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Book Reviews

FREE TRADE IN AGRICULTURE

Towards Free Trade in Agriculture. Kirit S. Parikh, Günther Fischer, Klaus Frohberg and O. Gulbrandsen. Nijhoff-Kluwer, Dordrecht, Netherlands, 1988. Hardcover, 368 pp., Dfl. 130.00. ISBN 90-247-2632-3.

Agricultural trade liberalization ranks high on the agenda of international trade negotiations. The disarray in world agriculture is the consequence of protectionist agricultural policies which aim at solving domestic food problems and with, at best, secondary regard to the effects on world agricultural markets. The interdependencies of national agricultural policies have contributed to the willingness of the GATT countries to take up the agricultural trade and policy problem in the current GATT round. This book could actually contribute to our understanding of the present problem more than other publications. The timing of their publication after many years of research at the Institute for Applied Systems Analysis could not have been better.

The book deals with the issue of trade liberalization in a unique way. A system of empirical national agricultural policy models has been linked together through trade and capital transfers. The resulting global model can be used to investigate the worldwide effects of changes in national policies. Many authors have investigated the same questions which are raised by Parikh et al., but there is no other publication which presents such a detailed model.

The issues addressed are clearly spelled out on page 11 of the book:

"(1) How would world market prices, trade patterns, and market shares of different countries for agricultural commodities develop over a 15-year period if countries were to continue to pursue their present policies?

(2) How would world market prices and market shares change if all countries, or a subset of them, were to liberalize agricultural trade?

(3) Is a move to free trade in agriculture desirable globally? For all countries? For some countries? What would happen to production, consumption, trade, prices, farm incomes, and government incomes in different countries in the event of elimination of trade and production restrictions? In the near future and after some years?

(4) Should a country move to free trade even when others do not? What would be the impact on a country if it were the only one to liberalize?

If only the developed countries were to liberalize? If only the less developed countries (LDCs) were to liberalize? Should major actors, such as the USA or the EC, liberalize unilaterally?

(5) Which groups and countries lose in a shift to free trade, and by how much? Can they be compensated for their losses? What would be the impact on LDCs, and particularly the poor in them? Does one need to design special protection measures for them even when the developed world moves toward free trade?

(6) What domestic policy changes could help the poor countries to better adjust to agricultural trade liberalization?"

How do the authors develop their answers to these questions? Their system, called the Basic Linked System (BLS), "consists of 18 national models, two models of regions – namely, the EC and the Council for Mutual Economic Aid (CMEA) – and 15 somewhat simpler models of groups of countries. Together these cover all the nations of the world" (p.12). The system applies a general equilibrium approach at the national and international level, and most of the parameters are empirically estimated.

The book contains nine Chapters and four Annexes. In Chapter 1, 'Issues in Trade Liberalization' are discussed. Chapter 2 on 'Agricultural Distortions: Magnitudes and Driving Forces' presents a good summary of the facts and their provenance. Most important for the book is Chapter 3, 'The Analytical Approach'. The reader is informed that the BLS contains nine commodity aggregates. Temperate-zone products such as wheat, coarse grains, bovine and ovine meat, and dairy products are treated as specific products, as is other food, which includes oil, fats, sugar, vegetables, fruits, coffee, cocoa, and tea. Non-agricultural production is aggregated into one commodity. The chosen product coverage and aggregation should be of special importance for the discussion of the results which the authors derive.

