Research Priorities in Agricultural Marketing: A Perspective from Academia*

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The past decade of evolution in the U. S. Agricultural Marketing system has presented agricultural economists with some interesting and challenging research questions. Unfortunately, we have been unable to answer adequately many of these questions.

The following is a list of some of the questions that we have failed to answer (perhaps in some cases even failed to ask). When are markets too thin? Is the market establishing "correct" prices? What type and how much information is required for markets to determine the correct prices? Do market information reports such as the Yellow Sheet and the Urner-Barry Report provide an adequate basis for effective price determination processes? Is the Yellow Sheet manipulated? When are prices unduely enhanced? Would it be socially desirable to restructure the U. S. food processing and retailing industry?

Our inability to deal effectively with many of the research questions stems from our inadequate conceptual framework dealing with what markets

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are and how markets work in a dynamic and uncertain world. We continually find ourselves trying to apply equilibrium concepts and models that Richard King (North Carolina State University) has characterized as "Pin Head" economics. These models assume that all economic activity occurs instantaneously on the head of a pin. Moreoever, these models describe static equilibrium conditions where all participants have perfect information.

The economic reality of agricultural markets stands in stark contrast to our current conceptual framework of the "ideal" market. These markets are always in a state of adjustment, never coming to rest at equilibrium. Moreoever, each day's market activity is the result of production and marketing decisions that were spread across both time and space without the benefit of perfect information. Our present conceptual framework built around the static equilibrium concept of a perfect market simply is inadequate to deal with many of the questions that we must answer.

Bringing our conceptual framework of markets and the pricing process into the 20th century should be the number one priority for agricultural marketing researchers. Success in this endeavor will require a substantial change in the attitude and philosophy that many economists seem to have about the current system of agricultural markets. All too often researchers seem to take the attitude that the marketing system is guilty as charged until proven innocent. This attitude apparently stems from the conclusion that no market is perfect; thus, the purpose of market research is to show how much inefficiency there is in the marketing system. We seldom, if ever, ask the question of whether we are using the appropriate criterion by which to evaluate either the structure or performance of the market being examined.

Schumpeter argues that "perfect competition is not only impossible but inferior, and has no title to being set up as a model of ideal efficiency. It is hence a mistake to base the theory of government regulation of industry on the principle that big business should be made to work as the respective industry would work in perfect competition" (p. 106). Along the same lines Greig suggests that "if the costs to society of imperfections in the atomistic markets were compared to imperfections in the segment having market power, then by far the greater social costs would be in the atomistic markets" (p. 27).

Our fervent faith in the perfect market concept as the salvation of the inefficient marketing system has, in many cases, caused us to ask the wrong questions about the structure and performance of markets. Conventional wisdom holds that any deviation from the characteristics defined by the perfect market concept is socially undesirable and therefore action should be taken to alter these characteristics. As a result, considerable research effort is expended to document the differences between the current system and a perfect market. A more constructive approach would be to ask first why the current system is different from the perfect market, and second are there feasible alternatives to the current system. We would then be in a better position to make a reasoned evaluation of the desirability of the current system versus alternative systems. Moreover, this set of questions may cause us to change considerably the type of research we do.

There are several areas of research related to market performance, price discovery and price determination, and the importance of monopoly and monopsony in agricultural markets where we seem to have been asking

the wrong questions. My objective in the balance of this paper is to suggest an alternative set of questions.

I would characterize much of the writings and research of marketing economists as the result of a negative attitude about the current marketing system. With a slight change in attitude one begins to focus on a quite different set of criteria by which markets are evaluated. The term bargaining power is a good illustration. Bargaining power is often rather loosely defined as the capacity to favorably influence price or other terms of trade. The existence of bargaining power is considered to be incompatable with competition. Bargaining power is a club that the buyer uses against the seller, or vice-versa.

Henry Author views bargaining power in quite a different light. To him, bargaining power is a competitive force stemming from sellers competing for scarce customers or buyers competing for scarce resources. "Bargaining power, properly used, is an important feature of a dynamic competitive marketing system. The measure of my market or bargaining power is the degree to which the party with whom I want to trade will choose me rather than someone else. The normal exercise of bargaining power takes the form of offering something better, or more attractive, than the other available alternatives. . . . Most trading and bargaining is conducted in terms of 'gain' based on free choices and mutual advantages, not 'pain' of threatened damage or hardship. The rationale for this conclusion is that there are mutual gains from trade. Both parties are better off, not just one at the expense of the other. In other words, bargaining power and seeking to attain bargaining power is on the whole a good thing, not a sin."

