The purpose of this paper is to analyze the evolving patterns in procurement practices and policies in farm markets, giving due attention to some basic causal forces. First, attention is focused on certain theoretical notions regarding the role of information in determining the boundaries of the firm. Attention then is centered on traditional procurement methods of marketing firms and their seemingly slow demise in the face of vertical integration. Thereafter, bargaining efforts and marketing control programs are surveyed from the viewpoint of their possible future roles in agricultural marketing. Finally, we survey certain market changes at the processor and distributor levels of the food distribution system and puzzle over their future implications for market organization and performance.

**The Firm As An Allocative Mechanism**

**In a World of Imperfect Information**

It has been suggested that in the stationary state of a perfectly competitive market, it would be very difficult to think of reasons for vertically integrating relationships among firms. Indeed, in this ideal type environment, it would seem difficult to explain the emergence of the firm in the first place -- at least as we usually think of a firm as consisting of more than one man performing a single process. Rather, it would be easier to conceive of the economic system as one giant ant hill, in which the agents move about with seemingly great purpose and in near perfect harmony and where instinct rather than rationality rules. The fact is, however, that complex firms do emerge. And if we cannot find the reasons for their emergence in the perfectly competitive environment, perhaps we can find the reasons in the differences between that theoretical environment and the blooming confusion and complexity of the real world. A central premise of this paper is that a search of this type will lay bare the possible reasons for the various forms of vertical integration that are observed and of which the firm is the most important type.

Economists are fond of emphasizing the market system as a device for allocating resources among competing ends. Price movements automatically coordinate production and consumption through numerous exchange transactions. In this system there is no need for a central authority to undertake economic planning. An increase in demand for some good will result in a higher price, which in turn attracts resources. As resources flow into the industry price begins to fall, thus decreasing somewhat the incentive for additional resources to enter the industry. Finally the incentive disappears entirely.

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In a well known paper, Coase points out that the description of a market system as a coordinative device fits the internal workings of a firm very poorly.\(^1\) Coordination within the firm is the result of economic planning by a more-or-less centralized authority. Resources flow from one department to another not because price beckons, but because the entrepreneur points his finger. This raises a very important question. What determines the extent to which and the circumstances under which the market mechanism is superseded by firms in the allocation of resources?

Coase argues that firms emerge because of costs associated with using a market mechanism. More specifically, he notes that prices are not known and costs must be incurred in finding out what the relevant prices are. In addition, where entrepreneurs rely on an exchange system they must pay the cost of negotiating and concluding contracts. Such costs may be avoided if the transactions take place among the departments within the firm. Basically, the costs of compiling information on quantities of products expected to be offered, on relevant prices and on the costs of negotiating contracts rise out of a lack of information that pervades the real world.

Malmgren takes up the argument and indicates in what ways market instability arising out of uncertainty and ignorance can cause marketing costs.\(^2\) The emergence of the firm is seen to be the result of an imbalance of information among market participants. According to Malmgren, "if not everyone in the market can take up a new opportunity because they do not perceive it, or perceiving it cannot profitably assimilate the transaction as fast, there exists a gain for those 'in the know'."\(^3\) What limits the size of the firm if indeed limits exist? Taking time to profitably assimilate new activities might slow down the rate of growth. In addition there is the possibility that the internal communications network might become bogged down in irrelevant details or, alternatively, fail to transmit suitable information. Of course, if attention were limited to a single product firm, market demand could limit the size of the firm.

In light of the purpose of this paper, it is convenient to develop further some of these arguments. We may suppose that a marketing firm is scanning the economic horizon in search of activities than can be profitably added to existing ones. The firm can be expected to measure the revenues and costs associated with each of various alternatives, and then choose that one which yields the greatest profit. What does the firm find when it looks backward at farm markets?

\(^3\)Ibid., p. 416.
Procurement of Farm Products

Farm industries are atomistic in nature and, in spite of the continuing growth in the size of the farm firm, they seem destined to remain so in the foreseeable future. At present, as in the past, farm production plans are made and processes begun prior to the moment of pricing. Aberrations from market equilibria and the results of the vagaries of weather together cause instability in production. Heterogeneity in farm resources and production methods give rise to heterogeneity in the offering of farm products. The result is -- as it has been perhaps to an even greater extent in the past -- an unwieldy mass of small heterogeneous lots scattered hither and yon across broad geographic areas, with considerable variability in both quality and quantity.

In this production setting the marketing firm must take the farm product offering as a given or attempt directly to influence decisions at the farm level in order to better coordinate farm production with marketing activities. Procurement in traditional open markets tends to reflect acceptance of the first alternative; vertical integration means acceptance of the second. This terminology is in keeping with common usage and suggests that vertical integration leads to a withering away of open markets. The implication is perfectly valid where integration takes the form of outright ownership and control, in which case a commodity market disappears entirely. Where integration takes the form of contracts, however, it might be better to say than an open market for contracts has arisen in the wake of a disintegrating commodity market. It is also true that many such arrangements essentially displace to some extent the marketing system as an allocative device.

