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## Pricing Systems and Agricultural Marketing Research

By George B. Rogers

Both Irwin (20)<sup>1</sup> and Breimyer (4) have recently labeled pricing a central and major problem in agricultural marketing. Prices have a fundamental role in both long-run and short-run decision making at all levels in an industry. In the long run, prices should optimize resource allocation and consumer satisfaction. In the short run, they should facilitate trading and the orderly and timely movement of goods from producers to ultimate users.

Prices are generated by a pricing system. Within such a system, the process of price making is hardly passive but involves deliberate effort. Moreover, the general type of pricing system in operation, its individual characteristics, and the conduct of active participants in the system, all influence its performance.

This article delineates a framework for examining pricing systems. It suggests a general classification of pricing systems, describes some pertinent characteristics, and lists some measures of performance in such systems. It summarizes the current pricing systems for selected agricultural commodities and suggests some research problems which might command the attention of agricultural economists.

Pricing systems have received less attention than many other areas of agricultural marketing research. A better understanding of the nature of pricing systems and their problems might stimulate more specific research on agricultural pricing systems and facilitate orderly improvements in pricing.

### Classifying Pricing Systems

Various authors have discussed pricing practices, techniques, objectives, or policies, and pointed out examples applicable in particular

<sup>1</sup>Underscored numbers in parentheses indicate items in the Selected References, p. 10.

industries. Such discussions do not provide a comprehensive framework for classifying pricing systems, but they furnish details useful in developing a classification.

Bain indicated that in most markets sellers approach price-output problems by calculating and announcing selling prices, and that the alternative policy of determining output and "letting price take care of itself" is found usually only in industries of relatively atomistic structure. There, the individual seller faces a well-publicized going market price for all industry output, which may result from procedures such as the operation of a highly organized central market or the domination of the market by a few large buyers who simply determine and announce a fixed buying price. Examples cited were mainly extractive industries like those in agriculture, lumbering, and crude petroleum production (2, p. 269-270).

Clark divided price making into three main types and a larger number of special types. The three main types were (1) supply-and-demand pricing, (2) the quoted price, and (3) the negotiated price. Special forms and hybrids included remainder and disposal sales, sales of secondhand goods, auctions, buying on sealed bids, negotiated departures from sellers' quoted prices, and quoted or negotiated prices subject to revision under specific contingencies. Supply-and-demand pricing was held to be most clearly seen on organized exchanges. Under the quoted price system, the seller offers a price at which he expects to fill whatever orders come. The two main forms of negotiated prices were illustrated by the real estate market and collective bargaining by organized labor (6, p. 108-110).

Macklin listed three general methods of price-making in agriculture: (1) calculation, (2) organized speculation, and (3) hit-or-miss guessing or chance juggling of market forces. With sufficiently complete information on both supply

and demand conditions, an integrated marketing concern could calculate relatively stable prices that would both guarantee buyers against declining or violently fluctuating prices and promote sales and competition. With many firms involved in a complex marketing system, "organized speculation is preferable to prices based on pure guessing." But with uncertainty existing, "the judgments of many are safer and less speculative than the judgments of only a few" (23, p. 325-331).

Nourse classified pricing mechanisms into three types: (1) "authoritarian," (2) "administered," and (3) "automatic." Examples of the "authoritarian" form included public utility regulation, railroad rate control, the Guffey coal acts, and both Federal and State milk controls. (One could also include wartime price controls.) "Administered" pricing included the major part of modern industrial life, with its large corporate producers, chainstores, trade associations, collective bargaining unions, and cooperative organizations. The "automatic" type covered the simple, natural, flexible kind of prices emerging spontaneously in free markets patronized by individual, unorganized producers and buyers (29, p. 9-21). Many agricultural products have traditionally been classified under the "automatic" type.

Nourse's classification is a broad and particularly useful one. Yet the term "automatic" is somewhat misleading, since pricing is not an effortless and unstructured process even under approximations of pure or atomistic competition.