In Chapter 3, the authors also present those indicators which they intend to use for comparing the effects of alternative scenarios. Not only GDP indicators, but several other indicators such as calorie and protein intake per head, life expectancy at birth, and percentage of the population suffering from malnutrition are used. Calorie and protein intake is – according to the authors who do not provide the reader with more specific information – not directly related to GDP. Concerning life expectancy at birth (LEB), the authors estimate an equation in which LEB is a function of three variables, GNP, calorie intake, and non-agricultural population as a percentage of total population. While I do not doubt that such an equation can be estimated with cross-country data, I doubt the usefulness of such an equation for evaluating policy scenarios. A policy change which affects the share of the agricultural labor force positively or negatively will – according to the authors' equation – affect life expectancy. Thus, the authors find that some

developing countries which reduce the taxation of agriculture will decrease life expectancy. On the other hand, the authors find that the EC would, by reducing the subsidization of agriculture and, thus, decreasing the share of the agricultural labor force, increase life expectancy. I suspect that in drawing these conclusions, the authors overdraw the application of their – most likely misspecified – life-expectancy indicator. I suggest that the same holds true for the calorie-intake indicator and the percentage of the population suffering from malnutrition. Both indicators are based on estimated relationships. One may wonder whether current governments could not have a choice to affect these two indicators positively in the case of a positive change in GDP.

Chapter 4, 'A Perspective on Agriculture until 2000: The Reference Scenario' gives rise to a little puzzle. According to the list of 'Issues addressed' (p.11), this chapter should inform the reader what would happen over a 15-year period "if countries were to continue to pursue their present policies." Clearly, "the reference run is to serve as a 'neutral' point of departure" with which the effect of any policy change on specific variables can be compared. This clearly highlights the importance of the reference system. It seems that some of the 'strange' results of the alternative liberalization scenarios may be due to the unrealistic specification of this reference scenario. The reference scenario is supposed to depict developments up to the year 2000, but is based on data up to 1980. As a result, the estimation of the model is likely to be very much affected by the extreme instability of the 70s. Furthermore, production trends in the 80s and a large number of significant policy changes introduced in the 80s will not have been incorporated. I wonder whether the effects of liberalization policies can actually be quantified so exactly as the authors pretend if the reference scenario is so far from reality.

Chapters 5 to 8 present the results of alternative liberalization policies including OECD liberalization, unilateral liberalization by the EC and the U.S.A., liberalization by developing countries, and liberalization by all market economics. I found the most striking result is that developing countries may lose in welfare despite terms of trade gains (p.150). A gain in terms of trade generally gives rise to higher income. Nevertheless, the study shows that this can lead to reduced calorie intake, an increase in the number of hungry people and a decline in life expectancy. This, however, can only be due to inadequate domestic policies. Of course, it might be that past policies were inadequate. However, the conclusion that future policies must be the same does not follow. Moreover, can the model actually specify the effects for developing countries? First, the chosen product aggregation might be acceptable for developed countries, but not for developing countries. Second, according to the authors' approach, liberalization entails a removal

of tariff equivalents, but developing countries can continue to use many other trade restrictions such as licencing and state trading. Finally, trade liberalization would hardly be conceivable without deregulation of the domestic economy. These effects have not been – and possibly could not be – included.

Chapter 9 presents 'Findings and Policy Conclusions', and the four annexes cover the 'Economic Theory of Trade Liberalization: Some Selected Results', 'Modes, Means, and Estimates on Protection', 'The Impact of Trade Liberalization from the Country Perspective' and 'Countries and Groupings'.

This book certainly has its merits. First, it reports on research which was continuing over a long period of time, carried out by outstanding scholars. Since the applied approach is unique, the research community will welcome its publication. Second, I am not aware of any other related study which is based on such an immense data base. Third, this study, more than any other, draws more attention to linkage effects between economies and sectors. Fourth, by providing information on the chosen procedure – even if this is not completely reported in the book – external effects have been produced. Other researchers might be willing to cooperate in further developing the system. Fifth, the book can and will be used in the classroom for some years. The more general annexes will be most appreciated.

However, it must be said that the book also has limitations. I am afraid that the authors have been too ambitious and tend to interpret their results very literally. They too often take the results of various runs as indication of what will really happen if certain policies are pursued. The discussion of such results should not only be based on the quantified output but also on the assumptions which led to its generation. Some of these assumptions are founded on rather out-dated data. Unfortunately, the reader is not provided with information on some of the most important econometric estimates, for example the estimation of the transmission coefficients and the specification of calorie and protein intakes.

