AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
http://ageconsearch.umn.edu
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

THE ECONOMICS OF AGRICULTURAL MARKETING: A SURVEY

Harold F. Breimyer*

Three distinctive schools present diverse interpretations of agricultural marketing. One of these derives from the economics of the farm business and casts marketing as all that happens to products past the farm. A second centres on marketing's co-ordinative role. A third is in allegiance to market development. Contemporary problems, beginning with those of the 1920 price reductions in the United States and accentuated by the worldwide depression of the 1930's, primarily explain the periods of heightened interest in marketing. In the early 1970's the common thread is institutional change in marketing, which originates in events as diverse as declining importance of assembly markets for price discovery, and the redesign of marketing within trading blocs such as the European Common Market.

1 DEFINITIONAL CONCEPTS

The economics of marketing farm products has long been subject to uncertainty of identity. Economists who have devoted their talents to the field have been noted more for the differences in their characterizations of marketing than by their accord.

1.1 THE "WHAT HAPPENS" SCHOOL

At least three broadly different conceptualizations of the economics of farm product marketing can be observed in literature. The first is the most conventional and has been prominent in North America and generally in nations whose literature is written in the English language. It is also the least sophisticated, as it does little more than to draw a line between "production on the farm" and "marketing past the farm". In this idiom marketing is "what happens" between the farm and the consumer, and the economics of marketing is concerned with everything that happens.

---

* Department of Agricultural Economics, University of Missouri, Columbia, Missouri, U.S.A. In addition to the invaluable special contribution of Ben C. French, recognized in footnote 7, the bibliographic search assistance provided by James McKinsey is gratefully acknowledged. Mention is due also the following correspondents: Denis Bergmann, Ewald Böckenhoff, Karl Brandt, Hans Buchholz, Arthur Hanau, J. H. Kirk, Konrad Merkel, Kenneth Ogren, John Slater, Adolf Weber, and Egon Wöhlken.

Presumably, the marketing of farm products acquired this designation following historical evolution whereby the delivery of farm products to the household consumer, once indistinguishable in unified production-marketing, acquired a character of its own. Specialized processors, wholesalers, and retailers came into existence, and as a result, this approach to marketing has always given attention to their role and performance.

The casual "what happens" definition was formulated by virtue of the fact that most farm food products were produced in a form suitable for delivery to the consumer. Commercial processing was not extensive and, significantly, did not transform the basic product. Consequently, marketing was seen as the addition of various physical services such as storage, transport, assembly (accumulation) and distribution to an identifiable product. Sometimes incidentally and sometimes crucially, exchange of ownership involving a middleman also occurred.

From the beginning non-food products of farming violated the simplifying thesis of minimum transformation. Extensive processing is applied to cotton, wool, tobacco and a few oilseeds and cereals used in industrial processes. Is this processing only incidental to the marketing of lint fibres, greasy wool, tobacco leaf, and grain?

To all farm products, food and non-food alike, there gradually came the further complication that actions were taken, and costs incurred, that changed the form of the product less than they changed the preferences of consumers. At least, such an outcome was sought; the extent of its realization remains almost a mystery. Included were the various practices of differentiation of product and of merchandising promotion. As will be explained later in this review, the economics of non-price competition has never ceased to confound marketing economists. It has grafted imperfectly with conventional market analysis based on neo-classical economic theory. In a different and heroic recourse it has led to a "school" of its own, as will be narrated in later pages.

Early postwar surveyors of the new territory of economics of marketing were undeterred by these subtleties. In his definition Thomsen took in all the eye could see: "The study of agricultural marketing . . . comprises all of the operations, and the agencies conducting them, involved in the movement of farm-produced foods and raw materials, and their derivatives such as textiles, from the farms to final consumers, and the effects of such operations on farmers, middlemen, and consumers" [223, p. 1].

Economists who followed in the wake of Thomsen were somewhat less aggrandizing, or surely more guarded in language. In a standard text Kohls defines marketing almost ambiguously as "the performance of all business activities" in the farm-to-consumer flow [139, p. 9]. Another school of thought retrenches a little more, as it rejects carrying every farm product all the distance to the consumer. Its members find it hard to regard selling apparel of high fashion in a shop in Paris, London, or New York as the marketing of a farmer's lint cotton. They would terminate farm product marketing where identity-changing transformation occurs (*cf.*, [33, p. 6]).

1.2 THE CO-ORDINATING ROLE OF MARKETING

A second concept of marketing is posed differently from the first. The first school with its conveyor-belt image took little note of the dual, even schizoid, nature of marketing. Marketing does more than deliver product from farmer to consumer. It also is the seat of co-ordination and direction of economic activity.

The latter role has come to be treated by various scholars in manifold ways. In price-governed market economies, this aspect of marketing is typically described in terms of the recursive role of price, as the price realized for the basic commodity plus attached services becomes the signal for subsequent production of the commodity and services. In socialist economies, or for that matter in the non-market portion of mixed economies, various institutional arrangements other than price come into play.

Rudd expressed the dual-role idea in simplest language, as he called attention to the "two major tasks of a market or marketing system—. . . the performance of the various (physical) operations . . . and . . . functioning as a price-making mechanism in the allocation of factors among producers and products among consumers" [202, p. 61].

Various economists projected the co-ordinating role of marketing into investigations of the total farm product economy. They saw it as the nexus for considering the entire equilibrium-establishing process. Waugh, who always stressed the co-ordinating side of marketing, with characteristic terseness put it as "the market as equator of demand and supply" [247, p. 27]. Thus, in this second conceptualization marketing encompassed virtually all the economics of agriculture other than the management of the farm business.

The German school, long impressed by the impersonal workings of supply and demand and a persistent searcher for coefficients of price and income elasticity of demand and periodicity in supply, have probably endorsed this version of marketing as wholeheartedly as any national group. At any rate, they did so until prospective entry of West Germany into the Common Market mandated an entirely new outlook on marketing (*cf.*, Hanau [104]).

To this date a considerable part of the equilibrium analysis for supply and price of farm products has been carried out under the assumptions of essentially perfect competition. Nevertheless, close upon the pioneering demonstrations of Sraffa, Robinson, and Chamberlin, the economics of imperfect competition was brought to bear on economic analyses in supply-demand-price equilibrium for farm products. Piercing the obscurities of various competitive models in farm product marketing remains a major engagement of market analysts. Beyond doubt the path-breaking study was that of Nicholls [173].[1]

---

[1] Supply and demand analysis is no longer generally considered a subsector of marketing. It enjoys status of its own.

1.2.1 Institutions for Marketing

Within the context of marketing as the arena for co-ordination of the farm product economy the growing field of inquiry into market institutions, of which Shaffer is a spokesman, can be introduced. In strong terms Shaffer rejects "the traditional definition of agricultural marketing as what happens to farm products from the farm gate to the consumer" as being "inappropriate" [211, p. 1442]. He regards marketing as the "system of markets and related institutions which organize the economic activity of the food and fibre sector of the economy" [209, p. 1].

Instruments for the co-ordinating role of marketing are not confined to free-market price or, for that matter, to price of any origin. They can extend to devices of many varieties. This is true in capitalist nations, but the point is obviously more germane to socialist and other non-capitalistic economies. Hence, this institutional definition of marketing serves to join the capitalist and socialist nations of the world into a common consideration of the marketing of farm products in which satisfactory communication is possible. For example, according to Nou, in inter-war Italy marketing was treated "incidentally to the principles of 'corporativism' and comparative economic-political systems generally" [175, p. 448]. In the Soviet Union the administrative separation of production of farm products from their processing and distribution has been a thorn in the flesh of economists seeking to minister to the Soviet food and fibre economy[2]. But by the same token it has directed attention to principles of market organization as an integral part of the planned economy.

In an almost ironic echo from socialist to capitalist economies, the price-directed open market in the latter is gradually being superseded by vertical integration. Manifestly, if price is to perform its co-ordinating function, the economy must be decomposed into individual firms of limited function. When integration occurs, those firms are progressively absorbed into vertical combines. The role of price is circumscribed when successive stages in marketing a farm product are telescoped under a single management, as prices that are employed internally are only shadow prices.

Should the newly internalized marketing processes be exposed to inquiry as a part of marketing? Shaffer, noting that "since the development of the large and complex vertically integrated and conglomerate firm, groups of transactions within the firm become similar to a market," chooses to regard "intrafirm interplant transactions" as "part of the subject matter of marketing economics" [209, p. 5]. All economists would agree on the appropriateness of the question but not all would accept Shaffer's answer.

---

[2] This partial hiatus is revealed in some Soviet literature but the primary source of this information was conversations by the author with officials of the Soviet government on various occasions beginning in 1958.

It is clear that vertical integration obstructs economic analysis of agricultural markets.

1.2.2. Divergent Opinions

Phillips of Australia [185] is another economist who takes umbrage at the omnibus definition that so often is applied to marketing. He would narrow it very sharply so as to expunge such processes as storage and transport, and confine marketing essentially to information-gathering and communication.

Virtually as restricted but with a different advocacy is a thesis espoused by Bakken [12]. Steeped in the institutional school of Commons he too would eliminate physical processes and would confine the term "marketing" to exchange.

1.3 MARKET DEVELOPMENT

The original "what happens" school of thought faces still another band of dissenters. They proclaim a third interpretation of marketing. Though identified by their allegiance to action for market development, conceptually they are distinguished by refusing to focus on farm products as they enter the market stream. They center their attention instead on the processes of cultivating demand.

The less aggressive wing of this third school may confine its interests primarily to generating purchasing power among consumers. Its adherents were particularly vocal during the later years of the Depression and the ensuing Keynesian era. More distinctive is the market-development colony which, trained in or influenced by the industrial market sector, sees marketing as essentially confined to merchandising and market development. Differentiation of product, and promotion based on it, are central and not ancillary functions. Emphasis naturally falls not on the original farm product but on the activities ("services") performed by the marketing firms. Darrah reflects something of this philosophy in his marketing text: "The objective of a study of . . . marketing . . . becomes nothing more than an understanding of the means of providing efficient, product-differentiating services in the transfer of food products from producer to consumer" [63, p. 9].

2 THE ECONOMICS OF MARKETING—A HISTORICAL GLANCE

As definitions of farm product marketing are so diverse, it is not surprising that the origins of economic work relative to marketing remain somewhat obscure. To each of the definitions a separate path or origin can be roughly sketched.

For example, the "what happens" version of marketing came into being rather easily wherever marketing was regarded as a mere extension of the farm business. Farm management was one of its progenitors. Neoclassical economic thought then hastened the emergence of the coordinating-role school of thought.

The market development approach to marketing was derived partly from depression-born Keynesianism and latterly to the success of business schools in elevating merchandising ("marketing") to an academic discipline.

2.1 ECONOMICS OF THE EXTENDED FARM BUSINESS

In reporting early developments in Europe, Nou, citing Laur [140], observed that "marketing problems (were) dealt with within the framework of the economics of farm business" [175, p. 423]. Naturally enough, one of the linkages was the economics of the location of enterprise. Von Thünen is universally credited with original exploration. Nou quotes Seraphim [207] as calling von Thünen "the creator of the doctrine of agricultural marketing." Nou adds critically that this credit line:

> need not be taken too literally. Thünen inspired the emergence of an agricultural business-economic theory orientated around problems of marketing economics. His treatment of agricultural price-formation problems, transportation economics, problems concerning the localization of agricultural production, etc., should indeed have constituted a comparatively favourable starting point for the shaping of a special agricultural marketing doctrine. However, it was some time before von Thünen's doctrine was "discovered", and there were no developments to speak of from this starting point during the 19th century [175, pp. 225–226].

As late as the early twentieth century Brinkmann, a notable German economist, could do little more than carry forward von Thünen's ideas on the economics of transportation as affecting the location of enterprise. "The orientation of agricultural production according to economic location, or the market orientation, is therefore equivalent to a transportation orientation" [39, p. 79]. Only partly redeeming is Brinkmann's recognition of "shifts in the location of production with progressing economic development" [39, p. 142].

2.2 THE EVENT OF ECONOMIC DEPRESSION

A plausible if sardonic hypothesis is that little was built quickly upon the base laid by von Thünen because agricultural economists are habitually delinquent until a policy crisis stirs them to action. Certainly in the United States the pressure of the price collapse of 1920–21 gave the first big stimulus to economic analysis. The world depression of the 1930's created a second thrust in the U.S. and elsewhere.

In the U.S., the 1920–21 price decline spawned a to-be-celebrated institution, the Bureau of Agricultural Economics (BAE). Due in part to political opposition to control programs, much of the work of the new agency centred on commodity price analysis, collection of marketing information, and assistance to co-operatives as a promising market institution. To this day virtually every historical reviewer regards the

BAE as an organization that encouraged economic analysis in agricultural marketing not only in the U.S. but worldwide. Nou states the case forthrightly:

> We may say that the pioneer contribution of the American tradition of agricultural economics, the creation of agricultural marketing as an independent discipline, deserves unreserved acknowledgement. European agricultural economics had to resign itself to the fact that it had been well out-distanced in this case [175, p. 538].

An echo was quick to be heard, particularly from Germany. Quoting Nou once more,

> the countries, which had hitherto led in agricultural economics, especially Germany, were not yet prepared to simply give up the struggle and, after having found out what the Americans had achieved, intense activity in marketing research, information and training was begun at the end of the 1920's. Hanau took up agricultural marketing research at the German Economic Research Institute founded in 1925 by Wagemann. A professorial chair in agricultural marketing and a market-research institute . . . were established at the agricultural college in Berlin, the professor being Karl Brandt . . . Fritz Baade . . . became director of an Institute of Agricultural Marketing Research . . . organized by the Reich Ministry of Agriculture [175, pp. 538–539].

Without discounting the significant other work done later in West Germany, notably on market institutions once the EEC came on the European scene, in very large measure the Germans long had an orientation towards commodity price analysis, to which emerging new mathematical techniques were assiduously applied. The interruption during the Nazi regime doubtless contributed to this somewhat circumscribed experience. Hallett, writing in the English *Journal of Agricultural Economics* (whose editors may have enjoyed the sally), declared it not to be "surprising that the mathematical techniques developed in the U.S.A. have been enthusiastically taken up by some of the younger (German) economists. Some of them even write in German the way Professor Heady writes in English" [101, p. 63].

Closely related to commodity price analysis is the area of inquiry known as marketing costs and margins. The thesis underlying widespread support for collecting and analyzing such data is that thereby the macro-efficiency of the marketing system can be observed, and possibly micro-efficiency as well. When in 1928 Warren [242] charged that the persistent farm depression in the U.S. was due not so much to overproduction as to a "discrepancy" between farmers' and retail prices, Richards [195] replied with one of the earliest examinations of costs and margins statistics, and one that foreshadowed a statistical compilation that has continued to the present day.

In the new BAE still another direction of inquiry developed. Equally as vigorous as statistical analysis of demand-supply or of costs-margins, it related to the institutions of marketing. This area of interest stemmed directly from dissatisfaction with the economic situation. In this instance, certain marketing institutions were singled for blame. Others were named as instruments for amelioration. Though most of the complaint originated from farmers, the other clients of the process, namely consumers, were occasionally heard from also.

Initially, much of the unrest and proposed counteraction revolved around the principle of co-operation. Attention to co-operatives had almost century-old antecedents. In various European countries co-operation had been invoked long before as a means to resolve farmers' marketing problems—and consumers' problems in buying, as in the case of the Rochdale weavers. The Rochdale "pioneers", in setting up their co-operative store in 1844, also set up certain principles such as one-man, one-vote, that established enduring precedents [196, p. 95].

With Rochdale in mind Nou credits Great Britain with being "the cradle of consumer co-operation." But "Germany and Denmark made the principal contributions to the development of agricultural co-operation." Four Germans are named as "pioneers of co-operation", with Huber said to be "the one who made a scientific study of co-operation", while Raiffeisen "is usually honored with the title of the founder or 'father' of agricultural co-operation" [175, p. 541].

Late in the century the Danes took over the leadership, and early in the twentieth century "attracted the attention of the rest of the world" with their co-operative organization of agriculture. The German Brinkmann [39] and the American Howe [120] reported the Danish experience. According to Nou [175, p. 542], among those who drew lessons for large scale co-operation were the Russians, Brutskus [41] and Chayanov [47].

As Nou points out, in the U.S. "agricultural co-operation benefited from the official goodwill shown by the Country Life Commission set up by President Theodore Roosevelt in 1908 . . ." [175, p. 545]. But in the lusty young nation organized action by farmers sometimes took a stormier turn, as in efforts at monopolization and collective withholding of product that had pre-1900 beginnings and continued erratically until the "New Deal" legislation of the 1930's gave it a new character.

During the 1920's, writings on co-operatives almost filled the technical journals of the U.S. and were prominent in various other nations. Nourse was possibly the most scholarly U.S. spokesman and Knapp the most evangelistic, while the organizer of widest repute in the decade was Sapiro. Scroggs [206] has written a good historical account of the U.S. experience.