"Bargaining power in a competitive market should be, and usually is, based on an ability to attract, not to coerce. It is what competitors seek to attain by enhancing their customers' satisfactions, not by ruthlessly exploiting their weaknesses. As a dynamic force, the search for potential bargaining advantages accounts for a very large part of product innovations and technological improvements. It is an important incentive toward the kind of product or service differentiation which is customer oriented, not just randomly unique" (pp. 162 - 164).

Professor Henry's view of bargaining power causes one to view market developments in a quite different light than the more traditional view. I suggest that this more positive view will enhance our ability to understand market developments.

Market Performance Research

This is an area of research that has been particularly inadequate and disappointing. Reliance on industrial organization theory has greatly hindered economists' efforts to understand how and why alternative industry structures evolve and survive in a dynamic and uncertain environment. Too often researchers have spent their time calculating descriptive, but otherwise meaningless, concentration ratios rather than trying to understand and model the economic forces that generated and maintain the ratios.

Ray Bressler made the following comments about research on structure of agricultural markets at a conference at Purdue University in 1962. "I do not believe that research in market organization is sterile, but I do insist that too much of it has been taxonomic and too little has been directed to the essential questions of the influence of structure on conduct

and performance. . . . The distressing thing is that after some 30 years of research in this field, such items [the relationship between structure and performance] are still in the area of opinion and debate rather than having been put into sharp focus by research results. We must do far better in the areas of conduct and performance in our marketing organization research, or we should devote far, far fewer resources to this field. We are in real danger of having developed a meaningless yet professionally respectable field" (p. 7).

Adding almost 20 more years of historical perspective to Bressler's observations, I conclude that the danger he cites has become a reality.

Concentration ratios are void of economic meaning. They are simply descriptive statistics. Demset argues that "The asserted relationship between market concentration and competition cannot be derived from existing theoretical considerations and that it is largely based on an incorrect understanding of the concepts of competition and rivalry." No less of an authority on imperfect competition than Joan Robinson (1953) notes that "the degree of concentration in an industry, measured by the proportion of output produced by, say, the three largest firms, and the degree of monopoly in the sense of the closeness of the organization binding the firms, may have little relation to the degree of monopoly in the markets which it serves, in the sense of the power to control prices" (p. 233).

In another article Mrs. Robinson (1934) points out that "there is no one universal value for the 'large number of firms' which ensures perfect competition. In each particular case given the slopes of the marginal cost curves, there is a certain definite number of firms which will produce competition of an agreed degree of perfection, and this number, in some cases, may be quite small."

Needham shows that "the different equilibrium price-marginal cost relationships associated with the market types of conventional price theory do not depend upon differences between the number of firms in each market situation. They depend instead upon the belief about the policy of its rivals attributed to the individual firm in each market situation" (p. 53).

Robinson (1971) also points out that the textbook concept of monopoly does not agree with what we observe big firms doing. "In the textbook theory of the firm, a monopolist, faced by a known and stationary demand-curve for the commodity that he controls restricts output to the level at which marginal revenue is equal to marginal cost and so extracts the maximum possible profit from the market. There are, certainly, examples of monopolies which conform more or less to the textbook pattern, but in general the great firms are far from restricting output--they are continuously expanding capacity, conquering new markets, producing new commodities, and exploiting new techniques" (p. 102).

In other words, these are dynamically competitive firms operating in a dynamic and uncertain environment. The widespread discrepancy between observed structure-conduct relationships and theoretical structure-conduct relationships strongly suggests there is a serious flaw in our theory. At a minimum it points out that the causal relationship assumed by industrial organizational theory is inappropriate. High concentration ratios certainly are no basis on which to suggest that industries be restructured. I suggest that we focus more research attention on understanding why and how the current structure evolved and considerably less effort should be spent trying to measure the correlation between concentration ratios and questionable measures of poor performance such as advertising expenditures.[1/]

[1/] See Reimund, Martin, and Moore for a good example of research aimed at understanding why structural change occurred.