ULRICH KOESTER
Institut für Agrarökonomie
der Christian-Albrechts-Universität Kiel
Olshausenstrasse 40, W-2300 Kiel, Germany

FARM POLICY ANALYSIS

Farm Policy Analysis. Luther Tweeten. Westview, Boulder, CO, U.S.A., 1989. Softcover, 399 pp., US $48.50. ISBN 0-8133-7745-5.

In this book there is indeed an experienced economist who has taken a broad perspective on agricultural issues. Problems of instability, poverty, environment and natural resources, cash-flow, loss of family farms, chronically low rates of return on farm resources, trade, and the effects of agribusiness are analysed within the context of U.S. farm policy in a book of 400 pages. It might advantageously be used as a kind of 'dictionary', describing, analysing and summarizing findings of many of the classical farm economic problems. Above all, policy-makers and economists not very acquainted with agricultural issues can, by this book, get a comprehensive introduction in elements of agricultural economics.

The broad range of issues might, however, at the same time and to some extent unavoidably, be a weakness, as some issues are not handled in depth. Each chapter could be extended into a book of its own. According to the many references to the author's earlier publications it seems as if this is what he already has done. To get the full picture, one has in some cases to turn to his earlier writings. Accordingly, the book has in some parts become somewhat cryptic, and the style of telegraphic listing of results from other studies takes the form of numbered paragraphs, sometimes up to 16. This might be efficient in a glossary context, but makes the reading somewhat boring. On the other hand the presentation is clear and concise. By avoiding unnecessary mathematics, the book becomes useful as a textbook for undergraduate and graduate courses.

Even if the book concentrates only on U.S. commodity programs and policy problems, it should be of great value also for other parts of the world. It is a pity, however, that the author doesn't take a more general approach and extend the results referring also to other countries and other bodies of literature. This is especially obvious in Chapter 3, treating 'Values, Beliefs and Politics', in which the analysis would have gained if referred to central findings and authors of the Public Choice school of economics such as Buchanan, Tullock, Olson and others. The result consequently turns out to be strictly U.S.-oriented and somewhat theory-less.

The book is based upon the traditional neo-classical tools of analysis combined with enlightening empirical figures from the U.S. case. The author also makes an effort to explain the new welfare economics in a simplified way in Chapter 2, 'Public Welfare and Economic Science'. Even if the outcome is not wrong in any sense, however, more space might be needed to do that in a comprehensive and convincing manner. The reader is often

expected to take the statements of the author for granted without a careful examination and discussion of the underlying assumptions.

According to the current GATT-round, the author states that "GATT is unlikely to become a primary and strong enforcer; however, for some time its major role will be to facilitate dispute settlements and sanction retaliations by member countries designed to bring noncompliers into line." Of course he may still be right, but the GATT decision of April 1989, which evidently was taken after the book was written, gives more hope for a successful GATT-round on agricultural matters than the rather pessimistic analysis of the book.

Through the book there is a healthy scepticism about the possibilities of governments to correct alleged market failures in a beneficial way. Nevertheless, the author comes to the conclusion that "agricultural interest groups on commodity programs need to be broadened to encompass rural development, monetary-fiscal, and trade policies influencing the emerging sources of farm income instability." Whether this is a prediction or a suggestion is not clear, however, but it clearly points in a direction of more rather than less policies.

These rather marginal critical comments, however, don't change the main impression that the book is a most welcome and valuable contribution to the field of farm policy analysis telling us an important story by a person really acquainted with urgent problems as they have developed through time, with which he personally has dealt in a detailed and careful way.

O. BOLIN
Department of Economics and Statistics
Swedish University of Agriculture
Box 7013, S-75007, Uppsala, Sweden

MULTIPLE CRITERIA ANALYSIS

Multiple Criteria Analysis for Agricultural Decisions. C. Romero and T. Rehman. Developments in Agricultural Economics, 5. Elsevier, Amsterdam, 1989. Hardcover, 257 pp., Dfl. 180.00. ISBN 0-444-87408-9.