Traditional Procurement Methods in Open Markets

Under traditional methods, then, the individual marketing firm stands willing to take whatever shirt-tail odds and ends are produced and assemble these in some semblance of order in light of the needs of marketing firms further up the channel. The buying practices of local elevators, egg assemblers, livestock dealers, milk manufacturers, auction buyers, and some fresh fruit and vegetable shippers come readily to mind as fairly good examples. The fact that traces of vertically integrating relationships exist even in these markets is mere evidence of the large number of such coordinative devices.

By and large, however, the primary reliance for coordination between farm production and marketing in the traditional markets rests on the market mechanism itself. Those farmers who, through foresight or good fortune, happen to produce outputs that tend to meet the requirements of buyers are able to trade more advantageously; those who produce outputs that tend not to meet requirements are punished accordingly. Marketing firms that innovate and seek more efficient methods of assembly, grading, packaging, processing, etc., excel profitwise and force others to follow suit. So goes the theory.
In practice, however, there are severe problems associated with using an open market system, and it is wholly proper for governments and researchers to seek ways of improvement. These problems arise out of a lack of information among market participants and give rise to costs which marketing firms might seek to avoid through vertical integration. Economic aspects of a pricing system that merit at least brief examination in this context include (1) price as a signal; (2) uncertainty, risk bearing, and the costs of disequilibria; (3) interrelatedness of input-output relationships at different stages of production; (4) transaction costs; and (5) abuse of market power.

1. Price as a Signal. It has been suggested that price can be an ambiguous signal to the producer in terms of the product attributes desired by buyers. This would not be so if the product under consideration were perfectly standardized, in which case a single price would do very nicely. Grading can be used where product quantity varies. Ambiguity can arise, however, when the various grades do not mirror all specifications the buyer wants. The producer is then hard put to translate the price message into optimal production plans. The effectiveness of a pricing system is diminished to the extent price is an inadequate signal of desired attributes.

2. Uncertainty, Risk Bearing and the Cost of Disequilibria. Uncertainty can cause economic mischief in numerous and devious ways. Where production processes are begun prior to pricing, fluctuating price and output levels cause increased processing and marketing costs. Producers may be slow in adopting new technologies and expanding productive capacity because of ignorance, fear of risk, or lack of adequate financing. Processing firms seeking large volumes and scale economies might find that raising price is a slow and inefficient way of encouraging expanded production at points close to plant locations. This may be especially true where the existence of a small number of buyers makes for uncertainty of market outlets from the viewpoint of farmers, where production at the farm level requires highly specialized pieces of equipment, and where farmers are poorly informed concerning prices paid by the various buyers. Here, then, is a whole category of costs arising out of imperfect knowledge.

3. Interrelatedness of Input-Output Relations at Successive Levels. Poor coordination can be very costly where the input-output relationship that exists at one stage is highly dependent on the manner in which a previous process has been performed. Agricultural processing industries abound with examples. Many perishable products must be processed or marketed within a short period if serious quality deterioration is to be avoided.


5. In a study of cattle slaughter in California, Logan estimates that "per head costs of slaughter with the variable supply pattern were $10.63 for the one-bed plant, $9.45 for the two-bed establishment, and $9.23 for the three-bed plant compared with $9.48, $8.48, and $8.41 respectively, under uniform capacity kills." See Samuel Logan, "The Effects of Short-Run Variations in Supplies of Cattle and Costs of Slaughtering in California," Jour. of Farm Econ., 1963, p. 630.

4. **Cost of Transactions.** Transfer of ownership involves expense for buyers and sellers alike. Legal fees, billing costs, and the cost of sales efforts are examples. Under certain conditions these costs can become fairly substantial. Buyers, when few in number, resort to competition on nonprice terms. Excessive salesmen, service competition, and inputs supplied free or at partial cost can give rise to gross inefficiency.

5. **Abuse of Market Power.** The consequences of the abuse of market power in terms of economic efficiency need little elaboration here. Where excessive profits appear, products are being sold at prices that could be lowered -- or inputs are being purchased at prices that could be raised. The incentive to avoid dealing with firms that have market power is always present, but the alternatives offer problems too. This type of market imperfection may be most relevant in a discussion of integration through ownership and control.