A second line of institutional development in the U.S. illustrates the paradox of that nation's professed allegiance to *laisser faire* alongside a pragmatic willingness to deal with a problem by organized action. Despite any ideological objections, state and federal governments embarked on activities of direct aid to marketing. Agitation for them began prior to 1920–21—in fact, it began as early as the 1890's when farmers' displeasure with what they regarded as low prices led them to call for action by the federal government to improve marketing. But by 1910 prices had strengthened significantly and now it was the consumers' turn to protest and ask for action [153, 212]. Support from consumers' representatives turned the tide, and a Bureau of Markets was established that engaged in grade classification, dissemination of market information, and eventually market regulation [30, pp. 750–751]. Along with this

evolutionary progress came economic analyses of the consistency of price-making by product and area, of the adequacy of market information, and of the performance of market institutions generally. An early article, "Possibilities of Improving Marketing through Better Organization", published by Price in 1923 [190], was the modest beginning to a succession of studies of the organization of markets for farm products.

Initially those studies centred on how extant markets fell short of the criteria for a perfectly competitive market system, and they put emphasis on information, standardization, and fluidity in transport to facilitate arbitrage. Somewhat later the depression that began at the end of 1929 brought more dramatic undertakings. If the 1920–21 collapse in farm prices in the U.S. contributed to support for co-operatives, and to so-called "outlook work" with its attendant requirements for commodity price analysis, the worldwide depression of the 1930's initiated more drastic governmental action in the U.S. and in a number of other countries.

In the U.S. a Federal Farm Board was created. This was supplanted by price supports and marketing orders as the principal devices to shore up prices. Norway's Agricultural Marketing Act of 1930 was emblematic of similar steps taken in northern Europe [227, p. 19]. In Canada the comparable legislation was the National Products Marketing Act of 1934 [56, p. 9].

Those measures were the basis of both anticipatory and *ex post* studies. Black's *Agricultural Reform in the United States*, a review of issues in agricultural policy, was the base book of the time [22]. Heflebower's analysis of experiences under the Farm Board was precedent-setting [108]. Ever since, marketing economists in many nations have applied their talents to offering a running commentary on proposed, in-force, or dismantled government schemes in marketing.

2.3 POSTWAR IDEALISM

In the aftermath of World War II many nations promised themselves not only reconstruction but non-repetition of errors of the past.

The U.S., the least damaged combatant, was quick to affirm faith in marketing as a means to avoid the kind of depression in farm prices that followed World War I and to fulfill the newly pledged promises to consumers. Improvement in the "efficiency" of marketing was to be a major focus. Dedication to this principle was incorporated in the famed Hope-Flannagan Agricultural Marketing Act of 1946. The authors exploited two pervasive though disparate attitudes—the wish for full employment, and faith in science [30, p. 755]. The language of the act declared efficient marketing for farm products to be "essential to a prosperous agriculture" and "indispensable to the maintenance of full employment and to the welfare, prosperity, and health of the nation." It called for the introduction of science to marketing: "It is . . . declared to be the policy of Congress to promote . . . a scientific approach to the

problems of marketing, transportation and distribution of agricultural products similar to the scientific methods which have been used so successfully during the past 84 years in . . . production . . ." [231, sec. 1621]. The line of inquiry that followed took many forms, of which the most notable was the "engineering" approach often ascribed to Bressler [36]. Applications ranged from the most minute process analysis to layout designs for a city wholesale produce market or a processing plant. The most celebrated of the last-named probably was Brewster's classic study on oilseed extraction plants [38].

Also consistent with postwar idealism were institutional developments in the U.S. and elsewhere aimed at helping consumers and farmers simultaneously by strengthening consumers' capacity to buy food. These had roots in macro-economic policies for full employment that came into prominence in most western nations, for which Keynesian theories were the conceptual lodestar. But, mindful of Engel's law, most countries gave special attention to expanding low income families' demand for food. The means often took the form of food distribution programmes or multiple price systems (market stratification). Illustrative of the thinking that prevailed in the U.S. beginning in the early 1930's—and to this date—is a 1940 article by Wells [252].

2.4 THE COMMON MARKET

Even this cursory recapitulation of major events that have given direction to work in marketing economics would be incomplete without mention of a signal event in Europe, namely the establishment of the European Common Market (EEC). This development interrupted, or redirected, the work in marketing that got underway following the wartime hiatus. Postwar studies continued to draw on U.S. sources and draw parallels. For example, de Farcy in France, in a study conducted during the middle 1950's addressed himself mainly to whether institutions for government "intervention" in the market, as devised in the U.S., were transferable to France [65]. Generally he concluded they were not. In post-war years when prospective union of six countries gained credibility, economists there turned their attention to its significance for agricultural markets. There was a dual effect on economic research. On the one hand, several threads of marketing inquiry in individual countries were either severed or held in abeyance. On the other, investigations into market organization were increased. The latter took on an EEC-wide dimension but nevertheless constituted notable progress in the study of the marketing system for farm products.

2.5 ANALOGIES TO INDUSTRIAL MARKETING

A number of developments in marketing of farm products during the years after World War II, especially beginning about the mid-1950's, must be ascribed principally to analogies with practices in industrial marketing. Illustrative examples were trends towards vertical integration in the structure of markets, and market development as a practice in marketing.

Concepts and experience in vertical integration rather suddenly came into prominence in many countries, both capitalist and socialist. A dramatic application was the new agribusiness school, which sought to erase lines of distinction between production and marketing of farm products. The term "agribusiness" was coined to identify the conceptual amalgamation. Davis and Goldberg may be credited with an important original work [64].

The purest industrial-style market development relies heavily on differentiation and promotion of the products of a firm. Its advocates quote with fervour the experiences of marketers of industrial products. Nevertheless, except for co-operatives that are integrated far forward, it has been difficult to establish a close connection between this kind of market action and the interests of the original farm producer. In fact, some devotees of merchandising promotion doubt that the idea of such a connection has validity. The differentiation-and-promotion school has not yet won catholicity, nor been fully legitimized.

A deviant on industrial-style promotion is an activity to which a number of commodity organizations have resorted. Recognizing that their products, such as beef or milk, are not differentiated but nevertheless seeking the alleged benefits of promotion, they have engaged in various kinds of public-information campaigns. Usually they publicise the health-giving or other virtues of their food or other product. In the U.S. governmental participation in this effort has been greater at the state than the federal level. Only under intense political pressure from commodity organizations were provisions inserted into federal marketing orders for fruits and vegetables authorizing "check-off" (i.e., mandatory deduction) of funds for promotion from a farmer's sales proceeds. A special programme of similar nature for cotton was separately enacted.

Still another version of promotion has been research to develop new uses for agricultural products. Regional research laboratories established in the U.S. during the 1930's had this kind of research as a major mission. Sometimes known as "chemurgy", this work found successive new markets for cotton, only to lose most of them in turn to artificial fibres. New uses, or new forms of processing, storing and merchandising foods, have emerged from the laboratory research.

Advocacy of converting grain into alcohol as a substitute for gasoline encountered objection based on economy. Under the dark threat of worldwide shortage of fossil fuel, that ambitious proposal is being revived a generation later with an improved prospect of acceptance.

A unique kind of promotion is that relating to expansion of a nation's exports of farm products. Virtually all nations have employed quasi-diplomatic techniques for "foreign market development" and have subsidized or multiple-priced their exports by devices that narrowly escape indictment as dumping.

Market development by industrial techniques, both domestic and foreign, has not generated a fund of economic analysis fully equal to its prevalence and importance.

3 THE ECONOMICS OF COLLECTIVE ACTION IN AGRICULTURAL MARKETING

No axis to the economics of farm product marketing is longer, temporally, than that of collective action by farmers in marketing. As noted previously, co-operatives were the activist root of the economics of marketing farm products. Both farmers and consumers embraced co-operatives to correct apparent marketing ills.

Beyond doubt, the original concept in farm circles was of voluntary joining of hands to extend the proprietary role of the farmer to the marketing of his products. The co-operative was not regarded as a distant and distinct business entity. It did not undertake profit maximization for itself and therefore could not be considered an enterprise. A spokesman for this point of view was Liefman [143]. Nourse [176] did not differ greatly while Emelianoff [76] endorsed it and attracted the designation of spokesman for that school of thought.

Challengers arose, however. Originally the procedure was to appraise the co-operative against the (non-co-operative) business firm. In a 1947 article Robotka [196] catalogued various differences between co-operative and non-co-operative types of business enterprise. However, even to suggest that co-operatives had elements in common with all business enterprise opened up its own zone of controversy. One group of co-operative partisans insisted on the distinctiveness of the co-operative form of business enterprise, with sociological factors brought into consideration. Equally resolute defenders sought to minimize differences from other businesses. Knapp, an articulate spokesman for co-operatives, at one stage in his career and on some occasions stressed the unique features of co-operatives [137]. At other times (especially in later years) he insisted that co-operatives were not essentially different from other businesses [135].

Still later, more sophisticated students of co-operation avoided the simple, direct comparison of co-operatives with non-co-operatives and looked into generic principles of organization of business enterprise. Helmberger and Hoos did so, explaining that "the transition from a theory of the firm to a theory of co-operation within an organizational framework appears to be both straightforward and fruitful in terms of developing empirically meaningful hypotheses with regard to the economic implications of co-operative marketing" [110, p. 290]. Torgerson takes the same path [228]. A basic source has been Cyert and March's *A Behavioral Theory of the Firm* [57], though in a more modest manner Papandreou [184] and a host of others anticipated the Cyert-March type of analysis.

3.1 HORIZONTAL AND VERTICAL INTEGRATION BY CO-OPERATIVES

The original version of co-operatives as an innocent extension of the farm business was belied even in formative years by farm leaders who saw the possibilities of a more aggressive role. In the U.S. a trail was blazed during the 1920's by a California attorney, Aaron Sapiro, who preached horizontal integration. He advocated marketing co-operatives big enough "to make the control of the flow of that supply really mean something" [203, p. 11]. Rather surprisingly, the Sapiro advocacy did

not lead to a flood of research and literature on the economics of commodity combines. Virtually all the scholarly writings on co-operation published during the 1920's and early 1930's in the U.S. and elsewhere were directed to the traditional role of co-operatives as a means to marketing efficiency. Improved operating efficiency and a more-nearly-perfect pricing system were expected to return more of the consumer's dollar to farmers.

Only in the ferment after the end of World War II, when so many farm leaders in many nations were searching for means to make agriculture more secure, did the notion of horizontal and vertical integration generate economic studies outside the traditional haven of the state of California. The Sapiro thesis of integration for commodity-wide power was generally not yet embraced. In 1950 Knapp was still writing about the need for more research to "determine economies of scale, overhead costs, the optimum size for management, conditions essential for democratic control . . ." [136, p. 1047]. Hirsch in 1949 saw vertical integration as a way of gaining more of the consumer's dollar for the farmer: "Introduction and expansion of various types of integration by agricultural marketing co-operatives may well maintain active and keen competition in most agricultural industries . . .(Potential results would be) relatively low marketing costs and margins, and perhaps smaller unit profits, but larger total profits, to farmers" [112, p. 3].

In the 1950's and 1960's, horizontal combination of co-operatives proceeded apace, with debates raging about the federation versus merger route (cf., Knapp [136]). In 1968 Garoian and Cramer [92] reported that much of the growth of U.S. co-operatives took place via mergers. Vertical extension appeared in the Land O'Lakes dairy co-operatives. A little later several divergent developments appeared. One was the imaginative proposal advanced by Ray Goldberg of Harvard University and Eric Thor, California economist and later Administrator of the Farmer Co-operative Service (Goldberg [97]). Here too, however, the germ of the principle came not from studies of co-operation but from Goldberg's interest in the concept of agribusiness. Goldberg and Thor asserted that large co-operatives could profitably form vertical alliances with large food processors or distributors. The latter could contribute expertise and, often, pre-established outlets for high-pressure merchandising of branded product.

A second divergence to the conventional acceptance of ever-larger co-operatives appeared during the 1960's. It could be captioned, democratically disturbing second thoughts. Tracing to the principle that co-operatives were unique organizations, they related to the integrity of the new model of giant co-operatives. Might those organizations be only a monopoly agent for a select membership and be engaged in authoritarian instead of democratic practices? Two prize-winning articles of 1966, by Youde and Helmberger [262], and by Knutson [138], touched on these questions. Youde and Helmberger found that nearly all centralized co-operatives which held market power confined the benefits of that power to a select group by restricting membership eligibility. No federated co-operative, irrespective of its power position, was found to restrict membership [262, p. 32].

3.2. TECHNIQUES OF MANAGEMENT

Worthy of mention as a third divergent development was the growing emphasis on technical and administrative skill in co-operative management. In the U.S. the Farmer Co-operative Service diligently preached improvement in techniques. Helmberger, member of a new generation of critical observers of co-operatives, reported in 1966 how the managerial situation rebounded against the principle of farmer-democracy referred to in the above paragraph. He wrote of "the tendency for co-operatives to be poorly managed," explaining: "There is a reasonable presumption that farmers have expertise in farming but very little if any in the management of marketing, manufacturing, or retailing enterprises. The dim outline of dilemma becomes quickly apparent. To the extent that farmers participate in the leadership role, they may contribute to poor decisions and hamstring management; to the extent that they don't, ownership is separated from management" [109, p. 1431]. Pottebaum in West Germany [189] as recently as January, 1973, reiterated the problem of managing co-operatives for wise decision-making.

3.3 CO-OPERATIVES AS AN ADAPTIVE INSTITUTION

Still another divergence in ideas about co-operatives puts that institution in an adaptive role. It poses the question of whether co-operatives can be moulded to meet emerging situations in farm product marketing.

In England, Pickard recently asked whether "co-operation is a suitable way of coping with the inherited structure of British agriculture" [187, p. 105]. Don reported [69] how co-operatives have been adapted to circumstances in Israel. Hausmann [106] appraised how co-operatives could serve as an instrument of marketing policy in the EEC. Gerl asked if West German agriculture could respond to growing concentration among buyers by "strengthening interfarm co-operation in all its various forms" [93, p. 277]. Helmberger [109, p. 1434] recapitulated the diversity and inconclusiveness of U.S. opinion, then added his judgment that if farming passes into integrated agribusiness control, agricultural co-operatives will lose their reason for being.

3.4 MANDATED CO-OPERATION: MARKETING ORDERS AND BOARDS

The clearest instance of building new institutions with co-operation as a base, was that of marketing orders and boards. Enforced co-operation through the medium of those two organizational forms has long intrigued both practitioners and economists. In the economics of marketing it has won a niche as a prime subject of inquiry. In the U.S., the milder device, marketing orders, has been employed rather widely. Boards have been activated in many countries of both the developed and less developed world.

Marketing orders are commodity-specific. Their provisions must be endorsed by both affected producers (in secret vote) and the agency of central government having surveillance. Provisions typically call for uniform practices in "orderly marketing", quality control, diversion of supply to secondary markets, and, latterly, promotion. In the U.S.

authority for conducting promotional activity was added to marketing order legislation in the third decade of order programmes. Previously, promotion was authorized only under state orders[3].

Marketing boards add more stringent authority, which may extend even to control of volume of production and of distribution of the entire available supply.

Some aspects of marketing orders and marketing boards lend themselves to economic analysis. Others do not. Benefits of orderly marketing almost defy estimation; those of merchandising promotion also are elusive. On the other hand, to the surplus-diversion features of orders and boards, and the supply-control instrument of boards, the supply- and demand-elasticity tools in every economist's workchest are very well suited.

Among selected sources of analysis of marketing orders generally are Benedict and Stine [20], Hoos [116, 117], Jamison [125], and Breimyer [32]. A few empirical studies of the operation of marketing orders have been published, among them Jamison and Brandt [126], Shaffer [208], and (for milk orders) Dobson [68].

The majority of sources regarding marketing boards are Canadian, Australian, European, and international-agency. Selected Canadian sources are a 1964 Guelph comparative study [67], the papers of a 1961 workshop [45], and articles by Walker [239, 240], and Wood [26]. Guter and Low [100] appraised the 14-year record of Britain's egg marketing board following its abolition. In 1967 Abbott [1] inventoried marketing boards in developing nations.

3.5 COLLECTIVE BARGAINING

Though perhaps more explicitly identified in the U.S. than elsewhere, collective action by farmers to influence the terms of marketing their products has acquired virtually world-wide attention. Such organizations as the International Association of Agricultural Producers have been active publicizers.

The concept of unified action, not to process and sell products but to establish price and other terms of delivery, apparently arose in industrial nations, where it had a double origin. One source was the difficulty in establishing commodity-wide marketing co-operatives. The other was the record of apparent success in collective bargaining by organized industrial labor organizations.

As in so much of marketing action, the event preceded the analysis. First writings were descriptive reports on the experiences of certain bargaining associations, primarily those active in the state of California. McMillan [151], Hoos [118] and a few other persons recited the record of various organizations, some of short life and others more enduring.

---

[3] Marketing orders for milk in the United States provide for establishing milkshed-wide minimum classified prices. This feature is unique to milk and is not typical of marketing orders as a marketing instrument.

Two separate interpretations of bargaining came to be recognized. The more aggressive was popularly expressed as "getting more" (money) for the favored group. The other interpretation was only rectification of weaknesses in marketing and pricing and protection of farmers from their consequences. Expressing this division in scholarly language, Padberg in U.S. Senate testimony sketched a basic principle that "market price has two major functions. One is the co-ordination of economic activity and the other is income distribution." He then granted that "bargaining has come to mean . . . negotiations for income shares." His rejoinder was that bargaining in agriculture "may yield its greatest benefits by improving the co-ordinating functions of price . . ." [182, pp. 490–491].