The authors state there is a need for an agricultural economics text book covering decisions involving multiple objectives. If you have a good understanding of linear programming this book will provide an excellent introduction and reference text to this area. The authors have certainly assumed this knowledge in their treatise which includes modified reprints of a number of journal articles as well as original text. In some cases their model specifica-

tions are somewhat lax but given a knowledge of linear programming it is possible to follow the algebraic definitions. A basic understanding of matrix algebra would also be useful.

The book consists of 241 pages of typewritten material divided into twelve chapters in three parts. The printing quality is good but is not matched by the proof reading. There are quite a few typographical or spelling mistakes and the English is stilted in some places. There is a comprehensive list of 201 references and an index of slightly over two pages. There is at least one reference cited in the text not provided in the reference list.

As a text book the material is probably best suited to post-graduate students or researchers and practitioners using linear programming as their operational model. The objectives of each chapter are well explained and each ends with suggested readings. These are good features with the suggested readings being particularly useful where the text provides overviews rather than specifics.

Part 1 provides an introduction and definitions. The main argument is that decision makers seldom have a single objective yet many models make this assumption. The authors go so far as to conclude that problems containing a single criteria are technological, in contrast to economic, and only require search and measurement. The concept of maximising a utility function, being made up of many components, could well have been given more weight. In contrast, Multiple Criteria Decision Making (MCDM) separates out the criteria and plays one off against the others in various ways. They are, however, brought together in some of the suggested methods through weighting devices.

The concepts of attributes, objectives and goals are said to be central to MCDM. Attributes are the components (profit, leisure, risk, ...) which can be combined into an objective function (some might call this a utility function). Goals, on the other hand, are the desired levels of the attributes. MCDM is said to be "a general framework or paradigm involving several attributes, objectives, or goals" (p. 21). Goals can also be regarded as 'soft constraints' – they can be violated without infeasibility. Pareto optimality is also central to MCDM as considerable effort is expended to find solutions such that "no other feasible solution can achieve the same or better performance for all the criteria under consideration and strictly better for at least one criterion" (p. 23).

Part 2, Multiple Criteria Decision Making Techniques, consists of five chapters giving definitions and descriptions of various models used, whereas Part 3 contains what are defined as case studies of the techniques. The first chapter in Part 2 (Chapter 3) covers goal programming and its variants, Chapter 4 multi-objective programming with compromise programming, an

extension of multi-objective programming, being outlined in Chapter 5. The concepts introduced are further extended in Chapters 6 and 7 through discussing interactive MCDM (convergence through solution, decision-maker appraisal, resolution and so on) and the relationship between risk and uncertainty models and MCDM techniques.

Goal programming is defined as the "simultaneous optimisation of several goals ... the deviations from the desired targets and what is actually achievable are minimised." Essentially goal programming is a modified form of linear programming with added variables to record the deviations. These variables are grouped and weighted in various ways. An orchard example is used throughout the book in which the decision maker must decide on the quantity (ha) of pears and peaches to produce. The 'constraints' are working capital in years one, two, three and four, pruning labour, harvesting labour and machinery for tillage. There is an initial supply of each of these resources (but not land). The word constraint is 'quoted' as the conventional linear programming constraints can become goals in MCDM. Thus, besides obtaining an adequate net present value, the objectives might be minimising working capital borrowing, minimising hired casual labour and minimising contracted tractor hours. Values for these variables become goals and are in conflict with the net present value. Lexicographic goal programming requires the goals to be grouped into priority sets and the desired levels of each to be specified. Using a modified simplex routine a solution which satisfies the first group is obtained, and so on for the subsequent groups at the same time as continuing to maintain the 'satisfaction' of the earlier priority groups. This is not always possible and thus deviations are minimised. Rather than this lexicographic approach, putting weights on each of the goals is possible with the objective of minimising the weighted deviation from the targets.