**Vertical Integration in Farm Markets**

In comparison with traditional methods, vertical integration might give rise to the use of new inputs, different prices paid for old inputs, increased productivity (new production functions) and different prices for the final products. The marginal revenues and marginal costs of integration depend, of course, on what form integration takes. Integration may consist of hiring a few fieldmen to offer farmers advice on good management practices. The extra cost in this case is nominal, especially if the fieldmen discredit the honesty of competitors. The other extreme is outright ownership and control, under which both revenues and costs might be substantially altered.

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9 Willard Mueller and Leon Garoian, op. cit., pp. 78-88, seem to imply that grocery chains are most likely to integrate into industries with high barriers to entry and therefore high profit rates. Hoffman takes issue with this argument and suggests instead that chains are more likely to integrate into industries with low barriers to entry and low profit rates. See A.C. Hoffman's review of "Changes in the Market Structure of Grocery Retailing," by Willard Mueller and Leon Garoian, *Jour. of Farm Econ.* XLIII. 4, 1961, p. 973. According to a more balanced view, and one doubtless recognized but not well developed by Mueller and Garoian, high profits always act as an inducement to entry but barriers prevent the actual attainment of profits through entry. On this argument chains are primarily interested in the profits that remain after the costs of entry have been met. Unprofitably industries offer no inducements for entry and industries with very high barriers, soup manufacture, for example, will not allow entry. Successful entry likely takes place in the in-between cases, particularly where chains are uniquely fitted to surmount barriers.
In terms of revenue, vertically integrating relationships can mean price premiums in final product markets, especially if high and uniform product quality is achieved along with mass volume. The rise of food chains and the voluntary and cooperative groups in food retailing will likely increase the demand for the types of supplies that can be produced through vertical integration. Growth of bigness in retailing might well mean price premiums for flows of commodities that meet retailer specifications. It is worth emphasizing, however, that this is merely one factor among many. My expectation is that some writers on grocery retailing have exaggerated the importance of specification buying on the part of retailers as a cause of integration. Other factors, for example, would seem primarily responsible for integration in such commodities as processing fruits and vegetables, sugar beets, and broilers. That product price falls as a result of vertical integration on the part of one firm does not appear likely. Results of behavior in the aggregate may be quite different. As a consequence of the widespread introduction of vertically integrating relationships, price can be lowered substantially because of increasing output. Broiler production is a classic example.

Through vertically integrating arrangements, marketing firms can avoid certain costs associated with using open markets. At the same time, however the closer coordination of production at the farm level with marketing activities requires additional inputs, and these inputs are not free. The cost of fieldmen and their supporting budgets and the extra paper work that is involved in contracting are examples. Integration places an additional strain on management of the integrating company and the results can be disastrous. Moreover, integration often involves the financing of farm operations so that the opportunity costs of these funds must be reckoned in computing profit. Additional risks are also assumed. The relative productivity of farm firms (production functions) can be greatly affected by the technological know-how which the marketing firm passes on to the producer. Complete integration might mean reduced efficiency with increased size of operation (diseconomies of scale) and/or the payment of higher wages for labor than the farm family is typically content to take.

On the matter of costs, Kohls gives great emphasis to "scientific management" as a reason for integration. This emphasis is pegged in part on greater control over product specifications which recent production technology affords and greater organizational efficiency flowing from the

separation of supervision from actual production activities. On this argument, the physical efficiency of inputs used to secure greater coordination between farm production and marketing has been improving in recent years.

Prospects for Increasing Integration

In light of the complexity of the relationships that determine the growth of vertical integration, it is not surprising that some writers on the subject have not been very bold their projections of future trends. After a long and thorough study of these matters, Mighell and Jones conclude that some likelihood exists for more vertical integration in beef and, particularly, pork production.15 Writers on food retailing expect more widespread use of integration as a result of the demands of big retailers for continuous flows of high and uniform quality products in mass volume and the increasing importance of big retailers.

Simple projections of our experience since World War II and other fragmentary evidence suggests to me that vertical integration will continue its inroads on open market operations. In beef cattle, feeder pigs, and eggs, considerable inroads have already been made. Those firms who have the financial backing and are first to perceive the new combinations of productive resources and activities made profitable by the changing technological and institutional base reap the rewards and force imitation from others. These new combinations can be assembled through a variety of integrating techniques and an important question is: who will end up in control. A related question concerns the impact on the organization of farm industries and the family farm.

Role of Farm Bargaining Associations

The prospect of greater use of contract production has led many people to see an expanded role for cooperative bargaining associations in farm markets. The urge to bargain is a recurrent theme in the history of farm policy. Most of the more dramatic attempts to gain market power in this manner have been abortive, and elements of radicalism and violence have not been uncommon. The view espoused here is that while the role of bargaining

15Mighell and Jones, op.cit., pp. 64-72.
cooperatives is limited, it can be useful, nonetheless. In order to understand this role, however, it is necessary to understand both the nature of the economic agent and the manner in which the market environment constrains its effectiveness.