Helmberger and Hoos, Breimyer, and Rhodes have likewise stressed the role of bargaining in altering the farmer-processor balance as the marketing system becomes more imperfectly competitive, and not its role in winning monopoly prices for farmers. Helmberger and Hoos in an empirical report noted that farmers frequently "sell their outputs in markets where buyers . . . influence prices as well as the nonprice terms of sale." Hence farmers take an interest in bargaining "as a means of counter-balancing the market power of buyers." For their study the authors employed the "market-structure-conduct-performance scheme implicit in price theory" [119, pp. 1–2]. In a more theoretical statement the same authors began their analysis with "bilateral monopoly theory" [111, p. 1273].

Writing later, Breimyer defined collective bargaining in agriculture as "successful negotiation between two or more opposing parties to arrive at prices and other terms of trade including the terms of contracts" [34, p. 5]. He emphasized not only the perfect-imperfect competitive model contrast between farmers and the later stages in marketing, but also the deterioration of organized commodity markets and price-making mechanisms. Included in his scheme was the possibility of farmers' utilizing collective bargaining to protect their sovereignty vis-à-vis processors [34, p. 5].

Rhodes [193] built further on the observed fading of organized commodity markets to cite bargaining as offering promise as either a price-discovery mechanism or a means of negotiating piece-wage rates in production contracts. The closest examples may be those in cotton and eggs in the U.S. whereby representatives of various interests in the markets come together and jointly establish a reported price that often becomes the actual price in trading or, alternately, the base price for individual negotiation. The partial success of such a "bargained formula" price itself reveals a distinctive quality of much modern merchandising. It suggests that much trading is done on considerations other than the precise level of price, so that an approximation to an equilibrium price is found adequate and routinely accepted.

Admittedly, the bilateral negotiation that replaces more nearly atomistic market relations offers the possibility of realizing not merely the equivalent of competitive equilibrium prices but in addition some monopoly bonus to the more skillful bargainer. The practice and the literature on collective bargaining by farmers will continue to divide according to the

relative emphasis placed on each of the two aspects of a price system as set forth, in a bargaining context, by Padberg.

Empirical analysis of collective bargaining in agriculture remains rather rare. Literature on the subject is often confined to testimony given by managers of bargaining programmes. As in marketing orders, the University of California leads in number of analytical studies done. Examples of various kinds of reports on bargaining are the papers emanating from the annual National Conference of Agricultural Bargaining Co-operatives (U.S.) as published by the Farmer Co-operative Service [232]. Illustrative of other studies are Babb *et al.* [9] and Cook [54].

4 EFFICIENCY IN MARKETING: THE ALLOCATIVE AND DISTRIBUTIONAL PERFORMANCE OF THE SYSTEM

Once marketing gained independent status of its own it became subject to critical analysis of its performance. That analysis, in turn, tended to divide into (1) studies of the system aimed at how well it allocates resources and distributes proceeds and (2) the operational efficiency of individual market organizations, notably the plant or firm. Generally, both foci for analysis were incorporated into the literature of the 1920's but gained much more exposure in the Depression decade of the 1930's Efficiency of the system has been the subject of countless investigations by officially-established commissions. This is true in many nations. In the U.S. the most recent one was the National Commission on Food Marketing of 1964–66.

It is no exaggeration that after a half-century of probes and thrusts, marketing economists enjoy no consensus as to the best schema for examining the allocative-distributional operations of the marketing system. Efforts have gravitated toward particular schools of economists. Usually, one aspect of the multifaceted system is selected for analysis, often on the basis of an accusation of malfunctioning.

4.1 COMMODITY PRICE ANALYSIS

Since early in the twentieth century the analytical techniques derived from the Austrian school of economic theory and the neo-classicists have been applied to the supply, demand, and price of farm products. Studies so conducted have been predictive—seldom diagnostic, and almost never prescriptive. In the U.S. the Cornell school was the earliest to gain fame. Professors Warren and Pearson were the acknowledged leaders. In their 1928 bulletin [243] and elsewhere, prices of farm products at the farm were related to consumers' consumption in a simplistic manner that facilitated an epigram, "supply and demand make (farmers') prices".

The BAE of the USDA gained its reputation partly on the basis of its statistical analyses. Midway in its career that organization adopted the Cowles Commission techniques of simultaneous equations. A selected source typifying studies of that category is Fox [84]. As noted previously, among non-U.S. sources the Germans were quickest and most assiduous in using statistical techniques to derive estimates of the parameters of commodity demand and supply.

Computerization has since multiplied the physical capacity for conducting statistical demand studies. To consider the econometric methods devised would take us beyond the economics of marketing. Moreover, more germane are considerations in the institutional structure of the marketing system as they affect its efficiency, inasmuch as econometric studies must necessarily abstract from a prevailing or a postulated institutional structure. Moreover, the institutional structure of marketing remains in a state of flux.

Analysis of institutional structure is directed to interrelationships within the system, with particular attention paid to structure as it affects performance.

4.2 MARKETING COSTS AND MARGINS

Studies of marketing costs and margins have their ingenuous and their sophisticated versions.

The simpler, unsophisticated approach employs empirical margins data to "explain" why the spread between farmers' and retail prices is so wide, or to predict that spread. The explanation is essentially defensive. The notion that marketing costs too much because the middleman extracts excess profits goes back almost to antiquity. To sketch the components of marketing costs is informative descriptively, but not analytically.

Use of margins data for predictive purposes amounts to a refinement of the derivation of predictions of farm-level prices directly from consumer-level information. That is, if the size of margins can be forecast accurately, retail prices as separately estimated can be translated reliably into prices of farm products at the farm. This procedure requires an appreciation that the German Arthur Hanau epitomized as a universal wisdom: "margins have their own price-formation and trends, which proceed independently of price-formation and trends for [aggregate] agricultural products" [104, p. 18]. Analysis proceeding along this line looks for leads and lags, exogenous indicators, and similar clues to prediction of the behavior of marketing margins.

There is a second level in the analytical pyramid for investigating marketing costs and margins. It is to isolate cost items that may have particular significance for policymaking purposes. Not surprisingly, a pre-bias enters into the item(s) chosen for emphasis. Marketing firms, for example, often emphasize the rising cost of labor per hour. Frequently, data will show that the cost of labor per unit of "marketing service" has increased. Though quantification of marketing service is nebulous, the Economic Research Service of the USDA regularly makes estimates both of the volume of marketing services (based largely on value-added data, a technique inviting circularity) and of man-hours of employment. It is then easy to derive indices of output per man-hour, which are published for all foods and for eight product groups [73, pp. 15–16].

Other critics concentrated on cost items such as packaging, development of new products, advertising, or profits. The last-named received a lot of attention, in disregard of the fact that in today's economy short-run

profits are by no means a pure residuum but are influenced by managerial decision. The U.S. National Commission of Food Marketing [168, p. 14] took note of the fact that advertising expenditures of corporations marketing food increased almost fourfold between 1950 and 1964. In doing so it inferentially raised the question as to whether such a rate of increase was excessive.

A more sophisticated interpretation of costs and margins begins from the premise that descriptive data, even of highest completeness and accuracy, will not answer the piercing questions that critics pose. The National Commission on Food Marketing, after completing an exhaustive and expensive compilation of margins data, commented that the data did not reveal whether a particular margin "is economically justified . . ." Further, "breaking down price spreads into component costs and profits is, at most, a small step toward appraising them" [167, p. 31].

Highest sophistication would indict the language: costs and margins. Accounting terminology does not help to interpret the simultaneous determination of services performed and income received throughout the marketing sequence for any commodity. The state of technology and the competitive model are a better starting point for analysis.

A flavor of the literature on costs and margins—and of the uncertainties attending so basically simple a concept—may be gained from these references: Schuch of West Germany [205]; Wollen and Turner of the U.K. [259]; Marshall and Winder, who review the findings of a Canadian Royal Commission [156]; Goldberg [96], Ogren [178], Freeman [88], and Waldorf [238] of the U.S.

4.3 CONCENTRATION IN MARKETS

A critical assessment of the performance of the marketing system commonly moves rather hastily into the economics of imperfect competition. This usually embraces concentration in each industry and the extent of product differentiation that prevails. Other considerations complete the following list of five topics that will be dealt with in pages that follow:

1. Concepts of concentration in marketing.
2. Concepts of product differentiation, including that in monopolistic competition.
3. The price-discovery mechanism or its substitutes.
4. The structure-conduct-performance idea applied to agricultural markets.
5. Game theory and management games.

Concepts of oligopoly and oligopsony have long been stock-in-trade of market analysts. The U.S., where food processors merged and retailing converted to chain stores amidst a philosophy of *laisser faire*, has shown the most sensitivity. In various European nations, food marketers have remained smaller and more dispersed, and agglomerations have taken the form of either marketing boards or large businesses in which central government played at least a surveillance role.

In the U.S., a nation given to study commissions, the first big investigation was conducted by the pre-war Temporary National Economic Committee. Reports such as that of Hoffman were particularly relevant [113]. Since 1940 the Federal Trade Commission (FTC) has been the primary publisher of data. Selected references are a large FTC report of 1969 [79] and a digest by Mueller [164]. Typical current statistics report as a measure of concentration the percent of each industry accounted for by the largest four, eight, or twenty firms. A later stage of concern has been the rise of the conglomerate form of business structure. This too has rendered older concepts of analysis and policy obsolete. A recent U.S. source is the papers of a 2-day research seminar [91]. In Europe and elsewhere, the counterpart is the multinational firm. Its significance to food marketing has yet to be incorporated into the formal economics of agricultural marketing.

4.4 PRODUCT DIFFERENTIATION

Differentiation of product and all the merchandising practices that accompany it has been more difficult for marketing economists to interpret. The heart of the issue is that a firm (processor or retailer) makes distinctions in product, or adds services, as a means of attaining distinctive identification and thereby capturing consumer loyalty. The practice is essentially a merchandising device.

Issues surrounding product differentiation and merchandising divide along several lines. One is whether or not advertising and a distinctive product or service, have utility for consumers commensurate with their cost. To the extent they do not, they are justified only insofar as they improve the quality of "competition"—itself an indistinct concept.

In a 1964 article Shaffer [210] set forth a number of the questions that arise regarding advertising. He noted the potentially beneficial effects of improving market information, and several possible deleterious consequences.

The cost of product differentiation and advertising is another of the many concepts in marketing that appear simple but on examination prove complex. Where excess capacity exists (it nearly always does!) the phenomenon of low cost of innovation and high cost of duplication comes into view. The innovator with excess capacity can absorb the cost of a new service by virtue of spreading fixed costs over the larger volume that he attains. But when other firms follow, the area-wide volume of business is redistributed once again and per-unit operating costs are increased. The phenomenon has been reported by Beem and Oxenfeldt [18], and by Breimyer [29].

Disagreement about the worth or wastefulness of merchandising practices including advertising, largely accounted for a sharp majority-minority split in the report of the National Commission on Food Marketing. The majority viewpoint was summarized in a pallid sentence that belies the controversy it stirred up: "The principal criticism of the efficiency of the (food marketing) industry . . . is the cost devoted to selling efforts

that yield little value to consumers" [168, p. 101]. The minority replied tartly that "advertising . . . developed and grew in a competitive environment. It is a necessary tool for stimulating consumption . . . . Since advertising is indeed a competitive tool, it seems a strange inversion of logic to accuse it of fostering inefficiency" [168, p. 151]. A persuasive defence of merchandising practices and costs is found in Moore and Hussey [162], and Tongue [226].

A facet of the differentiation issue that receives much attention where chain stores dominate retailing, is that of private labelling. This is the practice whereby a retailer displays foods with the firm's own label, there to compete with similar foods bearing the label of independent processors. The Food Commission devoted one of its special studies to the subject [169]. It confirmed popular reports that retailers' mark-ups on private label products are narrower than on nationally advertised brands but avoided the issues of (1) comparability as to quality; (2) the consequences for competitiveness versus concentration among firms. Soon after the Commission's report was released Beck addressed himself to the private label subject [17].

A final comment relates to whether advertising exerts subtle persuasion. The psychologists Rogers and Skinner raised alarm over this almost 20 years ago [197]. The new "consumer movement" has revived the issue. Advertising by television as it affects food habits of children has received special attention.

4.5 THE PRICE-DISCOVERY MECHANISM

Attitudes towards price-discovery present a contemporary contradiction. For many years most nations have declared their allegiance to a price system as the preferred instrument for directing the farm marketing economy. They have done much to improve it. Yet while scarcely diminishing their rhetoric, they are abandoning that system in increasing numbers. The role of price in guiding distribution of product and allocation of resources is moving towards eclipse in many nations, particularly developed ones.

Research aimed at cataloging or improving the pricing mechanism for farm products has typically revolved around market information, quality standardization, trade practices, type of auction, and the choice of a stage in the marketing sequence at which pricing is best done. Livingston [144] set forth the constituent ingredients with rare insight as long ago as 1920. Waugh [244] repeated and updated the message in opening a 1952 National Marketing Workshop on Pricing and Trade, which itself was followed by workshops bearing more specific charges, as of Market Information in 1954.[4] Over the years a wealth of literature has flowed relating to market information and particularly to quality classification. In 1950 McAllister [149] reviewed the role of

[4] The two reports are [235] and [233].

market news. The economics of a grading system for beef has attracted research and policy interest, and a 1959 U.S. report [256] was standard bearer for similar studies. As recently as 1967, Freebairn in Australia [87] gave a resumé of the economics of grade classification. Meanwhile, among Europeans the Germans in particular interspersed their literature with inquiries into the specifications of a satisfactory system for price discovery via markets (e.g., Hanau and Weber [105]).

Rogers has inventoried perceptively the contemporary (late 1960's) state of price-making institutions in the U.S. [198]. Alber has done something similar for West Germany [7]. A more complete treatise on pricing institutions has been directed at the near-bedlam that has prevailed in egg markets in the U.S. [201]. These reports could be a prototype for price-making taxonomy studies of the future.

Several researchers have explored the core of the pricing mechanism in organized markets. Love and Shuffett [146] dissected a terminal market for livestock. Sosnick [215], Cole [52], and Frahm and Schrader [85] have centred on auctions.[5]

Pricing of products at intermediate levels of the distribution sequence, that is to say, at the stage of processing and wholesaling, has not received a great deal of research attention. Presumably, measures of concentration and concepts of market performance are regarded as appropriate and adequate. On the other hand, pricing practices at retail came under sympathetic scrutiny once it was recognized that the modern supermarket, and particularly the chain supermarket, is not just a corner grocery or an arcade stall amplified to giant size. The supermarket is a unique institution. Although generalized theories of product differentiation and of multiple-product pricing have application, Holdren [114, 115], Nelson [170], Nelson and Preston [171], and others have developed concepts appropriate to modern retailing where supermarkets dominate. They emphasize, for example, the concept of variable-price merchandising, a term denoting the practice of orchestrating mark-up margins item by item in disregard of calculated net profits for each item. The object is to maximize attraction power of the store to customers, and store-wide profit.

Despite professed allegiance to market-determined price, the traditional role of price is being circumscribed at all levels from farm to retail sale. Not only are retail stall markets being replaced by commercial firms using "administered" pricing, but the trend toward differentiation of product noted above itself reduces the influence of price in distribution. Identifying features or servicing of product can overshadow price. In 1958, Mickwitz wrote that the role of price is different and sometimes secondary at various stages in marketing [159]. Soon afterward the American, Collins, reported the declining importance of price in controlling the marketing of products of the farm. Noting that "the theoretical arguments for the use of prices determined in an open

---

[5] Futures trading is a unique topic in the economics of marketing. For a review of literature *see* Gray and Rutledge [98].

market system are rather persuasive", Collins observed that "in agricultural marketing, as in many industrial fields, other avenues for co-ordinating the activities of different firms have been increasingly employed" [53, p. 530].

Replacements to commodity price as objectively determined in an open market setting—thereupon to act as a control device in the economy—take several forms. In delivery of products from the farm, trading may be "direct", but the privately negotiated price may approximate open-market pricing if information is adequate; the product may be subject to later pricing by "formula"; or the terms may have been negotiated previously in a production contract. In view of this diversity, it is not surprising that studies have taken a variety of forms, and recommendations have ranged from modification of present price-making, to the creation of new institutions. Livestock and meat remain favorite commodities for analysis. Still today, Kirk writes in England [131] and Böckenhoff in Germany [25] on the advantages of pricing livestock on the hook instead of on the hoof. Johnson in the U.S. examined eight methods of selling fed cattle and concluded that "the teletype method . . . is far superior . . ." [128, p. 8]. Faber [77] listed five alternative methods of pricing eggs in the United States, one of which was the committee pricing system that has won many advocates. Böckenhoff [26] reports that the West German Ministry of Food, Agriculture and Forestry suggested setting up so-called Price-Finding Centres. Willers proposes for West Germany "the compilation and quotation of prices paid for livestock and meat at those slaughterhouses which operate outside the market system" [254, p. 238].

Pricing under production contracts is a subject of its own. It is the contractual form of vertical integration. In a number of nations integration has come into prominence, particularly in the production and marketing of broiler chickens (*see* below).