Pricing at retail is basically administrative, since retailing fits into monopolistic competition theory. Yet retail pricing is a somewhat special case, particularly in chainstores handling thousands of items. Preston indicated that (1) retail prices are often set according to established markups over invoice costs, but (2) these markups are not generally uniform among products or items and are varied on individual items from time to time based on merchandising decisions and in response to local competitive pressures (30, p. 1, 40, 68).

Nelson and Preston subsequently labeled as "variable-price merchandising" the simultaneous and sequential manipulation of selected prices upward and downward in order to draw attention to the market offerings of the firm

and to differentiate them from those of its competitors. This practice is characteristic of multiproduct firms and, in the study in question, particularly of large food chainstores. The environment is clearly an "imperfect" one, differing from both perfect competition in the abstract and tightly knit oligopoly or monopoly (28, p. 4-5, 103).

Hawkins discussed various kinds of "market pricing policies" he held to be special cases of the general theory of monopolistic competition. These were "odd prices," "psychological pricing," "customary prices," "pricing at the market," "prestige pricing," "price lining," "resale price maintenance," "quantity discounts," and "geographic pricing" (18, p. 233-240). One could add such terms as f.o.b. basing point pricing, delivered prices for certain zones, or destination prices less transportation and handling charges. In the context of this article, few of these are policies or goals. Many are methods, customs, or simplifying techniques. Some could be used under several competitive structures.

Table 1 classifies pricing systems with competitive situations varying from monopoly toward atomistic competition. The main types of systems, some of the methods or aids to establishing prices, and some possible pricing goals and policies are specified.

## Characteristics of Pricing Systems

Pricing systems have definable characteristics. Some characteristics are common to all pricing systems. Other characteristics are peculiar to particular industries.

The general type of pricing system which prevails is closely related to the competitive structure of the industry (table 1). In this connection the most relevant measure is the extent of concentration of firms, typically measured by the number and size of units.

Differentiated pricing is a feature affected by both prevailing competitive structure and individual industry characteristics. A high degree of price differentiation is likely in competitive structures from monopoly through monopolistic competition, except possibly in some basic extractive and processing industries. In general, the higher the degree of processing or the more complex the manufacturing, the

Table 1.--A general classification of pricing systems <sup>1</sup>

Competitive structure (from less to more competitive in type)	Type of pricing system	Representative methods or aids in establishing prices	Some pricing goals and policies <sup>2</sup>
Public monopoly	Authoritarian	Boards, committees, public or quasi-public agencies (announced and/or approved lists), Governmental agreements, negotiation.	Rate of return on investment. Discriminatory (classified). Foreign trade policies. Government price support.
Private monopoly	Authoritarian	Committees, individuals (announced or private lists, or individually quoted).	Profit maximization. Target rate of return. Perpetuation. Discriminatory (differentiation).
Oligopoly	Administered	Committees, individuals, trade associations, agreements among participants, price leadership (announced or private lists, or individually quoted).	Status quo, or change market shares. Predatory price-cutting. Profit maximization. Target rate of return. Sales maximization. Discriminatory (differentiation).
Monopolistic competition	Administered	Committee, price maker or merchandising manager, trade organization, manufacturer's suggested prices, negotiation.	Customary markups. Variable price merchandising. Meet local competition.
Atomistic competition	"Automatic," free, or open market	Terminal markets, country point buying, exchanges, base quotations, auctions, committees, contracts, buyer announcements, negotiation.	Make the best deal you can or take the going market value as established by someone else.

<sup>1</sup> Applies only where facilitating exchange of goods is intended objective. Futures markets are thus excluded, although trading results can contribute to cash market price determination.

<sup>2</sup> These represent possible courses of conduct open to firms or groups of firms.

greater the likelihood of widespread differentiation of prices along product lines. In the public monopoly grouping and to some extent in the private monopoly grouping, price differentiation by type of buyer may be more likely. Where the degree of pure or atomistic competition is high, price differentiation is not likely to be too significant. In the context of this discussion, generally used or recognized grades and standards do not constitute meaningful differentiation in terms of pricing systems.