Price Determination Processes

Considerable concern has been expressed about thin markets for several agricultural products. However, we do not have a quantifiable and hence meaningful definition of a thin market.[2/] Bill Tomek has recently proposed a method of quantifying market thinness. However, much work remains to be done on this topic.

Our views on what constitutes a desirable price determination process stem from the characteristics of a perfect market. Consequently, we begin to get nervous when we observe markets that don't have large numbers of buyers and sellers confronting each other daily in an open market. We are particularly skeptical of pricing systems that involve large volumes of formula priced sales based on private market information reports rather than public reports of documented sale for a large portion of transactions.

Professor Henry Author notes that "a thin market is usually one that is regarded as having too little of something or other--traders, numbers of transactions, geographic scope, too few buyers, too few sellers, too limited assortments traded, too little haggling, too little switching of suppliers or customers. The possibilities are almost endless. . . . Thinness can be used to characterize almost any market that fails to bring together all the would-be buyers, all the would-be sellers, and the entire current supply in an area to do spot trading with no holding back by anyone."

Our inability to answer questions about when is a market too thin and is the Yellow Sheet an adequate source of information stems from our lack

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[2/] An entire two-day symposium in Washington, D. C., March 2-3, 1978, failed to resolve this question. See "Pricing Problems in the Food Industry (with Emphasis on Thin Markets)," N.C. Project 117, Monograph 7, Research Division, College of Agriculture and Life Science, University of Wisconsin, Madison, February, 1979.

of understanding about the role of information in the price discovery and price determination processes. We simply do not know how much or what type of information is required for markets to function effectively.

Much of the concern about thin markets relates to the conventional wisdom that the amount of information generated by a market is an exponentially increasing function of the number of transactions and/or volume in a market (Figure 1). However, other possibilities exist as illustrated by the dotted lines in Figure 1. If line A represents the actual relationships between information (whatever that is) and market thinness, then we need be concerned about only the thinnest of markets.

Similar concerns arise with respect to the relationships between the amount of information available in a market and the degree of pricing accuracy. Conventional wisdom seems to suggest that perfect information is required for pricing accuracy. Again, other possibilities exist. Since we have no conceptual framework dealing with pricing accuracy under alternative pricing and information systems, we have no way of determining which of the alternatives is appropriate.

The controversy surrounding the Yellow Sheet as a source of price information is representative of our concern about the nature and source of price information. The Yellow Sheet is a price information system, not a price reporting system. The Yellow Sheet information is generated from phone communications with market participants and reflects Yellow Sheet personnel's reading of market conditions.

Some concern has been expressed that the Yellow Sheet does not provide information on the volume of transactions. However, Burns points out that the value of an asset is not necessarily a function of the volume traded

during a given time period. Moreover, the amount of information available to market participants is not necessarily dependent on the volume traded. "For example, even if no transactions took place on a given day in IBM stock, the price of the stock would be well known and might even change based on a change in bid-ask price quotations. This situation could arise under conditions of reasonably similar expectations--specific to the asset as well as in general by all holders (actual and potential) of the asset" (p. 9).

The lack of a theory explaining dynamic economic processes is a severe limitation on our ability to deal with problems of price determination and price discovery. We necessarily think of markets in terms of static equilibrium conditions. Clark and Kirzner point out that competition and markets are a dynamic process rather than a static condition.

Kirzner points out that the usefulness of price theory is to "help us understand how the decisions of individual participants in the market interact to generate the market forces which compel changes in prices, in outputs, and in methods of production and the allocation of resources. We look to price theory to elucidate the nature of the mutual influence exercised by decisions so that we understand how changes in these decisions, or in the data which underlie them, systematically set into motion further alterations elsewhere in the market. The objective of our scientific interest is these alterations themselves not the relationships governing prices and quantities in the equilibrium situation. . . . The efficiency of the price system does not depend upon the optimality (or the absence of it) of the resource allocation pattern at equilibrium; rather, it depends on the degree of success with which market forces can be relied upon to generate spontaneous corrections in the allocation patterns prevailing at time of disequilibrium" (p. 6-7).

