BOOK REVIEWS

Government and Agriculture: Public Policy in a Democratic Society. By D. E. HATHAWAY. (New York: Macmillan, 1963.) Pp. 412, $8.95.

Basic to any discussion on policy, and especially agricultural policy, is an understanding of the beliefs, values and goals adopted not only by the people but particularly by the organizations and institutions which exercise some influence on the formulation of the policy. Professor Hathaway devotes the first part of his book to an examination of these fundamentals and points up the difficult task confronting the policy makers in the translation of these beliefs and values into policy goals. The analysis suggests that there has been a loss of appeal of the traditional goals of "parity" and the "family farm" because of "changes in the beliefs about the ability of such goals to contribute to the attainment of several of the values underlying the demands for action via *public policy*" (p. 78).

The introduction in recent years of several new goals—supply management, with or without government control, development of the Food for Peace programmes, "freedom" with its many concepts—has done nothing towards increasing the universal support now so necessary for the successful implementation of agricultural policy.

In discussing the economics of low returns in agriculture the author examines the nature of the demand for farm products in the United States, the reasons for changes in total agricultural output, resource mobility and the effect of outside economic forces on agricultural producers. Five characteristics of agriculture are cited as an explanation for the low returns and the disequilibrium in the industry—on the demand side there is (1) a highly inelastic demand for farm products and (2) a low income elasticity, while on the supply side there has been (3) an increase in productivity of certain inputs because of the rapid rates of technological change, (4) a high degree of "asset fixity" and the tendency for assets to become "trapped" in agriculture which reduces resource mobility from the industry and (5) the competitive structure of the industry. While no one of these characteristics is unique to agriculture nor sufficient to explain the disequilibrium problem, in combination they do provide an explanation of the persistent disequilibrium most evident in the low returns to producers.

A brief outline is given of the process of policy formation in the United States and the author cites evidence to show that there have been shifts in the power of control over changes in farm policy. In Congress there has been an increase in the power exercised by agricultural committees.

In the executive the power to influence policy is widely distributed and although much of it is centred in the Department of Agriculture, the control is tenuous and at times completely absent. The emphasis being placed on specific commodity problems, the changes occurring in farmers' political allegiance and the power of budget control have all tended to diminish the influence which the Department previously

exercised. The disappearance of the "farm bloc" has decreased somewhat the influence on policy formation which the various farm organizations formerly exerted and it seems a distinct possibility that the shift in political power to the non-farm groups may even reduce further the influence of these organizations.

There has been, and there still exists, a substantial divergence of opinions regarding the use of the market as a solution to the farm problem. General acceptance by most economists and policy makers that the market economy would result in equilibrium if the short-run disequilbrium could be handled, directed attention principally to temporary programmes for specific commodities and not towards the development of a plan covering the problem of excessive resources in agriculture. Increasing evidence suggests that the market economy may not provide equilibrium resource use and returns in the long run and the author suggests that much of the future debate on the solution of the farm problem will be centred on this issue.

The author also points out that policies dealing with the demand for farm products have not been very successful. Even though price support programmes, market discrimination programmes and demand expansion programmes can improve the well-being of the recipient, and for this reason obtain strong support both from farm and non-farm groups, the cost of such programmes is extremely high; and they do little to improve resource allocation or provide a complete solution for the disequilibrium problem in agriculture.

While Professor Hathaway in this volume has highlighted the strengths and weaknesses of various policies affecting the agricultural sector in the U.S.A. since World War II, he has not attempted to formulate a policy for the future. Instead he emphasizes the increasing complexity of the problem and the difficulties which will confront economists and policy makers.

Although based on American experience the issues discussed could well be applied to the Australian scene. The book is extremely well documented, and provides a ready source of reference material for further reading. Indeed, anyone interested at all in the ramifications of agricultural policy formulation will find this book a valuable addition to the current literature on the subject.

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Problems of Farm Production Planning and Programming. The Indian Society of Agricultural Economics. (Bombay: Vora & Company, 1964.)

This monograph is the fourth of the Seminar Series of publications of The Indian Society of Agricultural Economics. It is the outcome of a research project, initiated in 1962 by the Society, which led to a "seminar-cum-workshop" later in the same year in collaboration with the Indian Ministry of Food and Agriculture.

The purposes of the project were to identify factors inhibiting the wider and more effective application of farm production planning in India, to ascertain whether data from farm management surveys sponsored by the Planning Commission and Ministry of Food and Agriculture could be useful in farm production planning, and to provide an oppor-

tunity for young research and extension workers to improve their understanding of farm production planning.

