:

1. Theoretical basis of transport allowances
2. Currently operative allowances in the Lower Peninsula markets
3. Criteria for developing transport differentials
4. Desirable accomplishments of these differentials
5. Alternative transport differentials
6. The best alternative under Lower Peninsula conditions

The alternatives considered were by no means exhaustive but included:

1. Rates that reflect actual cost
2. Adjustment of size of zones
3. Use of different zone differentials for handlers' credit on Class I and for producers' location adjustment on all milk
4. Several types of basing point methods were considered and modified where relevant:
   a. Single city basing point system
   b. Multiple basing point, each major city
   c. Basing point, center of Montcalm County
   d. Basing point, Eau Claire, Wisconsin and modification of this system.
5. "F. o. b. farm pricing"
6. No location differential
8. Direct delivery premiums

These several alternative provisions did not by any means cover all the possible methods or combination of methods which might be used as transport differential provisions in an order. The author feels that these were the most important alternatives, however. The results of the examination seem to show that with any transport differential, rates should be constructed that reflect actual cost and vary in proportion to distance. It was also suggested by the author that zones or rates within zones be adjusted so that they more nearly represent actual shipping costs from that zone. The use of a basing point centered in the large surplus area seemed to be the most equitable method of constructing a transport differential for all groups concerned. Although not used as such, a modification of this method was recommended for inclusion in the Lower Peninsula order. It was shown that this base point had probably been taken into account in the construction of Class I prices under many of the Federal orders in the midwest. This method of pricing approximates the "perfect market" concept which is a commonly acceptable criterion.

An examination was also made of "f. o. b. farm pricing" but the use of this method seemed to present insurmountable problems under current acceptable policy which requires handler locational differentials only on Class I milk and which is unfavorable to government setting farm to plant hauling rates. The use of no locational differential appeared to violate the principle which would provide equal delivered prices to all handlers. Direct delivery premiums were considered

And rejected since no precedent has been set for direct delivery premiums as such in the Lower Peninsula. In addition, receiving stations are important on only the Detroit market and even there were found to be declining in importance.

The best alternative transport differential system appeared to be the "Detroit minus" differentials. This proposal, and that of "St. Ignace plus" differentials combined with "Chicago plus" differentials, seemed the most realistic methods of pricing since both were related to the Wisconsin surplus area price and were somewhat in agreement with the "perfect market" concept. The use of the "Detroit minus" differential placed the indifference price point near St. Ignace. Its favorable attributes were as follows: (1) it allows for a decrease in Class I price toward both of the entrances to the Lower Peninsula from Wisconsin; (2) it provides for a price decrease toward Wisconsin in moving across Lake Michigan; (3) finally, it provides for a decrease in prices toward the local surplus areas of central Michigan and the "Thumb" area.

Seasonal Price Plan, Type of Pool and Pool Plant Requirements

Chapter V of this thesis considered a seasonal price plan, type of pool, and pool plant requirements for a Lower Peninsula order. Michigan order markets' experience with the base and excess plan along with its use on Federal order markets in the United States was examined. Upon this basis, the base and excess seasonal price plan was recommended for the Lower Peninsula order. The plan is well accepted throughout the state and its expansion for complete producer coverage

would not appear to be too difficult. The plan was shown to have been effective under Michigan conditions and it was shown to have become widely accepted throughout the Federal order program in the United States.

Four types of pools were considered for possible inclusion in the Lower Peninsula order. Those examined included:

1. The individual handler pool
2. Zonal pool
3. Market wide pool
4. Association pool

The advantages and disadvantages were reviewed for each. A market wide type of pool was recommended for the Lower Peninsula order, since, based on quality, it appeared to be the most equitable type of pool. It was also shown that such an arrangement would probably also lead to more efficient handling of the markets' reserve supply.

Lastly, pool plant requirements were examined. Historical Detroit provisions, currently operative provisions on other Michigan markets, and recently merged and expanded Federal order markets were examined for clues toward standard Department of Agriculture procedure. Recommendations were presented for qualifications believed necessary for both distributing plants and supply plants under a Lower Peninsula market-wide pool. In order to qualify for a distributing plant, it was recommended that 300 points be distributed in the marketing area (one point being defined as one-half

pint of cream, one pint of half-and-half, or one quart of any other Class I product). In addition to this it was felt necessary that 50 percent of receipts of milk from producers and country plants be distributed on all routes (by nature of the area, this will in most cases be within the marketing area). Because of the importance of the Detroit supply plants, with twenty-three of the twenty-six supply plants for Lower Peninsula markets in that area, it was recommended that the current Detroit provisions be continued. This would require that a supply plant be approved by the Department of Health of local cities and, during the month, move not less than twenty-five percent or the call percentage, whichever is higher, of its dairy farm supply of milk to a distributing plant in order to qualify as a pool plant.