Monopoly and Monopsony Influences in Agricultural Markets

There has been an increasing discussion about the impacts of monopolistic and/or monopsonistic practices in the U. S. food processing and retailing industry. A considerable amount of this recent discussion has focused on the beef industry. A study released by the House Small Business Committee (Multop and Helmuth) concluded that beef consumers are paying 25 cents per pound more for beef as a result of increasing monopolization (as measured by concentration ratios) than would have been the case had concentration not increased.[3/] The study is based on the standard static equilibrium model of monopolistic output and pricing behavior. There is a serious flaw in this model when it is applied to agricultural processing and retailing industries. The following comments relate specifically to the beef slaughter and retail industry. However, the conclusions drawn are applicable to a number of other industries.

The typical model of monopolistic pricing and output behavior is shown in Figure 3. The monopolist exercises market power by restricting output from the competitive level of Q_c to the monopolistic level of output M_m. This raises the market price from P_c to P_m and creates a welfare loss denoted by area ABC.

This model is not an applicable description of monopolistic behavior of beef packers for one simple reason. Packers do not control the amount of beef produced per unit of time. Moreover, the production of fed cattle is not an instantaneous production process as is assumed in drawing the supply curve in Figure 3. The quantity of cattle to be slaughtered and hence

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[3/] For a critical review of this study see Ward and Bullock.

the amount of beef placed on the market at any point in time is determined by beef producers--not beef slaughterers. Without control of supplies it is impossible to exercise monopoly profits and to extract the monopoly rents illustrated in Figure 4. This is a dimension of economic reality that apparently has not been grasped by many researchers attempting to measure the social costs of monopoly in the food processing and retailing industry.

Arguments to the effect that monopolistic powers have been employed to raise prices above competitive levels without restricting supplies are nonsensical. The demand curve for a product is the maximum price that consumers will pay for alternative quantities per unit of time, ceteris paribus. If the monopolist is overcharging for the product without restricting supplies then somehow consumers are being forced to pay a price (P_m) above the maximum price they are willing to pay (P_c) for the output provided by the market (Figure 4). This is clearly a nonsensical argument if the concept of a demand curve has any validity.

Similar conclusions hold about the applicability of the standard model of monopsony as an explanation of prices paid by oligopsonistic agricultural processing firms. The traditional model of monopsomist pricing and purchasing decisions is illustrated in Figure 5. Facing a supply curve SS the monopsomistic level of Q_m and pay a price P_m which is below the competitive price P_c. Here again, however, the traditional model reflects a situation where producers alter current period output in response to current period prices. This is clearly not the case for agricultural production processes that require several months between initiation and completion. If the supply curve is perfectly inelastic in the short run there are no dead weight losses of monopsony.

The impact of monopsony powers is more appropriately reflected in Figure 6. The monopsonistic firm would be willing to pay a lower price for each level of output than a competitive industry as denoted by their demand curves D_m and D_c, respectively. The result would be that producers receive a lower price and the monopsonist makes a higher profit for any given level of output than would be the case under competitive market conditions.

The exercise of monopsony power thus implies excess profits. A proof of monopsonistic activities in the beef slaughter industry would then be to show that these firms earn exceptionally high rates of return. When one looks at these data, one wonders why anyone stays in the packing business rather than being impressed by the abnormally high rates of return.

One might argue that there is a simple explanation of these low rates of return. The monopsonistic firm is not subject to the rigors of competition and thus has high levels of cost, thus generating low rates of return. If that is the case, how did the monopsonist gain its current position if competitive firms had lower cost and thus could outbid it for cattle? Moreover, how does the monopsonist who does not control suppplies keep new lower cost firms from eroding the supposedly lucrative position?

I conclude from these observations that our existing theory of monopolistic and monopsonistic behavior are inappropriate for explaining or understanding the performance of the food processing and retailing industry. We need to go back to the drawing boards and develop an appropriate conceptual framework to examine these issues. A part of this effort will have to be the incorporation of the spatial dimension of economics. The potential for localized monopolies because of geographically disbursed production and consumption has been recognized. However, the limits to spatial monopoly power appear not to have been recognized.

Conclusions

The well-stocked shelves of grocery stores and the varied menus of restaurants are strong evidence that the U. S. agricultural marketing system works--and works well. However, based on much of the agricultural marketing literature one could easily conclude that the U. S. agricultural marketing system is grossly inefficient and ineffective. We are increasingly offered suggestions on how the industry should be regulated and/or restructured. These suggestions are usually based on an estimate of the magnitude of monopoly profits in the industry or a significant coefficient on the concentration ratio in a regression analysis. However, the relevant questions are not how much monopoly profit exists or whether or not the coefficient on concentration ratios is significant. Rather, the relevant questions are: Does an alternative industry structure or marketing system exist that will provide more net consumer welfare with no increase in resource use? How can the change to the "preferred" structure or system be accomplished and what will be the cost?