4.6 VERTICAL INTEGRATION

Price-making could continue to be a focus of inquiry in marketing, provided agricultural production and marketing does not go the vertical integration route.

The idea of encapsuling successive stages in marketing into a single firm has gained worldwide prominence. The topic has attracted analytical and speculative writing in many countries. A base-book continues to be Mighell and Jones, who include integration among the various means of vertical co-ordination in agriculture. They explain that " 'vertical co-ordination' is the general term that includes all the ways of harmonizing the vertical stages of production and marketing". Then they add, "The market-price system, vertical integration, contracting, and co-operation singly or in combination are some of the alternative means of co-ordination"[6] [160, p. 1].

---

[6] The authors exclude contracting from vertical integration. They differ from most writers, who choose to regard production contracts (but not marketing contracts) as within the definition of vertical integration.

Other significant sources on vertical integration are Baligh and Richartz [13] and Logan [145], although Logan, as many authors do, confines himself to the economics of intra-firm integration and does not generalize to how integration affects the system of vertical co-ordination of an industry.

Scattered theoretical treatises and countless empirical reports on vertical integration have appeared in several countries and languages. Selected examples of the former are a signal article by the Canadian Trifon, published in 1959 [229], and a 1964 review by the German Schmitt [204]. An example of a study of pricing under contractual integration is Jesse and Johnson [127]. As some integration in the U.S. is associated with collective bargaining by farmers, a few studies have linked the two institutions (e.g., Babb *et al.* [9]).

Padberg [181] outlines efficiency and welfare considerations in integration perceptively. Phillips in Australia [186] and Allen in the U.K. [8] rest their defence of contractual systems on the efficiency criterion. Multiple criteria enter into various other examinations. In the U.S., where poultry and eggs have received most empirical attention, Breimyer [31] related structural concepts to the emerging broiler marketing system. In 1971, Rogers reported on integration in egg markets [199]. There were similar reports on broilers by Faber and Irvin [78] and the Packers and Stockyards Administration [179].

Institutional means for co-ordinating production and marketing of farm products continues to be a subject of intense interest in socialist countries. Experiences in vertical integration in developed Western nations receive careful study there, and the topic is one that joins agricultural economists in Eastern and Western divisions of the world. The work of the Budapest Research Institute for Agricultural Economics, and of the Institute of World Economy and International Relations of the U.S.S.R. Academy of Science illustrate this. Selected examples of publications from these organizations are Marton [157] and Tulupnikov [230], respectively.

4.7 STRUCTURE-CONDUCT-PERFORMANCE

Even though the concepts of imperfect competition stemming from Sraffa, Chamberlin and Robinson provided economists with a versatile conceptual apparatus for examining the marketing system for farm products, they had one critical weakness compared with the neo-classical theories from which they emerged: they seldom provided determinate solutions from objectively-observable data. This flaw led to two different, though related, stratagems. One was to mix assumed conditions with the mathematics of chance into game theory. The other was to apply the admittedly indeterminate structure-conduct-performance approach. The latter led to vaguely defined policy ideas such as "workable" or "effective" competition.

Among economists attentive to agriculture, Clodius and Mueller have probably done most to publicize the structural approach, itself derived from Mason and Bain. The Clodius-Mueller formulation was as follows:

> . . . market structure analysis has one basis in formal economic theory and the second in the institutional-empirical observations of industrial experience. Marshallian and neo-Marshallian theorists had derived theorems about the performance of an industry characterized by large numbers of small firms, homogeneous products, and free entry and exit, at one end of the scale, and of single-firm monopoly at the other. Concurrently, economists of an institutionalist persuasion developed studies of the organization and performance of industrial and labour markets where imperfections of all kinds were the significant characteristics. As formal theorists became increasingly aware of the wide variations . . . modifications were made . . . (in theory). How firms conduct themselves and how industries perform in the aggregate may be explained . . . .
>
> . . . Key concepts are those of market *structure*, *conduct*, and *performance*. The direction of causation is assumed to run from structure through conduct to performance [51, pp. 515–516].

Unique to this approach was the idea epitomized in the words, "how firms conduct themselves". In modern business organization, firms have a conduct latitude; their decisions are not rigidly predetermined by the structure of the industry and its parameters. It remains uncertain, nevertheless, how deeply the trilogy has affected market investigations. Not all reports that bear the structure-conduct-performance label genuinely conform to the Clodius-Mueller (or Mason-Bain) discipline.

Note must be taken of the effective-competition or workable-competition schools that relate closely. John Maurice Clark ranks as a leading spokesman [49]. Sosnick has led in both specifying those principles and applying them to markets for farm products [214, 216, 217]. In a summary word, criteria for satisfactory performance are set forth that are essentially epigrammatic, and replete with adverbs of degree. A certain level of concentration, amount of advertising, and so on may be tolerated, but they dare not be excessive. Thus does indeterminacy lead to subjective prescriptions that tolerate only moderate departures from standards of performance under pure competition, while accepting some of the alleged benefits of imperfect competition—especially the variety of product and innovation that follow from monopolistic competition.

4.8 GAME THEORY AND MANAGEMENT GAMES

As noted above, one analytical recourse of hard-pressed analysts facing an imperfectly competitive marketing system has been that of game theory. In their article on bargaining, cited previously, Helmberger and Hoos [111, pp. 1273–77] gave a resumé of game theory, which was applicable not only to bilateral bargaining but to all small-number oligopoly or oligopsony. A significant work on management games was Babb and Eisgruber's 1966 book [10]. Eisgruber and Hesselbach authored an article on the subject in the West German *Agrarwirtschaft* a short time before [75].

5. EFFICIENCY IN MARKETING: THE OPERATING EFFICIENCY OF THE FIRM[7]

In all developed nations and in the more commercial portion of developing nations, marketing is done by business firms. Most are of considerable size. Consequently, an inquiry into the nature and acceptability of the operation of the marketing system for farm products inevitably crosses the threshold into the internal economics of the firm.

The lodestar for such inquiries is the concept of efficiency. The most familiar version is productive efficiency, which is virtually self-defining. Within the larger firms there is an internal allocation of resources, the mechanism for which compares with the "pricing efficiency" of the macro-marketing system. Timmer [225] argues that "allocative efficiency" is a preferred term. Indeed, macro-efficiency is increasingly tagged as allocative rather than pricing efficiency, in recognition of the diminishing role of price in governing the functioning of the farm market system.

Efficiency is itself an engineering term that only relates output to input. The more naive characterization of the efficiency calculus in marketing emphasizes difficulties in mensuration. How are input and especially output to be quantified?

A more sophisticated treatment recognizes choices among both input resources and output products and applies normative criteria to those choices. Moreover, the criteria may relate to the goals of the firm, or the goals of society. Dilemmas over basic choices of what to produce and how to produce it bring to mind the tart comment of Boulding, which he couches in terms of suboptimization. He calls suboptimization "the great danger of rationality . . . that is, finding and choosing the best position of part of the system which is not the best for the whole. Too many people, indeed, and especially too many experts, devote their lives to finding the best way of doing something that should not be done at all" [27, p. 10]. French insists that at least that part of marketing research financed publicly must "consider the broader social implications . . ." [89, p. 4].

At a workshop on marketing efficiency held in Kentucky in 1955, a work-group report reconciled the issue in terms of a hierarchy of ends. "What makes the strategic difference between the individual and the group is the differing content each might give to ends and resources" [234, p. 180]. Moreover, adds French:

> The ends relevant to the examination of efficiency of the economy may differ from those of total agriculture, or the agricultural marketing system, or an industry, or a firm. Further, as we move from the firm to higher and higher levels in the system, there is less and less agreement on which ends are relevant. Therefore, there is less and less agreement on what is truly efficient [89, p. 5].

---

[7] Much of this section is abstracted from the original draft of a forthcoming review article by Dr Ben C. French of the University of California at Davis [89]. Sincere appreciation is accorded Dr French for permission to draw on the product of his labours. As Dr French's work will be published soon it seems unnecessary to develop the topic at great length here.

Harmony versus conflict between goals of the firm and of society has become a growing focus of debate on economic policy. Farm marketing enjoys no safe harbour. Even for farm marketing the now-popular concept of externalities merits mention. Though the more advertised aspects of the concept relate to benefits such as scale (or size) externality of communication or transportation (good) or pollution (bad), a counterpart diseconomy is more furtive. It is the pecuniary diseconomy of increased assembly costs for raw product as the scale of a plant is increased. Obviously, it relates most closely to plants that process raw products. Under the topic of spatial components of marketing cost (*see* topic listing in 5.2 below) French appropriately reviews not only transport cost functions but assembly or distribution cost functions as well. The latter, he remarks, "show how the total acquisition or distribution costs vary with the level of plant output" [89, p. 37].

The pecuniary externality arises when a local plant enjoys any degree of local monopsony. Then the assembly costs can be external to the plant, but not to the economy. The Economic Research Service of USDA has incorporated pecuniary diseconomies in some of its marketing research, especially in poultry processing (e.g., Rogers and Rinear [200]); likewise have some other research institutions, as in studies of milk processing (e.g., DeHaven [66]).

5.1 GOALS OF THE FIRM[8]

If the French thesis as stated two paragraphs above be accepted, efficiency must be studied against varying ends or objectives. In the hierarchy of organizational units, the firm itself is one stratum. Recent studies of the economics of the firm take major exception to earlier unexamined assumptions that short-run maximization of profit is the overriding goal of a business firm. Due, for example, after giving proper homage to profit maximization noted "significant exceptions", which may call for avoiding "full exploitation of all the temporary situations which might follow very high profits". Further, "More than anything else, those in the management group are interested in the continued operation of the firm and maintenance of their own position . . ." When this goal conflicts with maximum profits, "security of position is likely to take precedence . . ." [71, pp. 389–390].

Herbert Simon [213, p. 262] qualified the profit maximization goal in other language. He noted the interdependence of firms' actions under conditions of imperfect competition, and offer the amorphous concept of "satisficing". He posited gaining or holding of market shares as an objective. Baumol [14] proposed the idea that firm managers are motivated to maximize total revenue subject to a certain profit constraint. This amounts to an emphasis on growth of volume of business as more important than winning the largest possible profits—provided profits reach a certain acceptable minimum. Nielson and Sorenson [174] quoted a business author: "businessmen are torn between the desire for profits and the desire for control, power, or prestige" [150].

---

[8] The preceding note on externalities and this subsection on goals of the firm are not found in French (*see* footnote 7).

Studies in efficiency of marketing that take account of the goals of a firm are complicated by the vagueness and variability of those goals. Nevertheless, a more precise appreciation of the goals of the firm is a growing part of the literature of the economics of marketing, and will remain important and instructive.

5.2 CATEGORIES OF APPLIED THEORY

French believes that the economics of efficiency in marketing is solidly grounded in neo-classical theory but that "several types of modifications and extensions, growing substantially out of the work of agricultural economists, . . . are particularly relevant . . ." [89, p. 7]. He classifies those special applications under five headings:

(a) production systems in marketing firms;
(b) plant costs and the length of operation;
(c) multiple service plants;
(d) spatial components of marketing cost;
(e) total systems analysis.

Prewar and early postwar investigations often featured process analysis, that is, the dividing of physical functions of a marketing firm into component steps that were then subjected to measurement of operational efficiency. Brunk exemplified process analysis in a 1948 study [40]. That approach has since been subordinated in the complexity of product design and long range planning for a firm's operations.[9] French acknowledges the negative argument: "the problem of determining optimum factor combinations for most marketing firms is generally trivial in the short-run and not directly meaningful in the long-run . . . In many cases the inputs become embodied in the product in such a way that changing the input defines a new product". Further, "the main factor substitution possibilities are between labor and machinery which may require not only changes in the plant but alteration of the product function itself" [89, p. 12].

Other features of firm-efficiency analysis for marketing of farm products bear both parallels with and distinctions from economics-of-the-firm analyses generally. Some common features revolve around time (length-of-operation) and multiple-service products, both of which French examines. In processing farm products, fluctuation of output volume over time can be extreme. What shall be the built-in capacity relative to rare and temporary peaks in output? How shall costs be apportioned relative to those peaks?

With regard to the multiple-product or multiple-service feature of much farm-product processing and distribution, French contends that conventional neo-classical theory "is quite inadequate as a framework for measuring production and cost functions in marketing firms" [89, p. 28]. French names as two major shortcomings, the non-identification of functions and parameters, and the non-availability of adequate data for

---

[9] Brunk employed terms such as "process," "operation," "work element," and "therblig" [40, p. 170].

relating to the modern firm with its many variables. He cites as authors who have wrestled with the problem, Bressler and King [37], Dano [62], Muth and Thompson [166], Reed and Sammet [192], and Bressler [36].

In a 1972 article Cyert and Hedrick examined at some length the "hypothetical construct called the firm". They considered how in current writings "neo-classical theory is being extended in an *a priori* manner and the extent to which it is being replaced by one of the revisionist approaches" [58, pp. 398–399]. They classified recent literature as employing five different techniques: Unmodified neo-classical approach, simple extensions of the neo-classical approach, modifications of the objective function, generalized maximization techniques, and non-maximizing models [58, p. 403].

French offers exactly 100 references to "descriptive studies of plant cost records" [89, p. 47]. Relative to the "economic-engineering analysis of plant efficiency in agricultural marketing" he lists 341 references [89, p. 66]. He says the technique was "originated in the early 1940's by R. G. Bressler, Jr and his associates at the university of Connecticut." The foundation was "the excellent series of research bulletins produced . . . under the overall title 'Efficiency in Milk Marketing in Connecticut' . . . (which) are listed and partially summarized in Bressler [35]" [89, pp. 62–63, 107]. French tabulates 121 studies relating to economies of scale [89, pp. 76–80].

Not to be overlooked are feasibility studies for projected new businesses, which "have as one objective, the evaluation of the likely degree of success of such ventures" [89, p. 84] (*cf.*, Woodard, [261]). Even though Dalrymple wins some credence for his protest that "there is no clearly defined area of feasibility as such" [61, p. 119], French counters [89, p. 84] that an integration of component analyses or phases gives some identity to feasibility studies. Perhaps the tools of the marketing economist, despite the doubts of skeptics, can help to predict whether a projected marketing plant or firm stands a good chance of succeeding (surviving).

In final subsection French notes the sizable number of U.S. studies for the design of central markets. Usually, these were commissioned studies, and the plans drawn up were actually used to build or restore markets. In the words of the acknowledged leader of this work, W. C. Crow, better market facilities would contribute to "reducing marketing costs with consequent benefits to growers, consumers, and produce dealers" [55, p. 24]. French gives titles for thirty central market studies [89, pp. 193–197).[10]

---

[10] The above section cites primarily U.S. authors because French confined himself essentially to these sources. For the most part, marketing economists of the U.S. have outdistanced those of other countries in both conceptual and empirical studies of efficiency of the firm. This is not to deny instances of significant work done elsewhere. Perhaps most impressive is work relating to spatial economics (and economics of location of enterprise). This *Review* has published a survey article on spatial economics, written by Weinschenck, Henrichsmeyer, and Aldinger, which includes references on the food processing industry [251]. Of a different character are the down-to-earth studies regarding relocation of time-honored wholesale assembly markets, such as those of Covent Garden in England and Les Halles in France. For references *see* [141], [133], and [142].

6 DEMAND CREATION AND MARKET DEVELOPMENT

In economies subject to periodic or persistent overproduction of farm products, or concerned for undernutrition of a sizable segment of the population, private and public policies relative to market development have come into being. Marketing studies, *post* or *ante*, have accompanied them to a greater or lesser extent. In this part of the economics of marketing the U.S. has predominated. Most of the references in this brief sketch are from that country. Omnibus public measures to improve the level or distribution of national income, though packed with implications for demand for farm products, are in no sense singularly agricultural and will not be annotated herein.

6.1 SUPPLEMENTAL FOOD PROGRAMMES

Among public programmes specifically designed to increase demand for farm products are the various food programmes for low income consumers. These take the form of direct distribution of food or of multiple pricing of food. Many nations use the latter device, by way of setting up special low-priced food stores, or by making food available to school children at reduced cost. In the U.S., the highly distinctive Food Stamp Plan has been added to the non-distinctive school lunch programme.

Three published articles have become classics as statements of the underlying economic rationale for supplemental food programmes. In the earliest (1936) Waugh, Burtis, and Wolf [248] sketched the potential effect of distributing a crop among independent markets. Later (1938) Waugh [245] wrote a defense of the principle of stratification of the market. These two articles were generally credited with instigating the Food Stamp Plan, a scheme that enabled lower-income families to buy an adequate food diet at a cost scaled to their income and family size. The third base article, published by Southworth in 1945 [218], related food subsidy measures of different forms ("cash grant," "frozen expenditure," and price reduction) to known data on elasticity of demand.

The Food Stamp Plan was reviewed in a noteworthy 1950 report [94]. An early examination of the programme of reduced-price lunches for schoolchildren was that of Southworth and Klayman [220]. A good resumé of both concepts and empirical data was contained in a pair of bulletins published by the University of Minnesota in 1959 and 1961 [253, 5]. Though it is questionable whether supplemental food programmes have yet received the research attention they merit, a growing flow of studies and articles is observable in recent years.

