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BOOK REVIEWS

Competitive Strategy Analysis in the Food System. Edited by RONALDW. COTTERILL (Westview Press, Boulder Co., 1993) Pp. xv + 392, ISBN 0-8133-8133-8638-1.

This book presents a collection of papers presented at the 'Competitive Strategy Analysis in the Food System' conference of the Regional Research Project NE-165: Private Strategies, Public Policies, and Food System Performance. The book is about industrial organisation. Its primary concern is the economic performance of firms in the food manufacturing and retail distribution industry. As the organisation of the farm-to-retail food system continues to evolve towards fewer and larger firms, the authors evaluate the contribution of such factors as market share, concentration, cost conditions, efficiency, price strategies, barriers, and public policy. The sixteen papers included in this book illustrate four different approaches to competitive strategy analysis: traditional market structure-profit analysis, conjectural variation analysis, market structure-price analysis and residual demand analysis.

Ronald Cotterill offers an excellent introduction and methodological overview in the first chapter, where he reviews the main hypotheses of the four approaches to competitive strategy analysis and the main conclusions derived from the empirical results. The remainder of the book is organised in six topics: structure-performance studies (two papers), new empirical industrial organisation (NEIO) studies (three papers), structure-strategy studies (three papers), the debate on the influence of market structure on prices and profits in the food retailing industry (four papers), strategies in international markets (two papers), and private and public decision making (two papers). Cotterill summarises the common postulate of the papers in this book as follows: (the market power hypothesis) 'firms have higher profits when they have large market shares in more concentrated markets with entry barriers because they have power over prices.'

The first paper in the book (Cotterill and Iton) deals with the 'concentration-profits' relationship at the business unit level. The study uses data from the US Strategic Planning Institutes' Profit Impact of Market Strategy (PIMS). Several relationships between return on investment and concentration and market share variables are estimated for a large sample of businesses and a subsample of food businesses. They conclude that there is evidence for a positive relationship between concentration and profit at the business unit level. Frank and Henderson (second paper) construct a vertical coordination index that is used to measure vertical linkages in forty-two food related industries (using four digit Standard Industrial Classification scheme-SIC). They report that transaction costs related to uncertainty are the most important determinants of increased vertical coordination. The first NEIO paper (Wann and Sexton) develops

a system of equations for the pear processing industries including acreage functions, wholesale and processing input demand functions, cost function, and margin equations. Wann and Sexton report modest price enhancement in both processed product markets relative to a benchmark market (fresh pears). Processing cooperative conduct does not seem to reduce the degree of oligopsony power facing growers. Durham and Sexton (second paper in NEIO) derive a residual supply function (residual supply is the raw product supply facing a processor or group of processors after rivals' demands for the product have been accounted for). The residual supply functions for six processor groups are estimated with a three step procedure. A probit estimation is used to obtain an instrument for the demand equation, followed by two-stage least squares estimation of the input demands for and residual supply of the California's processing tomato market. Their results indicate that the potential for the exercise of market power against growers due to spatial location is limited. The third paper in this group (Karp and Perloff) presents a dynamic model with several nested outcomes from competitive to collusive. An empirical application to the rice export market presents a comparison between the classical and Bayesian approach to the estimation of models with inequality restrictions. Karp and Perloff reject fully collusive conduct but not Cournot or competitive conduct in the rice industry.

The first paper in the market structure-strategy studies (Lenz and Forker) deals with the role of generic advertising as a demand shifter. The authors review and summarise the results of many empirical studies on generic advertising elasticity for several products including milk, pork, beef, and apples. They conclude that generic advertising programs have generally been beneficial to the producers that have paid for them. Haller (second paper in this group) explores the impact of the cooperative firm versus the proprietary firm in the cottage cheese market using descriptive statistics and regression techniques on 595 brands of the product. Haller's conclusion is that retail grocery concentration is positively related to cottage cheese prices. The final paper in this group, Marion, Heimforth, and Bailey, deals with the penetration of depot stores (or warehouse stores) in many US markets. A warehouse store is a new type of supermarket where the emphasis is not on the quality of presentation of the products in the store, the variety of brands or the service. Most products are sold in relatively large quantities and there are not bags or organising of the groceries provided at the checkout counters thus prices are lower than the traditional supermarket. They operate mostly on a membership basis, which is usually accessed by individuals through their employers (private companies, government agencies, universities, etc.) who are the primary 'members.' A panel data set for the period 1977-1987 and 25 Metropolitan Statistical Areas (MSAs) is used in the study. The US Bureau of Labor Statistics Food at-Home Price Index is regressed on a set of binary variables reflecting depot store activity and other economic variables to test the hypothesis that depot stores provide downward pressure on market prices. The results seem to confirm the hypothesis.