My plea is for more objectivity in marketing research. Stigler makes the point quite well. "The attribution of imperfections to markets has been an easy game because markets seldom have defenders. In fact, it is worse than that: the only markets with well endowed defenders are those which are monopolistically organized and can afford the expense of a defender. I do not propose that economists appoint themselves defenders of markets; however, it is enough if they resign from the prosecution" (p. 292).

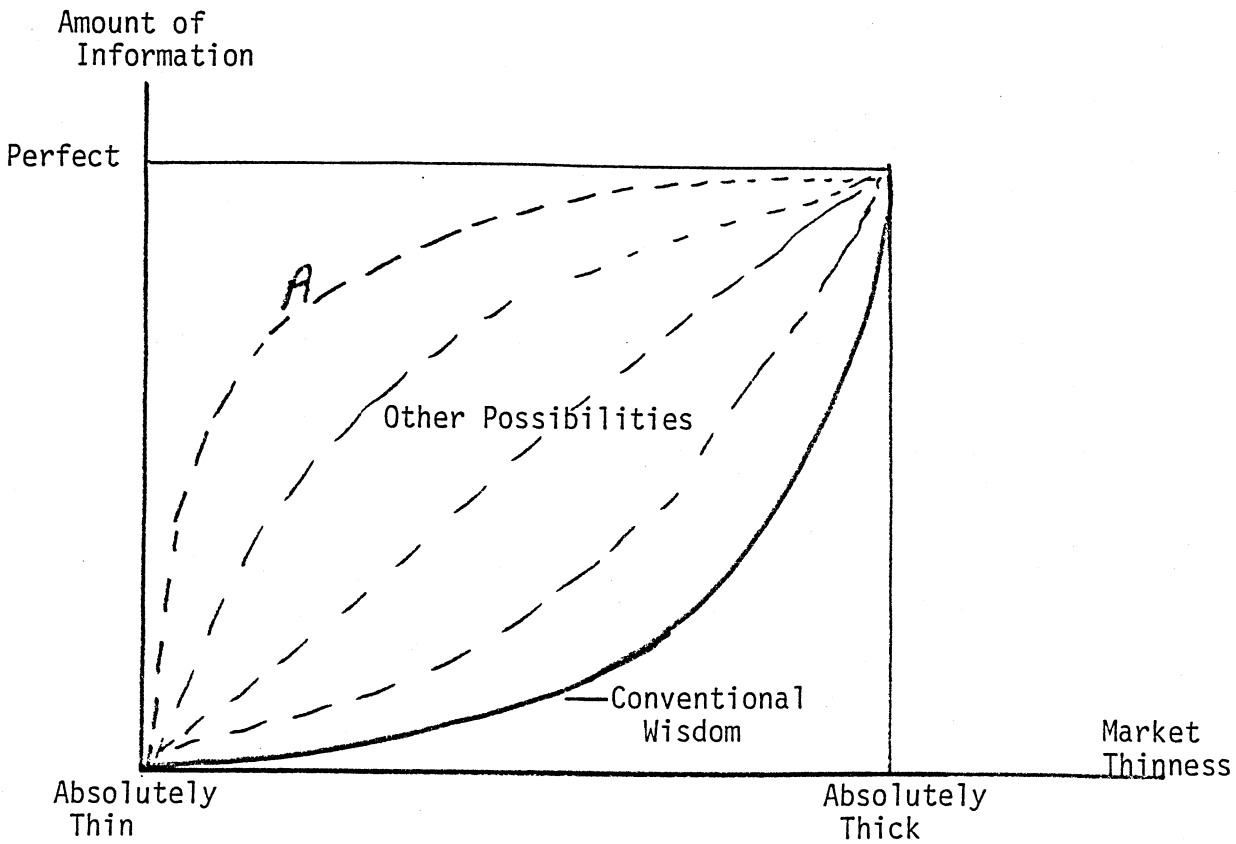

Figure 1. Potential relationships between information and number/volume of transactions.