Pricing systems encompass both the determination of basic price levels and translation

activities which depart from basic levels through the application of premiums, discounts, and other adjustments. But it is characteristic in each industry that one level of trading is of key importance in the determination of basic price levels.

Price followers, as well as basic price makers, may use basic values for a few grades, sizes, geographic locations, trading levels, and quantities and terms of sale to determine prices for other grades, sizes, geographic locations, trading levels, and quantities and terms of sale. Usually such prices are determined by applying

premiums or discounts renegotiated or redetermined only infrequently and/or on the basis of longer run changes in costs, rates, and techniques.

The basic price level tends to be established at a level of manufacturing, processing, or distribution where the product has reached a form essentially like that in which it will reach the ultimate consumer or user. Some examples might be the manufacturing of automobiles, furniture, clothing, steel products, or appliances, the canning or freezing of foods, or the processing of broilers from live to ready-to-cook form.

For many other agricultural products, the key trading level may be the level of sale to wholesalers, processors, or retail buyers. Producer prices are often determined by discounting from such levels. Many retail prices may be determined by markups over cost, including "fair trade prices" or "manufacturer's suggested retail prices." On the other hand, retail prices and margins often reflect local competitive conditions and variable pricing policies, including the use of food items as advertised or unadvertised specials.

Typically, only a few participate in the process of determining basic price levels, irrespective of the prevailing competitive structure.

It is easy to visualize this characteristic in industries where concentration ratios are high. In industrial and service sectors, price making readily becomes a specialized function, because specialization follows with scale or because there is often a vast number of items to be priced. In other instances, the basic price making role also is delegated, but largely for other reasons.

Even where competition is relatively atomistic, many potential participants tend to be effectively excluded because they do not possess enough market information or expertise to participate, because being price followers enables them to concentrate on operational, assembling, and distributive functions, or even because they cannot readily gain entrance to key institutions. Direct participation in the process of determining basic price levels may thus be limited to a small fraction of those actually buying and selling. The optimum number lies somewhere between Taussig's emphasis on the desirability

of achieving an equilibrium rapidly by confining dealings over price to persons who are shrewd and well-informed (34, p. 149), and Macklin's claim that the judgments of many are safer and less speculative than the judgments of only a few (23, p. 331).

Both imperfect market knowledge and the costs of performing pricing services lead toward few participants in establishing basic price levels.

The degree of knowledge about factors and forces relating to price determination is variable from industry to industry, but it is frequently not great in total nor very evenly distributed among participating firms or their members. Attempts to improve knowledge include the market intelligence systems of private firms, and private and public statistical, research, and market news services. But these may still leave room for the exercise of much subjective judgment.

Even in industries which are highly concentrated, where entry is severely limited and products highly differentiated, the promulgator of announced prices may have to do considerable guessing about the relative demands for his competitors. His predetermined output can still, in practice, be too large or too small. This leads to attempts to control market conditions. Galbraith emphasized that industrial planning requires more control over prices since modern technology reduces the reliability of the market. Thus, to minimize the risk of loss and damage to the technostucture, and to maximize firm growth, both production planning and management of demand to assure a market are practiced (15, p. 189-219).

Uncertainties about demand are likely to be greater in those industries which are less concentrated, where entry is relatively unlimited, and products are generally undifferentiated. In addition, there are more uncertainties about the forthcoming supply, since output is not controlled by a few, but results from largely independent decisions by many. Various measures are often used to seek some degree of stability in prices or volumes. In agriculture, approaches used include Government support price and purchase programs, cooperative development, marketing orders and agreements, and voluntary regulation of volume. Support is also likely

for policies directed toward full employment and high-level overall economic activity, and for publicly sponsored market news programs.

