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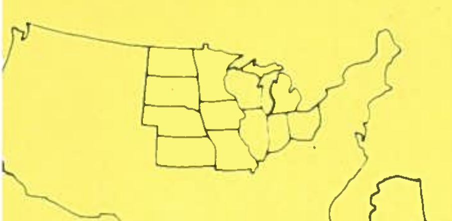

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THE INFLUENCE OF ANTITRUST LAWS AND COOPERATIVE ORGANIZATION ON MARKET CONDUCT: A STUDY OF RETAIL FARM SUPPLY MARKETS

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INTRODUCTION

"It is obvious to even the casual observer that most of our [cooperatives] deviate in dozens of ways from the [original Rochdale principles and intent of the Capper-Volstead Act]; but are these deviations superficial or significant? . . . The distressing thing is that after [50] years of research in this field, such issues are still in the area of opinion and debate rather than having been put into sharp focus by research results." R.G. Bressler Jr. (1964)[1]

I begin with a disturbing observation. The research I have and am conducting does not bear directly upon the theme or apparent major issues of this workshop.

My research deals with how small, local cooperatives behave in selected Minnesota retail farm supply markets and whether this behavior significantly influences the competitive conduct of other market participants. I am also concerned about whether and how local market conduct is altered by the existence of federal and state antitrust laws.

My research does not directly seek answers to such questions as "Does the local farm supply cooperative operate against or on behalf of the public interest?" Nor does it treat the current, major and national issues suggested by the titles of the several papers presented in this Workshop.

I do not offer this observation in apology. Rather, I want to place your expectations about what I say into a realistic realm. In so doing, I also wish to announce some further limitations:

— My research is *in process.* Thus, I cannot provide you with very many results at this time.

— My experience with the organization and operation of agricultural cooperatives is modest. Thus, some of my tentative conclusions can be strengthened or weakened by those of you who have worked in this area longer or more intensively.

Despite all these caveats, I do hope to stir your thought-processes a bit. First, I will raise some questions and provide some ideas on the subject of market conduct. Second, I will briefly outline the nature of my research and offer some preliminary results.

MARKET CONDUCT

"But as we try, on the level of empirical investigation, to implement or verify an explanatory-predictive hypothesis of this order, in general we find that actual patterns of market conduct cannot be fully enough measured and described to permit empirical establishment of meaningful associations between market con-

duct and performance, or between market conduct and structure."[2] Joe S. Bain *(1959)*

We are all aware of the difficulty encountered in quantitatively defining market conduct so that relationships can be posited and tested. The mere complexity of the definition of the phrase "market conduct" is nearly sufficient by itself to dissuade the most avid investigator.[3] Yet, market conduct, rather than market structure, is the basic focus of inquiry in antitrust investigation and proceedings.[4]

Market conduct has been described and classified in several ways. In most treatises on the subject, however, the tendancy of the researcher is to describe a group of related actions and decisions as a "pattern" of conduct descriptive of a perceived set of activities. [5] If the legal concept of "intent" or motivation is added to observed conduct variations, we find our possibility set of market conduct alternatives so large that it defies useful classification.

But more, the activities and decisions so classified appear to be largely non-quantifiable in their very nature. For example, can we array the conduct pattern of *collusion* from "a little bit" to "a bit more" to "a lot," assign numbers and run regressions? Most of us would say "of course not!" There are different types of collusion, on different practices and products, and under various circumstances. But have we truly investigated the phenomena of collusion with the objective of finding meaningful ways of making it amenable to quantitative analysis? I submit that we have not.

And have we thoughtfully studied alternative ways in which we might classify and/or conceptualize conduct patterns to provide a grouping of variables that can be theoretically related and empirically tested? I submit that we have not.