The key to the market power of the bargaining association is the membership agreement whereby the member appoints the association as his exclusive sales agent. Through this instrument, the selling operations of member-producers are integrated horizontally; producers outside the association continue to sell their products independently. It is worth stressing that the type of organization here considered controls the disposition rather than the amount of production, and that possession of the output of members is not ordinarily assumed. This is in contrast to the large dominant firm whose production decisions reflect likely price effects and price targets. For the moment, we abstract from marketing order programs.

When a sufficient quantity of output comes under its control, the bargaining association asserts itself to processors, packers, or to other first buyers. Recognition of its right to bargain for member-producers is sought as a preliminary to negotiation over price and nonprice terms of trade. Of course the farming industry is highly competitive (atomistic) and the quest for market power is very much in the nature of a bootstrap operation.

Assuming that the bargaining group becomes established and is recognized by buyers, under what conditions will it be able to effect lasting price increases? The potential for price enhancement through bargaining is constrained by the degree of competition among buyers in farm markets; and, as the degree of competition approaches the limit of perfect competition, the potential for farmer gains erodes and disappears in the long-run. The logic behind this conclusion is a bit technical.

Success on the part of the association in enhancing price will have the net effect of increasing the quantity produced. The additional supplies can be marketed in normal trade channels, if there is a buyer's monopoly or near buyer's monopoly (monopsony or oligopsony) at the outset. If price is negotiated for some future period and is made independent of the quantity purchased during that period, buyers will have no incentive to restrict purchases in order to lower the price they have to pay. In other words, if price is determined through negotiation rather than through the amount purchased by buyers, it is entirely feasible that buyers will wind up purchasing more and paying a higher price. In addition, consumer prices

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will tend to fall. The feasibility of this result is pegged on the existence of excess profits at the buyer level which allow paying more for the raw material at the same time the price of the finished product is falling.\(^\text{18}\) Obviously, buyers would be something less than delighted with the result.

What happens if buyers are highly competitive in procurement, earning no more than a normal return on investment? Under these circumstances, a price hike by the bargaining group will lead eventually to a market surplus and the members of the bargaining group would need carry the cost of surplus disposal while the nonmembers reaped the full benefits of the association's efforts. The resulting bargaining agent is not so much a bargaining association as we know it today as it is a cartel. In the history of industrial experience, successful cartels in industries with many firms and no barriers to entry, and without the coercive powers of government in support, are virtually unknown. Theory and fact agree that cartilization of agriculture is extremely unlikely in the absence of government.

The potential gains to farmers from collective bargaining in farm markets, then, depend on the extent that elements of a buyers monopoly (monopsony) in farm markets support excessive profits. It would be nice to be able to report that the consequences of market power in the procurement of farm products have been thoroughly studied by economists, and that a consensus has been reached. Unfortunately, this is not true, and the one who seeks out an expert for an authoritative opinion is very much his own expert. While we shall return to this issue, it is worth noting here that total profits of firms marketing our farm food products constitute a tiny component of the total food marketing bill. In 1960, for example, total profits of these firms, after taxes, amounted to less than 3 percent of the marketing bill for domestically produced farm food products sold to civilian consumers. The pickings appear to be slim, and the mere existence of potential gains still leaves the problem of their realization.

Getting a better price is not the only objective of bargaining cooperatives. Some of the so-called secondary objectives may well prove to be the significant ones in terms of actual achievements. This is particularly true to the extent that vertical integration through contracts becomes commonplace in farmers' markets. In this connection, the experience gained in local vegetable processing markets provides some good lessons.

\(^{18}\)This conclusion is in sharp variance with the view that marketing firms can simply pass price increases along to consumers, quite without regard to the amount marketed. In order to get consumers to buy the increased production, price must be lowered, not raised. Higher farm prices coupled with restricted marketings could, of course, give rise to higher consumer prices, but we argue below that bargaining associations are ill-equipped to engage in production control which might, in any event, be in violation of antitrust laws.
Studies of processor-grower contracts used in Midwest vegetable markets, where cooperative bargaining has not flourished much, have revealed a problem of sporadic discrimination among growers. "Passed" acreage is easily the most notorious example. In the event a processor cannot process all the crop which matures at a given point in time, he might elect to pass up some of his contracted acreage; the growers whose acreages are not harvested suffer the entire loss. Grading is occasionally left to the judgment of the canner. Where grading is provided, contracts frequently fail to specify sampling methods or the number of samples to be taken. Moreover, there is a great deal of variability among contracts. Some canners provide growers with seed free of cost, some at partial cost, and some at full cost. Costs of other services provided by canners vary in like manner. Returns to growers are further modified by the date of harvest and the time of planting, which the canners control. Varying contract provisions make it difficult for growers to evaluate the attractiveness of offers of various processors.