Price determination is a service to an industry and involves costs. Irwin, in calling wholesale pricing a service performed by collective action of handlers who evaluate available information using statistical analysis, intuition, and training, indicates that cost appears as part of the gross profits of handlers (20). There are other private and public costs which might also be enumerated. Shepherd described the evolution of the price-making process in agriculture as one of both reducing the time and energy spent or wasted in price determination and of increasing the accuracy of the prices (32, p. 53-55). Thus, minimization of the industry and public resources required may support delegation of basic price level determination into few hands.

Many pricing systems for raw or agricultural products are effective only within certain limits. Such systems may cease to apply when the product is processed into a substantially different form or when the original product is combined with other ingredients. For example, many animal products or crops lose their original identity before they reach the ultimate user and prices determined on the raw or farm form have little or no significant effect on final product prices. The extent of linkage or interrelationships between pricing methods on the raw or unprocessed form and the processed or manufactured products varies from one industry to another.

Some pricing systems produce values which are effective only in the current period. Others produce values which apply in future time periods of varying length. Where exchange trading, terminal market pricing, or decentralized negotiations are involved, the current period is often only a day or so in length. Future values may be intended for a week, month, crop year, or manufacturing year, and tend to hold unless unanticipated events force a change. In general, prices in less competitive industries tend to be futuristic and those in more highly competitive industries current. But there are enough exceptions so that this feature tends to be an individual characteristic of pricing systems.

## Evaluating Performance of Pricing Systems

Pricing systems can be evaluated at least subjectively. Subjective evaluation certainly leaves much room for argument. But, given the current knowledge of structure, conduct, and performance, quantification is difficult and can only be approached through detailed analysis. Terms such as the following can be employed in subjective evaluation: fair, equitable, just, or reasonable; efficient or least cost; realistic, workable, representative, or operable; sensitive or flexible; and, stable or orderly. Many of these points are interrelated and often in partial conflict. Hence, a composite score for performance may not include the highest values for individual points, but rather represent a compromise among various criteria.

Today terms such as "fair" and "equitable" are in common use. Pricing has long been surrounded by such ethical connotations, whether expressed as customs, moral standards, edicts, or laws. "Just price" traces to early economic thought. In today's economy, legislative authority, executive persuasion, and regulatory practice focus on preventing monopolistic and oligopolistic abuses, price discrimination, inflationary increases, unfair practices, and maldistribution of income.

Even where conditions of atomistic competition are approached, pricing systems are not above criticism. For example, Galbraith's theory of countervailing power (14) and the more recent resurgence of interest in farmers' bargaining power suggest that imperfections in pricing exist from the standpoint of equity and other similar terms.

The efficiency of pricing systems can be viewed in several dimensions.

Hague has recently defined an efficient pricing system in a classical sense. Factors include producing the right amounts of the right goods, optimum cost levels, correct resource allocation, rapid distribution, and guidance for both the short and the long run (16, p. 3-15).

Stigler's discussion of the primary requirements for an efficient market suggests a less rigorous role for price. Full knowledge, by itself sufficient for an efficient market, is not

realistically attainable in the absence of standardization of goods and localization of transactions. In bringing buyers and sellers together to exchange goods and money, a market is efficient if purchases can be made at the lowest price offered by any supplier and sales can be made at the highest price any buyer is paying (33, p. 55-56).

Thus, under competitive conditions (which are imperfect in varying degrees), efficiency may be acceptable if the pricing system produces values within some reasonable range. Within this range, various factors, such as bargaining power and knowledge, influence the exact level determined.

Efficiency may also be related to the cost and time dimensions of pricing. As previously noted, the determination of prices involves an economic cost, and costs are both direct and indirect. Thus, from the standpoint of technical efficiency, it may appear desirable for a limited number of participants to develop a high degree of expertise and determine basic values which are then widely used by others in the industry. But specialization of this function should not be carried to the extent that it widens the opportunities for individual gain through price manipulation.