Permit me to briefly characterize some conduct patterns arising out of the purely competitive model. We all know that under the restrictive structural assumptions characterized best by farmers producing and selling a standardized product, we conclude that pure competition results in no competition. Large numbers of producers of fungible commodities do not engage in "coordinating" activities, they do not have "methods" for establishing price, they do not engage in product line strategies, and so forth. In short, we recognize that the purely competitive firm exhibits *no external market* conduct, as it has been defined and categorized by industrial organization economists. But we quickly point out that the *external* conduct restrictions imposed by the purely competitive structure tend to direct *internal* conduct patterns for the individual firm. Faced with parametric restraints on price, product type and other overt indicators of market structure and conduct, the firm tends to accept the objective function of cost minimization. This, in turn, encourages technology adaptions, the spreading of fixed costs and the continued pressure of farm consolidations.

This simple example is presented to show ideas. First, we tend to ignore or lump under a single label all patterns of firm conduct when we should *at least* separate and study the relations between external and internal (to the firm) conduct. In short, I am suggesting that we reread and extend the useful insights of Richard Kohls in his paper, "Considerations of Internal Firm Organization and Behavior Factors and Their Relation to Research on Market Structures."[6] Second, and this is not suggested directly by the example, we should begin to study "conduct-conduct" relationships with the same vigor that we have studied the relationships among structural and performance variables.

Let me now return to the quantification question. Can we quantify conduct patterns? I submit that it is becoming increasingly possible with some of our recent methodological developments. Permit me to briefly explore the market conduct pattern of "collusion." Collusion can be tacit or overt, it can deal with price and/or non-price factors, it can be persistent or situation-specific, etc. For purposes of this discussion, let us deal with overt price collusion of a persistent nature. And let us establish an interview environment that permits respondents to answer questions honestly and without fear of legal action, exposure or other social retribution. We ask the following questions: (1) Do you regularly discuss prices with your "competitors?" (2) Do you have an "understanding" that price wars are "bad" for all concerned? (3) Do you agree upon price minimums? (4) Do you establish your price by joint agreement with your competitors? (5) Do you regularly "police" prices in the market to see if a competitor is "out of line?"

Now let us assign a value of minus one to a "no" answer and a value of a plus one to a "yes" answer. A score of minus five on all answers would suggest that no collusion of the type described is apparent from the questions asked. A score of plus five suggests the opposite. And there is a range of scores between. The values obtained permit the development of a primitive "collusion index" that might be used in quantitative analysis.

I am the first to admit the several "pitfalls" of such a method. The interview environment might not yield reliable answers.[7] The answers, if weighted equally, may misrepresent the index values in terms of the legal or economic severity of the collusive actions. And there are others. But the idea is not a "throw-away" item in my judgement. Increasingly, qualitative responses to questions are forming the basis for insightful analysis of problems once thought unresearchable.

Another, and particularly useful, classification of market conduct is into "legal" versus "illegal" categories. Antitrust law and the extensive case literature available is a valuable source of defining, grouping and relating both legal and illegal conduct patterns. This source has been under-utilized by the research economist.

I feel increasingly confident that market conduct is researchable, that it is quantifiable, and that, as price continues to be a less meaningful measure of conduct results, research in this area will increase.

METHODOLOGY

I indicated at the outset that I would not be able to provide you with complete results of the research I am conducting. But let me outline the nature of the research, highlight a couple of "innovations" and suggest the direction of the analysis and some conclusions.

Because of a hypothesis stated by a U.S. Justice Department official that antitrust violations are more prevalent among small firms in local markets and because the existence and operation of agricultural cooperatives are important in retail market structures of farm supplies, I decided to select the retailing of farm supplies in local markets as the focus of my inquiry.

The first step was to obtain a reasonably complete list of farm supply retailers throughout the state of Minnesota. To do this, I went to the central file of telephone directories for the state of Minnesota maintained by the Northwestern Bell Telephone Company in their offices in Minneapolis. Checking under yellow page headings listing individual farm inputs and category groupings, we compiled a list of retail firms (over 2,500) by input item (as advertised in the yellow pages), town, and, of course, telephone number. This information was key-punched to provide a general profile of the retail farm supply industry in Minnesota for sample selection (and to provide mailing lists for other research and extension needs).