The contracting procedures of canners in the Midwest stand in sharp contrast to those in Utah, for example, where a cooperative bargaining association (the Utah State Canning Crops Association) has been active for many years. There, member-growers are bound to sign only those contracts that have been approved by the association. The approved contract for canning peas, for example, clearly protects the grower from "passed" acreage, and it specifies that all peas will be graded by a tenderometer, what the sampling procedures will be, how payments to growers will be made, the cost of seed, the methods to be used in arbitrating disputes, and other items. The situation is similar to that prevailing in other markets where cooperative bargaining is strongly entrenched.

It is of interest to note that studies of processor contracts in areas where cooperative bargaining is not present usually contain lists of recommended changes which generally favor growers. Since these recommendations are not designed to benefit processors particularly, there seem few good reasons why processors would adopt them. Cooperative bargaining is a vehicle through which such recommendations can be put into practice.

More generally, there might well be a need for a producer organization that represents the preferences, gripes, and interests of producers as to contract terms. The producers would be given a say, and the result might well be greater democracy, much as unions have engendered in labor markets. In the absence of some type of bargaining association, con-

tracts will be drawn up to protect and further the interests of integrators. Roughly speaking, such contracts will be offered on a take-it-or-leave-it basis, and it will not ordinarily pay a producer to incur the expense of drafting his own contract. Through group action, however, members can share the cost of developing and enforcing contracts that exhibit greater mutual advantages to producer and processor—contracts in which the rights and duties of both parties are clearly set forth.

Other services provided by bargaining groups include assistance in procuring labor, collecting and disseminating information on superior cultural practices and new technologies, and instigating research on new crops, machine improvements, etc. Cooperative bargaining can have a salutary impact on price formation in that the whole price-making process receives more attention and is based on more economic-marketing data and analyses. Organization of a bargaining cooperative might be the first step in taking over other marketing functions such as processing. Finally, in marketing order programs there is a need for legitimized leadership that can speak with authority for the interests of farmers; bargaining associations are well suited to this purpose.

**Marketing Agreements and Orders**

A discussion of the procurement of farm products would be incomplete without some attention given to marketing order programs. At present such programs can be initiated for milk, fruits, vegetables, turkeys, and a few other farm products. The enabling legislation is subject to change, however, and the list of commodities for which such programs can be established can always be lengthened.

A marketing order has been aptly referred to as a tool, and economic appraisal must make reference to the manner in which this tool is to be used. One way in which marketing control should not be used is evidenced by experience gained in fluid milk distribution and in cling peaches in California. The simple theory of market control should have made much of this experience and the associated costs unnecessary.

With the authority of the government, whether state or federal, a market can be broken up into its component parts according to the various groups of buyers that can be separated according to such market dimensions as time, space, or form of final products to be produced. The control agency, taking total production as given and beyond its control, can maximize receipts and the average returns to producers by equating marginal revenues in the various separated markets. The commodity can be dumped to rot in order to avoid negative marginal revenues, and—in theory at least—it makes little difference whether the agency chooses to manipulate prices in the

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22 The possibility of control of farm production through handlers might be possible for commodities other than milk. To my knowledge, this type of program has never reached an operation stage.
various markets or the quantities sold. For any given level of total production, depending on the demand situation, market control can return higher average returns to producers than would result in perfect competition. The trouble is that neither production nor the entry of additional productive capacity is regulated. With no barriers to entry, supplies tend to expand, and as they do profits tend toward normal levels. If the farm industry is one in which costs per unit of output are the same regardless of the level of output, even average receipts tend to equal the perfectly competitive level! And in the meantime, the allocation of resources becomes increasingly bizarre.

This is not to suggest that marketing control programs have been operated so as to maximize receipts to producers. The assumption of maximization is merely very useful, analytically, in showing qualitative tendencies that result from discriminatory marketing. In comparison with the results of pure competition, these tendencies are rather unlovely. The point is that marketing orders can at best act as a palliative in an industry characterized by excess productive capacity. The fear is that short-run price and income gains will be gobbled up at the expense of engendering an even more serious long-run problem of excess capacity.

The role for agreements and orders in farm markets is modest in comparison with the role of the national price propping programs that occupy the center stage in the debate over farm policy. These marketing devices can be used to achieve stability in returns to producers where there is violent instability in market performance. Price setting can be an efficient remedy where actions of a limited number of buyers depress returns to milk producers, if only care is taken to avoid wanton price increases.23 Where the independent decisions of fresh fruit and vegetable shippers give rise to alternating market gluts and famines, regulations on the rate of flow of these commodities can be used to achieve order and evenness. If producers in some specialized production area desire to improve the quality image of their products among traders and consumers, a marketing order might well be the right tool for the job.