At a particular point in time, there may be several pricing mechanisms which could be workable for a particular commodity or industry. A pricing system which is currently operable or technically feasible neither implies nor requires perfect knowledge on the part of all active participants. If knowledge is imperfect there may not be a perfect set of short-run equilibrium prices, but there may be alternative sets of possible values which could "clear the market" in linked time periods. The operative pricing system may do the best it can with incomplete knowledge and subjective judgment, limited participation in price determination, and the time available to arrive at some basis of trading in order to get on with the job of physically moving the product to retailers, consumers, institutional users, exporters, etc. The end result can be prices which are usable, but improvable.

Another problem arises in regard to how representative a pricing system may be of industry structure and practices.

Shepherd has suggested that pricing methods in agriculture progress from bargaining on each transaction to centralized markets, then to de-

centralized markets, and finally to a price committee system (32, p. 53-55).

Some evidence exists that progression of method does occur, even though each industry may not need to pass through each one of these exact stages. Some evolution within methods has also occurred. For example, negotiation may evolve from barter on each transaction to infrequent negotiation between a few participants representing large quantities. Progression in systems may also have occurred where industries have moved from more toward less competitive structures.

But even though pricing systems and methods are modified with the passage of time, pricing systems are resistant to very rapid change. Members of a particular industry become trained in and accustomed to a particular mode of operation, and key institutions become well-established. When structural and competitive changes occur very rapidly in a particular industry, it is quite likely that the pricing system will change far less rapidly. Thus, pricing systems need periodic reevaluation since relative performance can decline significantly in a few years. Hence, in a dynamic dimension, substantial cumulative changes in an industry cause problems with a pricing system and require drastic changes or even the development of an entirely new approach.

To what extent do prices actually need to be sensitive or flexible in order to reflect changes in supply and demand? Are there possible benefits which might accrue if prices were more stable or pricing more "orderly"? Most discussions note that prices of some commodities are more variable than those for other commodities. The distinction has often been drawn between prices of agricultural and certain other basic commodities and all other prices.

Mason, discussing an upswing in prices in the 1950's, indicated that grains, poultry and dairy products, textile fabrics, lumber, and other items produced in competitive markets led the upswing. With more stability in industrial prices, the dynamic elements in the price system were mainly wages and the prices of goods produced in the small enterprise sector of the economy (26, p. 170-172).

In a general article on agriculture, Knight, in the volume edited by Adams, suggested commercialization in farming may have produced

accelerated price effects in the same directions as the general price levels. He also discussed the volatile nature of agricultural prices in the short run. Here, on "free markets," prices change frequently and in small increments, sometimes within each day. Small changes in supply and demand and "... a host of dynamic facts and fancies daily assert their influence without moderation. . ." (1, p. 10-14).

During the past two decades, positive Government actions of various kinds to help stabilize the economy have been increasing in number and frequency. Heller suggested that developing public policies resulted in the virtual disappearance of the countercyclical syndrome of the 1950's and that some progress had been made by the mid-1960's in approaching the four objectives of full employment, high growth, price stability, and balance-of-payments equilibrium (19, preface, p. 59-60, 116).

Over time, more long-run price stability has been achieved for some agricultural commodities. Likewise, various programs and the use of particular pricing mechanisms have resulted in more short-run price stability for some agricultural commodities. But for others, short-run price instability is still evident.

Taussig many years ago discounted the precision of short-run equilibrium prices and suggested price variability might even impede product flow. He said that even on a single day there is no one price rigidly settled by the equilibrium of supply and demand. With "... the wavering doings of human beings. . ." and uncertainties about supply and the conditions of consumption and demand, differences of opinion are likely and prices are not mathematical certainties, but statements of tendencies. Fluctuations are likely, but with speculation, knowledge, and large-scale dealings, the seasonal price will be more quickly and smoothly determined and maintained between narrow limits. For the ultimate consumer, the early and exact adjustment of price brings more even utilization of the available supply (34, p. 148-149, 159-160).