6.2 CONSUMER PREFERENCE STUDIES

One focus of postwar activity in farm product marketing in the U.S. has been research to specify more exactly the preference matrix of consumer demand, particularly with regard to closely competitive products or varying composition or quality of a given product. Data so obtained

presumably could be related to standards for grade classification of raw farm products, or to clues for effective differentiation of manufactured products. A second-stage outcome might be the development of new products. In fact, design of new products has become, in some circles, a subsector of market analysis.

Five references will serve as proxies for the mass of literature on this subject. Burk's 1967 survey article on consumer behavior serves as a starting point [43]. Rhodes [194] reviewed the nature and expression of preference during the heydey of preference studies. Techniques for measuring expressed consumer preference have generated a literature of their own. A 1967 article by Padberg *et al.* [183] typifies many others. Studies of consumer preferences for citrus fruits [16] and meats [250], spaced by an 18-year interval, are representative of voluminous sample-survey work done by the USDA and by some state agricultural experiment stations.

6.3 EFFECT OF ADVERTISING AND PROMOTION

The subject of advertising's micro effect—the return to the advertiser—belongs in an inventory of the economics of marketing not because so much has been learned but because critical evaluation is so assiduously sought. Various commodity organizations and food processors eagerly scan research studies for information that may yield hints of the effectiveness of consumer-oriented advertising and promotion.

Wolf in 1944 [258] set forth some of the considerations in estimating the effect of agricultural advertising. Waugh in 1959 [246] directed similar attention to farm product promotion generally. Advertising and promotion became the subject of two national workshops in marketing in the 1960's [236], [237]. The broad outlines of the issue are not disputed. The more distinctive a product, the more narrow its identification (whether by brand or biologically—such as artichokes), the more shiftable is the demand curve. Superior goods (demand for which is positively related to consumer income) are more likely to respond than are inferior goods. Where two products are similar, retaliatory advertising is likely to cancel out much of the effect that would be obtained by advertising or promoting one alone.

U.S. commodity groups that have long engaged in promotion include citrus and dairy. Two publications that won wide attention are representative of the rather sparse research into effects of advertising and promotion. The first, by Nerlove and Waugh [172], related to oranges. The second was a USDA study of relative levels of expenditure in advertising milk [50].

Although the U.S. is known as the land of hucksterism (aggressive promotion and salesmanship) it is not unique. In September, 1971, an entire issue of the periodical *Agrarwirtschaft* revolved around a West German "sales fund law" [221]. A decade ago, Donaldson in Australia considered the economics of advertising wool [70].

G 40713—3¶

7 TRANSPORTATION AND REGIONAL ECONOMICS[11]

It was almost preordained that a discipline that arose from spatial considerations in the economics of agriculture, namely, von Thünen's *Der isolierte Staat* [224], should continue to include in its repertory the economics of transport and regional aspects of marketing. Early in the history of agricultural economics, pre-existing knowledge of the economics of transport was updated (*cf.*, Fetter [81]). Further extensions appeared mainly in the form of applications to particular commodities. Milk, a bulky non-storable product, lent itself particularly well to such studies. Cassels' 1937 work was virtually a prototype for many that followed [46].

The majority of regional economic studies were simulated; that is, they relied on model-building, where the authors hypothesized some rational scheme of transport cost. It is not unfair to say that insofar as the pattern of transport cost approximated actual costs, those studies could be regarded as marketing studies. If they departed too far from reality, they could not be so regarded.

Empirically-oriented studies necessarily took account of the extremely complex character of actual freight tariffs, the nature of inter-regional competition among firms operating in imperfect competition, and the special conditions of multi-product firms. Though transportation has never ceased to be incorporated into various dairy industry studies, livestock and meat also have provided fertile ground. Works by Maki *et al.* [152] and by Judge and Wallace are illustrative examples [129, 241, 130]. With regard to the regional economics of multiple product plants, French [89] makes reference to significant works by Polopolus [188], and by Chern and Polopolus [48]. They are valiant efforts to deal with a complex subject, and represent a positive contribution.

Periodically, regional economics has been elaborated into instructive inquiry into institutional barriers to inter-regional trade. In the U.S. the signal publication was one by Taylor, Burtis and Waugh in 1939 [222]. Identical considerations entered into the formation of the Common Market of Europe, and are a part of countless studies on European integration, to be noted later in this review. At the least, such studies invite public attention to institutional obstructions to inter-regional commerce. They may lead to explicit acknowledgment if not to policy action.

8 MACRO-STRUCTURAL STUDIES

Even though the economics of marketing had its inception in real-world dilemmas for which policy solutions were sought, the preponderance of studies have been of a micro-nature. Only in the last decade or so have economists ventured bravely into overview or macro-studies of major

---

[11] A comment on spatial economics, and reference to a survey article [251], may be found in footnote 10.

sectors of the marketing system—or of the entire system. These have borne various captions such as "systems analysis" but often include the adjective, "structural". They are more comprehensive, however, than the conventional structural analysis built around measures of concentration and differentiation of product. They encompass micro-studies but put them in a macro- and dynamic context. They include a focus on newer concepts in group organization, such as collective bargaining as a marketing instrument. They invariably seek to define (or re-define) the role of government.

Shaffer put it in these words:

> We are only beginning to understand the dynamics of socioeconomic systems in the process of scientific industrialization. In order to predict the outcome of the process and all the potential modifications . . . I would argue for a systems orientation . . . By a systems orientation I simply mean the analysis of problems in the context of the broader system . . .. I want to put emphasis on the changing relationships of technology, preferences, and institutions . . ..
>
> Understanding the dynamics of the sector as a system is of great importance to both public and private decisions . . ..
>
> The objective would be to understand the sector as a dynamic system . . . in order that more intelligent choices can be made among the alternatives in public and private decisions. I suggest two related orientations: (1) issues or institutions, and (2) subsectors or industries [211, pp. 1443–1444].

Several studies have recently enriched our understanding of the macro-structural approach to marketing.[12] In a closely parallel interpretation Marion offers an illuminating taxonomy of the "uses and meanings of 'systems analysis'." He expresses the approach in terms of "Weltanschauung" (all-encompassing philosophy) [155, pp. 2–4].

8.1 PRESSURE TOWARD MACRO-INQUIRY

New confidence in data and techniques may underlie the new incursions, but a more convincing rationale is, once more, the pressure of contemporary events. In Europe the advent of the Common Market forced attention to marketing systems. In many nations, the gradual weakening of traditional facilities and practices in marketing has invited objective analysis of measures either to preserve the existing structure, or consciously to design a replacement. Often a special body or commission, usually appointed by a government agency, either carried out the analyses or contracted for them. As previously noted, in the U.S. the predominant bodies have been the Temporary National Economic Committee and National Commission on Food Marketing. The Food Commission issued a major summary report [168] and 10 Technical Studies. In Europe there have been many committees of

[12] E.g., Shaffer's *Working Paper* [209], and a noteworthy Fletcher article [83].

inquiry, some established by the EEC or the OECD.[13] The FAO, the International Association of Agricultural Producers, and other organizations likewise have taken an active interest. Various research organizations and foundations have been actively involved. The IFO-Institut für Wirtschaftsforschung, for example, has conducted several studies of market organization, including some for countries such as the Netherlands and Belgium.

In U.S. literature, typical fundamental studies, in addition to those of the Food Commission[14] include (1) comprehensive reports published by the Economic Research Service, such as *Agricultural Markets in Change* [72], and *Market Structure of the Food Industries* [74]; (2) an equally complete review of food retailing by Mueller and Garoian [165] with a separate elaboration by Padberg [180]; (3) a signal set of studies of wheat, soybeans, and Florida oranges by Goldberg [95]; and (4), perhaps the best base-book of all, *Market Structure of the Agricultural Industries*, edited by Moore and Walsh [163]. The last-named contains fourteen industry chapters, some relating to functions (such as retailing), others to commodities (such as meat and broiler chickens).

Some commodities continue to get a disproportionate share of research attention. Milk is one such commodity. Two recent publications are surrogates for others. In a bulletin prepared for a major dairy co-operative, two land-grant university economists offered an analysis of alternative policies for a "Total Marketing System" [11]. Five authors collaborated in writing a book with a title that promised much: *Organization and Competition in the Midwest Dairy Industries* [255].

In Europe, technical articles generally preceded longer studies of the macro-organization of markets for farm products. Often, though not always, they had their inception in the formation of the Common Market. Selected examples were Hanau and Weber (1962) [105], and Weber (1964) [249]. Later, Hanau [103] drew lessons from EEC experiences with grain. The EEC has indeed been both the laboratory and taskmaster for marketing economists of Europe.

8:2 EUROPEAN AND OTHER COMMON MARKET STUDIES

Europe also has published comprehensive studies in recent years comparable to the U.S. reports mentioned above. Selected examples include two by the British Kirk and his co-authors regarding stall market retailing in Great Britain [134], and marketing of flowers in the U.K. [121]. The IFO-Institut für Wirtschaftsforschung has published, among its "Studien zur Agrarwirtschaft", a sizable report, *Agricultural Marketing Systems in the EEC-Member Countries* [123]. The same institute's reports for the Netherlands and Belgium are [124] and [122].

---

[13] *Cf.*, e.g., the German "Gutachten des Wissenschaftlichen Beirats . . ." [42].

[14] The Food Commission report stimulated a host of review or rejoinder articles. Among them were Brandow [28], Aders [6], French [90], Ogren [177] Manchester [154], and the Australian Gruen [99].

From the Justus Liebig Universität in Giessen has come a series of "Gieszener Schriften" of which two have the common title, *Zentrales Marketing für Nahrungsgüter in der Bundesrepublik Deutschland* [59], [60]. Representative of a somewhat different kind of study is Pritchard and Huth's report on food marketing in Benelux [191].

The U.K. has had its own studies about the Common Market. Understandably, they date later than those of Germany and other original members of the EEC. A study by Butterwick and Neville-Rolfe had a significant chapter on farmers' marketing organizations in the EEC [44].

The list of European publications is long, and these few citations do injustice to the many other studies of equal or perhaps superior quality. The Common Market, to be sure, elicited research inquiries among virtually all nations which exported to that food-importing part of the globe. Among reports from Canada were Fischer [82] and Hallett [102]. The U.S. has issued a multitude of studies. Major ones have come from the USDA (e.g., [21] and a bibliography [107]), and from Michigan State University (e.g., a study of the then supposedly-forthcoming addition of four nations to the EEC [80]).

8.3 ENDLESS SEARCH

The many current studies published in the U.S., Canada, Australia and Europe testify to the current need to amalgamate the fragmented knowledge about agricultural marketing so as to guide the structuring or restructuring of markets. Almost always, concepts that are considered embrace the nature of competition and of price formation—or of integration or co-operative organizations that serve as replacements. The West German Wöhlken tags current investigations as "based more strongly than . . . previously . . . on theoretical concepts of competition and their significance for the establishment of goals together with the concrete form that results therefrom with regard to instruments of market policy in central marketing and price policy" [257][15]. In England, Kirk cites a return to "non-commodity studies, particularly in the fields of horizontal and vertical integration, and . . . the field of retail distribution in relation to city planning . . . [also] some continuing preoccupation with the marketing/international trade complex . . ." He also refers to research "in the field of study of the structural and functional efficiency of marketing institutions" [132].

Thus has problem-oriented inquiry into the marketing system for farm products, initiated two or three generations in the past, given rise to a host of specialized technical competencies, only to return via an endlessly rotating cycle to new problem-oriented inquiries: again it is universally asked, how well does the contemporary system work, and what are the problems, and the aspirations, for the future?

---

[15] Translated by Harold F. Breimyer.

8.4 INTERNATIONAL ASPECTS OF MARKETING

Even though it is comprehensive enough to justify a separate review article, in the context of this treatise international aspects are only an extension of macro-studies. They are, in a sense, the ultimate application of the macro-systems approach. They are entered in this inventory in order to avoid the palpable error of total omission, and without pretense of review.

A mixed collection of subtopics are the economics of international trade, international commodity agreements, and agricultural marketing in developing nations. Yet the mixture is not too strange, for macro-studies have divided into comprehensive commodity or functional inquiries, and the evaluation or design of entire systems.

With regard to the economics of international trade, the newer developments of trading with or among blocs, and of negotiated trade, have not dispelled all inquiry into more conventional aspects of international trade in farm commodities. Bawden [15] reverted to, and updated, older techniques when designing his international spatial price equilibrium model. Meanwhile, Abel [4] considered the common practice of price discrimination in world trade, and McCalla described a duopoly model in world wheat trade [147] and a separate framework for world feed grain analysis [148]. Oligopoly models in wheat trade entered into Freebairn's analysis [86].

Few publications on international commodity agreements are as complete and illuminating as those of the recognized expert, Gerda Blau. Her 1970 paper to the Minsk meeting of the International Association of Agricultural Economists suffices to illustrate the body of literature available on the subject [24].

With regard to marketing in agricultural economic development, Abbott is among the most experienced analysts and authors. Two of his earlier publications were [2] and [3]; he has chapters in two books of readings (Miller [161], and Southworth and Johnson [219]). Other authors in those collections provide insights, as does Mellor in his text [158]. Likewise do several authors in a Blase-edited 1971 book [23].

To assemble the results of a half century or more of farm product marketing investigation and extend them to the virgin territory of aspiring newly developing nations, could be in the best tradition of private and public scholarship. In a gesture of magnanimity, developed nations of the world have indeed transferred much knowledge. There has been reciprocity; research studies in developing territories have often provided a chronology of the evolution of marketing institutions that was denied students in older nations who could only infer the history of their own economies. Yet to close this review on such a sanguine tone would be inaccurate both historically and as augury for the future. For experience has been replete with examples of limited transferability from developed to developing nations, and of flawed analogies between the two halves of the world. In large measure institutions of marketing are time-dynamic and culture-specific. This fact does not invalidate the global compendium of knowledge assembled over more than a half-century (and longer, if

lines back to von Thünen be recognized). It does remind us that marketing inquiry is less likely to yield verities than verisimilitudes; and the specification of what is known and what is not known will occupy future contributors to the literature of the economics of agricultural marketing in countless years to come.

9. REVIEW AND APPRAISAL

The economics of the marketing of agricultural products, unlike more discretely defined sub-sectors of the economics of agriculture, has provided the arena for diverse inquiries into the arrangements by which products of agriculture move into intermediate and final consumption, how incomes are generated, how private institutions are created, and how public policies are chosen. In the earliest and simplest approach, marketing was viewed as an extension of the farm business. More common in recent years has been the viewpoint that marketing is the nerve centre for the motor forces that give direction and impulsion to the production and distribution of products. This conceptualization even fits the socialist countries, although their techniques of co-ordination differ somewhat from those employed in mixed economies. In rather sharp contrast is a third school that focuses on the process of consumption; patterned after industrial marketing, it embraces both income and cultural influences on consumer behaviour but receives its orientation primarily from merchandising. This third school has experienced difficulties of communication with more traditional approaches to the marketing of agricultural products.

It is no discredit to scholars that much of the impetus for marketing inquiries has come from contemporary events posing problems to be solved. It is to the credit of scholars that they have responded imaginatively and inventively. As a consequence, techniques of analysis and proposals for action have been devised that have proved to be of positive value. Among analytical techniques the foremost may still be commodity price analysis. This and similar fields such as formulations of the economics of consumption have spun-off into entities of their own. Studies of micro-efficiency of the marketing firm began with process analysis and enlarged into simulated engineering constructs. Earlier studies of macro-efficiency of the system were oriented toward the perfect competition model and employed such traditional—and still unsatisfactory—statistics as cost and margins, and were directed at policy action to improve communication and the process of arbitrage.

In economics of marketing as in economics generally, the successive departures from perfect competition posed difficult problems. The economics of the firm was complicated by expansion to multiple products of differentiated nature, and even to fully conglomerate structure. It would be overly sanguine to claim mastery of these new obstacles to analysis, even though the ingenuity displayed is creditable. More a by- than direct-product of this direction to analysis are insights into management techniques of modern merchandising firms, such as the unique pattern of behavior of the supermarket retail store.

In both micro- and macro-studies, marketing economists were tardy in incorporating analytical schemes of monopolistic (imperfect) competition; nor have they contributed notably to that literature. Examinations of the allocative and distributional performance of the marketing system have increasingly taken account of structural changes, such as vertical integration, but they continue to reveal an element of frustration. For example, the structure-conduct-performance device is frequently employed by economists studying the marketing of agricultural products despite the fact that its indeterminateness violates the widely-extolled principle of specification of models.

The economics of marketing agricultural products has long found application to collective action—private or governmental—in marketing. Historically these have revolved around various forms of co-operation but they have proliferated into quasi-governmental devices such as marketing orders and marketing boards, and into collective bargaining. Furthermore, such developments as the formation of the Common Market of Europe, and the gradual fading of organized commodity markets for price discovery, have recently given a new thrust to institution-building as an appropriate application of the economics of marketing.