It might also be noted that federal programs impose regulations on handlers, not producers. They may therefore be viewed as a form of vertical integration, but at one step above the farm level.

Market Changes

From the magnitude of the marketing bill, it is clear that market changes in the food distribution system affect in important ways the procurement practices and policies at the farm level. For expository purpose, market changes may be grouped conveniently into three categories: (1) those pertaining to

environmental characteristics, including market structure as usually defined: (2) those internal to business organizations, and (3) those pertaining to government's role in agricultural marketing. In the remainder of this paper each of these categories will be discussed in turn, although space when balanced against the range of issues involved allows only brief sketching.

Environmental Change

Many of the changes taking place in the economic environment represent mere continuation of well established trends. Improved transfer systems will likely continue to greatly broaden farm markets to take in more geographical area and further decentralize the marketing system. Improved highways, trucks, shipping containers, and methods are main factors. An important question here concerns the future status of unregulated truck transportation of farm products. Technological change in food preservation and quality control will offer new competition to older methods. Hydrocooling, freezing, and the use of chemicals such as growth regulators have assumed increased importance in the period since World War II. Irradiation and freeze-drying are potentially very important preservation methods; and to dramatize the prospects for synthetic foods, we have the imaginative Professor Boulding who tells us that "agriculture is really a terribly primitive way of producing food." Technological improvements in food preservation will be welcome by consumers with higher per capita income who want more food services and the chance to pay premiums for high quality.

Just what all these changes pretend for organization and procurement practices and methods in farm markets requires high order soothsaying. Breimyer seems to feel that freeze-drying could wreck conventional livestock markets in favor of contract production. My impression, however, is that the impact of future technological change on market organization and practices has not been probed very deeply. There is one implication having to do with the question of competition that can be developed momentarily.

One of the most remarkable postwar trends is the decline in the number of firms in the food industries. Using data compiled by the Bureau of the Census, Hiemstra notes that over the period 1947 to 1958, the number of companies declined in 17 of the 25 food manufacturing industries included in his survey. Although a large increase took place in meat packing, declines of one-third or more took place in creamery butter, flour and meal, cereal breakfast foods, raw can sugar, and soybean oil mills.

As to levels of concentration, Hiemstra found that only seven of 29 food processing industries were in concentration categories above that which Bain refers to as "low-moderate" concentration. Too much can easily be made of these data. Many of the enterprise aggregates involved are not theoretic industries, and even after refinement economists can disagree substantially as to the implications for competition.

Regarding trends in concentration, different conclusions are drawn from the very same set of secondary data. There does appear to be a rough and ready consensus, however, that between 1947 and 1958 concentration hasn't changed much one way or the other. In some industries, flour mixes, for example, it has increased; in others, meat packing, it has fallen. At this juncture, however, it is convenient to tie some loose ends left from the previous discussion.

Quite aside from analysis at one point in time, we must be very careful in attaching much significance to trends in concentration ratios as these are recorded by the Bureau of the Census. In agriculture the geographic boundaries of markets have been widening as a result of improved transfer facilities and better information. Secondly, because

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29 The views of Heflebower, op. cit., and Robert F. Lanzillote, "Market Power and the Farm Problem" Jour. of Farm Econ., XLII, 5, 1960 give a fair indication of the range in diversity of opinion. A good part of the difficulty is that market structure has many dimensions and to focus attention on only one of them at the expense of others is incomplete analysis. Moreover, there appears to be a tendency for researchers in this area to present considerable data on market structure, particularly concentration, reiterate some vague theorems from oligopoly theory, and then pass on to policy implications. This great faith in price theory would not be so discomforting if (1) theory were not so ambivalent and iffy in numerous respects; and (2) economists to the man drew similar conclusions from their data, which of course they don't.
of technological advance in food preservation and income growth, the range of products that can be substituted for each other at the consumer level is also growing rapidly. These changes mean that the arena of competition is being enlarged in commodities across the board so that even where concentration on a national basis is increasing, it is not at all clear that the forces of competition are eroding away. In the absence of detailed case studies, it might be that concentration ratios prepared by the Census can only be used in identifying industries where concentration has, in fact, fallen. Apparently, this argument lends support to the view that concentration in the food processing industries generally has not been increasing.