The topics of the 16 papers given at the Seminar were classified as follows:

1. Macro limitations and institutional framework for farm planning. The papers concerned with this topic emphasized the importance of price stabilization for increasing the effectiveness of farm planning, and improvement in farm size and technical structure as pre-conditions for the intensification of inputs.

2. Thoughts on the farm planning approach. These covered the need for incorporation of the farm planning approach into agricultural extension and the need for more and better data. They also emphasized the need for data specifically relevant to locality, to size of farm, to type of farming and to farmers with different resource combinations.

3. Use of available data for farm planning. Whilst recognizing the need for more and better data, information which is obtainable was shown to be usable in farm production planning by several authors reporting some of their case-study calculations.

4. Experience of farm planning. Limited experiences of actual farm planning were reported. In one paper, fulfilment by farmers fell short of what they had agreed to undertake at the beginning of the year. They planted more to cash and less to food crops than recommended, and used less fertilizer than suggested by planners. In another paper it was observed that farm plans were adopted by farmers in order to get loans, not because they were persuaded of their inherent virtues. A third paper reported that some farm plans recommended are unrealistic and inconsistent with the resource constraints prevailing on the relevant farms.

5. Evaluation of farm planning work. In one evaluation study it was concluded that extension workers did not have adequate ideas of input-output relationships, of volume of business and resource restrictions on the individual farm, that the technical coefficients used seemed unrealistic, and that estimates of production were over-optimistic. The author found that the loans actually advanced by co-operative societies were less than the amounts recommended in the farm plans, one reason being that the societies thought that plans were inadequately prepared.

6. Problems in implementing farm planning. One method of implementation, involving change from traditional to scientific farming, is to introduce farm planning as a phased programme starting by emphasizing key practices and enterprises and gradually proceeding to the adoption of the complete budget approach. Farmers participating in Intensive Agricultural District Programmes were found to be prepared to accept plans and packages of practices for only half or one acre and to omit some recommendations from the packages. Inadequately trained staff is regarded as a major obstacle to adoption of farm production plans.

For most Australians the subject matter of the papers is likely to be too closely concerned with unfamiliar institutional organizations and to unfamiliar modes of farming to be of great interest. Even so, three major matters of interest to this reviewer did emerge, and they are of relevance to Australia also.

Firstly, awareness by the Central and State Governments of India of the need for farm management planning. Australia's Minister for Primary Production cannot yet say as did India's Minister of Food and Agriculture in opening the Seminar that, "the State Governments are gradually coming up with research and extension schemes related to farm planning. The Ministry . . . are about to set up two planning projects to provide, on a continuous basis, effective guidance in the subject to State experts".

Secondly, awareness of the need for specific training in farm management planning, which should be subsequent to a degree in agriculture. And thirdly, the observation that "once a successful programme of farm planning gets started, we can foresee a demand for establishing 'Farm Planning Laboratories'. These laboratories may be equipped with facilities such as trained staff, background information, computing machines, etc., for on-the-spot guidance to the farmers in production decisions. The farmers may use these laboratories for farm planning advice exactly in the same way as they would use the soil laboratory for soil management advice or a seed laboratory for recommendations on seeds. The laboratories may also be employed in the formulation of village, block and district agricultural plans on a systematic planning framework and thus aid the agriculture programmes in efficient resource allocation."

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Quantitative Decision Procedures in Management and Economics. By C. R. CARR and C. W. HOWE. (New York: McGraw-Hill, 1964.) Pp. 383, $9.50.

This book contains a mathematical introduction to the techniques of linear, integer and non-linear programming and to dynamic programming. A not entirely successful attempt is made to relate these techniques to decision problems in management economics. As such the volume may still have considerable appeal to a mathematician but to an economist the presentation is rather disappointing.

The first two chapters include a description of the mathematical foundation of the models to be discussed in succeeding chapters. An introduction to differential calculus, set theory, convex and concave functions, inventory theory and to mathematical model building is presented. The remainder of the book is divided into two sections, namely, single-stage multivariate analysis and multistage analysis. Linear programming, integer programming and non-linear programming are discussed in the former section, while the latter section includes chapters on stepwise maximization and dynamic programming.

The linear programming model is developed via matrix algebra in a concise and rigorous fashion. A most satisfactory discussion of the relationship between the primal and dual algorithms follows and the chapter is concluded by a brief reference to transport models and to parametric programming. It does seem rather farcical however that these applications of linear programming, which appear to be of greatest appeal to an operations research analyst, should receive such scant treatment.