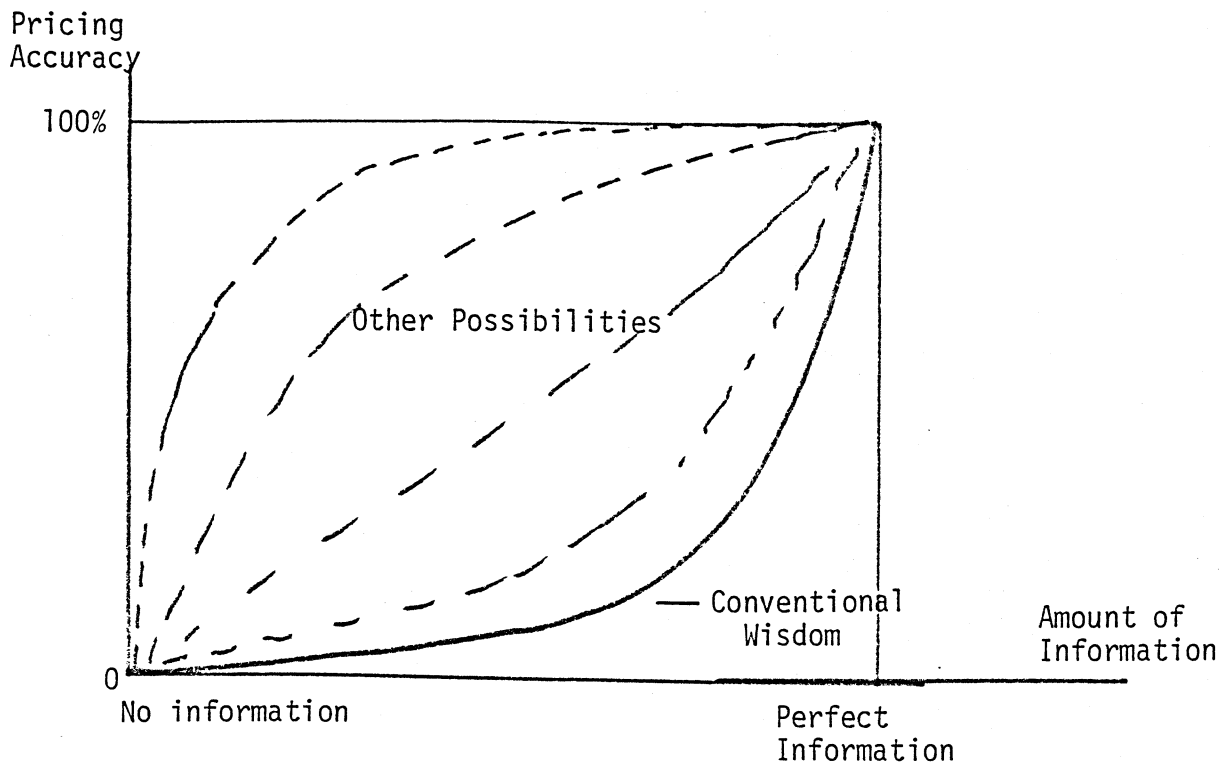

Figure 2. Potential relationships between pricing accuracy and amount of information.