Thus it must be admitted that the economics of marketing agricultural products cannot satisfy epistemologists. It remains crude in definition, and more pragmatic and ingenious than rigorous in its technique. Yet its performance has been salutary, its achievements genuine. Perhaps the greatest challenges to be faced are those of effecting a liaison between its more esoteric and its problem-solving practitioners; and of retaining a substantial continuity and internal unity in its inquiries, in contravention of persistent demands to service needs-of-the-day. In all scientific inquiry continuity and a degree of consistency are essential. This is no less true of inquiry into the economics of marketing agricultural products than of other forums for scientific endeavour.

REFERENCES

[1] ABBOTT, JOHN C., "Agricultural Marketing Boards in the Developing Countries", *Journal of Farm Economics*, Vol. 49, No. 3 (Aug., 1967), pp. 705–722.

[2] ———, *Marketing Problems and Improvement Programs* (Food and Agriculture Organization of United Nations: FAO Marketing Guide 1, 1958).

[3] ———, "The Role of Marketing in the Development of Backward Agricultural Economies", *Journal of Farm Economics*, Vol. 44, No. 2 (May, 1962), pp. 349–362.

[4] ABEL, MARTIN E., "Price Discrimination in the World Trade of Agricultural Commodities", *Journal of Farm Economics*, Vol. 48, No. 2 (May, 1966), pp. 194–208.

[5] ———, and WILLARD W. COCHRANE, *Policies for Expanding the Demand for Farm Food Products in the United States, Part II. Programs and Results* (University of Minnesota, Agricultural Experiment Station: Technical Bulletin 238, April, 1961).

[6] ADERS, ROBERT O., "The Food Industry and the Food Commission Report", *Journal of Farm Economics*, Vol. 48, No. 5 (Dec., 1966), pp. 1328–1333.

[7] ALBER, BERNHARD, *Die Notierung von Agrarprodukten in der Bundesrepublik Deutschland* (Lehrstuhl für landwirtschaftliche Marktlehre der Universität Hohenheim, Forschungsgesellschaft für Agrarpolitik und Agrarsoziologie e. V. Bonn, 1971).

[8] ALLEN, G. R., "An Appraisal of Contract Farming", *Journal of Agricultural Economics*, Vol. 23, No. 2 (May, 1972), pp. 89–98.

[9] BABB, E. M., S. A. BELDEN, and C. R. SAATHOFF, "An Analysis of Cooperative Bargaining in the Processing Tomato Industry", *American Journal of Agricultural Economics*, Vol. 51, No. 1 (Feb., 1969), pp. 13–25.

[10] ———, and L. M. EISGRUBER, *Management Games* (Chicago: Educational Methods, 1966).

[11] ———, and ARLO MINDEN, *Analysis of Alternative Policies for Implementing a Total Marketing System for the Dairy Industry* (Associated Dairymen, Inc., Sept., 1971).

[12] BAKKEN, HENRY H., *Theory of Markets and Marketing* (Madison: Mimir, 1953).

[13] BALIGH, HELMY H., and LEON E. RICHARTZ, *Vertical Market Structures* (Boston: Allyn and Bacon, 1967).

[14] BAUMOL, WILLIAM J., *Business Behavior, Value and Growth* (New York: Macmillan, 1959).

[15] BAWDEN, D. LEE, "A Spatial Price Equilibrium Model of International Trade", *Journal of Farm Economics*, Vol. 48, No. 4, Part I (Nov., 1966), pp. 862–874.

[16] BAYTON, JAMES A., TRIENAH MEYERS, and MARGARET GOLDHAMMER, *Consumers' Use of and Opinions about Citrus Products* (U.S.D.A., Bureau of Agricultural Economics: Agricultural Information Bulletin No. 50, Oct., 1951).

[17] BECK, ROBERT L., "Private Labeling: Nonprice Competition in Reverse", *Journal of Farm Economics*, Vol. 49, No. 5 (Dec., 1967), pp. 1401–1405.

[18] BEEM, EUGENE R., and A. R. OXENFELDT, "A Diversity Theory for Market Processes in Food Retailing", *Journal of Farm Economics*, Vol. 48, No. 3, Part II (Aug., 1966), pp. 69–95.

[19] BENEDICT, ELIZABETH TUCKER, HEINRICH HERMANN STIPPLER, and MURRAY REED BENEDICT, *Theodor Brinkmann's Economics of the Farm Business* (Berkeley: University of California Press, 1935).

[20] BENEDICT, MURRAY R., and OSCAR C. STINE, *The Agricultural Commodity Programs, Two Decades of Experience* (New York: Twentieth Century Fund, 1956).

[21] BERNTSON, B. L., O. H. GOOLSBY, and C. O. NOHRE, *The European Community's Common Agricultural Policy: Implications for U.S. Trade* (U.S.D.A., Economic Research Service: Foreign Agricultural Economic Report No. 55, Oct., 1969).

[22] BLACK, JOHN D., *Agricultural Reform in the United States* (New York and London: McGraw-Hill, 1929).

[23] BLASE, MELVIN G., ed., *Institutions in Agricultural Development* (Ames: Iowa State University Press, 1971).

[24] BLAU, GERDA, "International Commodity Contracts", *Policies, Planning and Management for Agricultural Development* (Oxford: Institute for Agrarian Affairs, 1971), pp. 281–304.

[25] BÖCKENHOFF, E., "Das Vermarktungssystem bei Schlachtvieh und Möglichkeiten zu seiner Rationalisierung", *Agrarwirtschaft*, Sonderheft 10 (1960).

[26] ———, "Der Terminhandel mit Agrarerzeugnissen und seine Auswirkung auf die Preisbildung", *Agrarwirtschaft*, Vol. 18, No. 6 (June, 1969), pp. 181–188.

G 40713—4

[27] BOULDING, KENNETH E., "Richard T. Ely Lecture: The Economics of Knowledge and the Knowledge of Economics", *American Economic Review*, Vol. 56, No. 2 (May, 1966), pp. 1–13.

[28] BRANDOW, G. E., "The Food Commission: Its Product and its Role", *Journal of Farm Economics*, Vol. 48, No. 5 (Dec., 1966), pp. 1319–1327.

[29] BREIMYER, Harold F., "Cost-escalating Imitation in Market Services", *American Journal of Agricultural Economics*, Vol. 50, No. 3 (Aug., 1968), pp. 767–769.

[30] ———, "Fifty Years of Federal Marketing Programs", *Journal of Farm Economics*, Vol. 45, No. 4 (Nov., 1963), pp. 749–758.

[31] ———, "First Case Study: Vertical Integration in Broilers", *Individual Freedom and the Economic Organization of Agriculture* (Urbana: University of Illinois Press, 1965).

[32] ———, "Second Case Study: Marketing Agreements and Orders", *Individual Freedom and the Economic Organization of Agriculture* (Urbana: University of Illinois Press, 1965).

[33] ———, *The Economics of the Product and Input Markets of Agriculture* (Department of Agricultural Economics, University of Missouri, mimeo. draft).

[34] ———, "The Problem and its Setting" in Harold F. Breimyer, ed., *Bargaining in Agriculture—Potentials and Pitfalls in Collective Action* (University of Missouri Extension Division, C 911, June, 1971).

[35] BRESSLER, RAYMOND G., Jr., *City Milk Distribution* (Cambridge: Harvard University Press, 1952).

[36] ———, *Efficiency in the Production of Marketing Services* (Chicago: University of Chicago, 1950), Social Science Research Council Project in Agricultural Economics, Economic Efficiency Series, Paper No. 7.

[37] ———, and RICHARD A. KING, *Markets, Prices and Interregional Trade* (New York: Wiley, 1970).

[38] BREWSTER, JOHN M., *Comparative Economies of Different Types of Cottonseed Oil Mills and their Effects on Oil Supplies, Prices and Returns to Growers* (U.S.D.A. Marketing Research Report No. 54, Feb., 1954).

[39] BRINKMANN, THEODOR, *Die dänische Landwirtschaft* (Jena, 1908).

40] BRUNK, MAX E., *An Economic Study of Celery Marketing* (University of Florida: Agricultural Experiment Station Bulletin 445, July, 1948).

[41] БРУЦКУС, Б.Д., Очерки Крестьянского Хозайства на Зараде (Харков: 1914). BRUTSKUS, B.D., Outline of the Peasant Farm in the West (Kharkov: 1914).

[42] Bundesministerium für Ernährung, Landwirtschaft und Forsten, *Strukturwandel und Rationalisierung in der Vermarktung von Agrarproducten; Gutachten des Wissenschaftlichen Beirats beim Bundesministerium für Ernährung, Landwirtschaft und Forsten* (Hiltrup bei Münster: Bundesministerium für Ernährung, Landwirtschaft und Forsten, Heft 129, May, 1967).

[43] BURK, MARGUERITE C., "Survey of Interpretations of Consumer Behavior by Social Scientists in the Postwar Period", *Journal of Farm Economics*, Vol. 49, No. 1, Part 1 (Feb., 1967), pp. 1–31.

[44] BUTTERWICK, MICHAEL, and EDMUND NEVILLE-ROLFE, *Agricultural Marketing of the EEC*, Home-grown Cereals Authority and the Meat and Livestock Commission (London: Hutchinson of London, 1971).

[45] Canadian Agricultural Economics Society, *Agricultural Marketing Boards* (Sixth Annual Workshop Report, Saskatoon, 1961).

[46] CASSELS, JOHN M., *A Study of Fluid Milk Prices* (Harvard University: Harvard Economic Studies, Vol. 54, 1937).

[47] ЧАЯНОВ, А.В., Основные идеи и Организационние Форми Крестьянской Кооперации (Москва: 1919). CHAYANOV, A.V., Organization of the Peasant Farm in Northern Russia (Moscow: 1919).

[48] CHERN, WEN-SHYONG and LEO POLOPOLUS, "Discontinuous Plant Cost Function and a Modification of the Stollsteimer Location Model", *American Journal of Agricultural Economics*, Vol. 54, No. 4 (Nov., 1970), pp. 581–586.

[49] CLARK, JOHN MAURICE, *Competition as a Dynamic Process* (Washington: The Brookings Institution, 1961).

[50] CLEMENT, WENDELL, E. and PETER L. HENDERSON, *Consumer Response to Varying Levels of Advertising for Fluid Milk* (U.S.D.A., Economic Research Service: Marketing Research Report No. 805, Oct., 1967).

[51] CLODIUS, ROBERT L., and WILLARD F. MUELLER, "Market Structure Analysis as an Orientation for Research in Agricultural Economics", *Journal of Farm Economics*, Vol. 43, No. 3 (Aug., 1961), pp. 515–553.

[52] COLE, DAVID L., "Effect of Merchandising Methods on Prices Paid at Feeder Cattle Sales", *American Journal of Agricultural Economics*, Vol. 51, No. 5 (Dec., 1969), pp. 1129–1133.

[53] COLLINS, NORMAN R., "Changing Role of Price in Agricultural Marketing", *Journal of Farm Economics*, Vol. 41, No. 3 (Aug., 1959), pp. 528–534.

[54] COOK, HUGH L., "The Standby Milk Pool—A New Strategic Bargaining Device", *American Journal of Agricultural Economics*, Vol. 52, No. 1 (Feb., 1970), pp. 103–108.

[55] CROW, WILLIAM C., *Wholesale Markets for Fruits and Vegetables in* 40 *Cities* (U.S.D.A., Circular No. 463, February, 1938).

[56] CROWN, ROBERT W., and EARL O. HEADY, *Policy Integration in Canadian Agriculture* (Ames: Iowa State University Press, 1972).

[57] CYERT, RICHARD M., and JAMES G. MARCH, *A Behavioral Theory of the Firm* (Englewood Cliffs: Prentice-Hall, 1963).

[58] ———, and CHARLES L. HEDRICK, "Theory of the Firm: Past, Present, and Future: An Interpretation", *Journal of Economic Literature*, Vol. 10, No. 2 (June, 1972), pp. 398–412.

[59] DALLMEIER, WALTER, *Zentrales Marketing für Nahrungsgüter in der Bundesrepublik Deutschland. Band 1. Wirtschaftspolitische Aspekte eines neuen Instruments im Bereich der Agrarmarktpolitik* (Justus Liebig Universität Giessen, 1972).

[60] ———, *Zentrales Marketing für Nahrungsgüter in der Bundesrepublik Deutschland. Band 2. Die Verwirklichung der absatzwirtschaftslichen Forderungsaufgabe durch die CMA* (Justus Liebig Universität Giessen, 1972).

[61] DALRYMPLE, DANA G., "Discussion of Extension Programs to Aid Marketing Facility Location", in *Contemporary Agricultural Marketing*, Irving Dubov, ed. (Knoxville: University of Tennessee Press, 1968), pp. 118–122.

[62] DANO, SVEN, *Industrial Production Models* (New York: Springer-Verlag, 1966).

[63] DARRAH, L. B., *Food Marketing* (New York: Ronald, 1967).

[64] DAVIS, JOHN H., and RAY A. GOLDBERG, *A Concept of Agribusiness* (Boston: Graduate School of Business Administration, Harvard University, 1957).

[65] DE FARCY, HENRI, S. J., *L'Agriculteur a la Conquete de son Marche* (Paris: SPES, 1958 (?)).

[66] DE HAVEN, R. KENNETH, "Conjunctive Effects of Economies of Scale and Rate Structures in Establishing the Geographical Milk Supply Area of the Plant", *Journal of Economic Theory*, Vol. 3, No. 2 (June, 1971), pp. 199–206.

[67] Department of Agricultural Economics, University of Guelph, *A Comparative Study of Agricultural Marketing Legislation in Canada, Australia, United Kingdom, and the United States* (pub. no. A.E. 11, November, 1964).

[68] DOBSON, W. D., "A Model for Evaluating Consequences of Changes in Federal Milk Order Pricing Policies", *American Journal of Agricultural Economics*, Vol. 52, No. 4 (November, 1970), pp. 599–602.

[69] DON, YEHUDA, "Adaptation of Co-operatives to Economic Changes: The Israeli Experience", *Journal of Farm Economics*, Vol. 49, No. 1, Part 1 (February, 1967), pp. 119–130.

[70] DONALDSON, G. F., "Economics, Advertising, and Wool", *Review of Marketing and Agricultural Economics*, Vol. 30, No. 1 (March, 1962), pp. 5–12.

[71] DUE, JOHN F., *Intermediate Economic Analysis*, rev. ed. (Chicago: Richard D. Irwin, 1951).

[72] Economic Research Service, *Agricultural Markets in Change* (U.S.D.A., E.R.S.: Agricultural Economic Report No. 95, July, 1966).

[73] ———, "Cost and Profits in Marketing Farm Products", *Marketing and Transportation Situation* (E.R.S.: MTS-187, Nov., 1972), pp. 11–22.

[74] ———, *Market Structure of the Food Industries* (U.S.D.A., E.R.S.: Marketing Research Report No. 971, Sept., 1972).

[75] EISGRUBER, L. M. and J. L. HESSELBACH, "Möglichkeiten und Grenzen von Unternehmensplanspielen und Betriebssimulatoren in der landwirtschaftlichen Betriebslehre und Forschung", *Agrarwirtschaft*, Vol. 13, No. 3 (Mar., 1964), pp. 88–93.

[76] EMELIANOFF, IVAN, *Economic Theory of Co-operation* (Ann Arbor: Edwards Brothers, 1942).

[77] FABER, FRED L., *Present and Alternative Methods of Pricing Eggs* (U.S.D.A. Economic Research Service: ERS 275, Feb., 1966).

[78] ———, and RUTH J. IRVIN, *The Chicken Broiler Industry: Structure, Practices, and Cost* (U.S.D.A., Economic Research Service: Marketing Research Report No. 930, May, 1971).

[79] Federal Trade Commission, *Economic Report on Corporate Mergers* (F.T.C.: Hearings before the Subcommittee on Anti-trust and Monopoly of the Committee on the Judiciary, United States Senate, 91st Congress, 1st Session, Part 8A, 1969).

[80] FERRIS, JOHN, *et al*, *The Impact on U.S. Agricultural Trade of the Accession of the United Kingdom, Ireland, Denmark and Norway to the European Economic Community* (Michigan State University, Institute of International Agriculture: Research Report No. 11, 1971).

[81] FETTER, FRANK A., "The Economic Law of Market Areas", *Quarterly Journal of Economics*, Vol. 38, No. 3 (May, 1924), pp. 520–529.

[82] FISCHER, LEWIS A., "Implications of European Integration for Canadian Agricultural Exports", *Canadian Journal of Agricultural Economics*, Vol. 9, No. 1 (1961), pp. 1–12.

[83] FLETCHER, L. B., "Evolving Public Policy Issues in Food Marketing", *Journal of Farm Economics*, Vol. 45, No. 5 (Dec., 1963), pp. 1256–1266.

[84] FOX, KARL A., "Relations Between Prices, Consumption, and Production", *Journal of American Statistical Association*, Vol. 46, No. 255 (Sept., 1951), pp. 323–337.

[85] FRAHM, DONALD G., and LEE F. SCHRADER, "An Experimental Comparison of Pricing in Two Auction Systems", *American Journal of Agricultural Economics*, Vol. 52, No. 4 (Nov., 1970), pp. 528–534.

[86] FREEBAIRN, J. W., "Competitive Behaviour in the International Wheat Market", *Review of Marketing and Agricultural Economics*, Vol. 36, No. 3 (Sept., 1968), pp. 111–124.