Chapter 4 deals with integer programming. This topic is introduced by working through an actual problem using the Gomory technique for a complete integer problem. The authors go on to say that "Unfortunately,

all the following useful reductions [of certain problems to integer-programming problems] are of the mixed type in which only part of the variables would normally be required to be integers. Thus the Gomory-technique is not directly applicable" (p. 226). This seems to be a rather unfair criticism of Gomory's work in integer programming given that he is also responsible for an algorithm for solution of the "mixed" integer problem. The chapter concludes with a bibliography of references to integer programming which is far from being either comprehensive or up to date.

Non-linear programming is presented as a rigorous but disembodied treatise of mathematical logic. The authors make little attempt to relate these models to economic circumstances in the real world. This seems to be a rather serious omission since these models have been specifically developed from linear programming in order to provide forms of analysis for real-world problems involving non-linear objective functions and restraints, and uncertainty considerations. In contrast to linear programming, the literature in this field remains particularly deficient as regards discussion of empirical applications.

In the final section of the book on multistage analysis the authors introduce the theory of stepwise maximization and then proceed to dynamic programming. After a brief description of the structure of dynamic programming, a formal but not very extensive treatment of the theory and application of this approach is given.

On the whole this book deals with a rather difficult topic. With the exception of linear programming, the techniques discussed are all relatively new and relate to rapidly developing fields of operations research. While on the one hand there is need for texts giving a comprehensive theoretical treatment of these topics, it would also be desirable to have available in text form a more empirical discussion of these models. In a book on management science the authors should attempt to satisfy the latter need.

In their attempt to preserve the mathematical rigour of their volume the authors appear to have fallen, as it were, between two objectives without satisfying either. While the theoretical content of the book is excellent it cannot be favourably compared with those texts which have been devoted to the formal development of the individual models discussed. On the other hand the book fails to be sufficiently empirical to indicate and illustrate the applicability of these models to real world problems.

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The Economics of Australian Industry: Studies in Environment and Structure. Edited by A. HUNTER. (Melbourne Univ. Press, 1963.) Pp. 543, $5.50.

The book is divided into two parts. Part I deals with the environment of manufacturing industry in Australia and contains, in addition to an admirable summary by the editor, chapters on location, ownership, the tariff, transport and electric power supply. Part II consists of studies of the structure of each of nine major manufacturing industries.

Each chapter contains a wealth of data and represents a considerable research effort on the part of its author. While unfortunately much of it will date in time, it will remain a valuable reference source for students

of the Australian economy for many years to come. A quite comprehensive index is provided as a useful aid in this regard. But the book is not simply a mass of descriptive material, as valuable as that may be. There is also much discerning analysis regarding such important issues as costs and benefits of protection, effects of pricing policies and degrees of monopoly or competition in various industries.

While any economist with an interest in the performance of the Australian economy at large will find much that is useful throughout the book, chapters likely to be of particular interest to agricultural economists are "The Tariff", by W. M. Corden; "The Sugar Industry" (sugar manufacturing and marketing), by D. J. Stalley; "The Wool Textile Industry", by G. C. Harcourt and D. H. Whitehead; and "Agricultural Machinery and Implements", by M. Bernasek and Z. M. Kubinski.

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The Impact of Price Movements on Areas under Selected Crops in India: 1900-39. By D. NARAIN. (Cambridge Univ. Press, 1965.) Pp. 234, 45/- stg.

This book reports a detailed investigation of the effects of crop prices, crop yields, and rainfall on the areas sown to cotton, jute, groundnut, sugarcane, rice and wheat in India from 1900 to 1939. The general conclusions are that "price emerges as a decisive consideration with the farmer in the area he sows to these (cash) crops . . . . . In the case of foodgrain crops, however, rainfall assumes that status which price does in the case of cash crops" (p. 158).

Although a future econometric study is promised in the Preface, these conclusions are drawn from a solely descriptive and graphical analysis for the above crops in various regions. The inclusion of simple statistical measures and tests, however, would have simplified presentation. For most potential readers, the statement that the coefficient of multiple determination was so-and-so makes easier reading than such statements as: "The persistence with which area change in the province dogs the foot-steps of deflated price, the sympathy which characterizes the two regional area curves, the absence of any like similarity in regional sowing falls, the presence of a persuasive compensatoriness between cotton and its near-rival bajra, and the faithfulness with which cotton-bajra price ratio sustains the several incidents of compensatory give-and-take, all gradually converge on the same conclusion. They begin by enlarging the hope, and end up in justifying the reflection, that price bears in an unusually large degree on the variations of Madras cotton area" (p. 44).

Nevertheless, the evidence presented in the book does, in the opinion of the reviewer, justify the important conclusions that are reached.

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