When the example problem is solved with conventional linear programming the authors note "it is doubtful whether this solution will be acceptable to him (the decision maker) as it yields a rather low NPV and leaves considerable amounts of various resources unused ... This approach where a single objective is optimised while treating the others as restraints can produce disappointing solutions." The authors use this argument to in part justify the use of MCDM and proceed to use their example problem to show how more resources can be used. This seems a strange argument. If one resource is constraining adding resource hiring activities will allow bottlenecks to be overcome and provided the marginal value product of the resource is greater than its cost NPV will be increased and other resources used. In contrast the authors allow deviations from the resource supplies and call these goals. For example, they allow the labour supply to be increased, but attempt to minimise the increase as minimum casual labour is a goal

(furthermore, there is no charge for the increased labour so it is not surprising a better solution is obtained).

A more appropriate way to demonstrate the use of MCDM would have been to use less directly resource-orientated objectives. Examples might be the manager's leisure time – both in total and in monthly sequencing, preferences for certain types of tasks, minimisation of using artificial chemicals, reduction of risk. The inappropriate example should not, however, detract from the authenticity of the principles and procedures portrayed.

Chapter 4 provides 20 pages on Multiobjective Programming (MOP) – its objective is to isolate the set of efficient (Pareto optimal) solutions for the defined objectives. Having defined efficient solution space the decision maker can then choose the preferred point through inspection. Most of the discussion concerns methods of determining the efficient set. Chapter 5, 'Compromise Programming', contains a discussion of an extension of MOP in which the 'distance' between an ideal solution and what is feasible is minimised. As many of the techniques can be computationally burdensome, Chapter 6 ('The Interactive MCDM Approach') presents descriptions of alternative techniques to directly involve the decision maker in the solution process. A solution is obtained and exposed to the decision maker who expresses trade-offs between objectives. This leads to a new solution until reasonable satisfaction is obtained. This interactive approach is seen as being very promising. The cost, however, is not mentioned. Given very few producers can afford even an LP study it is unlikely a farmer could pay an analyst to produce several computer studies. Large-scale projects are a different matter, but getting a committee to agree on trade-offs is not an easy task. Indeed, the authors have in general been silent on the questions of elucidating goals, objectives and targets, yet this would seem to be a major component of MCDM. They do, however, note that one researcher found that a sample of Finnish business students and managers preferred a trial and error method to a number of 'objective' methods. Some would even go so far as to argue that the intelligent use of parametric linear programming, in conjunction with the decision maker, may well provide results just as acceptable as MCDM procedures. As noted before, however, the cost is a factor.

Part 2 concludes with a discussion on 'Risk and Uncertainty and the MCDM Techniques' (Chapter 7). It is pointed out that MOTAD, E-V analysis and game theory concepts can be formulated as MCDM models. This chapter does not add new concepts in that all these approaches, which essentially involve more than one objective, were created before the formal concept of MCDM.

The book concludes with several case studies (Part 3). A Spanish example involving compromises between profit and the level of employment in

Andalusia is covered in Chapter 8. This is an excellent and realistic example and further reinforces the application of the techniques outlined in the earlier chapters. Chapters 9, 10 and 11 contain what seem to be further hypothetical examples of least cost problems. They are modifications of problems written up in journals that have previously been used to demonstrate other issues and involve least cost feed and fertilizer mixes. Most of the effort concerns modifying the mix specifications to allow under/over constraint satisfaction. These examples seem inappropriate for MCDM and could perhaps be logically handled through assessing the financial effects of altering the mix specifications. The examples do, however, further re-inforce the techniques and also introduce the concept of penalty functions. The final chapter (12 – 'An LGP Model for Logistics Planning in an Agribusiness Company') considers a classical production – transportation problem. Again, however, this is more of a technical problem of satisfying demands than a true multi-objective case.