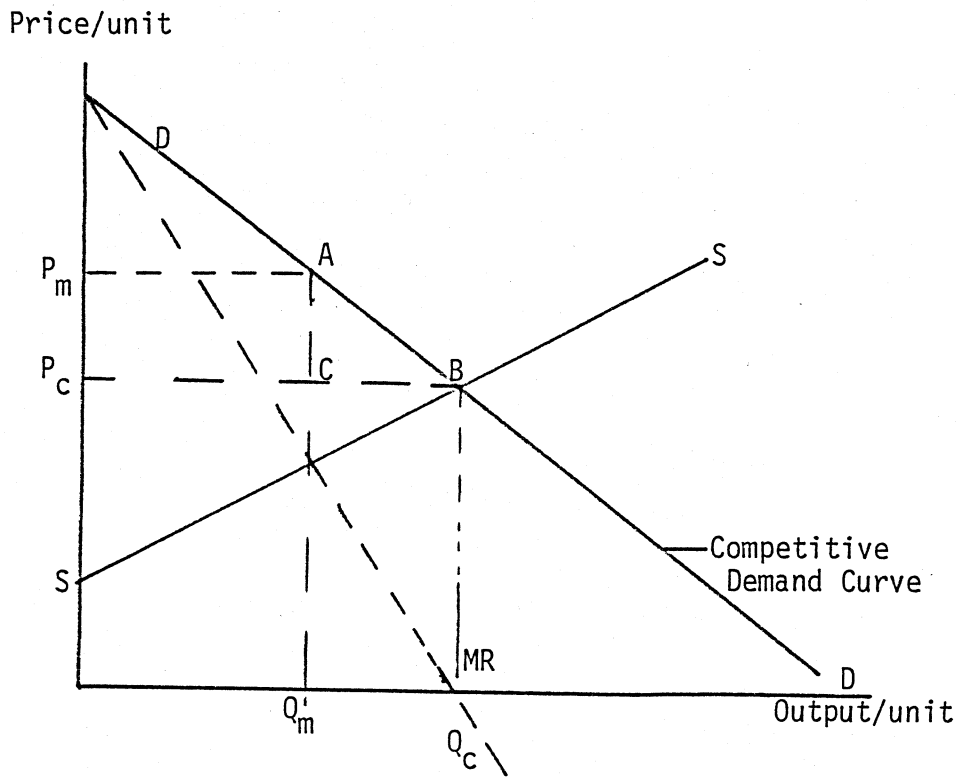

Figure 3. Standard model of monopoly output and pricing.

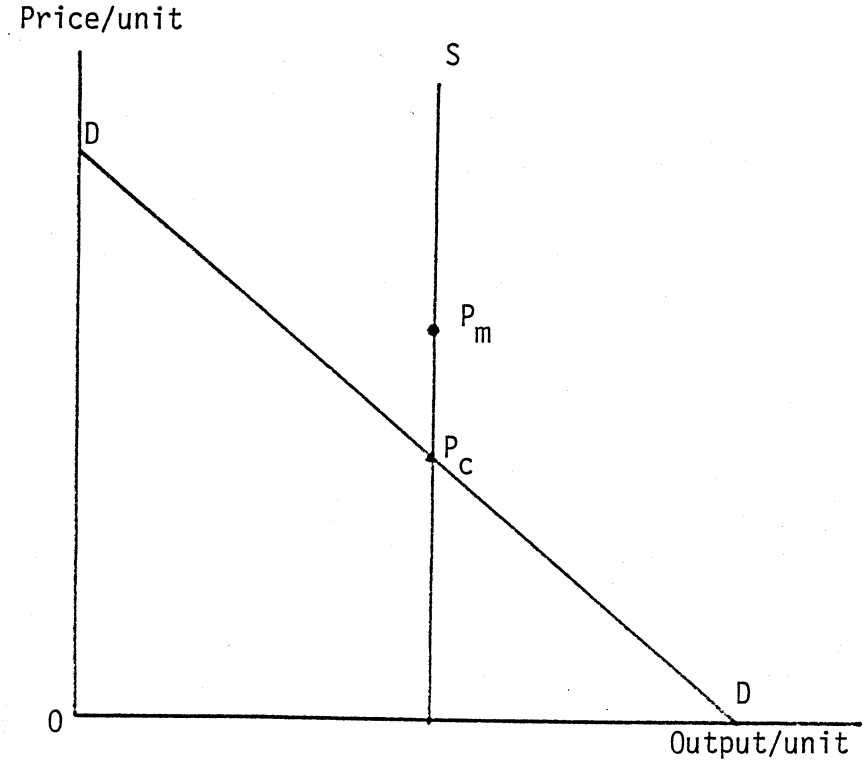

Figure 4. Implied model monopoly pricing practice if monopoly rents are to be extracted without restrictive supplies.