Part five of the book contains four papers on the issue of 'The Food Retailing Debate,' which refers to structure, price and profit studies in food retailing. The first paper is by Anderson, who reviews several grocery retailing papers criticising their economic theory basis and their use of statistical methodology. The criticism can be summarised in two main points. First, studies of this kind should control for differences in costs and the quality of the products and services offered. Second, the average value of all firms in a market and the value of (deviations from) an individual firm should appear in both types of models, profitability and prices. Anderson refers to a study by Kaufman and Handy as the only one that has an appropriate basis for policy. Coterill's (next paper) response addresses in great detail all the points raised by Anderson, while the third paper in this section (Geithman and Marion) offers a critical review of Kaufman and Handy's paper. Kaufman and Handy's response to the Geithman and Marion's review is the fourth and final paper in the group. I must say that I read these four papers with particular interest, as an excellent exercise in academic disagreement.

The role of the firm in an increasingly interrelated world market has not been forgotten in this book. Section six presents two papers on the issue of strategies in the international market. Sheldon and Henderson use the principles of non-cooperative game theory to develop a theoretical model for branded product licensing where they show that product licensing becomes an alternative to direct market entry. Lopez and Pagoulatos use regression analysis to estimate the relationship between the US nominal tariff rate at the four-digit SIC level and several independent variables on employment, labour and capital ratios, industry concentration, lobbying power and the lagged nominal tariff rate for 45 food manufacturing industries. They report that the deadweight welfare loss may be extremely small while welfare transfers from consumers to producers can be significant.

The last section contains two empirical papers on the topic of private and public management decision making. The first paper by Westgren, Sonka, and Vitins examines the California fruit and vegetable processing industry. They conduct a survey of firms in the industry and construct several indices and scales from the responses. Partial correlation is used on these constructs to test several hypotheses on the relationship between business planning and performance. They report that comprehensive planning leads to superior performance. The second paper (Preston and Connor) explore the effects of antitrust enforcement in the food system in the US during the 1980s. They use data obtained under the Freedom of Information Act to analyse the resources devoted to anti-trust activities (number of professional hours charged to anti-trust matters) in the ten year period. The data are analysed using summary tables and graphics, and presented for both the overall activity and the activity by industry. They document that, excluding the big three shared monopoly cases inherited from the previous administration (Kellog, et al.; ITT-Continental Baking; and General Foods), the number of professional hours devoted to anti-

trust activity dropped in the 1984-1989 period to 25 to 30 percent of the level in the 1981-84 period.

From the traditional structure-conduct-performance approach to more complex game theoretical models of imperfect competition, *Competitive Strategy Analysis in the Food System* presents a collection of mostly empirical papers based on existing oligopoly theory. Some economists might debate the relative value of oligopoly theory in explaining market outcomes in the food system and certainly many industrial organisation economists question the 'large' number of already existing oligopoly models. However, the value of this book, in my opinion, is that it shows how existing economic models can be applied to specific practical cases using a range of econometric techniques. From simple descriptive statistics up to a sophisticated comparison between the classical and Bayesian approach to the estimation of inequality restrictions, these papers show 'how' to use these models in practice. Being mostly a collection of empirical work, one could argue for improved econometric methodology with some authors. It is my feeling however, that such specific comments belong within a refereed review process where the authors have a chance to address the criticism.

To conclude, my assessment is that although the economic theory involved requires a relatively solid knowledge of microeconomic theory, these papers would make a valuable reading list for honours and post-graduate students interested in applied research in agricultural marketing. It should also prove useful to industrial organisation economists, food and agricultural marketing economists and policymakers.

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Agricultural Research Alternatives. By WILLIAM LOCKERETZ and MOLLY D. ANDERSON. (University of Nebraska Press, Lincoln and London, 1993). Pp. 239+x, ISBN 0-8032-2901-1.