Overall, the book certainly provides food for thought and a good starting point for people interested in learning about MCDM. It must be regarded as a technique-orientated text with descriptions of the alternative models and solution techniques that have been developed. While some comments are offered on more basic decision theory, it cannot be regarded as providing a philosophical contribution to MCDM.

P.L. NUTHALL
Kellogg Farm Management Unit
Lincoln University
Canterbury, New Zealand

SOCIAL SCIENCES IN INTERNATIONAL AGRICULTURAL RESEARCH

The Social Sciences in International Agricultural Research. Lessons from the CRSPs. Constance M. McCorkle (Editor). Lynne Rienner, Boulder, CO, 1989. Hardcover, 266 pp., US $35.00. ISBN 1-55587-133-X.

The request to review this book forced me to read it thoroughly, which for me and many colleagues would not have been easy in light of the enormous amount of literature of today.

The book, which comprises 16 independent works in six parts, with a foreword by the editor and comments by Michele E. Lipner and Michael F. Nolan, constitutes an unusually interesting and convincing picture of the fruitful interdisciplinary cooperation in research and development in the agricultural/rural sector.

I consider this problem very important because, in spite of an increase in

recognition of the role of social sciences in technical research in agriculture, it still is underestimated, especially in the developing countries, where the complicated character of socio-economic processes often constitutes the main factor restricting technical development. Those readers who do not agree, please pay attention to the question of how many technical institutes in developing countries there is no cooperation with social scientists, and in how many agricultural, academic and professional schools social teaching and research are clearly dominated by technical ones. The effects are obvious, and many results of technical research are not suitable in practice or do not bring expected results due to not taking account of social conditions.

The book is, first of all, a scientific document registering the achievement of the new and integrated approach to agricultural research and development. The subject of the analysis are five CRSP programs, namely: sorghum/millet, nutrition, bean/cowpea, peanut, and small ruminants.

Furthermore, the most analytical task of the book is a detailed presentation of the contribution of two sciences, e.g. anthropology and sociology, in the process of conceptualization and conduct of agricultural research and development.

The book shows clearly how CRSP scientists, biological/technical as well as social, spell out the many ways that input from anthropology and sociology does directly enhance the focus, design, implementation and evaluation of agricultural research and development. At the same time the chapters that follow illustrate how these social sciences have grown in scope, relevance and maturity through their engagement in agricultural research and development.

Reading the book we can also learn a lot of the hard-won lessons about working in a collaborative cross-national and cross-disciplinary mode.

To sum up, the concept presented in the following chapters of the book is unique in international agricultural research and development. The most accomplished of the research conducted in the CRSPs demonstrate the excellence of the concept. To illustrate the above, let me mention some examples of the many described in detail in the book. For example, in Kenya, dual-purpose (meat and milk) goats promise producers supplementary income as well as improved nutrition through the consumption of goats' milk, which is far less expensive than cows' milk.

Another important contribution of the social sciences can be found in Chapter 8 of Part 3. But this example also raises a more general question – who benefits from agricultural research in developing countries? In relation to that question, a particularly useful example can be found in Chapter 12 of Part 5, where biological scientists of the SR-CRSP in Peru initially targeted for research only commercially oriented livestock cooperatives and enter-

prises. However, baseline data collected by SR-CRSP social scientists showed that the peasant communities were equally important producers of livestock. As a result, limited program resources were efficiently reallocated to work with both kind of producers.

The question of agricultural research in developing countries is extremely important, and finding the right answer is possible only through collaborative and cross-disciplinary approach in all stages of development work.

This is the main and most important message of this book.

J. GÓRECKI
c/o FAOR, P.O. Box 5536, Addis Ababa, Ethiopia

COMMON WINE POLICY AND PRICE STABILIZATION

The Common Wine Policy and Price Stabilization. P. Spahni. Gower, Aldershot, Hampshire, UK, 1989. Hardcover, 187 pp., £25.00. ISBN 0-566-05400-0.