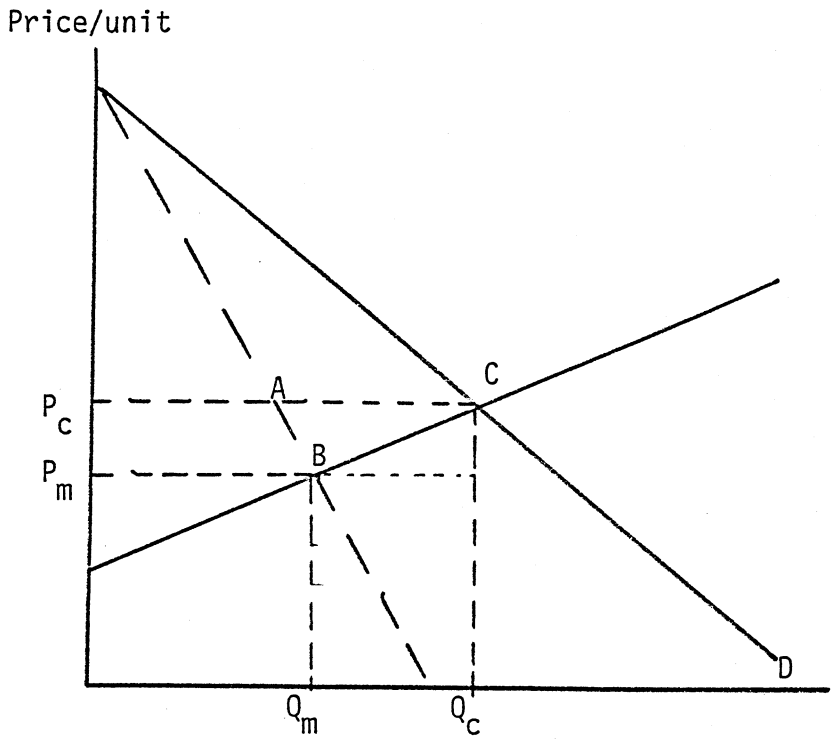

Figure 5. Model of monopsomist pricing decision with upward sloping instantaneous supply response.

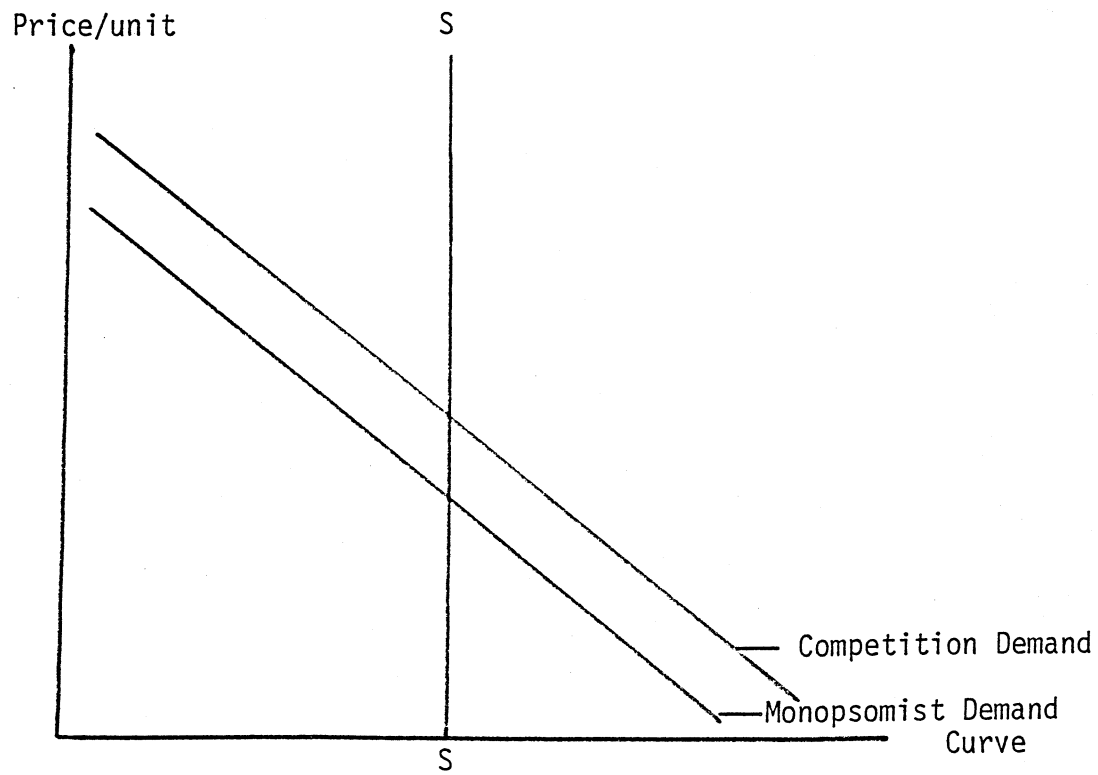

Figure 6. Model of Monopsonist pricing decision when supply is inelastic.

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