We can have short-run price fluctuations arising from several causes: (1) accurate response to changes in supply and demand, (2) overreactions due to incomplete knowledge or the nature of participation in price making, and (3) incompatibility of the pricing mechanism with the current nature of the industry. There-

fore in judging the need for price flexibility, we should identify the causes of variations in prices emanating from the present system. Automatically attaching precision to today's values in clearing the market, as determined by today's pricing system, will preclude any consideration of other sets of values or alternative pricing systems. It would also eliminate any benefits from more stable prices such as more orderly movement of the product, from improved equity considerations, or from greater confidence in the reliability of the pricing system.

### Pricing Systems in Agriculture and Research Problems

Pricing systems for agricultural products are diverse. They range across the continuum from free market to authoritarian types. Table 2 illustrates this diversity for several commodities, as indicated by selected publications (17, 24, 27, 31, 35). Just as pricing systems are diverse, so, too, are the types and scopes of problems which can merit research attention.

In agriculture, for example, the growth of integration has had impacts on pricing. Farris (10, p. 2) indicated that "... an adverse side effect of integration may be to impede pricing efficiency by reducing the fraction of total supply of a commodity which enters into market price formation."

Breimyer (4, p. 97-105) suggested vertical integration tends to substitute internal administrative controls at some stages of production and marketing for the price system. For example, linking stages by integration may result in ownership of farming resources by the marketing firm or contract production, where producer returns are determined by negotiation, formula prices, or piece-rate payments. He also suggested some adverse effects from imperfect central market pricing mechanisms because of the decline in central wholesale markets, the rise in direct selling, and the growing practice of trading on someone else's price. First, as actual negotiation becomes small, it can become unrepresentative and invite manipulation. Second, when only small quantities of uncommitted supplies are traded, a given price level can prevail too long, then overadjust when changes take place, giving rise to erratic price movements. Examples cited of the use of a published



Table 2.--Summary of pricing systems for selected agricultural products

Commodity	General type of pricing system	Basic price level determination	Methods of determining other prices
Eggs	Free market.	Daily base price quotations in a few wholesale markets. In New York & Chicago supported by cash exchange trading.	Premiums, discounts to other trading levels, grades & sizes, quantities, & geographical locations. Some producer returns under contracts not related to short-run price changes.
Broilers	Free market.	Prices paid by large retailers for ready-to-cook broilers, selected cities, for future deliveries.	Premiums, discounts to other trading levels, quantities, & geographical locations. Periodic specializing at retail. Most producer returns under contracts related to performance standards.
Fluid milk	Authoritarian to determine minimum levels.	Formula or negotiation under Federal-State orders, generally a pooled price to producers based on classified pricing for various end uses.	Some negotiation on differentials but many wholesale and retail prices specified under orders.
Butter	Free market with Government price supports providing a floor.	Quotations based on cash exchange trading at Chicago & New York by primary receivers & central market wholesalers.	Averaged differentials for location & grade at country plants & also to cover margins for services in selling to wholesalers & retailers.
Natural cheese	Free market with Government price supports providing a floor.	Prices established on Wisconsin Cheese Exchange in Friday trading by plants & processors the primary indicator.	Assembly point prices tend to follow the exchange. Processed cheese prices become administered type.
Live meat animals	Free market.	Decentralized negotiations at auctions, country plants, or terminal market values.	Reflections to and from dressed meat prices.
Dressed meat	Free market.	Daily commercial quotation at Chicago.	Formula pricing to buyers, quoted price lists, or negotiations. Variable price merchandising at retail with periodic specializing of cuts.