As its title implies, this book is split into two distinct parts. The first half gives a largely descriptive and chronological account of the European Community's Common Wine Policy, backgrounded by an over view of France's interventionist wine policies since the turn of the century and Italian, French and German policies since 1945. The Common Wine Policy itself was laid down in 1970 in two Council regulations. These regulations sought to control pricing and intervention, trade, plantings, and wine making processes. Grape and wine production suffers from the classic agricultural plight of variable yields and low demand elasticity, and further regulations invoked in the Seventies dealt with compulsory distillation of surpluses and tearing out of excess grape vines. French protectionism during this period, strengthened by the spectre of recurring riots amongst vineyard operators in the Midi region, was often to come in conflict with the more open market approach of Italy, whose farmers had not been subject to the fossilizing aspects of protection.

The second part of the book deals with price stabilization, but it could really have been a separate treatise, as it stands well by itself, and makes little reference to the chronology of Part 1. An 80-page description of the Common Wine Policy, without a great deal of analysis attached, can become tedious to readers other than dedicated wine lovers, and economic analysts may lose little by skipping directly to the discussion on price stabilization. Chapter 6 looks at buffer stocks, and Chapter 7 develops econometric models for price movements since the Fifties. In the final chapter, Spahni

concludes that, while demand is shifting to lower consumption and higher quality, distillation policies have favoured low quality, and planting policies have favoured high yield, low quality production from lowland areas.

His prescriptions for a stable industry reflect standard economic theory that protection should be dropped, inefficient units should close, and elaborate buffer stock and distillation schemes should be replaced by a futures market. To operate efficiently, this market would depend on classification of wines into clear quality categories so that futures of standard commodities could be traded. Spahni's support of futures trading, however, seems to take the form of an assertion, rather than a conclusion drawn from earlier analyses in the book. It would have been useful to see a futures model applied to EEC data, so that comparisons of efficiency could have been made.

S.C. THOMPSON
1 Cyrus Court, Nepean, Ont. K2H 9C9, Canada

MILK QUOTAS IN THE EUROPEAN COMMUNITY

Milk Quotas in the European Community. Alison Burrell (Editor). CAB International, Wallingford, Oxon, UK, 1989. Hardcover, 214 pp., £22.50/US $45.00. ISBN 0-85198-640-4.

Quotas began as a temporary measure to cure chronic overproduction and exploding budgetary expenditures in the EC's dairy sector while minimising damage to farmer incomes. In that, according to these papers, they have been a success. Their continued existence is due for further renewal or review at the end of 1991. What have we learned, where is the policy likely to go and where should it go?

While readers might reasonably expect to get these answers from a book with this title, they will be disappointed. As a collection of papers delivered at a seminar held at Wye College, University of London in December, 1988, the book deals with some aspects of milk quotas, not with a coherent and comprehensive exposition, analysis and discussion of the policy. Answers are largely implicit rather than explicit, and the end result is confusing. Not all of these papers could reasonably expect to get through the review process of most academic journals as they stand, while very few would be acceptable as policy papers for Ministers or senior policy advisors. While the collection contains some useful detail and some creditable analysis, the distillation is a difficult and time consuming process, though thankfully made easier by the provision of an index.

Burrell makes a passable stab at integrating this rather disparate collection in the introduction, while the final two papers (Tollens and Oskam) make a sensible starting point for the un-initiated reader. Between these ends, readers must make their own decisions and judgements. What is most obviously lacking is any attempt to draw the threads together and identify the serious questions and possible answers which must soon be addressed by the European Community.

As a starting point, the following questions would seem to be important:

(1) Under what circumstances can quotas be anything other than permanent?
(2) If they continue, how can quota transfer be made consistent with the Single European Market, 1992 and with remaining objectives of the CAP?
(3) What, if any, are the implications of the GATT round of agricultural negotiations for quotas?
(4) What are the implications of quotas for structural change in the industry?
(5) How can analysts determine the position and shape of the supply curve with the continued existence of quotas?