The author realizes that all or none of these provisions may be incorporated in the final order or orders for the Lower Peninsula. However, it is anticipated that considerations of such an order or orders will be under study in the near future, and it is hoped that this preliminary investigation of some of the problems in constructing such an area wide order or orders for the Lower Peninsula or Michigan will be of benefit to those groups responsible for and affected by such Federal order regulations.

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APPENDIX

Appendix I Michigan Federal Milk Order References (Federal Register Citations) (1950-1957)

Date Published	Market	Vol. In F.R.	Page	Content of Reference: Notice of Hearing	Recommended Decision	Final Decision	Order Amended Or Order	Other[a]
1950								
May 20	Detroit	15	3105	X				
Nov. 10	Western	15	7886	X				
1951								
Mar. 6	Detroit	16	2084		X			
Mar. 27	Detroit	16	2685					X
May 16	Detroit	16	4551					X
June 9	Detroit	16	5480			X		
June 30	Detroit	16	6341				X	
July 6	Western	16	6573		X			
Sept. 1	Western	16	8896			X		
Oct. 6	Western	16	10220					X
1952								
Jan. 5	Muskegon-Grand Haven	17	161	X				
Jan. 12	Detroit	17	404	X				
Feb. 14	Detroit	17	1427			X		
Feb. 21	Detroit	17	1575				X	
April 17	Detroit	17	3415	X				
June 19	Detroit	17	5524			X		
June 20	Muskegon	17	5523		X			
June 24	Detroit	17	5534				X	
Aug. 16	Detroit	17	7500		X			
Oct. 8	Detroit	17	8982			X		
Oct. 25	Detroit	17	9651				X	

Appendix I (continued)

Date Published	Market	Vol. In F.R.	Page	Content of Reference: Notice of Hearing	Recommended Decision	Final Decision	Order Or Amended Order	Other[a]
1953								
Feb. 14	Detroit	18	910	X				
May 13	Muskegon	18	2758					X
June 2	Detroit	18	3148		X			
July 11	Detroit	18	4071					X
July 23	Muskegon	18	4311			X		
July 29	Detroit	18	4433			X		
Aug. 7	Upstate	18	4677	X				
Aug. 13	Muskegon	18	4787				X	
Sept. 1	Detroit	18	5202				X	
Nov. 26	Detroit	18	7540		X			
Dec. 24	Detroit	18	8671				X	
Dec. 24	Muskegon	18	8671				X	
1954								
Feb. 3	Detroit	19	620			X		
Feb. 27	Detroit	19	1109				X	
April 8	Detroit	19	2019	X				
August 4	Detroit	19	4877		X			
Sept. 3	Detroit	19	5629			X		
Dec. 31	Upstate	19	9416					X
1955								
March 12	Detroit	20	1533	X				
July 2	Upstate	20	4741		X			
Sept. 9	Upstate	20	6610			X		
Sept. 9	Detroit	20	6622		X			
Oct. 15	Upstate	20	7767				X	