[87] ———, "Grading as a Market Innovation", *Review of Marketing and Agricultural Economics*, Vol. 35, No. 3 (Sept., 1967), pp. 147–162.

[88] FREEMAN, ROBERT E., "Roles of Farm Productivity and Marketing Margins in Postwar Decline in Farm Prices", *Journal of Farm Economics*, Vol. 48, No. 1 (Feb., 1966) pp. 31–41.

[89] FRENCH, BEN C., "The Analysis of Productive Efficiency in Agricultural Marketing—Models, Methods, and Progress", *American Journal of Agricultural Economics* (forthcoming; page references are to manuscript).

[90] FRENCH, CHARLES E., "Universities and the Food Commission Report", *Journal of Farm Economics*, Vol. 48, No. 5 (Dec., 1966), p. 1334–1341.

[91] GAROIAN, LEON, ed., *Economics of Conglomerate Growth* (Oregon State University, Agricultural Research Foundation: 1969).

[92] ———, and GAIL L. CRAMER, "Merger Component of Growth of Agricultural Co-operatives", *American Journal of Agricultural Economics*, Vol. 50, No. 5 (Dec., 1968), pp. 1472–1482.

[93] GERL, F., "Die Konzentration der Nachfrage nach Nahrungsgütern", *Agrarwirtschaft*, Vol. 12, No. 9 (Sept., 1963), pp. 272–278.

[94] GOLD, N. L., A. C. HOFFMAN, and F. V. WAUGH, *Economic Analysis of the Food Stamp Plan* (U.S.D.A. Special Report, 1940).

[95] GOLDBERG, RAY A., *Agribusiness Co-ordination: A Systems Approach to the Wheat, Soybean and Florida Orange Economies* (Boston: Harvard University Graduate School of Business Administration, 1968).

[96] ———, "Marketing Costs and Margins: Current Use in Agribusiness Market-Structure Analysis", *Journal of Farm Economics*, Vol. 47, No. 5 (Dec., 1965), pp. 1352–1365.

[97] ———, "Profitable Partnerships: Industry and Farmer Co-Ops", *Harvard Business Review*, Vol. 50, No. 2 (March–April, 1972), pp. 108–121.

[98] GRAY, ROGER W., and DAVID J. S. RUTLEDGE, "The Economics of Commodity Futures Markets: A Survey", *Review of Marketing and Agricultural Economics*, Vol. 39, No. 4 (Dec., 1971), pp. 57–108.

[99] GRUEN, F. H., "Food Marketing in the United States—A Review Article", *Review of Marketing and Agricultural Economics*, Vol. 36, No. 2 (June, 1968), pp. 55–77.

[100] GUTER, M. M., and E. M. LOW, "The British Egg Marketing Board 1957–71—A Reassessment", *Journal of Agricultural Economics*, Vol. 22, No. 3 (Sept., 1971), pp. 247–262.

[101] HALLETT, GRAHAM, "The State of Agricultural Economics in West Germany", *Journal of Agricultural Economics*, Vol. 17, No. 2 (May, 1966), pp. 58–68.

[102] ———, "Trading Blocs and Canadian Agriculture", *Canadian Journal of Agricultural Economics*, Vol. 11, No. 1 (1963), pp. 40–48.

[103] HANAU, A., "Der Mechanismus der agrarpolitischen Willensbildung dargestellt am Beispiel der Getreidepreisangleichung in der EWG", *Die Willensbildung in der Agrarpolitik* (München, Bern, Wien: BLV Verlagsgesellschaft, 1971), pp. 303–336.

[104] HANAU, A. "Entwicklung und Stand der landwirtschaftlichen Marktforschung in der Bundesrepublik Deutschland", *Berichte über Landwirtschaft* (Hamburg und Berlin: Paul Parey, 1961), Bd. 39, H. 1, pp. 13–26.

[105] ———, and A. WEBER, "Aufgaben in Bereich des landwirtschaftlichen Marktwesens der Bundesrepublik Deutschland", *Agrarwirtschaft*, Vol. 11, No. 8 (Aug., 1962), pp. 237–264.

[106] HAUSMANN, F. B., "Erzeugergemeinschaften als absatzpolitisches Instrument", *Agrarwirtschaft*, Vol. 17, No. 5 (May, 1968), pp. 135–142.

[107] HEDGES, BRIAN D., and REED E. FRIEND, *Agriculture in the European Economic Community: An Annotated Bibliography*, 1958–66 (U.S.D.A., Economic Research Service: ERS-Foreign No. 213, March, 1968).

[108] HEFLEBOWER, RICHARD B., "Price Stabilization Under the Farm Board", *Journal of Farm Economics*, Vol. 12, No. 4 (Oct., 1930), pp. 595–610.

[109] HELMBERGER, PETER, "Future Roles for Agricultural Co-operatives", *Journal of Farm Economics*, Vol. 48, No. 5 (Dec., 1966), pp. 1427–1435.

[110] ———, and SIDNEY HOOS, "Co-operative Enterprise and Organization Theory", *Journal of Farm Economics*, Vol. 44, No. 2 (May, 1962), pp. 275–290.

[111] ———, and ———, "Economic Theory of Bargaining in Agriculture", *Journal of Farm Economics*, Vol. 45, No. 5 (Dec., 1963), pp. 1272–1280.

[112] HIRSCH, WERNER Z., *The Economics of Integration in Agricultural Marketing* (University of California, Berkeley: Unpublished Ph.D. dissertation, 1949).

[113] HOFFMAN, A. C., *Large-scale Organization in the Food Industries* (Temporary National Economic Committee: Monograph No. 35, 1940).

[114] HOLDREN, BOB R., "Competition in Food Retailing", *Journal of Farm Economics*, Vol. 47, No. 5 (Dec., 1965), pp. 1323–1331.

[115] ———, *The Structure of a Retail Market and the Market Behavior of Retail Units* (Englewood Cliffs: Prentice-Hall, 1960).

[116] HOOS, SIDNEY, "Marketing Agreements and Orders", *Farmers in the Market Economy* (Ames: Iowa State University Press, 1964).

[117] ———, "The Contribution of Marketing Agreements and Orders to the Stability and Level of Farm Income", *Policy for Commercial Agriculture, its Relation to Economic Growth and Stability* (U.S. Congress, Joint Economic Committee, Washington, Nov. 22, 1957), pp. 317–327.

[118] ———, "The Role of Co-operative Bargaining Associations in the Integration of Agricultural Marketing" (Berkeley: California Agricultural Experiment Station, 1960).

[119] ———, and PETER G. HELMBERGER, *Co-operative Bargaining in Agriculture* (Berkeley: University of California, Division of Agricultural Sciences, 1965).

[120] HOWE, F. C., *Denmark, A Co-operative Commonwealth* (London: Geo. Allen & Unwin, 1921).

[121] HUNT, A.R., and J. H. KIRK, *The Marketing of Flowers in the United Kingdom* (Wye College: Wye College Marketing Series, No. 7, Apr., 1971).

[122] IFO-Institut für Wirtschaftsforschung, *Agricultural Marketing Systems in Belgium* (IFO-Institut, 1971).

[123] ———, *Agricultural Marketing Systems in the EEC-Member Countries* (IFO-Institut: Studien zur Agrarwirtschaft, Heft 10, 1971).

[124] ———, *Agricultural Marketing Systems in the Netherlands* (IFO-Institut, 1971).

[125] JAMISON, JOHN A., *Marketing Orders and Public Policy for the Fruit and Vegetable Industries* (Food Research Institute, Stanford University, Studies in Agricultural Economics, Trade, and Development, Vol. 10, No. 3, 1971), pp. 223–392.

[126] ———, and KARL BRANDT, *Marketing Orders: Performance, Potential and Limitations—The Case of California's Cling Peaches and Asparagus* (Food Research Institute, Stanford University, July, 1965).

[127] JESSE, EDWARD V., and AARON C. JOHNSON, Jr, "An Analysis of Vegetable Contracts", *American Journal of Agricultural Economics*, Vol. 52, No. 4 (Nov., 1970), pp. 545–554.

[128] JOHNSON, RALPH D., *An Economic Evaluation of Alternative Marketing Methods for Fed Cattle* (Nebraska Agricultural Experiment Station and Economic Research Service, U.S.D.A., SB 520, 1972).

[129] JUDGE, G. G., and T. D. WALLACE, *Spatial Price Equilibrium Analyses of the Livestock Economy. 1. Methodological Development and Annual Spatial Analyses of the Beef Marketing Sector* (Oklahoma Agricultural Experiment Station: Technical Bulletin TB-78, June, 1959).

[130] ———, and ———, *Spatial Price Equilibrium Analyses of the Livestock Economy. 3. Spatial Price Equilibrium Models of the Pork Marketing System* (Oklahoma Agricultural Experiment Station: Technical Bulletin T-81, Jan., 1960).

[131] KIRK, J. H., "Agriculture's Related Industries", in J. Ashton and S. J. Rogers, eds., *Economic Change and Agriculture* (Edinburgh and London: Oliver & Boyd, 1967).

[132] ———, letter to Harold F. Breimyer, 16 June, 1972.

[133] ———, "The Economics of Moving Covent Garden Market: A Reply", *Journal of Agricultural Economics*, Vol. 23, No. 2 (May, 1972), pp. 161–163.

[134] ———, P. G. ELLIS, and J. R. MEDLAND, *Retail Stall Markets in Great Britain* (Wye College: Wye College Marketing Series, No. 8, Apr., 1972).

[135] KNAPP, JOSEPH G., "Are Co-operatives Good Business?", *Harvard Business Review*, Vol. 35, No. 1 (Jan.–Feb., 1957), pp. 57–64.

[136] ———, "Co-operative Expansion Through Horizontal Integration", *Journal of Farm Economics*, Vol. 32, No. 4, Pt 2 (Nov., 1950), pp. 1031–1047.

[137] ———, "Co-operatives and American Business", *American Co-operation* (Washington: American Institute of Co-operation, 1950).

[138] KNUTSON, RONALD D., "Co-operatives and the Competitive Ideal", *Journal of Farm Economics*, Vol. 48, No. 3, Part II (Aug., 1966), pp. 111–121.

[139] KOHLS, RICHARD L., *Marketing of Agricultural Products*, 3d edn. (New York: Macmillan, 1967).

[140] LAUR, ERNST FERDINAND, *Landwirtschaftliche Betriebslehre für bäuerliche Verhältnisse*, 9th ed. (Aarau, 1932).

[141] LE FERRE, A. J., and J. F. PICKERING, "The Economics of Moving Covent Garden Market", *Journal of Agricultural Economics*, Vol. 23, No. 1 (Jan., 1972), pp. 35–48.

[142] ———, and ———, "The Economics of Moving Covent Garden Market: A Rejoinder", *Journal of Agricultural Economics*, Vol. 24, No. 1 (Jan., 1973).

[143] LIEFMAN, ROBERT, *Zur Theorie und Systematik der Genossenschaften.*

[144] LIVINGSTON, GEORGE, "Some Fundamental Problems in Marketing Farm Products", *Journal of Farm Economics*, Vol. 2, No. 2 (April, 1920), pp. 83–86.

[145] LOGAN, SAMUEL H., "A Conceptual Framework for Analyzing Economies of Vertical Integration", *American Journal of Agricultural Economics*, Vol. 51, No. 4 (Nov., 1969), pp. 834–847.

[146] LOVE, HAROLD G., and D. MILTON SHUFFETT, "Short-Run Price Effects of a Structural Change in a Terminal Market for Hogs", *Journal of Farm Economics*, Vol. 47, No. 3 (Aug., 1965), pp. 803–812.

[147] MCCALLA, ALEX F., "A Duopoly Model of World Wheat Pricing", *Journal of Farm Economics*, Vol. 48, No. 3, Part I (Aug., 1966), pp. 711–727.

[148] ———, "Pricing in the World Feed Grain Market", *Agricultural Economics Research*, Vol. 19, No. 4 (Oct., 1967), pp. 93–102.

[149] MCCALLISTER, KENNETH J., "The Role of Market News in Marketing and Some Problems", *Journal of Farm Economics*, Vol. 32, No. 4 (Nov., 1950), pp. 958–968.

[150] MCDONALD, JOHN, "How Businessmen Make Decisions", *Fortune*, Vol. 52, No. 2 (Aug., 1955), p. 84ff.

[151] MCMILLAN, WENDELL M., "Co-operative Bargaining", in *Farmers in the Market Economy* (Ames: Iowa State University Press, 1964).

[152] MAKI, WILBUR R., WILLIAM C. MOTES, and CHARLES Y. LIU, *Interregional Competition and Prospective Shifts in the Location of Livestock Slaughter* (Iowa Agricultural Experiment Station: Research Bulletin 511, Nov., 1962).

[153] MALIN, JAMES C., "The Background of the First Bills to Establish a Bureau of Markets", *Agricultural History*, Vol. 6, No. 3 (July, 1932), pp. 107–129.

[154] MANCHESTER, ALDEN C., "Interpretations of Economic Evidence: The Report of the National Commission on Food Marketing", *Agricultural Economics Research*, Vol. 18, No. 4 (Oct., 1966), pp. 116–118.

[155] MARION, B. W., "Vertical Systems Analysis and the Organization of Agriculture" (Ohio State University: Paper presented at NCT-105, Chicago, Nov., 16–17, 1972).

[156] MARSHALL, R. G., and J. W. L. WINDER, "The Royal Commission on Price Spreads of Food Products: A Review Article", *Canadian Journal of Agricultural Economics*, Vol. 8, No. 2 (1960), pp. 10–19.

[157] MARTON, JANOS, "Vertical Relations in Food Economy" (RIAE Zsil u. 3–5 Budapest IX), summarized in "Vertical Organization of the Food Economy in a Socialist Country", *World Agriculture*, Vol. 21, No. 3 (July, 1972), pp. 26–30.

[158] MELLOR, JOHN W., *The Economics of Agricultural Development* (Ithaca: Cornell University Press, 1966).

[159] MICKWITZ, GÖSTA, "The Means of Competition at Various Stages of Production and Distribution", *Kyklos*, Vol. 11, No. 4 (1958), pp. 509–520.

[160] MIGHELL, RONALD L., and Lawrence A. JONES, *Vertical Co-ordination in Agriculture* (U.S.D.A., Economic Research Service: Agricultural Economic Report No. 19, Feb., 1963).

[161] MILLER, CLARENCE J., ed., *Marketing and Economic Development: Readings in Agribusiness Research* (Lincoln: University of Nebraska Press, 1967).

[162] MOORE, HUGH L., and GORHAM HUSSEY, "Economic Implications of Market Orientation", *Journal of Farm Economics*, Vol. 47, No. 2 (May, 1965), pp. 421–427.

[163] MOORE, JOHN R., and RICHARD G. WALSH, eds., *Market Structure of the Agricultural Industries* (Ames: Iowa State University Press, 1966).

[164] MUELLER, WILLARD F., *A Primer on Monopoly and Competition* (New York: Random House, 1970, paperback).

[165] ———, and LEON GAROIAN, *Changes in the Market Structure of Grocery Retailing* (Madison: University of Wisconsin Press, 1961).

[166] MUTH, JOHN F., and GERALD L. THOMPSON, *Industrial Scheduling* (Englewood Cliffs: Prentice-Hall, 1963).

[167] National Commission on Food Marketing, *Cost Components of Farm-Retail Price Spreads for Foods* (N.C.F.M.: Technical Study No. 9, June, 1966).

[168] ———, *Food from Farmer to Consumer* (N.C.F.M.: June, 1966).

[169] ———, "Private Label Products in Food Marketing", *Special Studies in Food Marketing*, (N.C.F.M.: June, 1966), pp. 1–120.

[170] NELSON, PAUL E., Jr, "Price Competition Among Retail Food Stores—Theory, Practice, and Policy Cues", *Journal of Farm Economics*, Vol. 48, No. 3, Part II (Aug., 1966), pp. 172–187.

[171] ———, and LEE E. PRESTON, *Price Merchandising in Food Retailing: A Case Study* (Graduate School of Business Administration, University of California, IBER Special Publications, 1966).

[172] NERLOVE, MARC, and FREDERICK V. WAUGH, "Advertising Without Supply Control: Some Implications of a Study of the Advertising of Oranges", *Journal of Farm Economics*, Vol. 43, No. 4, Part I (Nov., 1961), pp. 813–837.

[173] NICHOLLS, WILLIAM H., *A Theoretical Analysis of Imperfect Competition With Special Application to the Agricultural Industries* (Ames: Iowa State College Press, 1941).

[174] NIELSON, JAMES, and VERNON L. SORENSON, "The Firm as a Focal Point in Market Analysis", in *Agricultural Market Analysis*, Vernon L. Sorenson, ed. (East Lansing: Bureau of Business and Economic Research, Michigan State University, 1964).

[175] NOU, JOOSEP, "Studies in the Development of Agricultural Economics in Europe", *Lantbrukshogskolans Annaler*, Vol. 33, No. 1 (1967), pp. 1–611.

[176] NOURSE, EDWIN G., "Economic Philosophy of Co-operation", *American Economic Review*, Vol. 12, No. 4 (Dec., 1922), pp. 577–597.

[177] OGREN, KENNETH E., "Government and the Food Commission Report", *Journal of Farm Economics*, Vol. 48, No. 5 (Dec., 1966), pp. 1342–1347.