-- Continued

Table 2.--Summary of pricing systems for selected agricultural products--Continued

Commodity	General type of pricing system	Basic price level determination	Methods of determining other prices
Further processed poultry products	Administered.	Manufacturer's list prices, with adjustments for volume, delivery, branded vs. unbranded.	Retail markups. Negotiated or market price to slaughtering plants for poultry.
Cotton	Free market with Government price supports providing a floor.	Series of central market committees, under specific legislative authority, issue price quotations at central market level.	Application of differentials for location, grade, etc. Becomes manufactured products in use and original identity largely lost in pricing consumer items.
Tobacco	Free market.	Warehouse auctions held for several weeks or months after harvest and curing where producer's tobacco is sold to tobacco companies.	Becomes manufactured products in use & original identity largely lost in pricing consumer items.
Sugar	Authoritarian with minimum prices & quotas determined under Sugar Act.	Sugar Act minimum prices for raw sugar at processor level.	Plus distributor & retail margins over refined sugar prices which are under basing point system. Beet and cane growers paid contract price largely reflected from raw sugar price. Sugar for food processors loses identity in marketing.
Many fresh fruits and vegetables	Free market.	Auction, shipping point, or terminal market sales to receivers or retailers.	Differentials from shipping point price or pool price to grower, from terminal market values to shipping firms. Distributor & retail margins likely to vary seasonally, etc.
Many vegetables for canning or freezing	Free market.	Mainly contract prices between producer & packer determined in advance of planting or harvest. These have fairly close relationship to selling prices of packers.	Contract prices may be affected before & during harvest seasons by fresh market prices. Canned & frozen food prices are administered and/or determined by broker or direct sales to distributors, institutions, and retailers.
Wheat	Free market with Government price supports providing a floor.	Terminal market price quotations supported by cash & futures trading by country elevators & terminal market firms.	Application of differentials for geographical location, trading level, etc. Becomes manufactured products in use with identity largely lost in pricing consumer items but somewhat reflected in animal feeds.

price quotation with premiums and discounts were the National Provisioner Yellow Sheet for Livestock (meat) and the Urner-Barry egg price. He contended central market trading is not essential to a good pricing system. Remedies suggested for agricultural pricing problems included making improvements in traditional market pricing, continued use of price supports as protective floor prices, bargaining associations, committee pricing, classified order pricing, and limitations on integration.

Integration illustrates a possible separation of the basis for producer return from current market price levels, giving rise to possible equity problems of considerable magnitude. Eggs and meat are examples of growing incompatibility of central market pricing mechanisms with current structures and practices.

Volumes traded on butter exchanges are even smaller today than in the early 1950's, and only a few large firms participate in exchange trading (27(c), p. 284-285). Due to the lack of any other system for comparison, the question of whether spot market trade prices afford the best estimate of prices which move all butter through market channels is difficult to answer (17, p. 24). Terminal market prices on wheat become less representative as more wheat shifts from terminal to subterminal markets. If this trend continues, it would become appropriate to reevaluate the usefulness of the present terminal price-quoting system (35, p. 223). The examples on butter and wheat suggest a need to study modifications in the present system or alternative systems.

Under provisions of specific legislation, the Secretary of Agriculture has labeled 15 central markets as "designated spot cotton markets." The designated markets were reviewed in 1951-52 and again in 1959-60 for their suitability as major sources of price information (35, p. 119). Continued reexamination of pricing systems at periodic intervals may be warranted to keep them updated.

On fruits and vegetables, price-making takes different forms in different institutional environments. Each of the major types of environments has different characteristics and yields somewhat different results. For example, the timing of price changes is different, and the pricing system in some markets makes them more sensitive than some others to small changes in supply and demand factors (24,

p. 93-95). This suggests that in-depth studies may be required to find an optimum solution for each commodity.

On eggs, problems with the long-entrenched pricing system reached the point where Congress authorized a large-scale program of research to help find solutions. A recent report (31) analyzed the present pricing systems, possible improvements, and alternative systems and methods. Based on this report and related studies, a committee representing all segments of the egg industry was formed to develop a plan for improving the egg pricing system. Although this is the most recent example of a comprehensive study, pricing systems in other commodity areas could eventually merit similar attention.

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