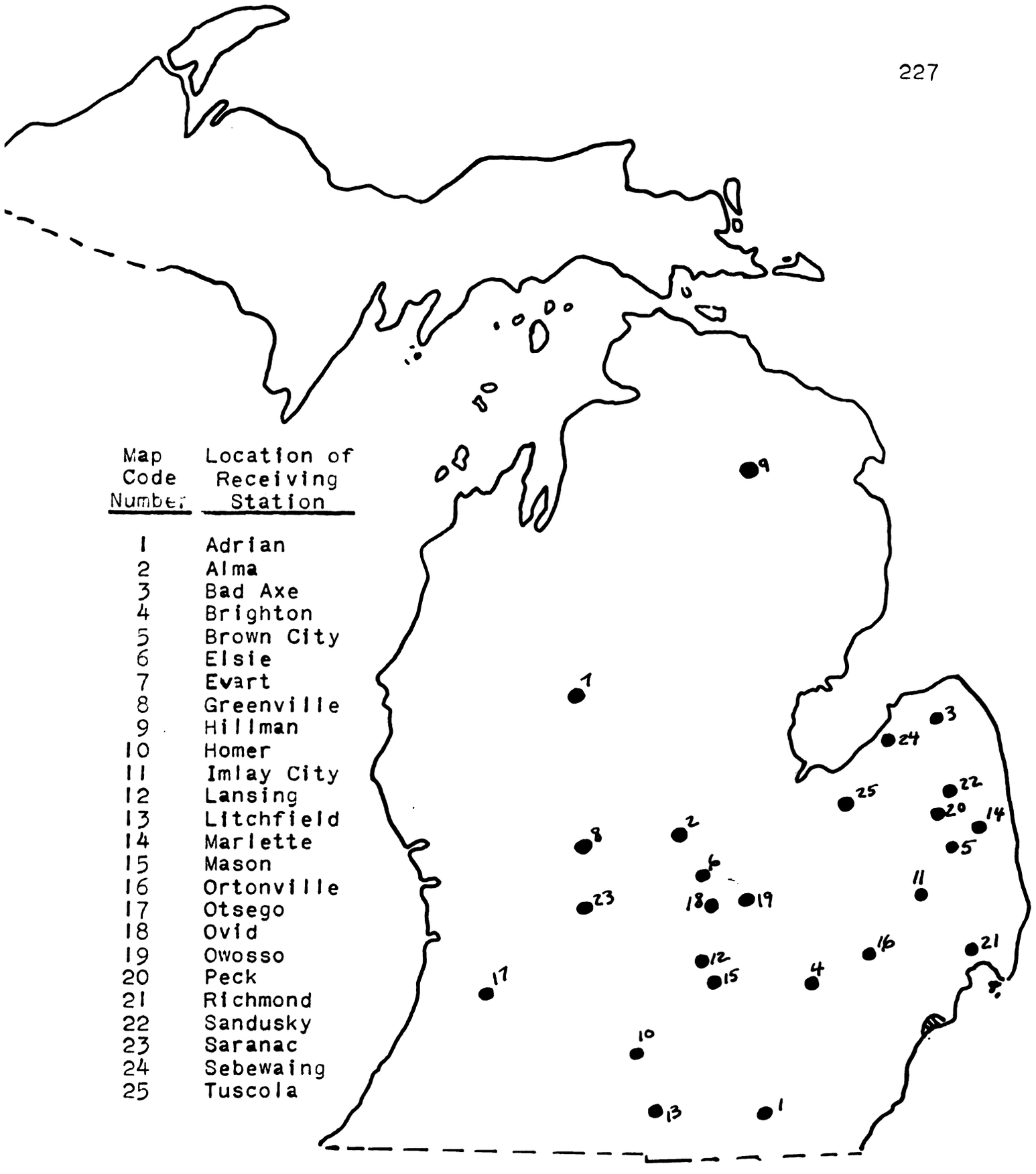
Appendix I (continued)

Date Published	Market	Vol. In F.R.	Page	Content of Reference: Notice of Hearing	Recommended Decision	Final Decision	Order Or Amended Order	Other[a]
Oct. 27	Detroit	20	8077			X		
Nov. 1	Detroit	20	8171				X	
Dec. 1	Upstate	20	8808					X
1956								
Jan. 14	Upstate	21	301	X				
Feb. 10	Upstate	21	950		X			
Feb. 10	Detroit	21	953		X			
March 2	Upstate	21	1387			X		
March 3	Upstate	21	1411				X	
April 21	Upstate	21	2603	X				
April 21	Detroit	21	2603	X				
April 21	Muskegon	21	2603	X				
May 1	Detroit	21	2807				X	
May 1	Muskegon	21	2807				X	
May 1	Detroit	21	2807				X	
May 1	Muskegon	21	2842			X		
May 1	Upstate	21	2842			X		
May 1	Detroit	21	2842			X		
May 5	Muskegon	21	3000					X
May 8	Upstate	21	3064	X				
June 8	Detroit	21	3936		X			
Aug. 7	Muskegon	21	5871	X				
Aug. 16	Detroit	21	6133			X		
Aug. 18	Upstate	21	6234		X			
Aug. 22	Detroit	21	6298				X	
Sept. 22	Upstate	21	7251			X		
Sept. 28	Upstate	21	7430				X	

Appendix I (continued)