Another important factor favoring competition in food processing is the encroachment of private labels on the position of national brands. In his monumental study of advertising, Borden gave considerable stress to the importance of private labels in checking excessive advertising costs and service competition; and the efficiency of distribution through large retailers under private labels is evidenced by the substantial differences in prices between private and brand name merchandise which he reported.\(^{30}\) Over a decade ago, Nicholas Kaldor pointed out that early in the development of the marketing system, wholesalers were in a dominant position in the distribution system.\(^{31}\) In his view "the growth of modern advertising is closely linked up with the manufacturer's attempt to control the marketing and distributive mechanism..."\(^{32}\) Through this control large companies emerged that were capable of taking advantage of economies of scale and provide the wherewithal and incentive for engaging in product and process research. Although Kaldor saw some benefit in the rise of the dominant processors, he also wondered whether giant distributors might in turn wrest control from them. At this point, it does not seem improbable that the use of private labels by the giant retailers plus their control over shelf-space will seriously undermine product differentiation as a source of market power for processors. The conclusion has extremely important implications for farmers in their cooperative ventures. Has for example, the time for investing large sums in the battle for market power at the processor level passed? Viewed in this light, the intrusion of farmer cooperatives in food retailing becomes more understandable.

Concentration in food retailing tends to be of greater concern, it seems to me, than in food processing. The number of grocery stores fell from 360,000 in 1948 to 260,000 in 1958; and between 1945 and 1958, the market share of chains with 11 or more stores increased from 25 to 41 percent.\(^{33}\)

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\(^{32}\)Ibid., p. 18.

Viewed as a national industry, however, food retailing is not highly concentrated. In 1958, the top four chains accounted for 19.7 percent of total food store sales, and one of these, A & P, accounted for 10 percent by itself. It is in the many local retail markets that the concentration rather soars. Some examples will illustrate the point. In Altoona, A & P accounted for 40 percent of the retail food sales according to a 1958 study. American Stores accounted for another 15 percent. Thus the two companies combined made over half the sales. In Denver, Safeway had 39.4 percent of the sales, National Tea had 20.3 percent and King Soopers had 13.7 percent; thus the top three together accounted for 73.4 percent of food sales. These are high levels of concentration, and one must try very hard to believe Mehren and Cochrane when they tell us that competition among grocery retailers is not competition among the few. Indeed, such trade publications as "Supermarket News" are replete with evidence on the recognized interdependency among retailers.

Concentration in local retail food markets has a counterpart in the food processing sector. Although food processors might sell in national or regional markets, supplies are often purchased in local markets where concentration, as traditionally conceived, can be quite high. There are mitigating factors, however, which are illustrated by a study of local grower-processor vegetable markets, which gave evidence of high concentration in procurement. This study suggests that if the quantities of farm products offered for sale to marketing firms are highly responsive to farm price levels, farmers are somewhat protected against a few buyers holding those prices down. In this vein, one might think of the farm sector as an aggregate of productive capacity that can be allocated in many ways over the long-run; buyers of one farm product compete to some degree with buyers of all others. In addition, agricultural economists need no reminding of the role of cooperatives in local markets, particularly for such important commodities as livestock, grain, and dairy products. Although to a decreasing extent, the large central markets also facilitate competitive pricing though yielding price quotations that constrain and determine prices in the surrounding local territory.

Internal Organization of Firms

This brings me to changes taking place in organizational structure and activity within the business firm. What are these changes and how might

35Ibid., p. 249.
36Cochrane, op. cit., and Mehren, op. cit.
38Helmberger and Hoos, op. cit.
they affect the market conduct of business enterprises in general and their procurement practices in particular? To my mind these questions have not received the attention they deserve in agricultural marketing research, although glimmerings of increased concern exist. Two issues seem to require further analysis and investigation. The first pertains to the separation of ownership and control in the giant business enterprise; the second to the rise of so-called "scientific" management.

Regarding the first issue, the separation of ownership and control was enunciated by Berle and Means many years ago. Only recently, however, in the works of Baumol, Marris, and Cyert and March have the possible economic implications of this separation been given much analytical treatment. Other economists argue that in spite of all the fussing over stockholders who do nothing but hold stock and corporate managers who must be taught to protect the public weal lest they become "irresponsible oligarchs," the traditional theory of the firm will take modern capitalism in its stride. The questions posed in this debate are no less relevant to practitioners of agricultural economics than to economic theorists for, aside from industrial giants in the food sector, separation of ownership and control might well characterize the bulk of cooperative business. Questions posed include: What goals besides the quest for profit guide business behavior? Do such nonprofit goals also guide decision making processes in the giant farmer cooperative? Might not managerial desire for approbation and prestige culminate in conglomerate growth? If so, how will the effectiveness of a market system be affected? My impression is that these types of questions are important and as yet unanswered.