Contact was then made with the Minnesota Association of Cooperatives. They provided us a list of Minnesota Agricultural Cooperatives that, from their records, supplied agricultural inputs to Minnesota farmers. We found that the Minnesota Association's list was incomplete. Many of the retail farm supply firms listed included terms in their company titles suggesting that they were farmer cooperatives but which were not a part of the MAC list. Correcting for these differences, individual towns and villages were identified where *at least* one cooperative and one non-cooperative firm engaged in the selling of farm supplies. A list of towns and villages was compiled where these "paired-firm" unities prevailed.

Contact was made with our station statistician, and after discussion of the various structural and related variables considered important as potential stratifying criteria, it was decided that a random sample of 18 villages and towns would be drawn for purposes of the survey.

In the 18 towns, one co-op and one non-co-op were selected randomly, with alternate firms being drawn in the event of refusal by any firms. Some additional alternate towns and villages were also selected randomly to cover the possibility of one co-op or one non-co-op situations where the single representative refused to participate.

An interview schedule was prepared that illicited the following types of information. First, information regarding firm identification, measures of size (by sales, employee numbers, assets, and facilities), business functions, ownership and franchise relationships with other firms, and the like.

In the request for "structural" information, one innovation was made. Each firm for each input handled was asked to estimate the percentage of its total sales accounted for by its largest customer, by its largest five customers, and by its largest ten customers. The hope here was to construct an index of "customer concentration" that might prove valuable in subsequent analyses.

The second type of information requested dealt with internal firm organization and decision-making. Firm functions were related to staff and facility organization. And several questions were presented that listed various short, intermediate, and long-run decisions, asking who or what groups within the firm were responsible for making these decisions. In addition, questions were posed regarding the objective functions of firms generally and in terms of particular operations.

For example, operational questions were posed where decisions would have to be made between minimizing costs and maximizing services or patronage refunds. This helped elicit some understanding of internal firm conduct.

A third set of questions were directed at market conduct patterns and relationships. These questions dealt with service activities, how prices are determined, advertising and promotional activities, price discounting, relations with wholesalers and manufacturers, and activities suggestive of collusive behavior.

A fourth type of information solicited introduced another "innovation." Respondents were presented with what I term a "market scenario." The scenario attempted to present a pattern of market conduct that may or may not be regarded as illegal under present federal and state antitrust laws.

The respondent was asked to state whether or not this type of activity occurred in his market. No attempt was made to ask whether or not the respondent himself participated in this type of action. There were nine market scenarios presented. Permit me to present one of these to illustrate the type of information requested.

> "Let me present a hypothetical situation to you. Suppose that two sellers get together and in their discussion bring up business conditions. Prices are depressed and both feel that losses could be stopped if someone would take the initiative to stand firm on prices and set an example. So they agree not to cut prices further and in fact do not.
>
> A. Does this type of thing occur? ________ frequently? ________
>
> B. Under what circumstances? ________________________
>
> ____
>
> C. Do you think this is legal? ________________________
>
> D. Should it be legal? ________________________

The "market scenario" and its associated questions provides another opportunity to gain useful information about the nature of market conduct. In our analysis so far we are experimenting with various indexing techniques that could reduce the scenario to an index number. We also are "profiling" each scenario in terms of internal and external conduct and structural variables. The indexing effort is made to permit multiple regression and related statistical analyses. The profiling is done to allow ANOVA techniques.

As the title of this workshop paper indicates, our primary concern is to determine if, and the extent to which, the antitrust laws and the existence of agricultural cooperatives impact upon the conduct of participants in local retail farm supply markets.