Date Published	Market	Vol. In F.R.	Page	Content of Reference: Notice of Hearing	Recommended Decision	Final Decision	Order Or Amended Order	Other[a]
Nov. 9	Battle Cr.	21	8663	X				
Nov. 22	Muskegon	21	9144	X				
Dec. 27	Muskegon	21	10338		X			
1957								
Jan. 12	Muskegon	22	266					X
Jan. 18	Muskegon	22	384		X			
Feb. 9	Upstate	22	843	X				
March 15	Muskegon	22	1675			X		
March 30	Muskegon	22	2119				X	
June 7	Upstate	22	4021		X			
July 9	Upstate	22	4816			X		
July 24	Upstate	22	5856				X	
Aug. 10	Battle Cr.	22	6415		X			
Aug. 24	Muskegon	22	6877	X				
Sept. 18	Northland	22	7429	X				
Sept. 19	Battle Cr.	22	7480			X		
Oct. 4	Battle Cr.	22	8067					X
Nov. 2	Northland	22	8852	X				
Nov. 21	Detroit	22	9294	X				
Nov. 22	Battle Cr.	22	9482					X

[a]Other includes notice of referendum, referendum results, extension of time for filing exception to recommended decision, extension of time for referendum, tentative decisions and corrections to order.



Map Code Number	Location of Receiving Station
1	Adrian
2	Alma
3	Bad Axe
4	Brighton
5	Brown City
6	Elsie
7	Evart
8	Greenville
9	Hillman
10	Homer
11	Imlay City
12	Lansing
13	Litchfield
14	Marlette
15	Mason
16	Ortonville
17	Otsego
18	Ovid
19	Owosso
20	Peck
21	Richmond
22	Sandusky
23	Saranac
24	Sebewaing
25	Tuscola

Appendix II Location of the Detroit Milk Market's Country Receiving Stations as of January 1, 1958.

Source: Market Administrator's Office, Detroit, Michigan.

Appendix III County, District and City Health Departments In Michigan and Their Location, January 1, 1958

	Health Department	Location
1.	Alger-Schoolcraft	Manistique
2.	Allegan County	Allegan
3.	Barry County	Hastings
4.	Bay County	Bay City
5.	Branch	Coldwater
6.	Hillsdale	Hillsdale
7.	Calhoun County	Battle Creek
8.	Isabella, Mecosta, Osceola Counties	Mt. Pleasant and Big Rapids
9.	Chippewa-Luce-Mackinac	Sault Ste. Maire
10.	Houghton, Keweenaw, Baraga, Ontonagon Counties	Houghton
11.	Delta	Escanaba
12.	Menominee	Menominee
13.	Dickinson	Stambaugh
14.	Iron	Iron Mountain
15.	Eaton County	Charlotte
16.	Genessee County	Flint
17.	Grand Traverse-Leelanau-Benzie	Traverse City
18.	Ingham County	Lansing
19.	Kalamazoo City-County	Kalamazoo
20.	Kent County	Grand Rapids
21.	Lenawee County	Adrian
22.	Macomb County	Mt. Clemens
23.	Mason County	Ludington
24.	Manistee County	Manistee
25.	Midland County	Midland
26.	Monroe County	Monroe
27.	Muskegon County	Muskegon
28.	Oakland County	Pontiac
29.	Ottawa County	Grand Haven
30.	Saginaw County	Saginaw
31.	Sanilac County	Sandusky
32.	Shiawassee County	Corunna
33.	Livingston County	Howell
34.	St. Clair County	Port Huron
35.	St. Joseph County	Centerville
36.	Van Buren County	Paw Paw
37.	Washtenaw County	Ann Arbor
38.	Wayne County	Eloise
39.	District #1 (Kalkaska, Crawford, Missaukee, Roscommon and Wexford Counties)	Lake City and Cadillac
40.	District #2 (Alcona, Iosco, Oscoda, and Ogemaw Counties)	West Branch

Appendix III (continued)

	Health Department	Location
41.	District #3 (Antrim, Charlevoix, Emmet, and Otsego Counties)	Charlevoix
42.	District #4 (Cheboygan, Montmorency, and Presque Isle Counties)	Rogers City
43.	Alpena Branch	Alpena
44.	District #5 (Lake, Newaygo, and Oceana Counties)	White Cloud
45.	District #7 (Clare, Arenac, and Gladwin Counties)	Gladwin
46	Bay City	Bay City
47.	Detroit City	Detroit
48.	Flint City	Flint
49.	Grand Rapids City	Grand Rapids
50.	Jackson City	Jackson
51.	Pontiac City	Pontiac
52.	Saginaw City	Saginaw

NOTE: The counties listed below do not have the services of a full-time local health department:

Berrien County	Ionia County
Cass County	Jackson County
Clinton County	Lapeer County
Gogebic County	Marquette County
Gratiot County	Montcalm County
Huron County	Tuscola County