Many researchers, whether in the agricultural field or not will find this book threatening. Although it first appears to be an examination of how research should be conducted in low input, organic or alternative agricultural systems, it is in fact a wide ranging critique of all agricultural research. In particular, the authors discuss and challenge the basic motivations for performing research and identify pitfalls in the professional rewards system. Many of their assertions about how research topics are chosen and how the work is judged by peers are hard to deny. Most of the discussion revolves around the US research system, yet it is still highly relevant to the Australian situation.

The first two chapters are devoted to the idea that the past research focus on efficiency and productivity may be misguided and short-term in nature, especially in an era of over-supply in much of the developed world. The desire to investigate a larger range of goals, many relating to

the environment and sustainability are expressed and there is a description of the historical development of the growing interest in alternative or reduced input agriculture.

Disciplinary restrictions receive heavy attention throughout this publication. In particular, the long running argument over 'pure' versus 'practical' research is investigated. Although the authors acknowledge that there is a place for both, one gets the impression that they feel research of a practical nature is treated with disdain within traditional research organisations. Universities in particular are targeted as suffering from this counter-productive disciplinary antagonism.

Definitions of different approaches to scientific research are provided in Chapter 5 and the comparison between reductionism and holistic methods are reviewed. Again, there is no attempt to argue that one approach is necessarily correct. The main message is that having the ability to think beyond disciplinary boundaries can lead to more imaginative and fertile research. It can also lead to the most appropriate method of analysis being chosen, rather than a method which is constrained by disciplinary bias.

Research into alternative agricultural systems is more likely to draw upon the skills of several disciplines because these systems diverge from common practice and it is this common practice which has contributed to disciplinary boundaries. In Chapter 6, this multi-disciplinary flavour is taken further in a discussion of agroecology which combines ecological methods with those traditionally used in agricultural research. The proposed potential benefit is that an improved understanding of system interactions will emerge, and will indicate ways to enhance long-term agricultural productivity and sustainability.

One of the fundamental issues examined is the question of who does agricultural research serve. An undertone which permeates the book is the notion that much agricultural research is done simply to add to the body of professional knowledge and literature, rather than addressing real social problems. Prevailing research methods are criticised for their infatuation with hypothesis testing and statistical analysis. In particular, statistical analysis may not cater for real world situations where farm management practices vary during the experimental time frame.

A proposed solution is to do more research on working farms and to involve farmers so that the research site is not insulated from real farm activities. The results can be used to complement traditional experimental station trials and may provide useful insights into how experimental treatments perform when exposed to the vagaries of a fully functional farming system. The authors assert that a middle ground between a 'farmers first' and a 'research isolation' mentality is likely to be productive. The motivations for leaning heavily one way or the other are exposed.

Chapter 10 contains suggestions for re-structuring departments in research institutions so that multi-disciplinarity is fostered. A division suggested would be on the grounds of practical versus more abstract

research. For example, those researchers closely linked to farm production methods, irrespective of discipline, would be grouped within the same department. This structure would give members of the department access to a more diverse range of colleagues.

Throughout the book, the nature and historical development of the professional reward system come under close scrutiny. I found it difficult to dispute the accusation that professional and societal rewards are often in conflict. An individual's publication record is a key measure of their worth in many research settings, particularly academic institutions. As the authors correctly state, this can lead researchers to care more for what their peers think of them (and their list of publications) than for producing research which benefits society. There is also the danger that the need to publish to progress a career will cause individuals to focus on problems generated within the discipline to the exclusion of those outside it.

The desire to have research work accepted in esteemed journals is also identified as a factor which moulds research into a pre-determined format. The illustration used is the requirement of a statement of a formal hypothesis to be tested. The authors assert that in some cases this is a barrier to the useful contribution to be made by descriptive research which does not lend itself to hypothesis testing, statistical analysis or the specification of theories. Research into alternative agricultural systems may be particularly prone to this form of discrimination. A more flexible reward system is advocated.

As explained toward the end of Chapter 11, there is evidence to suggest the traditional reward system is changing. The trend toward larger projects requires a diverse team of researchers wherein the concept of a 'dominant author' becomes a nonsense. Similarly, combining academic and commercial activities and the insistence of many funding bodies that project results be extended in a practical way are shifting the emphasis away from publishing being the main measure of professional worth.

In summary, although slightly repetitive on some themes, this book provides a very interesting insight into how agricultural research has developed in the US and the forces which have shaped the present system. It also provides thoughtful comment on how the system could be improved by breaking down entrenched barriers which threaten the relevance of some research.

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