Regarding the focus on problems of management, it seems abundantly clear that the electronic computers are engendering an information explosion. Information retrieval and analysis can now take place on a scale that vastly exceeds precomputer age possibilities. Along with the computers have come new techniques of analysis in management science, such as mathematical programming, that require use of computer services. Earlier we described the crucial role of information in the creation of enterprise, in the establishment of enterprise boundaries, and in the nature of a firm as an allocative mechanism. Now the question is how will advances in management control over information affect the balance between firms and the market mechanism.

in planning economic activities. Herbert Simon suggests that recent studies "are already calling into question beliefs that allocation through markets, simplified information processing as compared with centralized allocative processes." 42 And, perhaps what is even more noteworthy, an economist from the University of Chicago almost agrees with him! 43 The two issues raised by changes in the organization of the business enterprise obviously have significant interaction. Managerial control, when buttressed by the advances in management science and fostered by our tax structure, might provide both the will and the way for creating monstrous conglomerates that would make the ghost of Senator Sherman scratch its head and wonder if there oughtn't to be a law.

**Government and Policy in Agriculture Marketing**

Our survey of the evolving procurement patterns in farm markets and market changes further up the channel poses several areas of public concern. Without taking a position on the merits of demerits of integration, we might begin by asking what can be done to improve the efficiency of the more-or-less traditional farm markets.

The answer, I think, is to continue doing many of the things that we have been doing in the past. Paul Farris emphasizes the importance of accurate price quotations that reflect quality, service arrangements, and other benefits. 44 This implies using accurate sampling methods and meaningful quality standards in grading. If it is true that the market value of nonfat milk solids is increasing, for example, then greater reliance on protein pricing plans are in order. If consumers really do prefer lean to fat pork, ways of translating such preferences into marketing and production activities should indeed be sought. Of equal importance is the need to inform farmers of price advantages of alternative market outlets. Burnett and Clodius have made a case for frequent publication of base milk prices, hauling rates, premiums, and differentials by the press in local manufacturing milk markets. 45 The more general cause is for a continued updating and expansion of price reporting services and for effort by extension workers to alert farmers to the need for knowing their markets. In a work, government should continue its historic role of enforcing certain rules of the game, supplying certain marketing services, and otherwise encouraging the efficient functioning of markets.

In addition, private economic agents operating in the traditional sphere of open markets must be quick to innovate and adopt new technologies.

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45 Burnett and Clodius, *op. cit.*, p. 35.
The current experiments with systems of mass selling by description in livestock marketing and the recent initiation of cattle futures contracts are illustrative of the type of continuous search for better methods and institutions that will further strengthen the open market approach.

After all is said and done, however, there is no assurance that the open market system can compete in every commodity market with systems that utilize various forms of integration. We have noted basic reasons why certain resources and activities become fused into a business enterprise and why the center of control in a firm might reach out in various directions to secure control over additional processes. The imbalance of market information, the interrelatedness of processes in vertical sequences, the propensities to assume risks, etc. -- all of these change over time. Thus it would be foolish to suppose that some particular type of firm such as the family farm will retain control over its traditional economic functions in the face of whatever technological and institutional changes take place.

We have noted a possible role of bargaining cooperatives in contract production. The role as visualized here is a modest one. Where concentration in local markets supports monopolistic exploitation, farmers might well from bargaining groups to redress their weak market position. In the past, farm leaders have pushed for legislation that would foster group bargaining in farm markets much as the Wagner Act has done in labor markets. The bargaining environment could doubtless be changed to support farm groups. Another alternative is for farm cooperatives to seek greater control over the entire food marketing sector. At the first buyer level the cooperative form of enterprise might have real merit where economies of scale necessitate high concentration in procurement.

In this connection, the interest which leading farm organizations have shown in the prospects for entry of cooperatives into the food retailing industry could have profound implications. Much depends on the intentions of the organizations involved. If acquisition of a chain is merely viewed as an investment outlet for farmers' savings, the move will likely not amount to much. If, on the other hand, this move is a first step in a series thought to be the most efficient way to control food marketing, the result might well be an ascendency to power of cooperatives not unlike those observed in certain foreign countries where cooperatives have acquired the status of quasi-public institutions. Distribution of profits according to patronage would seem to dictate cooperative control over much of the intermediate marketing functions. The probability that the sleeping giant from toad lane will arise from his deep slumber, to use Wesley McCune's analogy, is quite another matter.46

46Wesley McCune, Who's Behind Our Farm Policy, Frederick A. Praeger, Inc., 1956.
Concentration in procurement of farm products arising out of economies of scale in marketing pose a most troublesome question for antitrust enthusiasts. The same can be said for concentration in local food retail markets. Yet the stakes in preserving lively competition in our food industries are high and few are prepared to downgrade vigorous antitrust action. The Brown Shoe Case is heartening in this respect, for apparently merger sprees and acquisition orgies simply will not be tolerated. If some of our previous speculation is correct, conglomerate growth of giant corporations merits close scrutiny in the years ahead.