[178] ———, "Marketing Costs and Margins: New Perspectives in a Changing Economy", *Journal of Farm Economics*, Vol. 47, No. 5 (Dec., 1965), pp. 1366–1376.

[179] Packers and Stockyards Administration, *The Broiler Industry: An Economic Study of Structure, Practices and Problems* (U.S.D.A., P.S.A.: P & SA–1, 1967).

[180] PADBERG, DANIEL I., *Economics of Food Retailing* (Ithaca: Cornell University Food Distribution Program, 1968).

[181] ———, "Efficiency and Welfare Considerations in Integrated Agriculture", *Journal of Farm Economics*, Vol. 48, No. 5 (Dec., 1966), pp. 1391–1400.

[182] ———, "Statement of Dr Daniel I. Padberg, New York State College of Agriculture, Cornell University, Ithaca, N. Y.", *Farm Program and Farm Bargaining* (90th Congress, 2d Session, U.S. Senate: Hearings before the Committee on Agriculture and Forestry, April, 3, 4, 5, 8, 9, 10 and 24, 1968).

[183) ———, F. E. WALKER, and K. W. KEPNER, "Measuring Consumer Brand Preference", *Journal of Farm Economics*, Vol. 49, No. 3 (Aug., 1967), pp. 723–733.

[184] PAPANDREOU, ANDREAS G., "Some Basic Problems in the Theory of the Firm", *A Survey of Contemporary Economics*, Vol. II, Bernard F. Haley, ed. (Homewood: Richard D. Irwin, 1952).

[185] PHILLIPS, JOHN, "A Revised Approach to Marketing", *Review of Marketing and Agricultural Economics*, Vol. 36, No. 1 (March, 1968), pp. 28–36.

[186] ———, "An Economic Evaluation of Contract Marketing", *Review of Marketing and Agricultural Economics*, Vol. 36, No. 4 (Dec., 1968), pp. 155–164.

[187] PICKARD, David H., "Factors Affecting Success and Failure in Farmers' Co-operative Associations", *Journal of Agricultural Economics*, Vol. 21, No. 1 (Jan., 1970), pp. 105–115.

[188) POLOPOLUS, LEO, "Optimum Plant Numbers and Locations for Multiple Product Processing", *Journal of Farm Economics*, Vol. 47, No. 2 (May, 1965), pp. 287–295.

[189] POTTEBAUM, P., "Kooperation im Marketing", *Agrarwirtschaft*, Vol. 22, No. 1 (Jan., 1973), pp. 17–22.

[190] PRICE, H. BRUCE, "Possibilities of Improving Marketing Through Better Organization", *Journal of Farm Economics*, Vol. 5, No. 3 (July, 1923), pp. 129–146.

[191) PRITCHARD, NORRIS T., and WILLIAM P. HUTH, *Food Marketing in Benelux Countries* (U.S.D.A., Economic Research Service: March, 1971).

[192] REED, ROBERT H., and L. L. SAMMET, *Multiple Product Processing of California Frozen Vegetables* (California Agricultural Experiment Station: Giannini Foundation Research Report, No. 264, July, 1963).

[193] RHODES, V. JAMES, "Pricing Systems—Old, New and Options for the Future", in Harold F. Breimyer, ed., *Bargaining in Agriculture—Potentials and Pitfalls in Collective Action* (University of Missouri Extension Division, C. 911, June, 1971).

[194 ———, "The Measurement of Consumer Preferences", *Journal of Farm Economics*, Vol. 37, No. 4 (Nov., 1955), pp. 638–651.

[195] RICHARDS, HENRY I., "Middlemen's Margins as a Cause of the Agricultural Depression", *Journal of Farm Economics*, Vol. 12, No. 4 (Oct., 1930), pp. 523–551.

[196] ROBOTKA, FRANK, "A Theory of Co-operation", *Journal of Farm Economics*, Vol. 29, No. 1 (Feb., 1947), pp. 94–114.

[197] ROGERS, C. R. and B. F. SKINNER, "Some Issues Concerning the Control of Human Behaviour", *Science*, Vol. 124, No. 3231 (Nov., 30, 1956), pp. 1057–1066.

[198] ROGERS, GEORGE B., "Pricing Systems and Agricultural Marketing Research", *Agricultural Economics Research*, Vol. 22, No. 1 (Jan., 1970), pp. 1–11.

[199) ———, *Vertical and Horizontal Integration in the Market Egg Industry*, 1955–69 (U.S.D.A., Economic Research Service: ERS 477, May, 1971).

[200] ———, and EARL H. RINEAR, *Costs and Economies of Scale in Turkey Processing Plants* (U.S.D.A.: Marketing Research Report 627, Sept., 1963).

[201] ———, and LEONARD A. VOSS, eds., *Readings on Egg Pricing* (College of Agriculture, University of Missouri-Columbia: MP 240, Dec., 1971).

[202] RUDD, ROBERT W., "Research in Marketing Efficiency", *Marketing Efficiency in a Changing Economy* (U.S.D.A.: Report of the National Workshop on Agricultural Marketing, June 17–24, 1955).

[203] SAPIRO, AARON, "An Analysis of Marketing, Fundamental Principles of Co-operation" (Address delivered to the American Farm Bureau Federation, Fifth Annual Meeting, Chicago, Dec., 11, 1923).

[204] SCHMITT, G., "Einige Bemerkungen zum Begriss und zur Theorie der vertikalen Integration in der Landwirtschaft", *Agrarwirtschaft*, Vol. 13, No. 11 (Nov., 1964), pp. 341–355.

[205] SCHUCH, W. H., "Zur Problematik der Ermittlung von Handels—und Bearbeitungsspannen landwirtschaftlicher Erzeugnisse auf der grundlage der Preisstatistik", *Agrarwirtschaft*, Vol. 12, No. 10 (Oct., 1963), pp. 315–319.

[206] SCROGGS, CLAUD L., "Historical Highlights", in *Agricultural Co-operation: Selected Readings*, Martin A, Abrahamsen and Claud L. Scroggs, eds. (Minneapolis: University of Minnesota Press, 1957), pp. 3–56.

[207] SERAPHIM, H. J., "Johann Heinrich von Thünen der Wegweiser einer agraren Markttheorie und wissenschaftlichen Agrarpolitik", *J. H. von Thünen zum* 150. *Geburtstag 1933* (1933).

[208] SHAFER, CARL E., "The Effect of a Marketing Order on Winter Carrot Prices", *American Journal of Agricultural Economics*, Vol. 50, No. 4 (Nov., 1968), pp. 879–887.

[209] SHAFFER, JAMES DUNCAN, *A Working Paper Concerning Publicly Supported Economic Research in Agricultural Marketing* (U.S.D.A., Economic Research Service: March, 1968).

[210] ———, "Advertising in Social Perspective", *Journal of Farm Economics*, Vol. 46, No. 2 (May, 1964), pp. 387–397.

[211] ———, "Changing Orientations of Marketing Research", *Journal of Farm Economics*, Vol. 50, No. 5 (Dec., 1968), pp. 1437–1449.

[212] SHERMAN, CAROLINE B., "The Legal Basis of the Marketing Work of the United States Department of Agriculture", *Agricultural History*, Vol. 12, No. 4 (Oct., 1937), pp. 289–301.

[213] SIMON, HERBERT, "Theories of Decision-making in Economics and Behavioral Science", *American Economic Review*, Vol. 49, No. 3 (June, 1959), pp. 253–283.

[214] SOSNICK, STEPHEN H., "A Critique of Concepts of Workable Competition", *Quarterly Journal of Economics*, Vol. 72, No. 3 (Aug., 1958), pp. 380–423.

[215] ———, "On the Distribution of Price Changes at a Bull Auction", *Journal of Farm Economics*, Vol. 47, No. 5 (Dec., 1965), pp. 1306–1320.

[216] ———, "Operational Criteria for Evaluating Market Performance", in *Market Structure Research*, Paul L. Farris, ed. (Ames: Iowa State University Press, 1964).

[217] ———, "Toward a Concrete Concept of Effective Competition", *American Journal of Agricultural Economics*, Vol. 50, No. 4 (Nov., 1968), pp. 827–853.

[218] SOUTHWORTH, HERMAN M., "The Economics of Public Measures to Subsidize Food Consumption", *Journal of Farm Economics*, Vol. 27, No. 1 (Feb., 1945), pp. 38–66.

[219] ———, and BRUCE F. JOHNSTON, eds., *Agricultural Development and Economic Growth* (Ithaca: Cornell University Press, 1967).

[220] ———, and M. I. KLAYMAN, *The School Lunch Program and Agricultural Surplus Disposal* (U.S.D.A.: Miscellaneous Publication No. 467, Oct., 1941).

[221] STELLER, W., "Marktforschung für Gemeinschaftsmarketing in der Agrarwirtschaft", and companion articles, *Agrarwirtschaft*, Vol. 20, No. 9 (Sept., 1971).

[222] TAYLOR, GEORGE R., EDGAR L. BURTIS, and FREDERICK V. WAUGH. *Barriers to Internal Trade in Farm Products* (U.S.D.A.: March, 1939).

[223] THOMSEN, FREDERICK LUNDY, *Agricultural Marketing* (New York: McGraw-Hill, 1951).

[224] THÜNEN, J. H. von, *Der isolierte Staat* (Berlin: Verlag von Wiegandt, Hempel & Parey, 1875).

[225] TIMMER, C. PETER, "On Measuring Technical Efficiency", *Food Research Institute Studies in Agricultural Economics*, Vol. 9, No. 2 (1970).

[226) TONGUE, WILLIAM W., "Competition in the Affluent Society", *Journal of Farm Economics*, Vol. 47, No. 2 (May, 1965), pp. 433–444.

[227] TORGERSON, RANDALL E., *Farm Bargaining* (Oslo: Landbruksforlaget, 1971).

[228] ———, *The Co-operative Systems Approach to Improving Farm Incomes* (University of Wisconsin, Madison: Unpublished Ph. D. dissertation, 1968).

[229] TRIFON, RAFAEL, "Guides for Speculation about the Vertical Integration of Agriculture with Allied Industries", *Journal of Farm Economics*, Vol. 41, No. 4 (Nov., 1959), pp. 734–46.

[230] ТУЛУПНИКОВ; А.И., Технический Прогресс и Экономика Животноводства США (Москва: Издательство "Колос", 1969).

TULUPNIKOV, A.I., Technical Progress and the Economics of Animal Agriculture in the USA (Moscow: Izdatelstva "Kolos", 1969).

[231] United States Congress, *Agricultural Marketing Act of* 1946 (7 U.S.C. 1621–1627).

[232] United States Department of Agriculture, *Co-operative Bargaining: Selections from the Proceedings of the National Conference of Agricultural Bargaining Co-operatives* (U.S.D.A., Farmer Co-operative Service: Service Report 113, Aug., 1970).

[233] ———, *Market Information* (U.S.D.A., Agricultural Marketing Service: A Report of the National Marketing Workshop, August 26 to September 3, 1954, Cornell University).

[234] ———, *Marketing Efficiency in a Changing Economy* (U.S.D.A., Agricultural Marketing Service: Report of the National Workshop on Agricultural Marketing, AMS-20, 1950).

[235] ———, *Pricing and Trade* (U.S.D.A., Agricultural Research Administration: A Report of the National Marketing Research Workshop, July 11 to 19, 1952, Texas A & M College).

[236] ———, *Proceedings of National Workshop on Promotion of Farm Products* (U.S.D.A., Economic Research Service: ERS 58, April, 1962).

[237] ———, *Proceedings of Workshop-Seminar on Market Development and Promotion for Agricultural Products, University of California, Berkeley* (U.S.D.A., Economic Research Service: ERS 274, May, 1966).

[238] WALDORF, William H., "The Demand for and Supply of Food Marketing Services: An Aggregate View", *Journal of Farm Economics*, Vol. 48, No. 1 (Feb., 1966), pp. 42–60.

[239] WALKER, H. V., "Bargaining through Marketing Boards—The Canadian Experience", in Harold F. Breimyer, ed., *Bargaining in Agriculture, Potentials and Pitfalls in Collective Action* (University of Missouri Extension Division, C911, June, 1971).

[240] ———, "Marketing Boards and Quota Policies for Canadian Farm Products: An Appraisal of Performance", *Agricultural Organization in the Modern Industrial Economy* (North Central Regional Research Committee on Agricultural Policy and Programs, NCR-20, Department of Agricultural Economics, Ohio State University, 1968).

[241] WALLACE, T. D., and G. G. JUDGE, *Spatial Price Equilibrium Analyses of the Livestock Economy. 2. Application of Spatial Analysis to Quarterly Models and Particular Problems Within the Beef Marketing Sector* (Oklahoma Agricultural Experiment Station: Technical Bulletin T-79, Dec., 1959).

[242] WARREN, GEORGE F., "Which Does Agriculture Need—Readjustment or Legislation?", *Journal of Farm Economics*, Vol. 10, No. 1 (Jan., 1928), pp. 1–15.

[243] ———, and F. A. PEARSON, *Interrelationships of Supply and Price* (Cornell University: Agricultural Experiment Station Bulletin 466, March, 1928).

[244] WAUGH, FREDERICK V., "Interrelated Problems of Pricing, Trade, and Market Information", *Pricing and Trade* (U.S.D.A., Agricultural Research Administration: A Report of the National Marketing Research Workshop, July 11 to 19, 1952, Texas A & M College).

[245] WAUGH, FREDERICK V. "Market Prorates and Social Welfare", *Journal of Farm Economics*, Vol. 20, No. 2 (May, 1938), pp. 403–416.

[246] ———, "Needed Research on the Effectiveness of Farm Product Promotions", *Journal of Farm Economics*, Vol. 47, No. 2 (May, 1959), pp. 364–376.

[247] ———, *Readings on Agricultural Marketing* (Ames: Iowa State College Press, 1954).

[248] ———, E. L. BURTIS, and A. F. WOLF, "The Controlled Distribution of a Crop Among Independent Markets", *Quarterly Journal of Economics*, Vol. 51, No. 1 (Nov., 1936), pp. 1–41.

[249] WEBER, A., "Technik, Taktik und Strategie beim Absatz landwirtschaftliche Qualitäts-erzeugnisse", *Agrarwirtschaft*, Vol. 13, No. 8 (Aug., 1964), pp. 250–258.

[250] WEIDENHAMMER, MARGARET, EDWARD M. KNOTT, and LORNA R. SHERMAN, *Homemakers' Opinions about Selected Meats: A Nationwide Survey* (U.S.D.A., Statistical Reporting Service: Marketing Research Report No. 854, July, 1969).

[251] WEINSCHENCK, G. W., HENRICHSMEYER, and F. ALDINGER, "The Theory of Spatial Equilibrium and Optimal Location in Agriculture: A Survey", *Review of Marketing and Agricultural Economics*, Vol. 37, No. 1 (March, 1969), pp. 3–70.

[252] WELLS, O. V., "Agricultural Surpluses and Nutritional Deficits", *Journal of Farm Economics*, Vol. 22, No. 1 (Feb., 1940), pp. 317–323.

[253] WETMORE, JOHN M., MARTIN E. ABEL, ELMER W. LEARN, and WILLARD W. COCHRANE, *Policies for Expanding the Demand for Farm Food Products, Part I. History and Potentials* (University of Minnesota, Agricultural Experiment Station: Technical Bulletin 231, April, 1959).

[254] WILLERS, B., "Orientierungspunkte bei der regionalen Preisgestaltung für Schlachtvieh", *Agrarwirtschaft*, Vol. 17, No. 11 (Nov., 1968), pp. 333–339.

[255] WILLIAMS, SHELDON W., *et al*, *Organization and Competition in the Midwest Dairy Industries* (Ames: Iowa State University Press, 1970).

[256] WILLIAMS, WILLARD F., EARL K. BOWEN, and FRANK C. GENOVESE, *Economic Effects of U.S. Grades for Beef* (U.S.D.A., Agricultural Marketing Service: Marketing Research Report No. 298, Jan., 1959).

[257] WÖHLKEN, E., letter to Harold F. Breimyer, 27 Nov., 1972.

[258] WOLF, A. F., "Measuring the Effect of Agricultural Advertising", *Journal of Farm Economics*, Vol. 26, No. 2 (May, 1944), pp. 327–347.

[259] WOLLEN, G. H., and G. TURNER, "The Cost of Food Marketing", *Journal of Agricultural Economics*, Vol. 21, No. 1 (Jan., 1970), pp. 63–77.

[260] WOOD, ARTHUR W., "The Marketing Board Approach to Collective Bargaining", *Journal of Farm Economics*, Vol. 49, No. 5 (Dec., 1967), pp. 1367–1375.

[261] WOODWARD, A. W., "Extension Programs to Aid Marketing Facility Location", in *Contemporary Agricultural Marketing*, Irving Dubov, ed. (Knoxville: University of Tennessee Press, 1968), pp. 108–118.

[262] YOUDE, JAMES G., and PETER G. HELMBERGER, "Marketing Co-operatives in the U.S.: Membership Policies, Market Power, and Antitrust Policy", *Journal of Farm Economics*, Vol. 48, No. 3, Part II (Aug., 1966), pp. 23–36.