The market scenario and related questions *plus* specific questions on market conduct identify or suggest whether or not the antitrust laws have been violated in the market or by the participant responding firm. More than this, the scenario questions help reveal the extent to which the respondents recognize the difference between legal and illegal behavior. Whether they regard an illegal behavior pattern as acceptable business practice is also determinable. Within this frame of questions, an attempt is being made to determine the existence of illegal behavior and the apparent influence of the antitrust laws on it, both for cooperative and non-cooperative firms. Preliminarily, our analysis suggests that roughly one-third of the markets (towns) are reported to have illegal business practices prevailing across all products sold. There appears to be no distinction between cooperative and non-cooperative firms.

There is a more general recognition of overt price-fixing as being illegal than an act of price discrimination. In fact, price and service discrimination appear to be quite regularly practiced in most of the input products at the retail level. Further than this, many of the managers responding regarded price and service discrimination as the "American way" of doing business and "the essence of competition."

It is clear from the analysis thus far that the existence of agricultural co-operatives does have an effect in the local farmer supply markets surveyed. But the effect is mixed and seems to vary from one market and product to the next. In some instances the local agricultural cooperative is regarded as an aggressive competitor; in others, a passive participant. In some markets coopera-tives are extreme rivals with other cooperatives and non-cooperatives alike. In other instances cooperatives regard fellow cooperatives as allies with resulting collusive activities suggested as desirable as well as acceptable.

I recognize that these preliminary results are only tantalizing and not yet clearly digestible. But I do hope that what I have outlined accomplishes my original purpose in this presentation. I said that I would try to provoke some questions and some thinking on your part by addressing the concept of market conduct theoretically and empirically.

NOTES

1 Modified (where bracketed) from an observation on market structure research by the late R. G. Bressler, Jr., "Research on the Structure of Agricultural Markets," *Market Structure Research* (Paul Farris, Editor), Iowa State University Press, Ames, Iowa, 1964, p. 7.

2 See Joe S. Bain, *Industrial Organization,* John Wiley and Sons, Inc., New York, 1959, p. 295.

3 Referring to the "old testament" (of industrial organization), "market conduct" is defined as two closely-related phases of enterprise behavior: "(1) the manner in which and devices and mechanisms by which, the intrinsically rivalrous actions of different sellers (buyers) in an industry are coordinated, adapted to each other, or made mutually consistent in reacting to the demands for (supply of) products in the common market; and (2) the principles and methods and formulas which sellers (buyers) employ in arriving at market policies determining selling (purchasing) prices, outputs (inputs), product designs and sales promotion outlays . . . [and their reaction] to the threat of entry of competitors." *Ibid,* p. 266.

4 "Patterns of behavior or conduct of sellers are the most frequent competitive indicators employed in the administration of antitrust. These indicators are utilized more frequently than criteria of structure and performance because they fit into the process of litigation more readily. Some behavior indicators deal primarily with intent; some reflect intent indirectly; while others are covered by specific legal rules . . ." Mark S. Massel, *Compe-tition and Monopoly: Legal and Economic Issues,* Doubleday, Garden City, N.Y., 1962, p. 217.

5 Bain classifies conduct into two groups: (1) the character of interseller coordination, and (2) principles of price calculation; Sherer accepts these, but adds product line strategies, advertising strategies, research and development commitments and legal tactics; Massel prefers to classify by specific illegal acts or act patterns, such as collusion, boycotts, conscious parallelism, etc.

6 See Journal Paper No. 1935, Indiana Agricultural Experiment Station, Purdue University, Lafayette, Indiana, 1964.

7 "One of the problems the researcher working on problems in this area runs up against is disclosure of reliable information, especially where firm numbers are few. In the first instance is the reluctance of firms to give out information that might help either a com-petitor or the antitrust agencies." (R. L. Clodius and W. F. Mueller, "Market Structure Analysis as an Orientation for Research in Agricultural Economies," *JFE,* Vol. XLIII, No. 3, August 1961, p. 521).