Although seldom made explicit, the authors in this book seem agreed that there is little if any chance of the EC discontinuing the quota arrangements for the dairy sector. Presumably, dramatic improvement in world market conditions for milk products, such that world prices increase to equal or exceed EC support prices, or rapid reduction in internal EC support prices to world price levels, would constitute the only conditions under which the quota system could be dismantled. Consistency of quota transfer with the commitments to a Single European Market is not addressed directly in any of the papers, although several do discuss the problems of transfer. As pointed out in the introduction (p. 3/4), current provisions for quota transfer vary widely between member states. The principle division of opinion arises on the objective of the policy: is it to promote efficiency, in which case a free market in quota rights divorced from land is the answer (Burrell, Chapter 8; Amies, Chapter 12); or is the policy primarily to promote some undefined "optimal rural structure", in which case considerable political control over redistribution of quota rights is called for (Jorgensen, Chapter 2), though the necessity for tying these rights to land still remains an open question, as does the necessity, even the possibility for harmonisation throughout the Community.

The issue of compatibility of supply control through quotas with the objectives of current negotiations on agricultural support under the GATT is not addressed here. It is clear from present positions in the GATT negotiations that supply control measures cannot be accepted as permanent solu-

tions to agricultural trade problems. In this case, conversion of the present quota arrangements to a two-tier price system (Conway) does seem a sensible option, though not one which appears to have wide support in the Community.

Many of the contributors point out that farm incomes have not suffered as a result of the introduction of quotas, although much of the credit for this appears to be due to a (fortuitous or consequential?) improvement in the milk/feed price ratio since the introduction of quotas. The extent to which policy makers have maintained or even improved support prices beneath the umbrella of quotas is not addressed. However, some authors do note that milk returns to farmers have improved, largely through the elimination of some lower valued surplus production. There is general agreement that quotas are a scarce commodity and thus will command a market price, regardless of whether or not a free market actually exists, and also that this price will depend on the extent to which quotas are binding, on milk prices and costs of production excluding quotas, and on the rigidities in the transfer process. However, there is little agreement on the implications of this for structural change or on the future of quotas as a policy instrument, particularly with respect to the capture of the benefits by existing owners and the possible creation of barriers to entry (Kirke, Chapter 3). But it is difficult to see how quotas can create an extra barrier to entry over and above pre-quota capitalisation of benefits into cattle and land prices, unless support prices are raised.

Many countries display substantial growth in the number of larger farms coupled with a decline in cow numbers since the introduction of quotas (Hairy and Prost, Chapter 1; Jorgensen, Chapter 2; and Kirke, Chapter 3). Structural change does not appear to have been inhibited dramatically by quotas, contrary to theoretical objections to quotas as freezing production structures. However, the extent to which larger farmers may have an advantage over their smaller colleagues in the purchase of quota rights is not well addressed. Are there significant economies of scale or size which lead to this result, or is it simply that larger farmers are already large because they are efficient? To what extent are there substantial capital market imperfections which might lead to this result, and why are these more or less significant with quotas than without? How can assertions or observations that "marginal cost of production may be very low and is almost always well below the average cost of dairy production" (Tollens, Chapter 14) be reconciled with our usual theory?

A substantial problem for the future is our ability as economic analysts to determine the position and shape of the underlying supply curve given the continued existence of quotas. This problem has not been addressed in this book, and leads one to expect similar volumes appearing regularly in the

future as groups of policy analysts get together to discuss their results. Whether or not we should expect or hope to see their deliberations produced in book format is another question. Based on this version, I would hope not, although I accept that the incentives both to organisers and to participants work in exactly the opposite direction. Get your library to buy this book for reference purposes, otherwise simply note its existence.

D.R. HARVEY
Department of Agricultural Economics
University of Newcastle upon Tyne
Newcastle upon Tyne, NE1 7RJ, UK